



Healthy Materials Lab

A large yellow circle is positioned to the left of the word 'Healthy', partially overlapping it.

Healthy Materials Lab

YEAR FIVE
2019-2020
REPORT

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PARTNERS



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The New School
New York, NY

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Healthy Materials Lab is part of the Healthy Affordable Materials Project
funded by a grant from The JPB Foundation

July 2020



INTRODUCTION



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AIA, LEED AP



Jonsara Ruth

Design Director,
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Director, Donghia healthier
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Claudia Newell

Student Research Assistant



Alie Kilts

Post Graduate Researcher

COLLABORATION, TRANSFORMATION, CHANGE.

We are Healthy Materials Lab, a design research lab at Parsons School of Design. Today's affordable housing is not healthy housing—and this needs to change.

This year has been a time of major progress in our team's efforts to make every affordable home a healthy home. We continue to bring our research, design thinking, and education capacity to scale in order to persuade materials manufacturers, architects, and developers to act on what we now know about decreasing toxics in affordable housing.

The arrival of the global COVID-19 pandemic at the end of Year 5 created significant challenges. The team moved off site in NY and in some cases out of the city. Adjustment was needed to an all virtual format, which shifted our day-to-day work and brought into focus the urgency of our efforts. A report, authored by The New School's James A. Parrott and Lina Moe, revealed that COVID-19 is "disproportionately affecting already-vulnerable workers and communities. This public health crisis has produced a new appreciation for the stark disparities of inequality that have been coagulating in the city's economic arteries."¹ This disparate impact points to serious societal fractures which, though widely known, have not been addressed by government or civil society with solutions equal to the problem.

We are optimistic that despite the difficulties we face as a country, and the serious global implications of the virus, we will continue to keep healthier housing top-of-mind for the key stakeholders who are helping us make healthy building materials standard in affordable housing in the United States. We are confident that our systems approach to making change in affordable housing will enable us to effectively confront the new challenges ahead. It is no secret that the construction of affordable housing has been historically underfunded and a lack of routine maintenance has led to the widespread use of low-cost substandard and toxic materials in the construction and renovation of housing for low income families. To make matters worse, a long history of racist housing policies that discriminate against BIPOC communities and forefront construction

¹ The New Strain of Inequality: The Economic Impact of COVID-19 in New York City A report by James A. Parrott and Lina Moe April 15, 2020

cost-savings, rather than occupancy health, has resulted in the use of poor quality, frequently toxic building materials that can be directly linked to negative health effects for residents. Local communities have been largely excluded from any involvement in the process of planning and building affordable housing.

We are committed to raising awareness about toxics in building products and to creating resources for the next generation of designers and architects to make change today. We are an interdisciplinary, international, and professionally diverse collective of graduate students, alumni, and faculty.

Parsons School of Design's Research Labs

Social justice is a core mission at Parsons School of Design, The New School. Parsons' research labs adopt a theory of change that draws from a comprehensive, interdisciplinary approach and a range of expertise in strategic design, positioning the research within the context of social justice. Working on a range of projects that address systemic change, Parsons brings an extensive expertise in the built environment, an understanding of the importance of communication design to drive change, a historic ability to develop and implement innovation in a range of design scenarios.

The Healthy Material Lab (hereafter "HML") was launched as one of the first Parsons Design Led Research Labs with the receipt of a grant to support the Healthy Affordable Material Project in 2015. HML is one of four partner organizations of the Healthy Affordable Materials Project.



The Healthy Affordable Materials Project, is a collaboration of the Healthy Building Network (HBN), HML, Health Product Declaration Collaborative (HPDC), and Green Science Policy Institute (GSPI). Funded by a grant from The JPB Foundation, the Healthy Affordable Materials Project seeks to improve the lives and health of residents living in affordable housing across the United States by reducing the use of toxics in the building product supply chain.

Under the Healthy Affordable Material Project grant, HML is focused on research areas in support of the project for the Affordable Housing (hereafter “AH”) sector. HML is undertaking fundamental research into AH to record best practices in effect nationwide. To do so, HML is using a case study methodology to understand and document the better building products currently being specified. We are creating a new resource for transparency and awareness in both the Donghia healthier Materials Library at Parsons and online on HML website. The goal of the materials libraries is to create simple resources and tools to support healthier specification practices for the next generation of designers, and the AH sector at large. To increase awareness of the issues surrounding building product selection and drive change in product selection in the AH sector HML leverages communications expertise to translate complex concepts and data into accessible forms. We are working with a range of partners in the AH and health sectors to test product performance in real world conditions in order to demonstrate better building product selection and installation practices. HML is also committed to sharing knowledge with the wider design community and fellow design academics, repositioning design education and practice to situate human health at the center of our work.

The Context of HAMP

Low income families across the United States suffer disproportionately from exposure to toxic substances used in building products. These exposures result from chemicals that are released into the air and dust of homes and schools during routine occupancy and as part of maintenance and renovation projects. Low income communities are also impacted by greater exposure as a result of the geographical proximity of affordable housing to product manufacturing factories that emit toxic chemicals, dumps, incinerators, and recycling facilities that process discarded materials. Factory and construction workers and children are particularly physiologically vulnerable and likely to be impacted by these toxics. Many chemicals commonly used in building products also pose hazards to the natural environment. Because these highly toxic chemicals are long-lived and pervasive in the marketplace, they are difficult to control.

It is well established that toxic exposures can be lessened through the intentional reduction of toxic materials in building products. A deliberate campaign to change the chemical formulations of commonly used building products (e.g. paint, pressure-treated wood, and engineered wood), has led to the reduction of lead, arsenic, and formaldehyde use in the last twenty years. Today there are continuing efforts in reducing toxic exposure to widely recognized chemical hazards in building products through decreased percentages of VOCs, phthalates, and flame retardants. Despite these successes, there are still many toxics in the built environment that require attention. Further, successful toxic reduction has primarily occurred in high end products and often takes decades for this market impact to trickle down to more affordable products.



Affordable housing providers seeking to use less toxic building products face many obstacles. A fundamental obstacle is the lack of transparency of the chemical content of building products, making it difficult to make informed decisions about reducing potential toxic exposures. This lack of information is compounded by an array of “green certifications,” many of which rely upon incomplete and unverified information. Commercial developers are often able to navigate this web of certifications with support from additional sustainability staff or consultants; however, affordable housing project budgets are not able to support this extra support. Similarly, less toxic products are often introduced with a premium price which are beyond the budgets of affordable housing developments, including new and retrofit construction. As less toxic building products are introduced in the high-end residential and commercial building stream, older, less healthy building products are passed downstream to lower wealth communities.

An unintended consequence of green building standards and government are the incentives that encourage recycling and reuse of older products containing toxic chemicals. Recycling is viewed as desirable for its financial or social benefits, but the passing on of hazards is not always a consideration. These examples illustrate the complex problems presented to low wealth communities by the life cycle of exposures to toxic chemicals. They also demonstrate the need for both a comprehensive, integrated research program and the development of strategies to systematically reduce toxics in all building products as the most effective means of reducing these hazards in affordable housing communities.

Project Goal

The best way to prevent exposure to toxics is the reduction or elimination of their use at the source. The Healthy Affordable Materials Project will reduce toxics for families living in low income and affordable housing by scaling the use of new transparency and disclosure tools making it easier for decision makers (designers, architects, developers) to avoid the most toxic chemicals present in the building materials commonly used in affordable housing. Increased transparency and disclosure will drive market change by incentivizing building product manufacturers to reduce the use of toxics in their products, as an alternative to disclosing negative information. This will result in an increased availability of healthier products to the affordable housing market.

HML's work on the activities and goals of the HAMP project is focused on scaling positive impact to replicate, adapt, broadly inform and transform current building practices in the AH sector initially within the first three-year time frame of the grant and now within the second round of funding received in 2018.

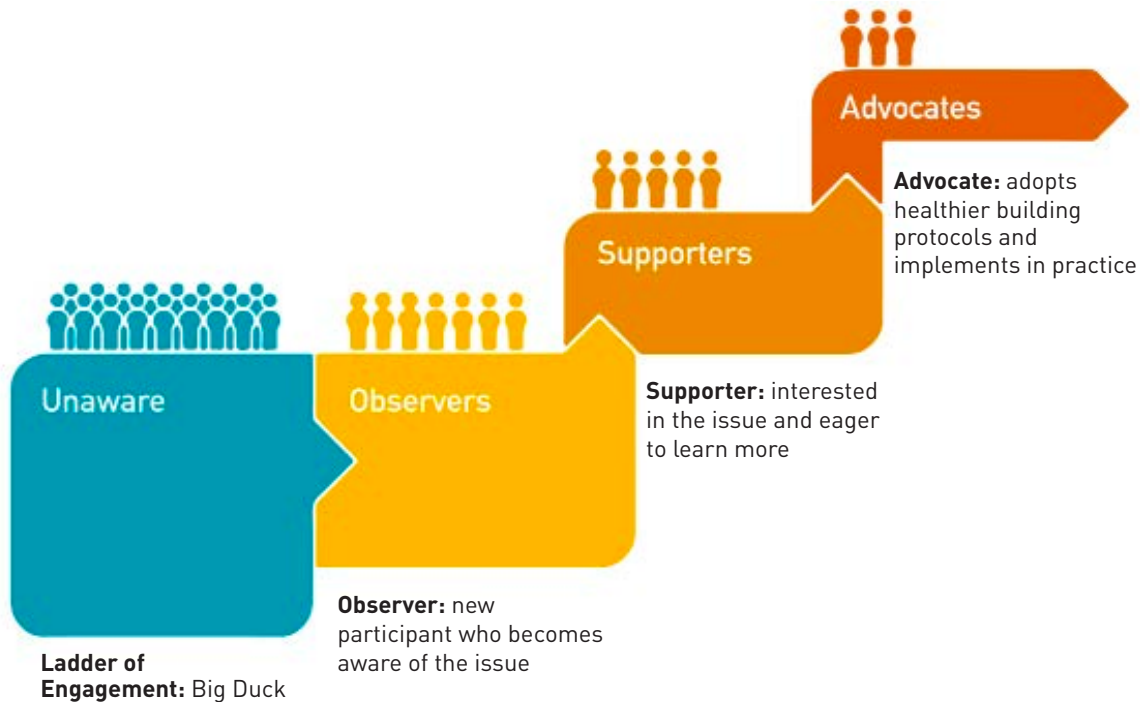
In addition to the HAMP project, HML has expanded its practice based research to include a wide range of populations including early childhood, seniors, rural populations and residents in post-industrial cities. We have formed new partnerships to support new projects including both nonprofit and for profit organizations and adopt strategies acquired in our HAMP work and consistent with our Parsons' mission driven agenda. And we continue to evolve and adapt our work within the core context of social justice. This year end report from HML is a summary of our activities over the last 12 months.

OUR GOALS

In the broadest sense, our goals are for healthier spaces and healthier lives. To achieve this, we strive to:

1. Improve today's commonly used materials to reduce exposure to toxics and improve health.
2. Build knowledge and awareness of today's healthier material alternatives —make them more marketable, accessible, and popular.
3. Work to implement tomorrow's healthy materials.
4. Partner with manufacturers to promote transparency and drive innovation.
5. Create healthier homes for all people.

COMMUNICATION STRATEGY: PROMOTE CHANGE



Ladder of Engagement. By measuring The ladder of engagement is a framework that asks users to take steps towards achieving a larger goal. Developing the ladder of engagement helps us to predict how we can cultivate and move participants into the active role of being material health advocates and practitioners. At HML we measure our impact and evaluate the outcomes of our ecosystem of initiatives, using three main metrics.

Quantify the Number of Participants.

We are measuring participation from affordable housing providers such as designers, architects, specifiers, developers, owners, and the community. We are also measuring our reach across faculty and students, governing entities in New York City, and our influence across manufacturers and trade associations.

Quantify Financial Investment. By measuring our impact and comparing the results of the Lab's multi-pronged initiatives with our financial investments, we can better strategize around which approaches are most effective in moving participants up the ladder of engagement.

Gauge Level of Engagement. Through our use of analytics tools to measure website traffic, new social media follows, click through rates, resource downloads, page visitation statistics, content referrals and more, we aim to track the movement of participants from being unaware of issues to eventually becoming advocates.

THEORY OF CHANGE

We are using a combination of approaches to inform our theory of change.

Some of HML is situated within The Healthy Affordable Materials Project (HAMP); a systems-based approach to reducing toxic chemical exposures from building materials and furnishings through the creation of actionable alternative design products. HML's work integrates healthy building protocols, healthy products and green science with design research for affordable housing construction and retrofit in order to achieve scale and broad implementation across socio-economic communities within the US. Our broader goal is to align healthy materials with design research on innovative construction methodologies, durability, forward looking policy, behavior change, market forces, and aesthetics; and in so doing, influence the entire housing sector while reducing toxic chemical exposure throughout the supply chain.

WE ARE WORKING WITHIN THIS CONTEXT:

CONSUMER PRODUCTS
EWG.org - personal products

HBN

HPDC

Unaware
(most people)

GOAL: BUILD AWARENESS THROUGH PHYSICAL AND ONLINE ENGAGEMENT

What do we do to build awareness?

EDUCATE

CREATE ACCESSIBLE MESSAGING

COLLABORATION WITH
DONGHIA HEALTHIER
MATERIALS LIBRARY

HML WEBSITE
"Why healthy materials?" page

SOCIAL MEDIA
Bringing awareness

PHYSICAL EVENTS
Leading to a desire to
know more

INSTAGRAM

LINKEDIN

ILFI
Living Building Challenge

AIA MATERIAL MATTERS

CRADLE TO CRADLE

FITWEL
HML Advisor

Observers
(aware but needs to know more)

HAMP Vision and Outcomes

Through the use of healthier building products and furnishings, the built environment contributes to the improved health of all people, especially lowest income communities.

Our goal is to increase the adoption of healthier building protocols and practices within the affordable housing sector, leading to measurable increase in building product specifications that reflect healthier choices. This change will result in reduced exposure throughout the system by decreasing or eliminating known harmful chemicals from building products widely used in the affordable housing industry.

GOAL: DEVELOP RESOURCES THAT ENABLE PEOPLE TO ACT (ONGOING)

What resources are available?

SIX CLASSES APPROACH (GSPI / HML)
Understand chemicals to avoid

E-LEARNING COURSES
Obtain **Material Health Certificate** for courses 1-4

UNDERSTAND ALTERNATIVES TO TYPICAL BUILDING PRODUCTS

COLLABORATION WITH 60+ EXPERTS IN THEIR FIELDS

HML WEBSITE
"Material Collections" page

How can we introduce issues through resources?






PHYSICAL SAMPLES & RAW MATERIAL WALL
Donghia Healthier Materials Library

EXISTING CURRICULUM CHANGES
Architecture, design, and school policies

CREATE INITIATIVE IN MANUFACTURING INDUSTRY

LUNCH & LEARNS

LEGEND

-  FINISHED HML INITIATIVE
-  IN PROGRESS HML INITIATIVE
-  ONGOING HML INITIATIVE
-  COLLABORATION WITH HML
-  POTENTIAL COLLABORATION

WEBSITE

E-LEARNING

ADVISORS

COMMUNITY ENGAGEMENT

WE ARE WORKING WITHIN THIS CONTEXT:



Supporters (act on the issue and wants to change the way they do things)

**GOAL: CREATE NEW PATHWAYS
THAT ENABLE PEOPLE TO
CHANGE PRACTICES**

How can we introduce issues through resources?

**PHYSICAL SAMPLES & RAW
MATERIAL WALL**
Donghia Healthier Materials Library

EXISTING CURRICULUM CHANGES
Architecture, design, and school policies

**CREATE INITIATIVE IN MANUFACTURING
INDUSTRY**

How do we change the market?

- Work with retailers
- Build consumer demand
- Clarify a compelling message for different audiences

How do we advocate for transparency?

HPD
Health Product Declaration

How do we evaluate ingredients for health criteria?

TRANSLATORS
Tools are needed to translate
information into actionable results.
- Pharos
- Quartz
- HML Website

How are healthier buildings being made?

COLLECT SPECIFICATIONS

**WORK WITH PARSONS HOUSING LAB
FOCUSED ON AFFORDABLE PUBLIC
HOUSING**

**DEVELOP PROCUREMENT PROCESSES
THAT INCLUDE HEALTH CRITERIA**

**ADVOCATE FOR INTEGRATED DESIGN
TEAMS THAT INCLUDE HEALTH AS PART
OF THE DESIGN PROCESS**

COLLECT SPECIFICATIONS

Who is building with healthier materials?

- Case Studies: HML
- Demonstration Projects
 - Architect/designer friends of HML
 - HML
 - HBN

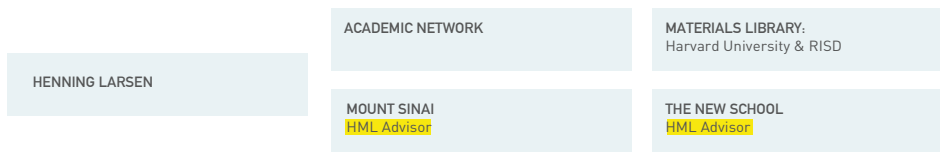
How: New product development

IDENTIFY GAPS IN THE MARKET
And opportunities to develop new products

- FOCUSED WORK ON VULNERABLE
POPULATIONS**
- Early childhood development spaces
 - Affordable housing
 - Seniors

**COLLECT HEALTHIER BUILDING
PRODUCTS**
The Donghia Healthier Materials
Library

- MANUFACTURER PARTNERSHIPS**
- Ecovative
 - Romabio
 - Carpetcycle
 - Woolmark
 - Humanscale
 - Thermacork
 - Advanced Nonwoven



NYCA
New York City Housing Authority

BUILDING NEW NETWORKS TO SUPPORT ADVOCACY EFFORTS FOR THE LONG TERM

ROLF HALDEN
HML Advisor

TRUMBULL NEIGHBORHOOD PARTNERSHIP
Warren, Ohio
Community Engagement

WHGA
West Harlem Group Assistance, Inc.
Community Engagement

DOH
State of New York Department of Health

SEANDRA POPE
Community Engagement
HML Advisor

ROYAL DANISH ACADEMY OF FINE ARTS
Architecture

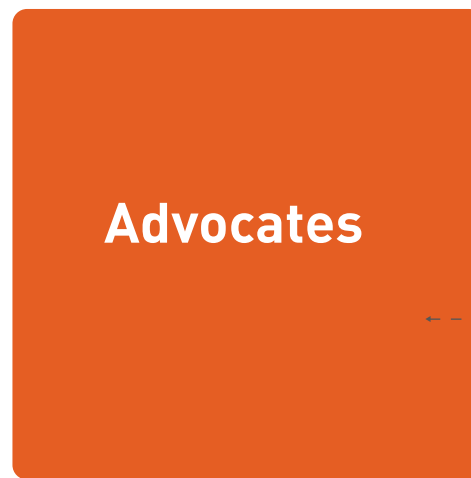


THEORY OF CHANGE CONTINUED...

We identified a lack of awareness of the issue of toxics in the built environment as a fundamental barrier to change. This is a general problem and we launched our communications strategy to address this issue. Through the roll-out of this strategy we discovered that the ladder of engagement could be adapted more generally to make systemic change.

We have established a research foundation for our work. Through the documentation and evaluation of current best practices in the affordable housing sector – from funding and policy, to design and construction and finally in occupation. This work was and is documented in our five case studies. Current best practices in the material health field impact the work of “supporters” and advocates. To address other participants on the ladder and cultivate a greater understanding of the issues, we needed to expand our methodology to include:

- 1) Library and Resources
- 2) Education
- 3) Communication & Advocacy
- 4) Product Evaluation Tools



How does the message change for specific audiences?

- Retailers
- Manufacturers
- Architects & designers

RED2GREEN
Database

CHANGE PROCUREMENT POLICY
Advocate for change; city & state

DATA BASE
HML WEBSITE
• “Material Collections” page
• “Tools and Guides” page

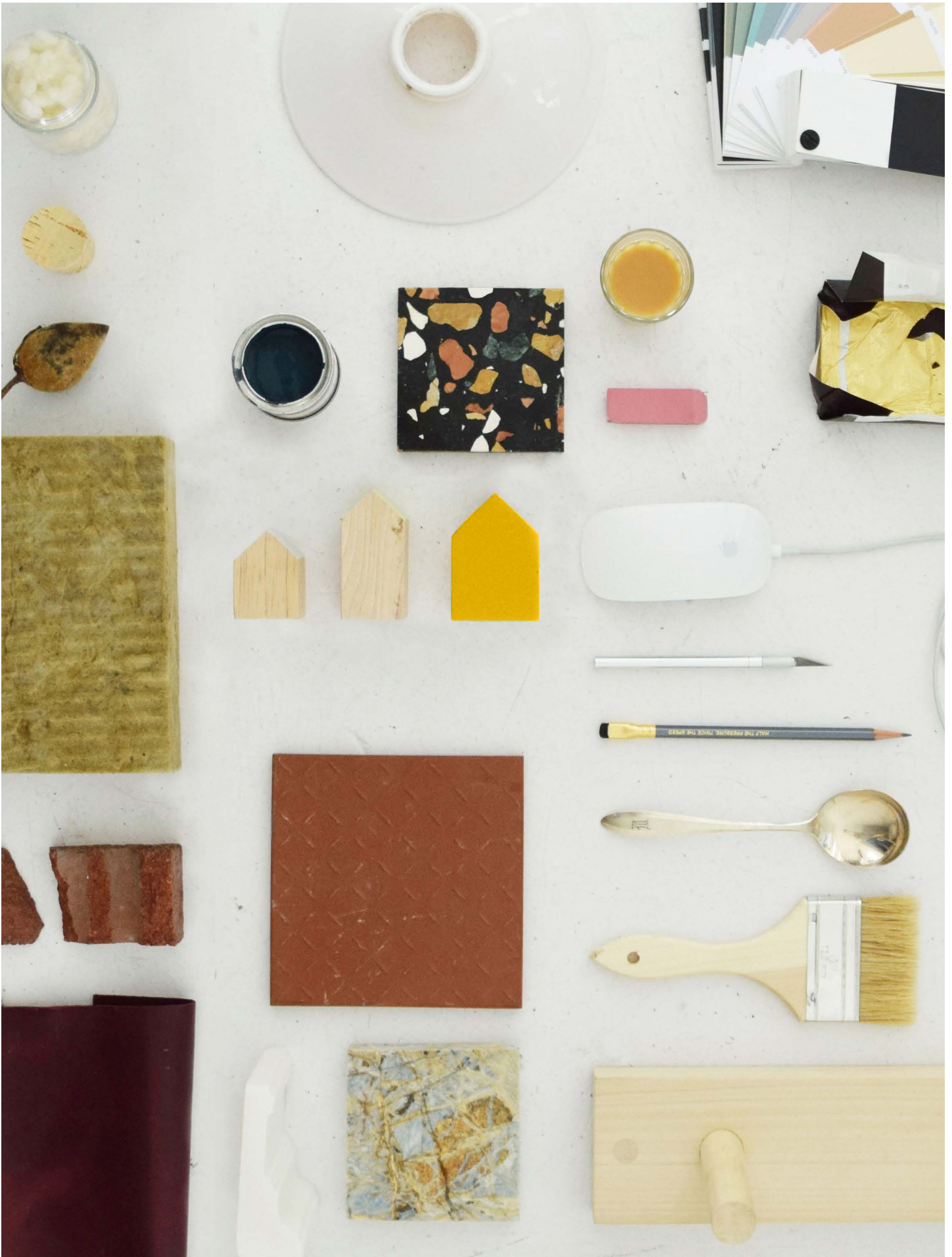
BETTER DESIGN PRACTICE CRITERIA
• Specification guidance
• Alternative assemblies

PRODUCT EVALUATION TOOLS
Reliable, robust, affordable, accurate, accessible and fast

ADDITIONAL FUNDING SOURCES
• LIHTC
• QAP

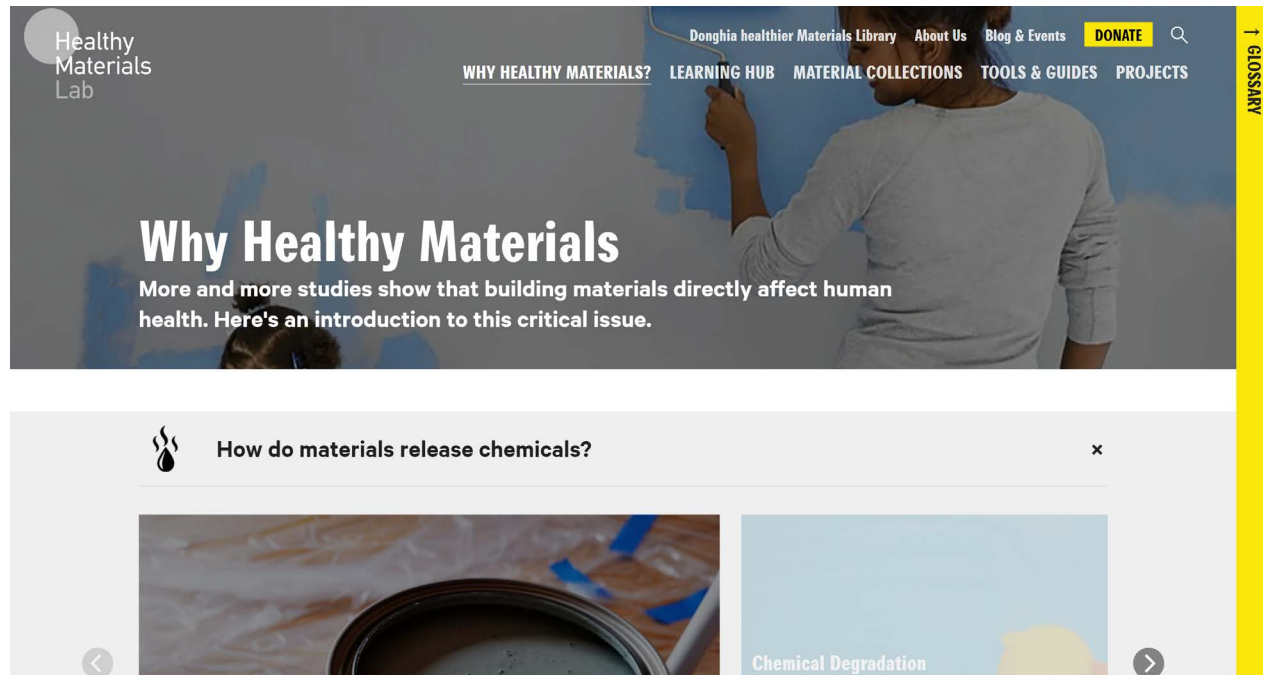
PERSUASIVE ARGUMENTS TO CHANGE
MINDS OF DEVELOPERS

PROOF OF CONCEPT / DEMONSTRATION
Material Health Certificate Courses 3 & 4



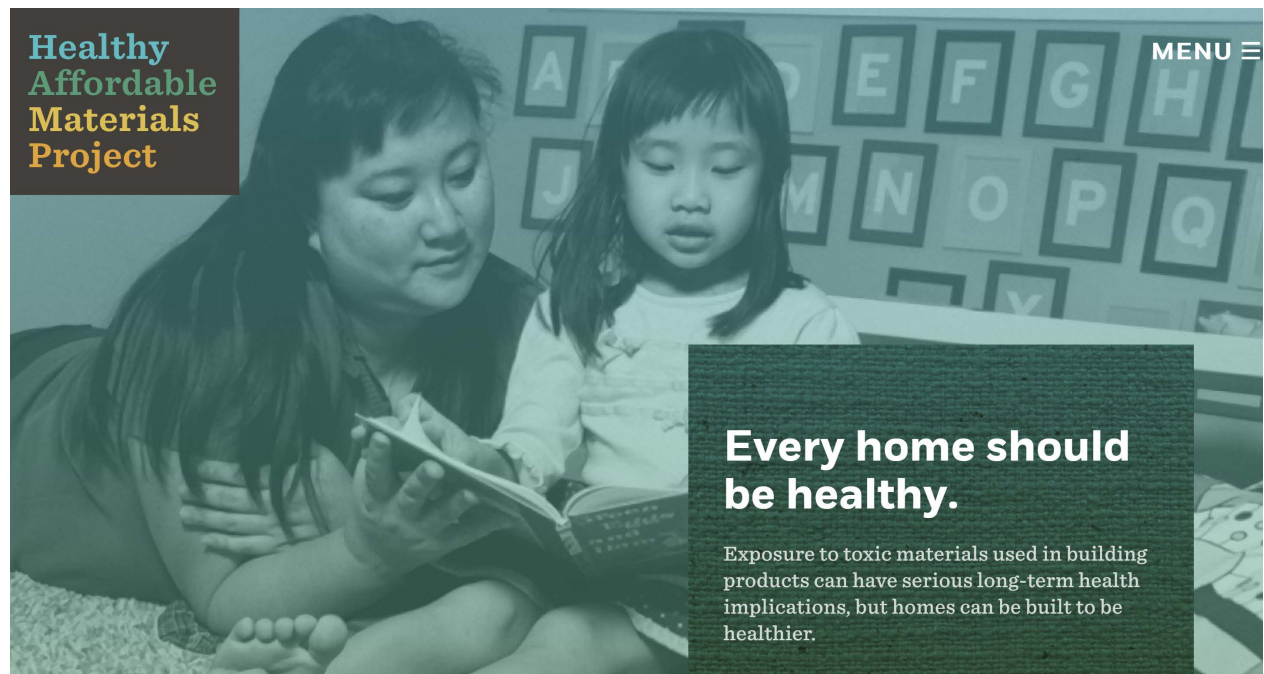
HML WEBSITE

The HML website launched in January 2018 and continues to be updated with additional resources and tools.



HAMP WEBSITE

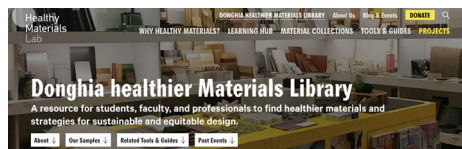
The HAMP website proves a hub that describes the HAMP project.



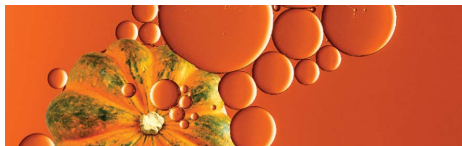
LIBRARY & RESOURCES

The theory of change described in the original grant application relies upon the adoption of full transparency and the comprehensive and complete disclosure of building product contents in order to drive behavior change. It also depends on access to educational programs that share new knowledge to accurately document the contents of typical building products. A fully informed decision-maker will select alternatives to toxic materials when the information about product toxic contents is disclosed, when feasible alternative choices are presented, and when the information is reliable and accessible. How do decision makers access accurate information?

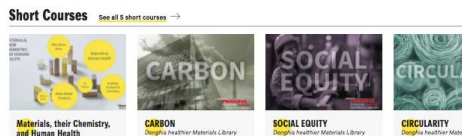
HML is using our broad and effective design expertise to demonstrate to key audiences how a reduction in toxic materials in building materials will improve the health of affordable housing residents, communities, and individuals who come into contact with materials at all stages of a product's life cycle. We translate information into effectively designed and executed communications materials to empower decision makers to make informed choices. We are also developing new healthier product specification tools to support more accurate specification, and are providing healthier product samples to aid decision makers in selecting healthier affordable products.



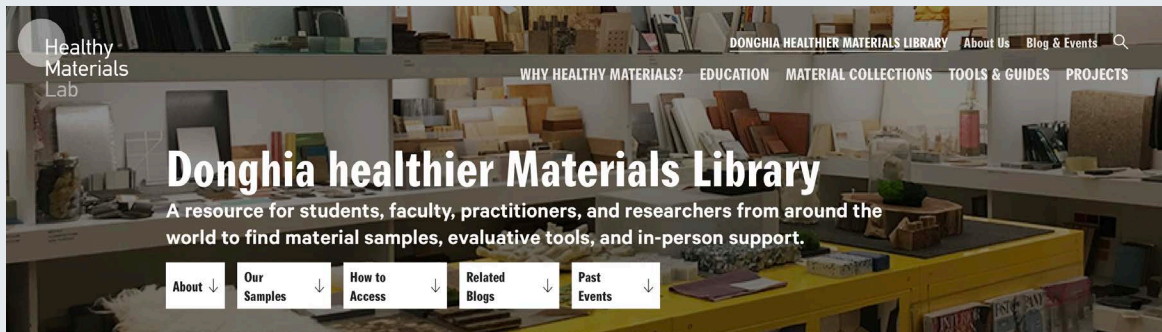
1 EXPANDING THE LIBRARY



2 LUNCH AND LEARNS



3 LEARNING HUB



Our Samples

From flooring to paint to insulation, Donghia Materials Library offers a wide variety of innovative material samples. Some highlights include:



Biomason



Wheatboard



Denim Insulation



Ecor Board



Wool Insulation



Linoleum-Marmoleum



Hempcrete



Rewall



Milk Paint

Interested in more material collections?

We curate product collections featuring healthier materials both on display at Donghia Materials Library and beyond.

[SEE OUR MATERIAL COLLECTIONS](#)

1. EXPANDING THE DONGHIA HEALTHIER MATERIALS LIBRARY

Parsons has historically maintained a Materials Library adjacent to Architecture, Interior Design, and Product Design studios. The library has provided materials samples and a connection to manufacturers. As a result of the grant from The JPB Foundation, HML has reconfigured the library with an enhanced mission to create a range of new physical and digital material resources for all students and faculty at The New School, the AH community, and the NYC design community. The library will become a critical resource for both the university as we educate future designers and for the industry at large which looks to Parsons as an innovator in the field of design.

In order to position The Library at the forefront of the industry, we are researching precedents of national and international libraries and resource centers. Over the remainder of the grant, we will continue to collect and build lists of healthier products currently specified and installed in AH developments across the country.

As part of our work with The Materials Library, we are collecting and exhibiting physical samples of the healthiest materials currently available on the market. This materials collection necessarily involves outreach to product manufacturers. In this process, we advocate for increased transparency and manufacturer engagement via the Health Product Declaration tool as a recommendation for inclusion in our library.

Based upon data shared by manufacturers, we aim to ease the process of identification, prioritization, and action on toxic chemical hazards, and we work with manufacturers to drive innovation through market demand. Another important aspect of The Library work is the documentation of best practices and product databases extracted from our ongoing case studies research.

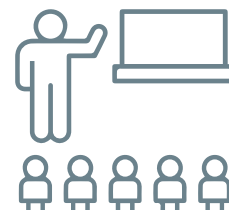
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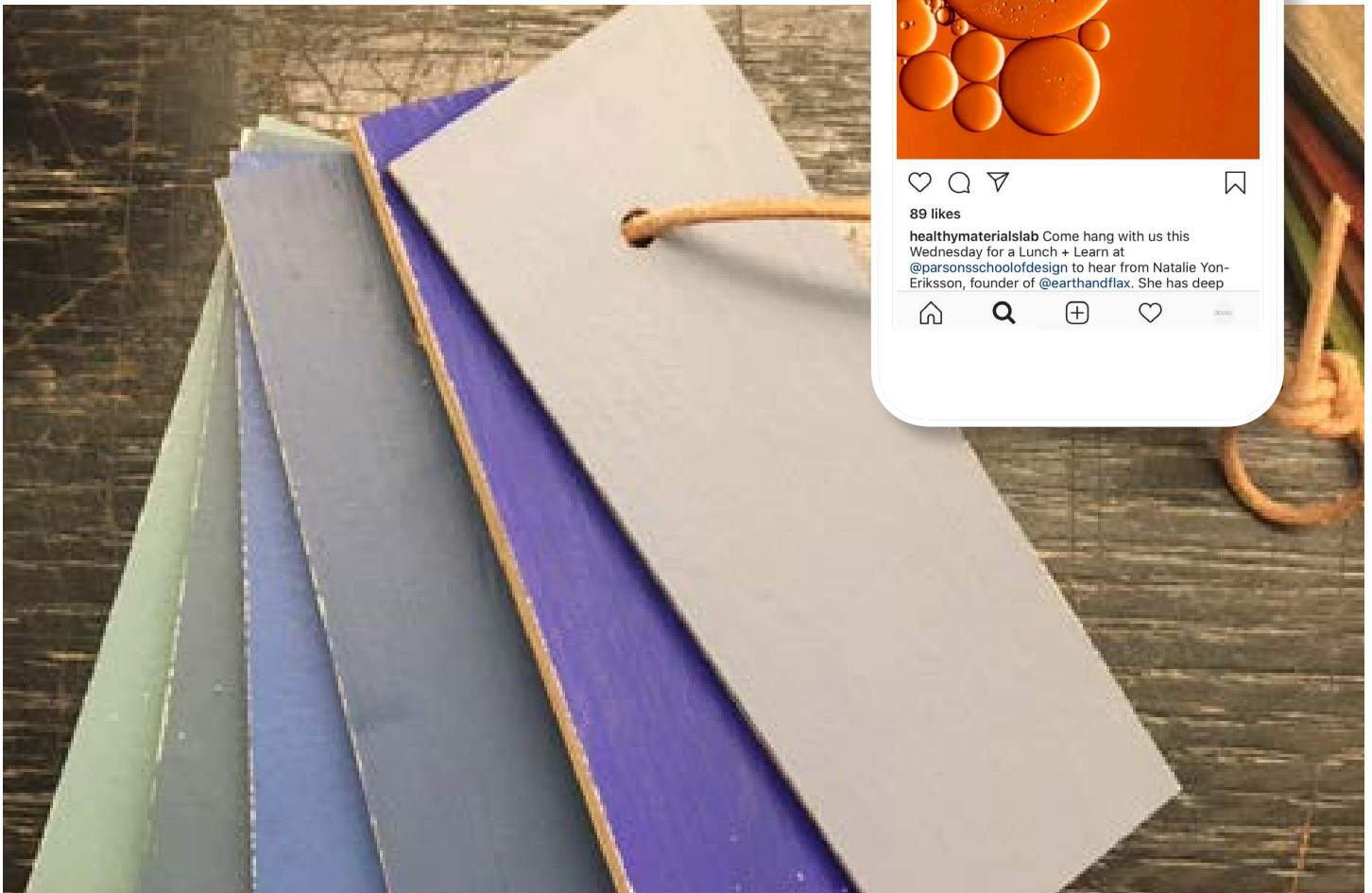
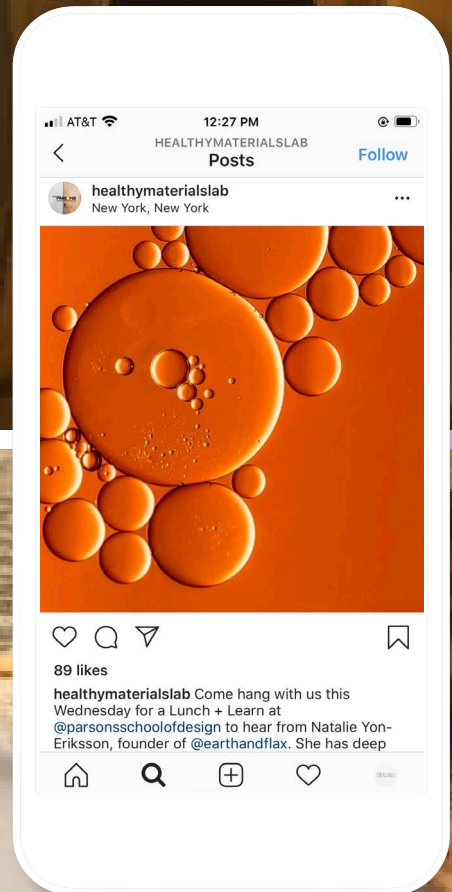
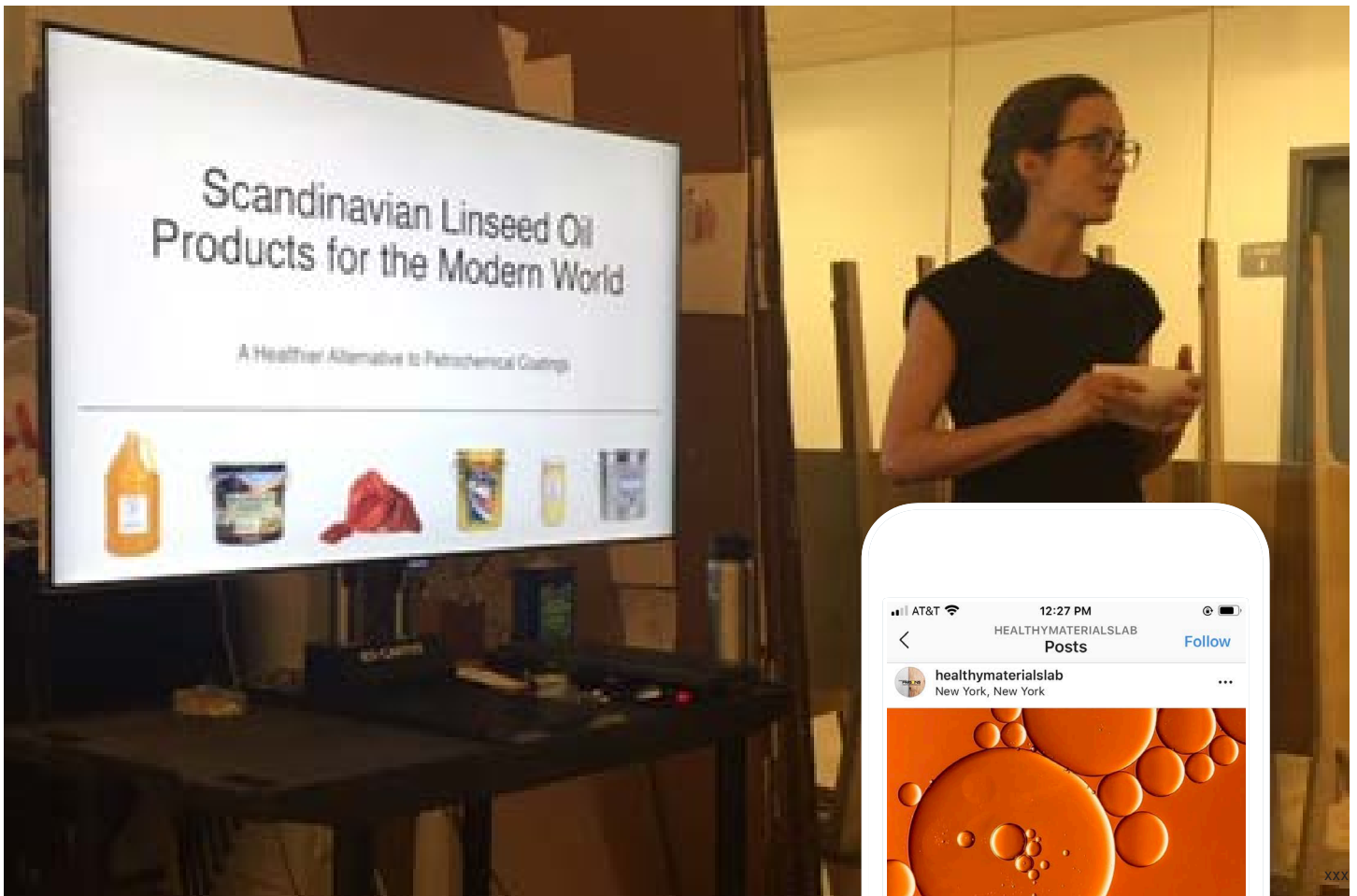
LIBRARY VISITORS

21

CLASS ORIENTATIONS

Library orientations are crucial in moving visitors from **unaware** to **advocate**. Orientations serve as an opportunity to introduce students and professionals to the issue of material health. Orientation leaders encourage visitors to explore the space and touch materials allowing them to get familiar with healthier materials.





2. LUNCH + LEARN EVENTS

In Year 5, the Donghia healthier Materials Library and the Healthy Materials Lab hosted a series of Lunch + Learns with the goal of introducing the healthiest materials and products available to designers throughout Parsons and The New School. Despite disruptions to the schedule, the Lab continued the Lunch + Learn programming with distinguished manufacturers and professionals within the material health field.

The criteria for evaluating manufactures were that their products were chlorinated-polymer free, have complete transparency and that the companies be open to a convivial discourse around material health. The ultimate goal of this partnership is to create a more robust material library and to bridge the gap between manufacturers and new potential users.

Four manufacturers and other distinguished guests presented at Lunch + Learns in year five.

COLLABORATORS

Hee Chan Kim, Hemp +Lime

Natalie Yon-Eriksson
Earth + Flax Linseed Oil

Forbo Marmoleum
Flooring

Sackett Wood, Moore &
Giles

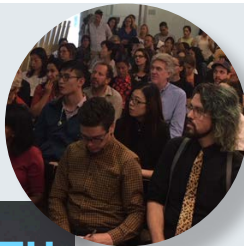
4
PRESENTATIONS

155 +
ATTENDEES

We opened these events and conversations around products and materials to a broad Parsons audience, as we believe all disciplines can learn from the vision of the companies and their approach to health **advocacy** and the built environment.



HEMP + LIME



**LUNCH + LEARN WITH
HEE CHAN
KIM**

We're talkin'
hemp + lime!

LOBBY 2 W 13TH ST
PARSONS SCHOOL OF DESIGN
WEDNESDAY SEPT. 25TH
12:00 PM - 1:00 PM

Hand-picked manufacturers, discussions about transparency & sustainability, and stories from the field. Did we mention they bring lunch?

bit.ly/2lSWUCB

PARSONS
HEALTHY
MATERIALS LAB

63

NUMBER OF
PARTICIPANTS

On September 25th, the Lab welcomed Hee Chan Kim for the first Lunch & Learn session of the academic calendar. Kim is a former Parsons faculty member and current artist in residency at Museum of Arts and Design. His work explores materialities and traditional making processes in contemporary context. He challenges the boundaries of functional objects and non-functional objects. Researching object-making in history, he is finding new meanings and possibilities in making. Currently, Hee Chan is developing applications for hemp and lime, exploring its object-making potential. Hemplime is also a new sustainable building material that is waterproof, fireproof, lightweight, and absorbs carbon in the air. In researching possible applications of hemp and lime, Hee Chan will explore broader questions of sustainable design.

Learn more about Hee Chan Kim at
www.heechankim.com

EARTH + FLAX



ARTISTS, DESIGNERS + ARCHITECTS: THIS IS FOR YOU

**SCANDINAVIAN
LINSEED OIL
LUNCH + LEARN**

12-1 PM
WEDNESDAY OCT. 16TH

DONGHIA GALLERY
25 E 13TH ST 3RD FLOOR
PARSONS SCHOOL OF DESIGN

Preserve wood
like the vikings

Hand-picked
manufacturers,
discussions about
transparency &
sustainability, and
stories from the field.
Did we mention they
bring lunch?

bit.ly/2lxxcMs

PARSONS
HEALTHY
MATERIALS LAB

36

NUMBER OF
PARTICIPANTS

October 16, 2019: "On October 16th, Natalie Yon-Eriksson, founder of Earth+Flax presented her material philosophy and range of finished products. Natalie has deep expertise in understanding the properties and performance of linseed oil and oil paints that are made from this material. Earth+Flax sells and educates new audiences about the environmentally friendly, solvent-free, all-natural purified linseed oil products. They are building a community of craftsmen, artists, homeowners, and designers to spread the knowledge and implication of older materials such as linseed oil and they can be reimagined using modern technology. During the session, the audience learned more about the history and science of linseed oils and paints, manufacturing processes, and application methods in different fields.

Learn more at www.earthandflax.com/about-us

FLAX TO FLOORING: FORBO MARMOLEUM



**FROM FLAX TO
FLOORING
LUNCH + LEARN**

**12-1 PM
WEDNESDAY
NOV. 6TH**

DONGHIA GALLERY
25 E 13TH ST 3RD FLOOR
PARSONS SCHOOL OF DESIGN

Join HML + Forbo
for discussions
about transparency,
sustainability,
and designing for
healthcare. Did we
mention they bring
lunch?

1 AIA, GBCI + IDCEC
HSW CEU AVAILABLE

 bit.ly/363wLDK



20 NUMBER OF PARTICIPANTS

On November 6th, the work of Forbo Marmoleum floors was highlighted during the Lab's third Lunch & Learn session. Forbo Marmoleum floors are sustainable linoleum floors made from natural ingredients such as linseed oil, wood flour and limestone. We are interested in how linoleum floors can be used as a viable alternative to vinyl flooring that contain problematic phthalates. Linoleum flooring can be cleaned with simple soap and water. Vinyl requires harsh and harmful cleaners that are harmful for both medical staff and patients. The Lab invited the audience to examine the impact that design and material selection can have on the healing environment in settings such as hospitals, for example. Flooring is one of the first building products that visitors encounter when entering health facilities. Whether seeking treatment, visiting family and friends, or within a working environment, everyone comes into contact with the floor. Health care facilities should be built with benign, healthier materials to support the health and wellbeing of patients. With Forbo Marmoleum floors, we collectively explored what can be done to achieve healthy and safe environments by making a change in one product group alone.

Learn more at www.forbo.com/flooring/en-us

MOORE & GILES LEATHER TANNING



**MODERN
LEATHER
TANNING
LUNCH +
LEARN**

**12-1 PM
WEDNESDAY FEB.**

DONGHIA GALLERY
25 E 13TH ST
PARSONS SCHOOL OF DESIGN

35 NUMBER OF PARTICIPANTS

Moore & Giles offered an engaging Lunch & Learn session about their vast collection of handcrafted natural leather goods. Sackett Wood, President of Moore and Giles, presented on their new tanning method, discussing both sustainability and scalability. They also introduced the audience to everything they should know before specifying leather products.

The company has a deep passion and knowledge of this ancient material and introduced the audience to their new more sustainable leather tanning process. They use a 100% organic tanning agent made of purely aqueous olive leaf extract and is Olivenleder® certified. This is the first truly sustainable tanning process and the leather articles are the first Declare, Red List free leather options available in the world.

Learn more at www.mooreandgiles.com

Learning Hub

We are committed to fostering knowledge about toxics in building products. Through online and in-person classes at Parsons, our goal is to cultivate an awareness of healthier material alternatives for the next generation of designers and architects.

[Education Resources ↓](#)
[Healthier Materials & Sustainable Building ↓](#)
[Healthy and Sustainable Affordable Housing ↓](#)
[Short Courses ↓](#)
[Resources ↓](#)
[Events on Demand ↓](#)
[Education Events ↓](#)

5 short courses



Materials, their Chemistry, and Human Health

Explore this introduction to the first two courses of our online learning program: Healthier Materials and Sustainable Building



CARBON



SOCIAL EQUITY



CIRCULARITY



HEALTH



3. LEARNING HUB SHORT COURSES

In response to the COVID crisis, Healthy Materials Lab revamped the education section of the website and launched the brand new Learning Hub. The site is divided into two sections: one directed at practicing professionals, and the other targeted at architecture and design faculty via the Academic Network. A wide range of new educational and professional resources can be found on the website - all of which are built for online learning. Whether one might be looking for short videos to share with students, virtual events to enrich general material health knowledge, or two certificate programs - full access is available by joining the Academic Network for free. Part of the launch of the Learning Hub included new short courses that focus on different themes. The unique aspect of these short online courses is that they combine the wealth of resources compiled in the Donghia healthier Materials Library, design strategies, product highlights, as well as "Words of Inspiration" from professionals in the field.

In addition to "Materials, their Chemistry, and Human Health", a 90-minute comprehensive overview, the Hub features the following open access short courses:

Carbon: Acknowledging that climate change is now the single biggest threat to global health,

this course specifically seeks to address the issue within the building industry by focusing on operational and embodied carbon.

Social Equity: This course touches upon how the economy of goods makes its mark on the physical landscape through devastated environments, polluted waterways, and toxic air - often exposing lower income communities at much higher rates. The course brings forward ideas of an equitable workforce and community development through models that prioritize transparent policies and practices.

Circularity: With economic systems that produce our materials, products, and buildings functions in a wasteful linear pathway, this course explores circular systems as alternatives to currently ecologically and socially unsustainable and detrimental methods.

Health: Acknowledging that a vast majority of buildings contain chemicals that can be toxic to human health, this course focuses on the ways in which progress is being made via industry-led initiatives, state-level regulations, product transparency, and collaborative efforts.

719
PAGE VISITORS

By launching the short courses, the Lab is highlighting the vast amount of resources available in the Library and connecting them with professionals already working in the fields of design and construction, or potential new advocates. The online format reflects adaptation of educational tools that are sensitive to the circumstances of the moment.



EDUCATION

Parsons is a hub for national and international design research and has extensive experience and capacity to work between theory and practice, through collaborations with a broad range of industry partners. As a trusted university partner, we provide neutral territory to enable a wide representation of stakeholders to convene and address all of the complex issues associated with the building materials system. Our research is informing our colleagues in professional practice and our fellow faculty through public lectures and presentations and through our social media presence.

Parsons is the largest art and design school in North America and is ranked #1 in the U.S. and #3 in the world. We are transforming the education of designers, and in so doing educating a new generation of design professionals who will carry their educational experience into their careers and transform industry. We are offering new studio classes, creating modules that can be incorporated into existing courses, and working with HAMP partners, such as HPDC, to develop curricular modules. With education as our platform, we are creating a greater understanding and awareness of the intersection of design and health.

DOES THE QUESTION PAPER OR PLASTIC? SEND YOU INTO A

4 FALL 2019 KICKOFF : PLASTICS EXHIBITION



9 HEMP + LIME WORKSHOP



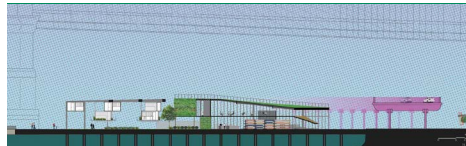
5 UNDERGRADUATE OPEN-HOUSE



10 MASTER OF ARCHITECTURE : INTEGRATED STUDIO



6 INTEGRATING MATERIAL-HEALTH INTO YOUR CURRICULUM



11 BFA ARCHITECTURAL DESIGN : NEW URBAN PARADIGMS STUDIO



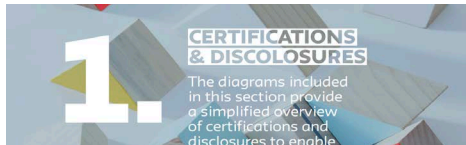
7 INTRODUCTION TO HEALTHY MATERIALS



12 MATERIALS & PERFORMANCE COURSE



8 RETHINKING SURFACES : LIME PLASTERING FOR HEMPLIME BUILDINGS



13 ACADEMIC NETWORK

DOES THE QUESTION PAPER OR PLASTIC? SEND YOU INTO A TAILSPIN?

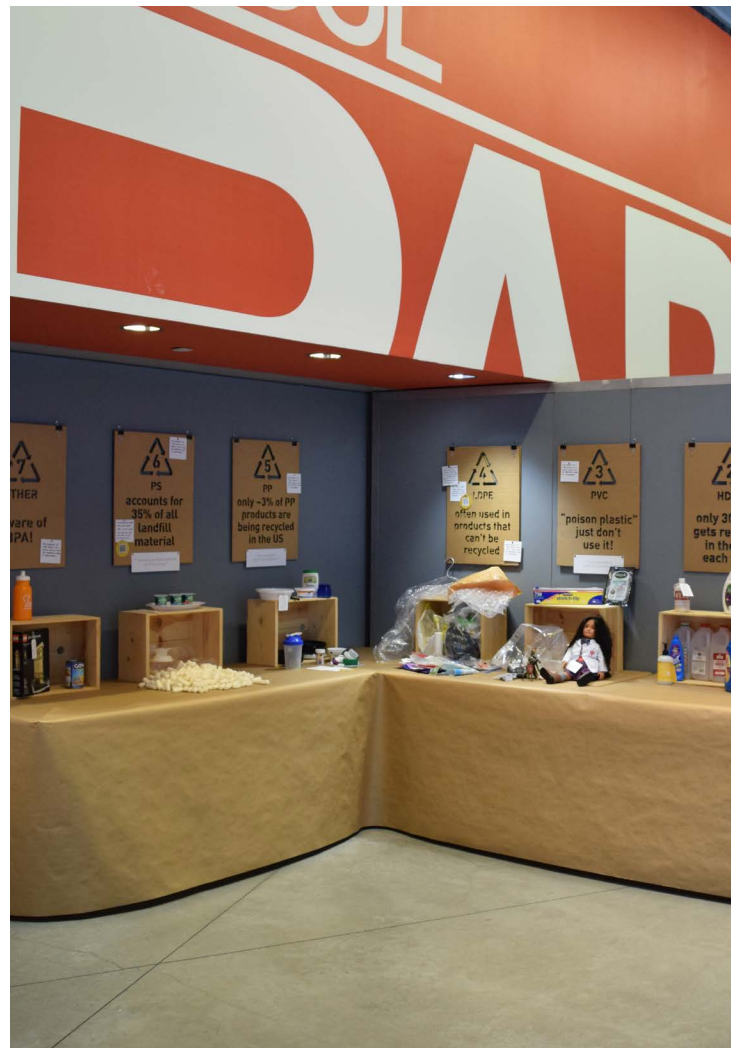
WE'RE HERE TO HELP.



August 27th, 6-7:30
LOBBY OF 2W 13TH STREET

Get freebies and actionable tips to help you move toward a #plasticfree future at Health Materials Lab's semester kick off event.

PARSONS
HEALTHY
MATERIALS LAB

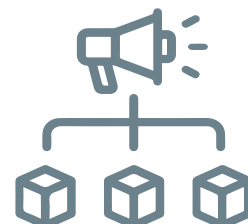


4. FALL 2019 KICKOFF : PLASTICS EXHIBITION

In the Fall of Year 5, the Healthy Materials Lab transformed a Parsons School of Design lobby into a pop-up exhibition space for a semester kick-off event. The Lab invited both new and returning students to participate in discovering game-changing sustainability tips, tricks, and some free takeaways. The immersive exhibition provided important information about plastics, with printed material featuring recycling and sustainability tips available to take home. The available information about plastics was fully researched, developed and designed by the Lab. The Lab's hand printed tote bags were distributed as a way of encouraging re-use and jumpstart conversations around material health. The aim of the event was to provide an exciting introduction to the work of the Healthy Materials Lab, and to share helpful information to ease sustainability journeys for all students both on- and off-campus.

50
ATTENDEES

We organized this event to encourage conversations and habits around recycling, sustainability and our relationship with plastics.



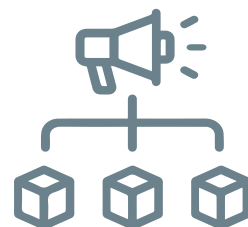


5. UNDERGRADUATE OPEN HOUSE

Healthy Materials Lab hosted a hands on event for undergraduate students as part of an Open House in the Fall of Year 5. Students were offered recycled, hand printed tote bags, with tools and supplies for personalizing each one with thread and buttons. Romabio supplied the lime-based paint used for screen printing. Romabio is a viable and less toxic alternative to typical screen printing inks. With informational material available and Lab team members present, the event also provided the Lab an opportunity to introduce material health to Parsons design faculty and potential new students.

60
ATTENDEES

We organized this event to encourage conversations and habits around recycling, sustainability and our relationship with plastics.



Integrating Material-Health into Your Curriculum

Fall 2019

● Healthy Materials Lab + Donghia healthier Materials Library

What's inside?

WHAT'S IN THE FURNISHINGS?



6. WORKSHOPS & PRESENTATIONS : INTEGRATING MATERIAL HEALTH INTO YOUR CURRICULUM

HML + Donghia Healthier Materials Library offered a series of workshops for faculty in a range of design programs at Parsons to integrate material health in the curriculum over the academic year.

These workshops focused on increasing the knowledge of material health for the faculty members to promote the implementation of material health among the students within the classroom setting.

Faculty can disseminate this knowledge to the student body, and pursue extended research with the support of academic institutions. Students can then begin integrating these principles early in their careers, and can research design strategies in the freedom of academic settings.

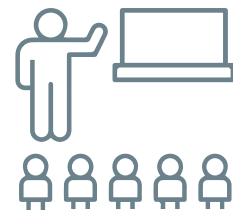
55

FACULTY PARTICIPANTS

1,200

STUDENTS REACHED

Presentations to the Parsons community is an integral strategy in fostering a culture of **advocacy** among both faculty and students.



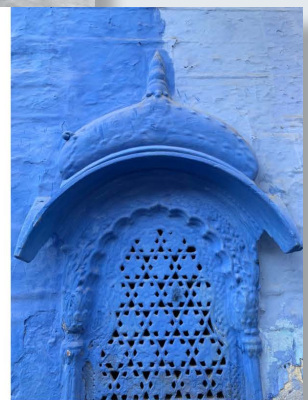


If we are what we eat,
we are where we live.

PARSONS
HEALTHY
MATERIALS LAB



90% of our Life
is spent indoors*



Jodphur, Rajasthan, INDIA

7. INTRODUCTION TO HEALTHY MATERIALS

At HML we explore the relationships between human health and building materials. We make presentations to a range of different groups. These presentations enable groups of designers and architects to become familiar with materiality.

COVID has revealed the profound and compounded inequities shouldered by poor communities. The 21st century is marked by rapid and potentially catastrophic global climate change. We face the depletion of natural resources and the imminent degradation of the earth's unique and varied ecosystems. Our actions as architects and designers have impacts on everyone---the most immediate and profound impacts we can have as designers are on the most vulnerable people in our communities--let's look at why that is so.

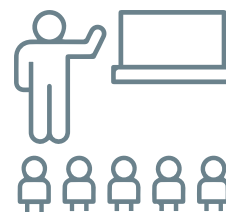
Our indoor spaces are filled with invisible chemical hazards – making indoor air 3-5x more toxic than polluted outdoor air. How did we get here? Most of the chemicals that are commonly used in construction in the US are not regulated. Only 250 of the over 85, 000 chemicals currently in use are tested and only five have been partially restricted by law. Many of these chemicals are toxic and are becoming part of everyone's biology. There

is also a direct connection between carbon emitted in the production of petrochemicals and the specification of petrochemical based building products. Reducing the use of these building products reduces carbon emissions and reduces the unregulated harmful chemicals that are the product of these processes. Plastics and petrochemical derived chemicals are an important part of the construction supply chain. Not only are the products derived from petrochemicals bad for the environment but they are harmful for us. Many of the products that are typically used in current construction, contain the chemicals that are linked to human disease. Polystyrene, phthalates, BPA PVC and flame retardants are all linked to human diseases. These materials shed and release those chemicals into our built environments which are then absorbed and become part of our biological systems.

It is critical that we build healthier and more resilient communities. Dramatically reducing people's exposure to harmful chemicals is an issue of equity and a public health priority to protect those who have suffered generations of institutionalized racism. In our work we look to remove these chemicals and propose viable, affordable and benign alternatives particularly in affordable housing.

336
PARTICIPANTS

We introduce the concept of human health and chemicals in materials, spurring them on a journey to become **supporters** and **advocates**.





COLUMBIA
GSAPP



PARTICIPANTS

32

M ARCH AT PARSONS

80

BFA INTERIOR DESIGN AT PARSONS

50

MICHAEL GRAVES COLLEGE/KEAN
UNIVERSITY

81

GSAPP COLUMBIA UNIVERSITY

13

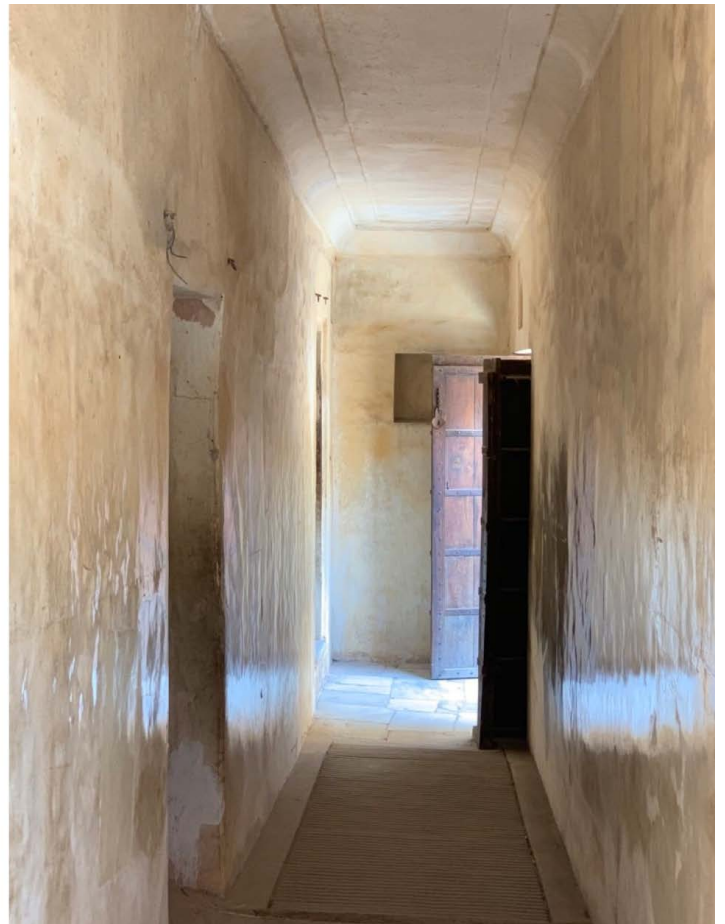
RHODE ISLAND SCHOOL OF DESIGN

more contaminated
than outdoor air



our entire ecosystem is impacted.





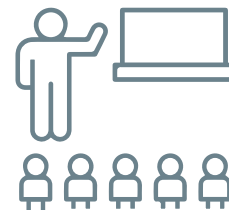
8. RETHINKING SURFACES : LIME PLASTERING FOR HEMPLIME BUILDINGS

In Spring 2020, Healthy Materials Lab collaborated with the Masters of Architecture program at Parsons. The course experimented with using HempLime as a new building material.

The students and faculty were introduced to HempLime as a viable building material during a hands-on workshop at the beginning of the semester. Working with a new material to propose designs was a challenge that both the faculty and the graduate students took on. To aid their design process and spark their curiosity about this new building material, Jonsara Ruth, co-director of the Lab, gave a presentation on plaster and what the possibilities are for finishing surfaces. In this presentation, the look, feel, health benefits, as well as environmental impacts were covered.

16
PARTICIPANTS

Presentations to the Parsons community is an integral strategy in fostering a culture of **advocacy** among both faculty and students.





9. HEMP + LIME WORKSHOP AT INDUSTRY CITY

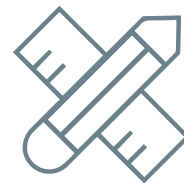
In Year 5, Healthy Materials Lab proposed a collaboration with the Master of Architecture program at Parsons to experiment with designs for affordable housing using HempLime as the primary insulation material. As a way to introduce both graduate and undergraduate students and faculty to HempLime, and to explore its future possibilities, a day long workshop was held in Industry City, Brooklyn where students and faculty gathered to build HempLime blocks. Students prepared the HempLime mixture and used molds to create blocks. It is a delicate balance to make a HempLime block which acts as a naturally fire-resistant insulator and a vapor-permeable surface for a wall because air pockets must be retained for the block to be an effective insulation material.

At the end of a long day, over 50+ Parsons students and faculty (David Lewis, Emily Moss, Alison Mears, Mark Gardner, Marcus Carter, Eirini Tsachrelia, and Jonsara Ruth) with COEXIST had created almost 100 new

HempLime blocks and half of a freestanding 12" thick wall. Students, experts, and faculty alike had messy work clothes. While the students' work gloves were specially coated, they had gained tactile knowledge about a new-found building material made essentially from a plant and a rock. This day-long experience fueled the design process for the spring semester as students returned to their desks to tackle the challenges of this semester—to design affordable housing using HempLime building products.

50+
PARTICIPANTS

This workshop allowed a group of **observers** to take a deep dive in materiality, spurring them on a journey to become **supporters & advocates**.









10. MASTER OF ARCHITECTURE INTEGRATED STUDIO : AFFORDABLE HOUSING WITH HEMPLIME

In Spring 2020, Healthy Materials Lab collaborated with the Masters of Architecture program at Parsons. The course experimented with using HempLime as a new building material. The collaboration connected students and faculty with a community partner from New Castle, PA, Don Services, to investigate future possibilities with HempLime in affordable housing. Students developed their design proposals for affordable single-family homes through two congruent courses, Comprehensive Design Studio IV taught by professor David Lewis, and Construction Technology 2 led by professor Marcus Carter and Eirini Tsachrelia. Their insights and design proposals produced at the end of the most unprecedented semester were remarkable. Graduate students presented their architecture thesis projects through a virtual day-long session linking the students with representatives from DON Services and designers and architecture professors located in the U.S. and Europe.

Design Studio IV

Design Studio IV was an integrated studio where the students were asked to integrate design, technology, materials and performance in their work. Issues of material, energy, site, mechanical systems, thermal performance, human health and research on hemp-lime as

building material were the center of projects for this studio.

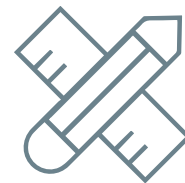
Construction Technology 2

Building on the fundamental concepts, elements, assemblies and processes introduced in Construction Technology 1, this advanced level course focused on more complex problems of building design. The class studied construction of buildings as inseparable from the complex interconnected web of material, involved in architecture's production.

Students spent the first four weeks of the spring semester researching New Castle, Pennsylvania. In order to begin to challenge the norms, it was crucial to study different aspects of the typical American Home with the objective of collectively understanding its framework and history. They studied the typical form, plan, materials, energy, construction, financing, and zoning to see how those aspects inform them of the past, present and future of the American Home. Students then made informed choices to develop architectural plans and design solutions to accommodate multi-generational housing and the reality of contemporary life, including one parent or split-parents households, grandparent pods or suites, subleasing arrangements with an emphasis on accessibility and aging in place.

18
PARTICIPANTS

This graduate level studio allowed a group of **observers** to take a deep dive in materiality, spurring them on a journey to become **supporters & advocates**.





TRAVEL TO NEW CASTLE

Thanks to the generosity of DON Services and members of the community in New Castle, students visited the site at the beginning of March 2020 in hopes of better understanding the opportunities and challenges of the project. Students traveled from New York City where they spent a full day exploring the city and learning about its rich history with various members from DON Services, Arts & Education at the Hoyt Art Center, Eckles Architecture and the Lawrence County Historical Society. Transportation, Accommodations at Villa Maria and meals were generously provided for the students. The trip provided a wonderful opportunity to learn and engage with the community in order to more thoughtfully consider the city's history and design dwellings aligned with DON's mission.





May Rantanachiwapong



Karolina Vargas



Rita Baboujian



Youcong Li



Peter Vos



Jen Kwan



Victoria Frederick



Jack Chiu



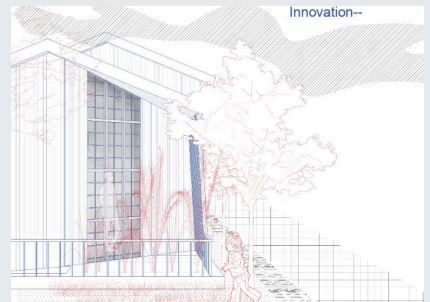
Darina Keane



Chase Hodge



Samuel Vilson



Maggie Li



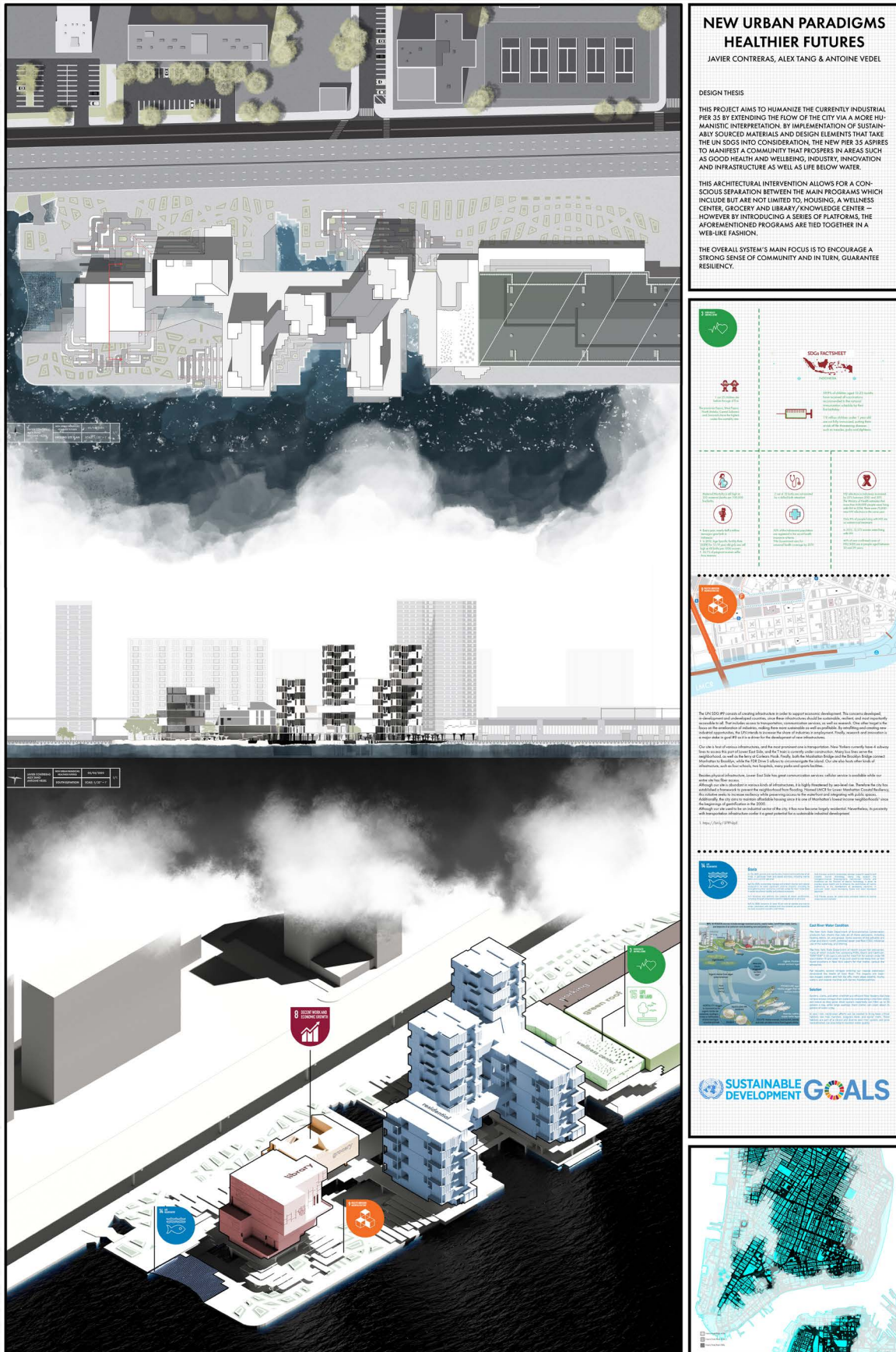
Meryl Smith



Ashley Lam



Jenya Uzhegova



11. BFA ARCHITECTURAL DESIGN STUDIO : NEW URBAN PARADIGMS

The students were charged to design proposals for a large wharf site on the Lower East Side of Manhattan, with the East River to the east, the elevated FDR Drive highway and low-rise, low income and NYCHA housing to the west, and bridges to the north and south. Working in small groups and individually students imagined new urban models as systems in themselves, and as part of the larger ecosystem of NYC. Community-based spaces were programmed through a detailed assessment of local need, new models of affordable housing were designed to accommodate different requirements and a grocery was specified to address the local food desert. Proposals had to incorporate responses to climate change including potential East River flooding.

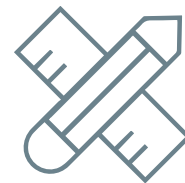
Students were asked to re-think, through critical lenses, with the UN Sustainable Development Goals as prompts, how urban design proposals come to be. They endeavored to optimize the health of a city and its occupants through the creation of a 'living' precinct that becomes a positive contributor to the larger body of urban flows while establishing degrees of self-sufficiency. With a particular focus on materials, the studio explored cross-laminated timber and

conducted workshops using new hemp and lime mixes. We reinforced the investigation of material lifecycles to promote conscious material choices. Students considered the landscape as part of their material palette, to mitigate an overwhelmed NYC stormwater system, to encourage physical activity, to create vehicular access and connections to urban arteries beyond the highway and, potentially, through to the river.

Research revealed both the important social and cultural legacy of this part of New York City, with its historic immigrant populations, and the recent encroachment of ultra-tall high-end residential towers. Students were challenged to consider new concepts of family and cohabitation; this concept became especially poignant during the Covid 19 pandemic, when people living alone felt a magnified sense of isolation. Students seized upon the notable absence of fresh food, a perceived need for safety, inadequate public space, and the dearth of basic services, to help shape their program decisions. For many, the potential for public access to the waterfront drove basic site strategies. For some, the existing industrial steel warehouse buildings inspired unique adaptive reuse proposals.

13
PARTICIPANTS

This undergraduate level studio allowed a group of **observers** to take a deep dive in materiality, spurring them on a journey to become **supporters & advocates**.



NEW URBAN PARADIGMS

HEALTHIER FUTURES

This project explores urban development through the lens of social equity and employs United Nation's Sustainable Development Goals to inform its Architecture and programmatic infrastructure. This thesis is an urban design proposal for the site located on Pier 35 in the Lower East Side of Manhattan.



The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including those related to poverty, inequality, climate change, environmental degradation, peace and justice. The 17 Goals are all interconnected, and in order to leave no one behind, it is important to achieve them all by 2030. This Agenda is a plan of action for people, planet and prosperity. It also seeks to strengthen universal peace in larger freedom. The interlinkages and integrated nature of the Sustainable Development Goals are of crucial importance in ensuring that the purpose of the new Agenda is realized. If we realize our ambitions across the full extent of the Agenda, the lives of all will be profoundly improved and our world will be transformed for the better.



Manhattan Village is a response to the lack of nutritional, cultural, and climate conscious facilities around the site. Contemporary urban space calls for a congregation of program that allows inhabitants to live safely in comfort and happiness. These nested residences will have prime access to urban agriculture, educational resources, and wellbeing infrastructure right beneath them. The aim is to put an end to our cradle-to-grave ways of living and develop a cyclical living system maintained and benefited by the community.

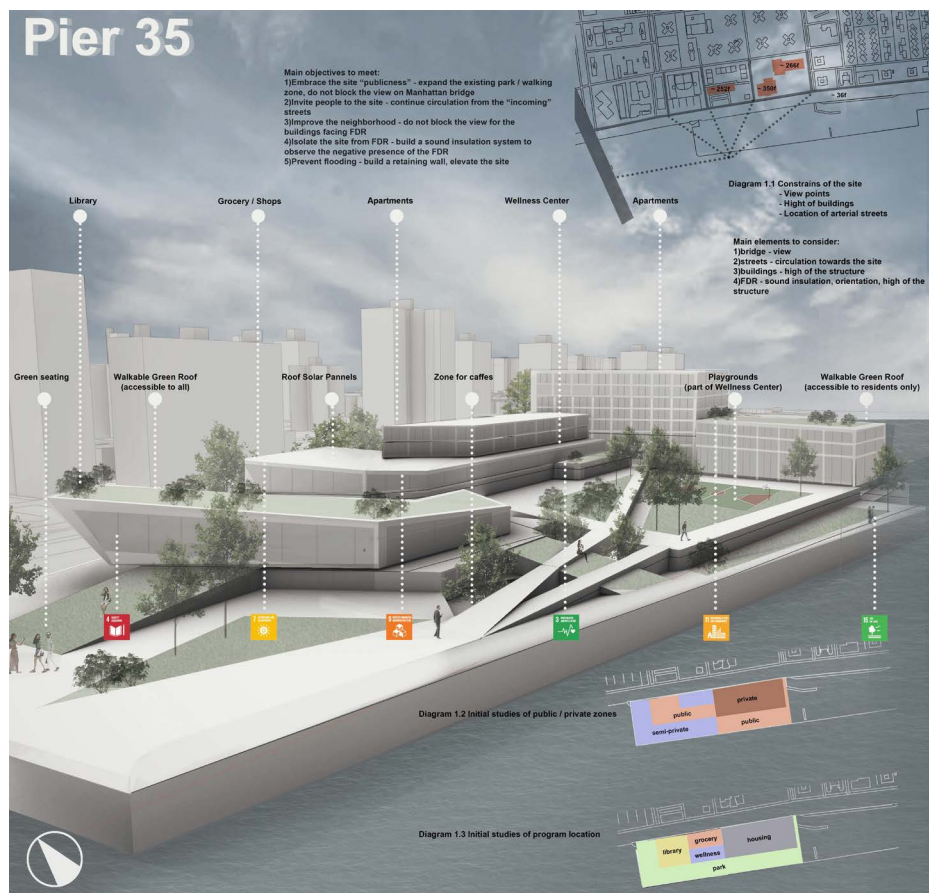


CONT.

With its adjacencies to bridge and water, considerations of 'edge conditions' affect the parti; typical edge developments in New York City tend to be cut off, both physically and phenomenally. For wealthier neighborhoods, this becomes a device of exclusion; for poorer neighborhoods, it becomes one of marginalization, observable in many areas of NYC.

Reconnecting to the city beyond the site manifests in different ways across the studio. Several students activate the waterfront for transit and recreation, establishing ferry docks as well as inlets and piers. Several proposals recognize the artificial nature of the wharf that comprises the site, and propose to remove portions of the deck to define discrete areas, permit and control water flows, and create new urban spaces, to support

gathering at different scales and different levels of privacy or openness. In what might be seen as a direct response to the pandemic and their own sense of isolation, students provided interstitial indoor and outdoor places, to provide respite through community, even if at a distance.





12. MATERIALS & PERFORMANCE COURSE, FOR MFA INTERIOR DESIGN

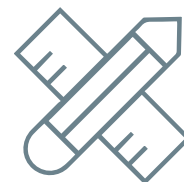
The atmosphere of interior space is largely dependent upon its materiality. Materials make up our physical environments and influence how we experience the world, how we navigate the world, and how we design the world. Material literacy is fundamental for every designer to bring their imaginations and concepts to life. This course, taught by Jonsara Ruth, aims to provide students not only a comprehension of the large variety of materials most commonly used in design and the performance of them, but also to establish design literacy with materials – how to use them in sensitive, innovative and appropriate ways, and how to evaluate them for their impact on human and environmental health.

This course is an intensive research seminar into materials in design, from the structural to the decorative, as viewed through the critical lens of sustainability. Part lecture, part research lab, and part field work, this course gives an overview of the role of materials in the formation and execution of spatial concepts. Throughout the semester, relationships between

material, performance and use are established and evaluated within a practice of committed sustainability. Traditional, composite, and interactive materials are introduced and discussed. Accompanying this course are field trips to product and material manufacturers and research laboratories as well as a variety of materials libraries. Use of fabrication shops are incorporated into course assignments. The course focuses on issues of materials and sustainability with the goal of developing a sensibility about the way material decisions affect the environment and the performance of interior spaces.

17
PARTICIPANTS

This graduate level seminar allowed a group of **observers** to take a deep dive in materiality, spurring them on a journey to become **supporters & advocates**.



EDUCATION

Education Resources

 Model
Syllabi ↓

Videos ↓

 Other Academic
Resources ↓

Model Syllabi

4 resources



BFA Architectural Design Studio: “Schools and Place: The Transformational Power of Education in Lagos, Nigeria” (Spring 2018)



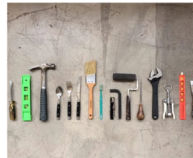
MFA Interior Design Studio 3: Fostering Healthier Futures (Fall 2017)

Inspired by the work of the Administration for Children's Services, which protects and promotes the safety and well-being of New York City's children, young people, families, and communities. Students adopted the focus of HML which is dedicated to a world where people's health is placed at the center of all design decisions.



MFA Interior Design Studio 3 with NYC Dept of Health: Empowering Healthy Futures (Fall 2016)

This studio designs in the knowledge that healthy buildings lead to healthy futures, empowering the community that resides within.

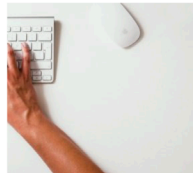


MFA Interior Design Studio 3: Healthy Living with Grocery (Fall 2015)

Designing affordable housing driven by healthy materials research. Students are asked to redefine health from the scale of the individual to the greater community and from the food we eat to the materials that surround us.

Videos

5 resources



Navigation Guide to Healthy Materials Lab's Website

It is our goal to make our website an accessible, easy-to-navigate, and helpful resource for you. This quick video will show you how to navigate through our site so that you can make the most of your time here. We update our site with resources regularly, so please come back and visit us again!

Other Academic Resources

7 resources



0. Material Health Overview

The documents included here introduce the issue of synthetic chemicals in the interior environment and should help you communicate to students how they impact human health. Use this as a reference to develop assignments and class exercises.



1. Certifications and Disclosures

The diagrams included in this section provide a simplified overview of certifications and disclosures to enable students to assess building products and their impact on human health.

**Healthy Materials Lab
at Parsons School of Design**
Making buildings better.

[@](#) [Twitter](#) [Facebook](#) [LinkedIn](#)
[Terms & Conditions](#) [Site by Familiar](#)

Keep in Touch!

Join our mailing list and receive updates from the Healthy Materials Lab.



13. ACADEMIC NETWORK

The Lab established a new network of architecture and design educators to support the open exchange of information about Material Health in the Built Environment. Faculty colleagues from Art and Design Colleges and Universities are invited to join.

Parsons Healthy Materials Lab in New York City has been conducting design research on this critical new topic for design and architecture and we are creating a host of new information and resources. All of our information and resources are available to members of our academic network to use in their course materials and in their existing architecture and design programs. The network is free to join.

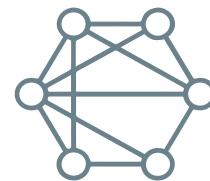
In exchange, the Lab asked that members, in turn, provide and share anything that they may be working on in this field in their own schools and communities. Not all members of the network have in-depth experience in the field

of material health in the built environment. This topic is new to many. The Lab welcomed all experience and interest levels to join in the sharing of this information. All that is required of members is to participate in a conversation surrounding this topic.

The goal of this initiative is to share trusted resources, create a platform on which healthy materials advocates can connect and share information with other advocates. The members of this network will ultimately impart their knowledge to architecture and design students--the new designers of a better future.

231
MEMBERS
84
DIFFERENT
SCHOOLS

The goal of this initiative is to create a platform on which healthy materials **advocates** can connect and share information with other **advocates**. The members of this network will ultimately impart their knowledge to **unaware** students.



RESOURCES FOR ACADEMIC MEMBERS AND FACULTY

Syllabus Support and Examples

Syllabus support

BFA Architectural Design Studio: Schools and Place: The Transformational Power of Education in Lagos, Nigeria

MFA Interior Design Studio 3: Fostering Healthier Futures

MFA Interior Design Studio 3: NYC Dept of Health: Empowering Healthy Futures

MFA Interior Design Studio 3: Healthy Living with Grocery

Teaching Tools

Materials, their Chemistry, and Human Health

Material Health Overview

Certifications and Disclosures

Material Health Chemistry

Chemicals of Concern

Design Strategies

Building Materials

Construction and Post-Occupancy

Videos

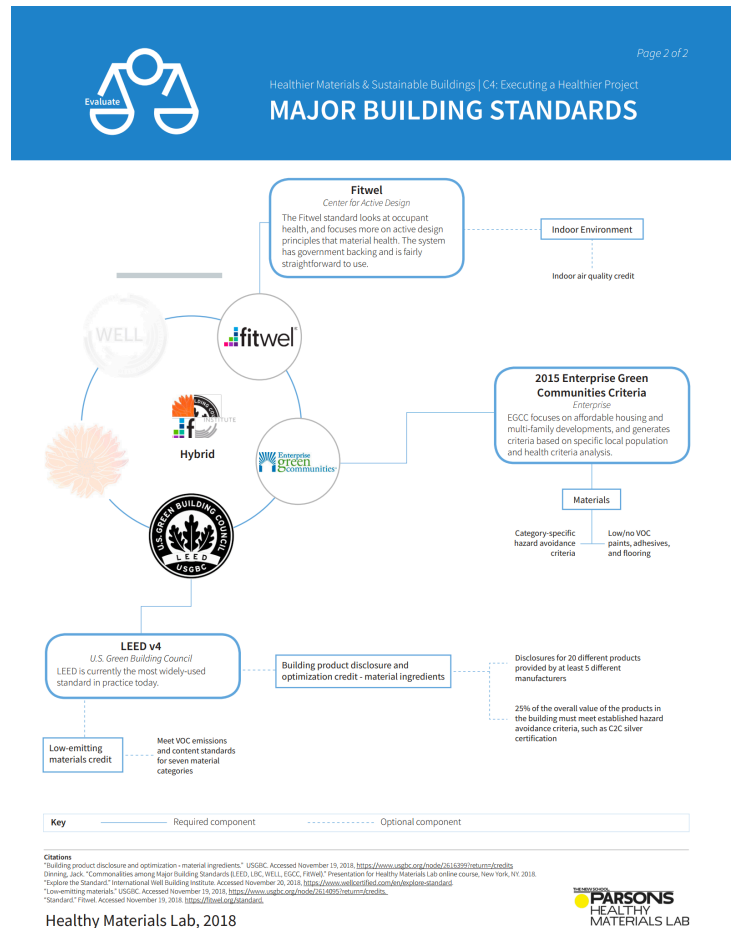
Navigation Guide to Healthy Materials Lab's Website

Affordable Housing and Beyond: Addressing the Needs of All Populations

Beyond Transparency: Improving Product Decisions with Transparency and Material Health Information

Transparency and Material Health "In Practice"
- Accessing and Using Transparency and Material Health Information

Managing Transparency and Materials Health in Practice: Introduction to Firm-Level Issues



Healthier Materials & Sustainable Buildings | C4: Executing a Healthier Project

CERTIFICATIONS & DISCLOSURES

COMPARISON OF MATERIAL HEALTH PRODUCT CERTIFICATIONS AND DISCLOSURES

Certifications and disclosures can provide useful information in assessing product health. Certifications give a score, rating, or official endorsement that a product meets a certain standard, but very few ensure complete screenings of all hazards. They may look at a single attribute or multiple attributes. Disclosures do not include a rating or score, and instead provide information on product contents and associated hazards. Both certifications and disclosures can be self-declared by a manufacturer or verified by an independent third party. Below, you can find a comparison of some of the major disclosures and certifications.

	Type	Verification	Levels	Health Criteria	Public Data Availability	Adoption
				Ingredient Disclosure Hazard Avoidance Toxicity Exposure Emissions		LEED V4 WELL V2 LEED 3.1
HPD v2	Disclosure	Third-party optional	None	● ○ ○ ○	Full ingredient list, with two permitted exemptions	● ● ○
Declare	Disclosure	Third-party optional	None	● ● ○ ●	Full ingredient list with roles, amounts, and hazards	● ● ●
Cradle to Cradle	Multi-attribute certification	Second-party*	Basic Bronze Silver Gold Platinum	● ● ● ●	Scorecard not disclosed	● ● ○
Blue Angel	Multi-attribute certification	Third-party verified	None	● ● ● ●	Scorecard not disclosed	● ● ○
Nordic Swan	Multi-attribute certification	Third-party verified	None	● ● ● ●	Scorecard not disclosed	● ● ○
BIFMA level	Multi-attribute commercial furniture certification	Third-party verified	Level 1 Level 2 Level 3	● ● ● ●	Scorecard not disclosed	● ● ●
CDPH Section 01350	Emissions certification	Third-party verified	None	○ ○ ○ ●	Scorecard not disclosed	● ● ●

Notes
 *Cradle to Cradle uses a proprietary standard.
 **Health criteria are based on product type. For more information refer to Blue Angel and Nordic Swan websites (referenced below).
 ***Can be only used toward "Green cleaning - purchase of sustainable cleaning products and materials" credit.

Citations
 Allee, Jennifer and Tristan Roberts. "Behind the Logo: Understanding Green Product Certifications." BuildingGreen. 2008. <https://www.buildinggreen.com/features/behind-the-logs-understanding-green-product-certifications-0>
 "Blue Angel." Cradle to Cradle. Accessed August 6, 2018. <http://www.cradletothecradle.com/blueangel>
 "Blue Angel, the German Ecolabel." Blue Angel. Accessed August 6, 2018. <https://www.blue-angel.de/en>
 "Learn About Levels." BIFMA. Accessed August 6, 2018. <http://www.bifma.com/learn-about-levels>
 "LEED Credits: New Communities." USGBC. Accessed August 6, 2018. <https://www.usgbc.org/credits/new-communities>
 Lewis, Martha, and David Lewis. "Why Material Health Cannot Be an Afterthought." Presentation for Healthy Materials Lab online course. New York, NY. 2018.
 "Nordic Ecolabel or Swan." Cradle to Cradle. Accessed August 6, 2018. <http://www.cradletothecradle.com/nordic-ecolabel-or-swan>
 "Product Health Reporting." Healthy Materials Lab. Accessed December 17, 2018. <https://healthymaterialslab.org/product-health-reporting>
 "WELL." International WELL Building Institute. Accessed August 6, 2018. <https://www.wellcertified.com>
 Ying, Frances and Sara Topple. Prescription for Healthier Building Materials: A Design and Implementation Protocol. Washington DC: AIA and ARUP. 2018.

Healthy Materials Lab, 2018

PARSONS HEALTHY MATERIALS LAB

1.

CERTIFICATIONS & DISCLOSURES

The diagrams included in this section provide a simplified overview of certifications and disclosures to enable students to assess building products and their impact on human health.

ACADEMIC MEMBERS



RHODE ISLAND SCHOOL OF DESIGN



DREXEL UNIVERSITY



UNIVERSITY OF NOTRE DAME



Harvard University
Graduate School of Design

HARVARD GRADUATE SCHOOL
OF DESIGN



SYRACUSE UNIVERSITY



Rensselaer

RENSSELAER POLYTECHNIC INSTITUTE

ELISAVA

Barcelona School of
Design and Engineering

ELISAVA SCHOOL OF DESIGN &
ENGINEERING



VIRGINIA TECH



THE UNIVERSITY
OF ARIZONA.

UNIVERSITY OF ARIZONA



NEW YORK SCHOOL OF INTERIOR
DESIGN



Fashion Institute
of Technology

FASHION INSTITUTE OF TECHNOLOGY



CENTRAL SAINT MARTINS



PRATT INSTITUTE



ILLINOIS INSTITUTE OF TECHNOLOGY



WOODBURY UNIVERSITY



THE UNIVERSITY OF TEXAS AT AUSTIN



UNIVERSITY OF ARKANSAS, FAY JONES



UNIVERSITY OF KANSAS, SCHOOL OF
ARCHITECTURE AND DESIGN



MONASH UNIVERSITY



THE PENNSYLVANIA STATE UNIVERSITY



BOSTON ARCHITECTURAL COLLEGE



THE NEW SCHOOL

COMMUNICATION & DISSEMINATION

HML brings a range of expertise to the field of material health through the impactful use of a range of communications tools, including communications design and data visualization that support the translation of technical and scientific data into tools that influence decision makers. Drawing from industry consultants and in-house expertise, we are able to develop tactics and strategies to advance the mission of the Lab and accelerate change.

We have developed a communications plan to drive awareness, create demand, and drive change via new tools and resources. The plan identifies key HML platforms and their characteristics. Our planning enables us to connect all of our digital activities and funnel users through specific actions. The pathways enable us to convert participants to higher levels of engagement and expand our network – increasing our potential influence.



14 COMMUNICATION STRATEGY



785 Posts 7,992 Followers 1,740 Following

Parsons Healthy Materials Lab

18 INSTAGRAM



15 HEALTHY MATERIALS LAB WEBSITE

PLASTIC TYPES: MOVING TOWARD A PLASTIC-FREE FUTURE



19 PLASTIC FREE JULY CAMPAIGN



16 MATERIAL COLLECTIONS



20 SYMPOSIUM CAMPAIGN



17 E-LEARNING MARKETING

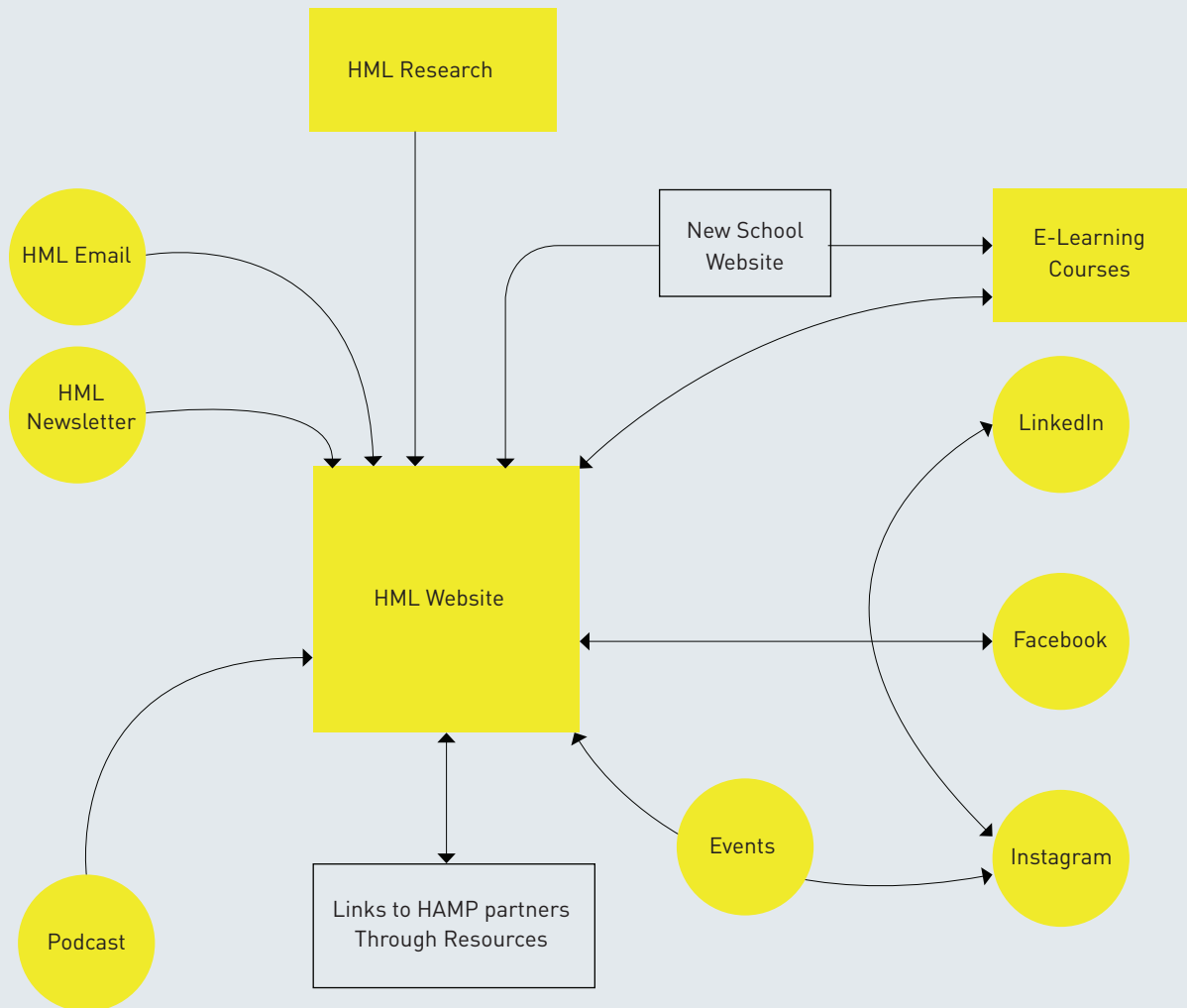


21 TRACE MATERIAL PODCAST CAMPAIGN



22 ROLE MODELS CONTEST MARKETING

COMMUNICATION STRATEGY DIAGRAM ONLINE TRAFFIC FLOW (IN PROGRESS)



14. COMMUNICATION STRATEGY

We have continued to develop, modify, and optimize our multi-pronged communication plan to drive awareness, create demand, and drive change via new tools and resources. Strategies with the goal of increasing our audience and transforming practice at multiple scales. Our strategic communications plan includes the marketing of our Online certificate program, promotion of our public events, and awareness around innovative designers and materials on the forefront of the healthy materials field.

Through surveys, in-person networking, and other research tools, we have gained deeper understanding insight into our various audiences and honed our messaging accordingly. We have refined how, where, and when we message our various audience segments, which include undergraduate and graduate design students, practicing architects and designers, faculty, and community based organizations, in order to optimize our engagement with them.

YEAR 5

25,081
USERS108,125
PAGE VIEWS2.32
PAGES PER
SESSION46,640
SESSIONS02:41
AVG. SESSION
DURATION (MIN)

YEAR 4

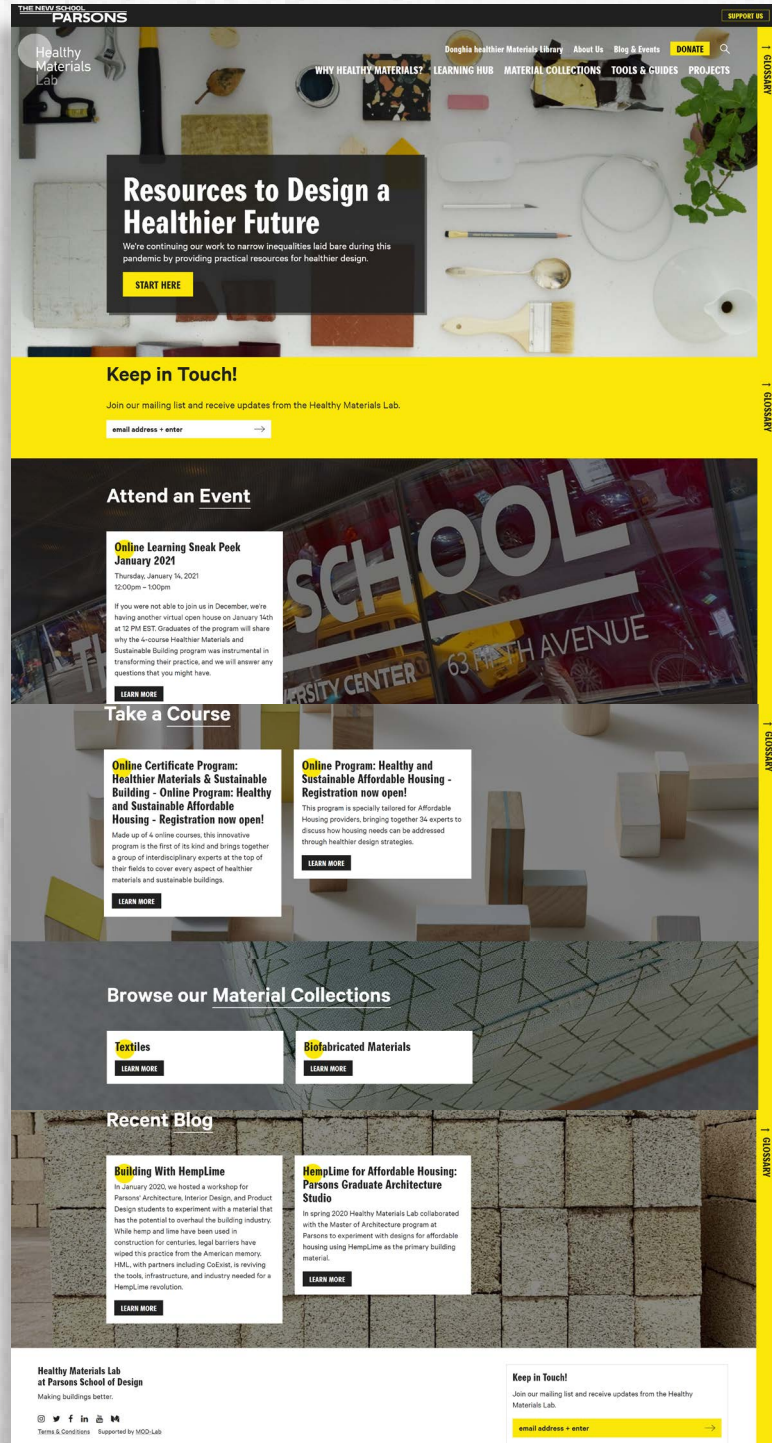
13,742

59,258

2.38

24,880

02:56



15. HEALTHY MATERIALS LAB WEBSITE

Healthy Materials Lab's website promotes transparency and advocates for an industry wide change in the material specification process. The goal of the website is to situate human health considerations as central to material specification. The website collects and curates a library of resources, including new content generated by HML, and is the virtual counterpart to the Parsons Donghia Materials Library physical collection of materials. By consolidating these resources into a simple Online interface, the site increases accessibility and facilitates the practical implementation of healthier building practices.

We forefront easy navigation and search functions to enable users to access concise information and navigate to their specific needs. The simple text is complemented by intuitive graphics, first person narratives and stories, and suggestions for related content throughout. The interconnections created between subjects emphasize the systemic nature of complex topics and allow users to easily access information.

As the site grows and evolves, we have developed additional tools and added more useful information. The HML website represents one of the most comprehensive efforts to guide audience members up the ladder of engagement from unaware all the way to advocate. The next spread details our website development strategy. Consistent feedback and anecdotes from a wide range of users identifies HML's website as being one of the most useful materials platforms available.

The HML website represents one of the most comprehensive efforts to guide audience members up the ladder of engagement from **unaware** all the way to **advocate**.



Healthy Materials Lab

Donghia healthier Materials Library About Us Blog & Events [DONATE](#) [Q](#)

[WHY HEALTHY MATERIALS?](#) [LEARNING HUB](#) [MATERIAL COLLECTIONS](#) [TOOLS & GUIDES](#) [PROJECTS](#)


Material Collections

Looking for a healthier material or building product? Begin to specify healthier, sustainable choices starting with these examples.


[Healthier Building Products](#) ↓ [Healthier Design Alternatives](#) ↓ [Natural and Healthy](#) ↓ [Databases of Certified Products](#) ↓

[Design-Forward Product Libraries](#) ↓

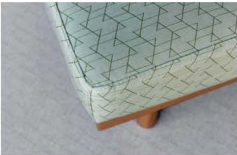
Featured Collections



Biofabricated Materials



HempLime



Textiles

Donghia healthier Materials Library


A resource for students, faculty, and professionals to find healthier materials and strategies for sustainable and equitable design.

[LEARN MORE](#) →


Healthier Building Products Collections

[See all 9 Collections](#) →


These collections contain samples of healthier options, which disclose a minimum of 75% of ingredients by weight and evaluation process is the impact of a material on human and environmental health, throughout its lifecycle.



Composite Wood Products



Countertops



Insulation

Healthy Materials Lab

Donghia healthier Materials Library About Us Blog & Events [DONATE](#) [Q](#)

[WHY HEALTHY MATERIALS?](#) [LEARNING HUB](#) [MATERIAL COLLECTIONS](#) [TOOLS & GUIDES](#) [PROJECTS](#)

Tools & Guides


Browse through our digital collection of tools and guides to help designers, architects, homeowners, and developers make more informed choices about building materials and health.

[HML Resources](#) ↓ [Material Health Research](#) ↓ [Material Design Approaches](#) ↓ [Materials Guidance](#) ↓ [Product Evaluation](#) ↓

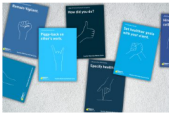
[Best Practices](#) ↓ [Material Libraries](#) ↓

HML Resources


[See all 7 tools & guides](#) →




Syllabus: Healthier Materials & Sustainable Buildings Certificate Program
Healthy Materials Lab, Parsons School of Design




Healthy Materials Method Cards
Healthy Materials Lab




Hemp • Lime (Draft)
Healthy Materials Lab




10 Simple Steps for a Healthier Lifestyle



Plastic Types: Moving Toward a Plastic Free Future



Color x Health: Affordable Housing Starts with Healthier Spaces
Healthy Materials Lab




Guidelines for Early Childhood Educational Materials
Healthy Materials Lab


Material Health Research

[See all 84 tools & guides](#) →


Want to learn more about the impacts of building materials on health? These resources provide information on the chemicals that are most toxic, common sources where they're found, pathways of exposure, ensuing health hazards, and the populations that are most vulnerable.




Better Building Materials: Understanding Human Health and Environmental Attributes
U.S. Green Building Council (USGBC)



EPA EcoBox
U.S. Environmental Protection Agency (EPA)



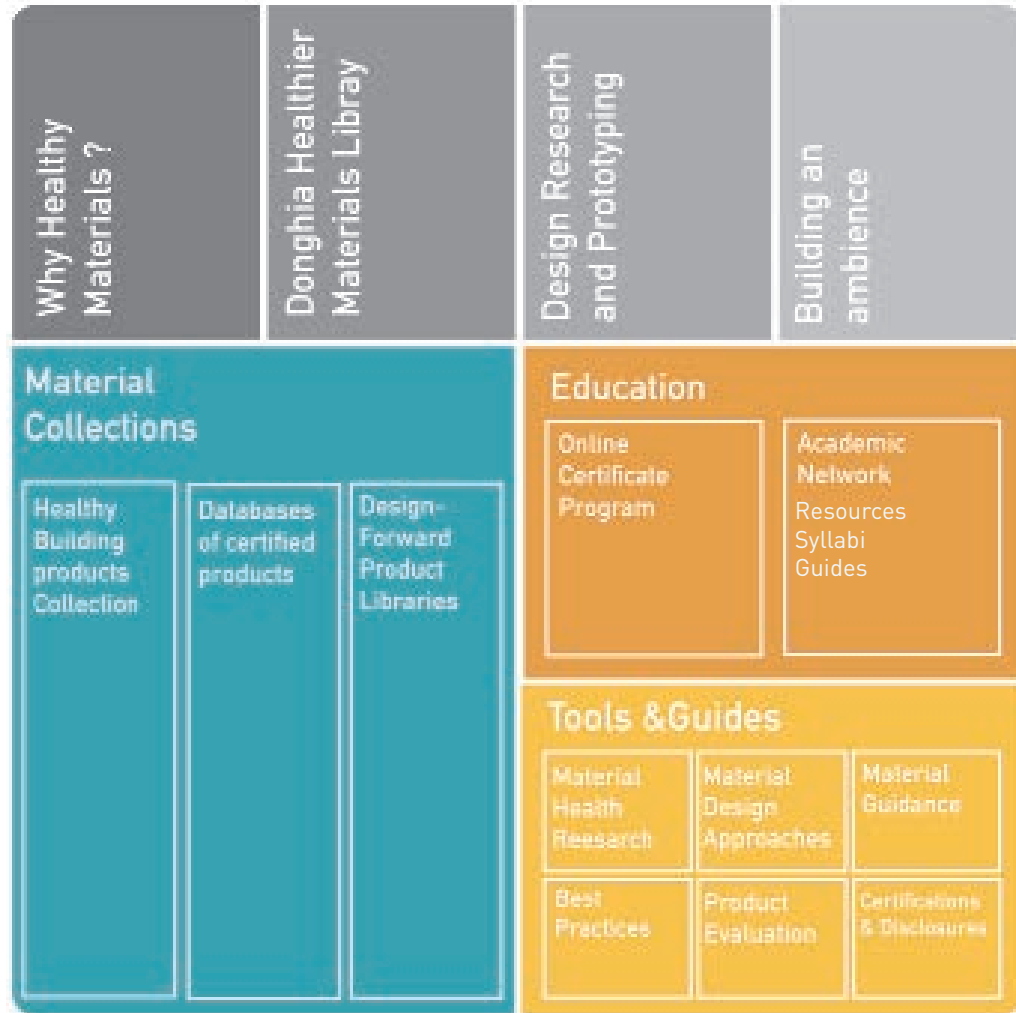
Healthy Building Network: Research & Reports
Healthy Building Network (HBN)



Six Classes: Short Videos on Chemicals of Concern
Green Science Policy Institute (GSPI)

HML WEBSITE ORGANIZATION

The website is organized in order to address the needs of audience members ranging from Unaware to Advocate by providing information that introduces the issue and a host of different resources.



WHY HEALTHY MATERIALS MATTER?

Emphasize the importance of the issue.

DONGHIA HEALTHIER MATERIALS LIBRARY

The hub of our physical presence at Parsons.

DESIGN RESEARCH & PROTOTYPING

Feature developments in materials market.

BUILDING AN AMBIANCE

Contextualizing healthy materials to understand their qualities and applications

MATERIAL COLLECTIONS

A resource that combines product categories with guidance, tips and resources for more info.

EDUCATION

A link to our new Online learning course.

TOOLS & GUIDES

An interface of hundreds of resources created by research partners and internally

27 NEW MATERIALS

We have added new materials to all material categories.

85+ NEW PRODUCTS BEING VETTED

We are continually vetting new products to see if they meet our criteria.

40+ MANUFACTURERS WE'RE CONTACTING

Active correspondence regarding documentation and certification

Textiles

Healthier and more sustainable textiles can address: 1. **footprints of fiber cultivation and production** and 2. **toxicity of any applied treatments**.

The production of both natural and synthetic textiles can require massive amounts of energy, water, and toxic chemicals. Added surface treatments often involve harmful chemicals. Selecting products from manufacturers that are committed to minimizing their environmental impact and to providing ingredient transparency can help to ensure healthier and safer interior environments.

Textiles 11 products

CATEGORY	SUB-CATEGORY	MANUFACTURER	PRODUCT	INGREDIENT DISCLOSURES
Textile	Biobased	Carnegie	Biobased Xorel	HPD Declare EPD SDS
Textile	Cotton	Kvadrat	Harald 3	HPD Declare EPD SDS
Textile	Hemp	NYTextileLab	270's 80/20 wool and hemp blend, ivory	
Textile	Leather	Moore and Giles	Terra Olive Green	HPD Declare EPD SDS
Textile	Natural Fiber	OceanSafe	OceanSafe	
Textile	Natural Fiber Blend	Hemp Traders	Hemp + Organic Cotton Muslin	HPD Declare EPD SDS
Textile	Natural Fiber Blend	J&B Anstoeztz	Vivo	
Textile	Natural Fiber Blend	Kvadrat	Reed	HPD Declare EPD SDS
Textile	Wool	Fizfelt	5mm Wool Design Felt	HPD Declare EPD SDS

HempLime

HempLime products are a superfood for the building industry. Products made from **Hemp** and **Lime** offer healthier alternatives in the categories of insulation, wall systems, textiles, and more in large part because they do not contain harmful petrochemicals. They absorb carbon dioxide from the atmosphere, hemp plants sequester carbon while regenerating depleted soils, and HempLime products are naturally fire-resistant. Hemp and lime products can be fully recycled and reused to support a zero-waste economy.

Additionally, the burgeoning hemp industry in the US supports regenerative economies and is tackling issues of social justice through agriculture and workforce development.

HempLime 11 products

CATEGORY	SUB-CATEGORY	MANUFACTURER	PRODUCT	INGREDIENT DISCLOSURES
Masonry	Hempcrete	American Lime Technology	Radical Hemcrete	
Masonry	Hempcrete	IsoHemp	Hempcrete Block	HPD Declare EPD SDS
Masonry	Hempcrete	Just Bio Fiber	Hempcrete Blocks	HPD Declare EPD SDS
Resilient	Lime	Limeworks	Ecologic Trademark Lime Injection Grout (Type I)	
Resilient	Lime	Limeworks	Ecologic Trademark Plaster Takcoat Platinum	

16. MATERIAL COLLECTIONS

In Year Five, Healthy Materials Lab continued to develop the Material Collections. Three new collections of materials were added this year, along with new materials to existing collections. New collections require a lot of energy and time in researching the aspects of health and the respective product categories

The work on Healthy Materials Lab's Material Collections was enhanced by adding a highly requested Textile Collection. Healthier and more sustainable textiles can address footprints of fiber cultivation and production and toxicity of any applied treatments. The production of both natural and synthetic textiles can require massive amounts of energy, water, and toxic chemicals.

Alternative Finishes was added as a collection. Often products need a finish, which mediates between user and material. Irrespective of what it covers, the last coat itself can potentially off-gas. A finish sheds particles simply through use and wear,


making it particularly impactful on human health.

A collection on HempLime was added. Hemp and Lime offer healthier alternatives in the categories of insulation, wall systems, textiles, and more in large part because they do not contain harmful petrochemicals. They absorb carbon dioxide from the atmosphere, hemp plants sequester carbon while regenerating depleted soils, and HempLime products are naturally fire-resistant. Hemp and lime products can be fully recycled and reused to support a zero-waste economy.

The Lab is always working on developing protocols to support correspondence with manufacturers of products and materials. In Year Five, over 40 new manufacturers were contacted and responded with information on certification and documentation. Healthy Materials Lab's Material Collections developed as a resource for anyone involved in building materials in Year Five.

Material collections increase engagement by **building awareness** of material health. HML researchers have organized these highly curated collections using strict criteria. By communicating this criteria to our users, we are helping to turn **supporters** into **advocates**.



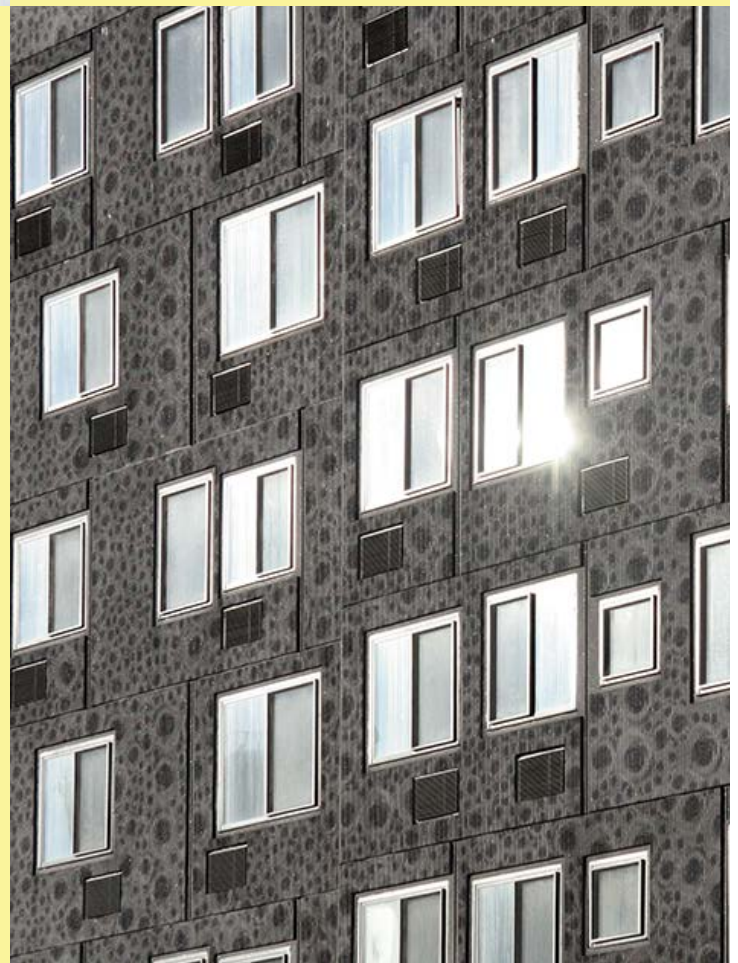


4 COURSES
22 HOURS OF VIDEO
134 INTERVIEWS
24 ORGANIZATIONS
11 EDUCATIONAL INSTITUTIONS
5 CONTINENTS
11 COUNTRIES
18 ARCHITECTS
7 DESIGNERS

HEALTHIER MATERIALS & SUSTAINABLE BUILDINGS

HEALTHIER SUSTAINABLE AFFORDABLE HOUSING

7 SCIENTISTS
18 PROFESSORS
3 ENTREPRENEURS
3 STRATEGIC CONSULTANTS
1 PEDIATRICIAN
1 LAWYER
1 INDUSTRIAL HYGIENIST
1 MARKETING CONSULTANT

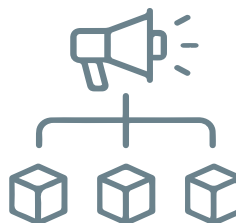


17. E-LEARNING MARKETING

Within this grant year, we continued to develop our marketing strategy for Online education. A brand new Affordable Housing Course was launched during the summer. This course brings together 34 experts in the fields of design, construction, science, medicine, and public and environmental policy to discuss how housing needs can be addressed through healthier design strategies.

Additionally, materials were created to speak to the shift to working from home due to the COVID-19 pandemic.

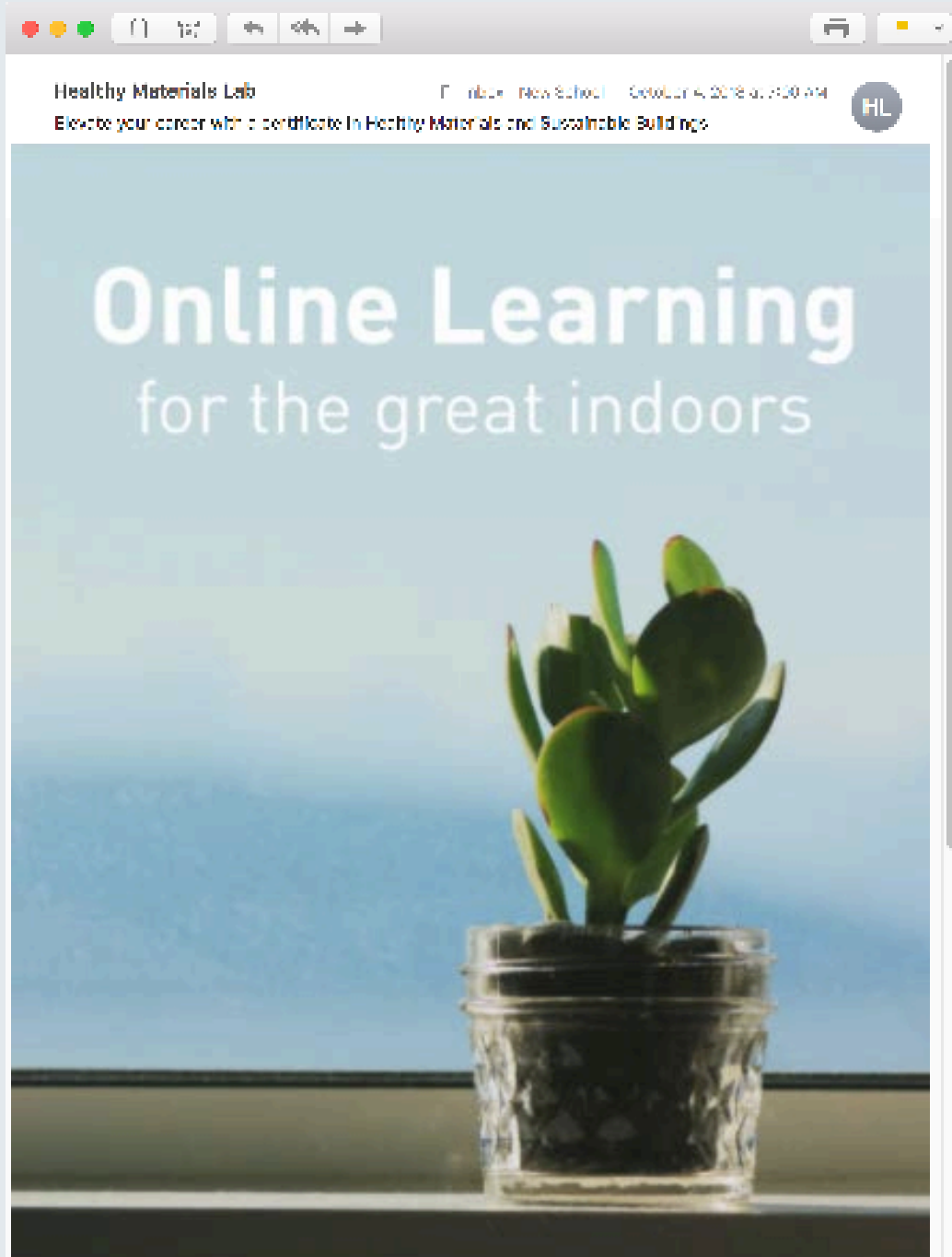
Much of our communications efforts are focused targeting **observers** and enrolling them in the eLearning program. The 4 courses are designed to turn participants into **advocates**.



ONLINE LEARNING FROM THE GREAT INDOORS

Here at the Lab, we're working to gain a greater understanding of what it means to improve the quality of all lives during this unprecedented time. At the beginning of the COVID-19 pandemic, we offered continued access to our Online learning program: Healthier Materials and Sustainable Building and we hope you can use it as a stepping stone to a brighter and healthier future.

In a time where we're indoors more than ever, understanding designs impact on human health is paramount-- these experts can help guide the way. We offered to those that are facing job or financial insecurity, Materials and Human Health (course 1 of 4) at no cost.



AFFORDABLE HOUSING COURSE CAMPAIGN

At the beginning of the summer in Year 5, we launched our brand new Affordable Housing course. Through newsletters and various social media posts using imagery from Affordable Housing projects we have researched, we communicated that this course brings together 34 experts in the fields of design, construction, science, medicine, and public and environmental policy to discuss how housing needs can be addressed through healthier design strategies. They speak -- from their own experience -- about how to overcome common challenges in order to create the healthiest environments for all -- from contractors, to future inhabitants, to maintenance staff.



First Community Housing, San Jose, CA

IT'S HERE:
THE AFFORDABLE HOUSING GUIDE
TO MATERIALS + HUMAN HEALTH



Foundation Communities
Austin, TX

TRANSFORM AFFORDABLE HOUSING!

7,992 **+76%**

FOLLOWERS
(AS OF DEC 2020)

1,740 **-3%**

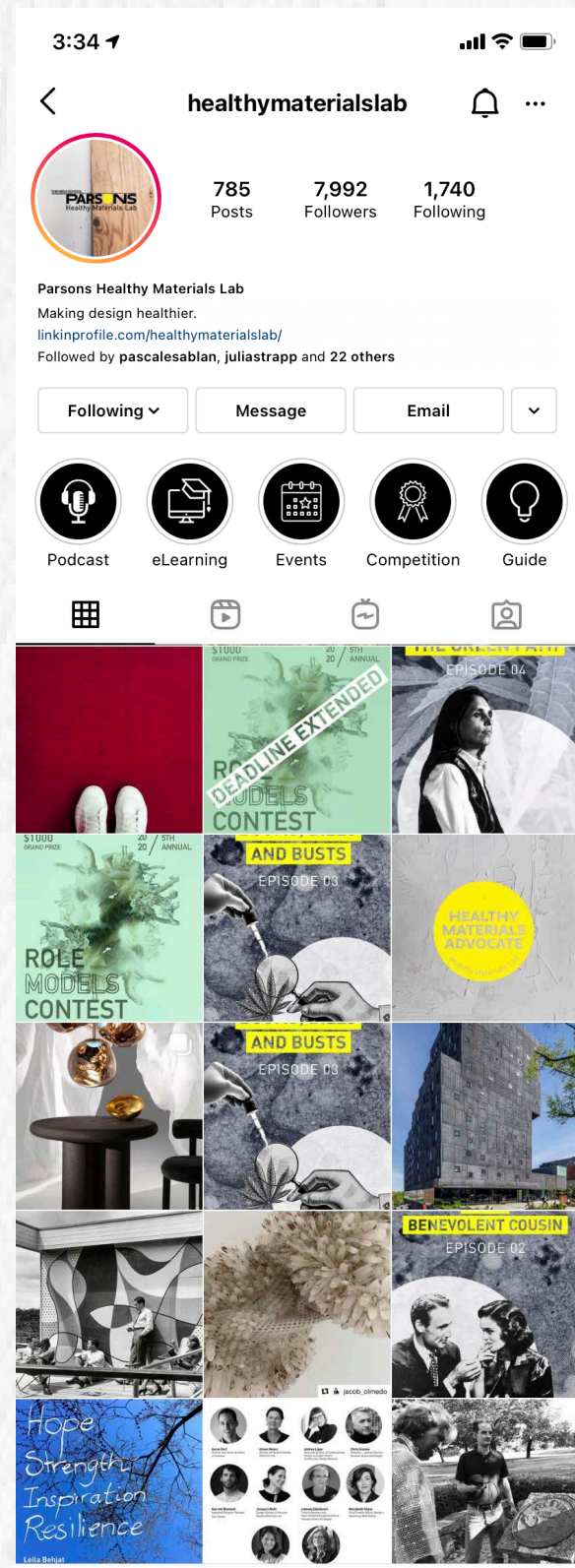
FOLLOWING
(AS OF DEC 2020)

785 **+190**

NUMBER OF POSTS
(AS OF DEC 2020)

6,118 **-8%**

AVG. NUMBER OF
IMPRESSIONS ON
TOP 3 POSTS

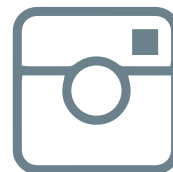


18. INSTAGRAM

Instagram is a large part of our communications strategy to strengthen industry partnerships, cross-promote content and reach a wider audience. In Year 5, we continued initiatives such as Material Mondays, and Featured Designer Friday's to share information about healthier material alternatives in a way that is engaging for designers and millennials alike.

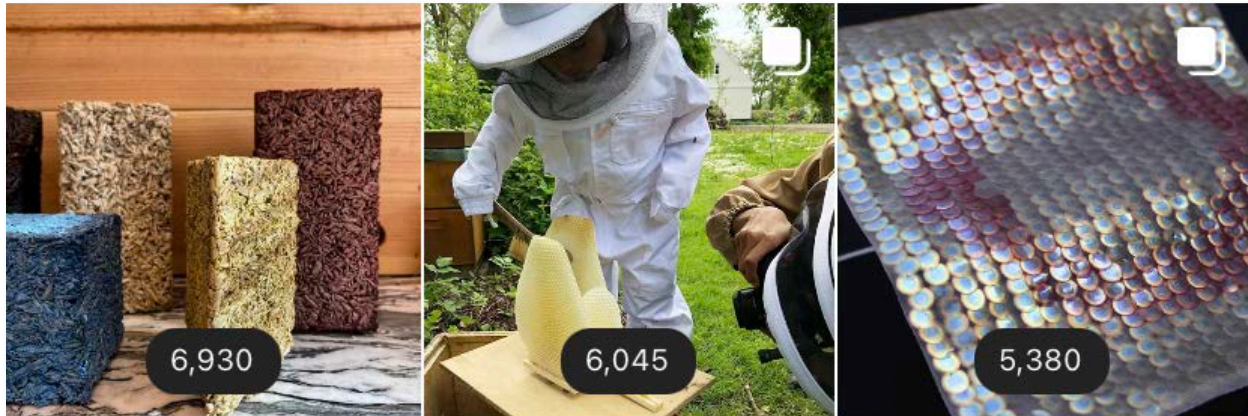
Our initiatives and strategic approach, detailed in the following spread, resulted in a 76% increase in followers. We plan to continue using Instagram as an effective tool to develop HML's communication strategy, broaden our reach and support our theory of change. As one of our key learnings, we found that Instagram is a great platform for building a network of independent designers who are pushing the boundaries on using healthier materials in new ways.

Instagram helps to increase **supporters** and broaden awareness of healthier materials among a design audience. Our account disseminates resources and knowledge of healthier materials in a visually engaging way that is both friendly and authoritative.

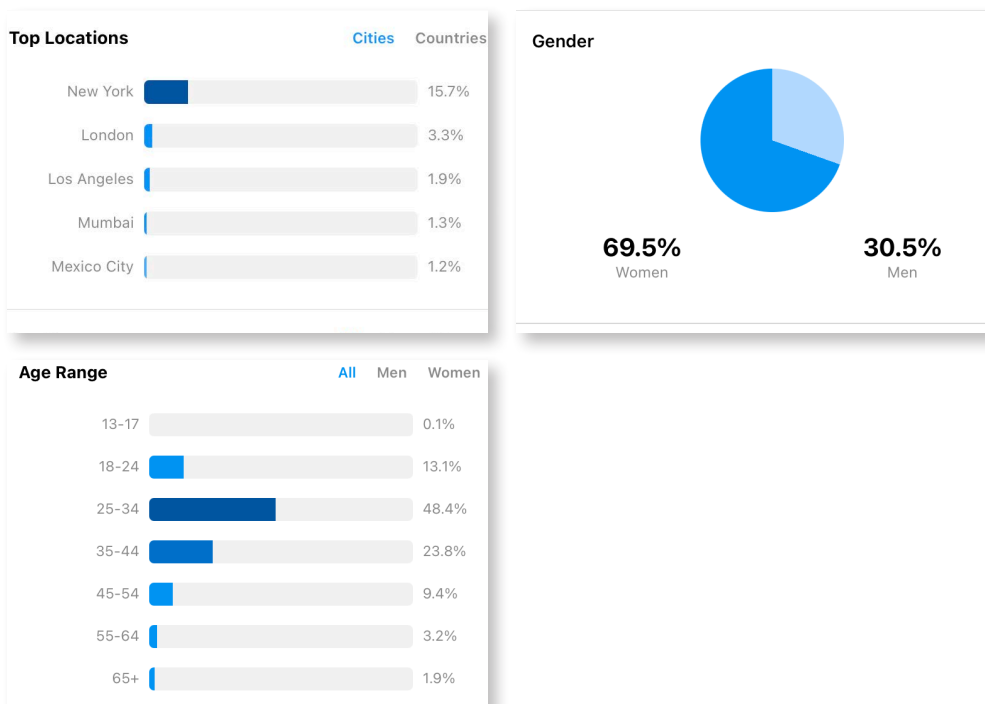


TOP POSTS

An impression is when a post reaches a user's feed. One person can have multiple impressions from the same content.

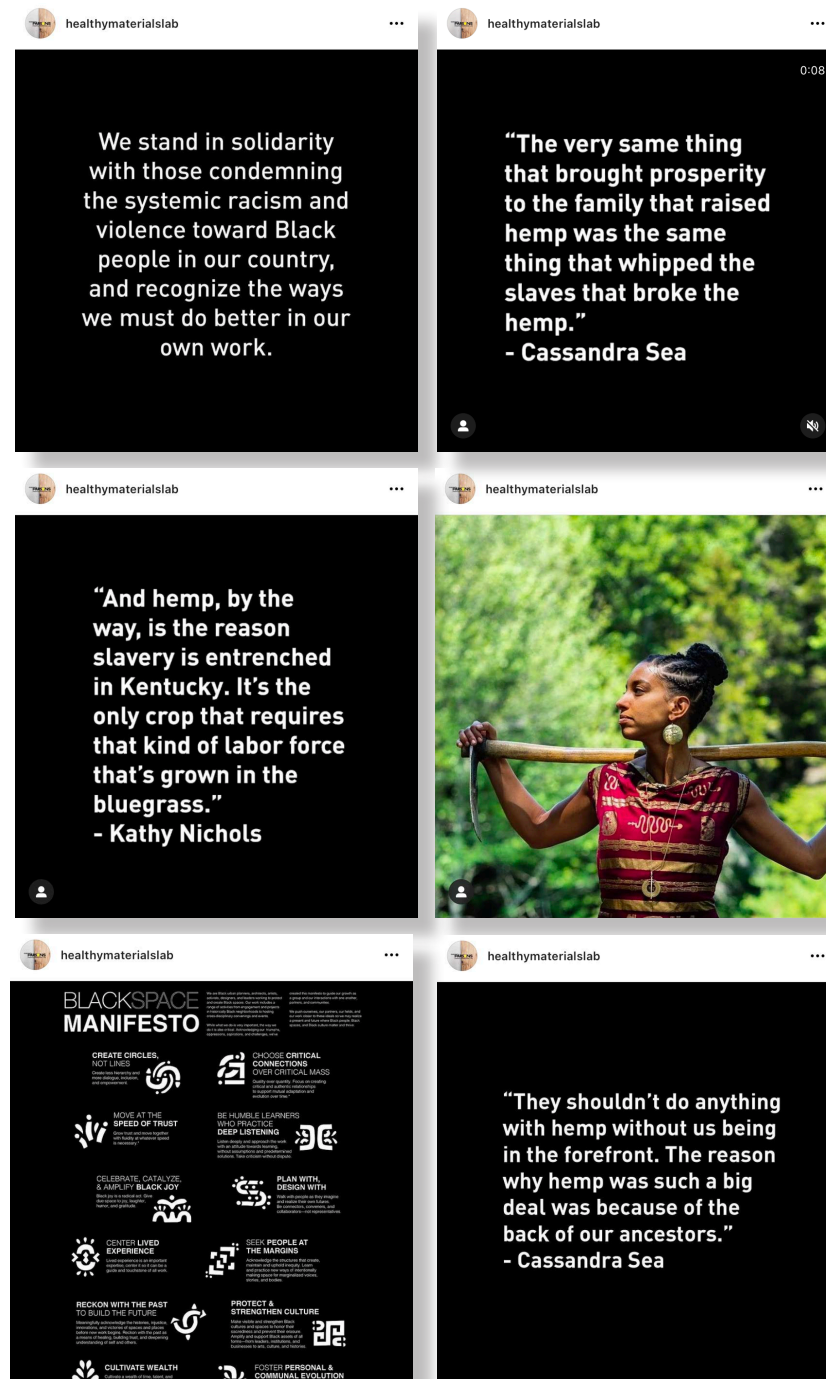


AUDIENCE INSIGHTS



BLACK LIVES MATTER MOVEMENT

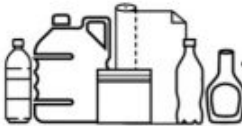
In order to sustain and support momentum and bring about real change, we recognize that anti-racism is an ever-evolving process in which we will continue to reflect, research, listen and act. We developed a series of posts to show our support and stand with BIPOC colleagues and designers.



PLASTIC TYPES: MOVING TOWARD A PLASTIC-FREE FUTURE



polyethylene
teraphthalate



**degrades
with use.
recycle,
don't reuse!**

use:
-reusable bottles
-reusable beeswax
wrap or glass
/porcelain containers
-homemade
dressing or opt for
condiments in
glass jars



high-density
polyethylene



**only 30-35% gets
recycled in the
US each year**

use:
-glass containers
when available
-homemade
cleaners in glass jars
-detergent in
cardboard boxes



polyvinyl
chloride



***not recyclable in
most US jurisdictions
"poison plastic"
just don't use it!**

use:
-toys made from
natural materials
for make your own!
-vinyl-free shower
curtain
-reusable beeswax
wrap or glass
/porcelain containers



low-density
polyethylene



**often used in
products that
can't be recycled**

use:
-fabric alternatives
-say "no thanks!"
to a plastic bag
-reusable beeswax
wrap or glass
/porcelain containers



polypropylene



***not recyclable in
most US jurisdictions**

use:
-reusable straws
-fabric diapers
-cardboard takeout
containers



polystyrene



**accounts for 35%
of all landfill
material**
*polystyrene is being
banned in many U.S.
cities & counties!

use:
-reusable coffee cups
-stainless steel
takeaway
containers
-reusable picnic
cutlery



other (acrylic,
polycarbonate,
polyactic fibers,
nylon, fiberglass)



beware of BPA!

avoid using this
plastic type

HML developed this cheat sheet to help you navigate the world of plastics, but we recommend you avoid using them all together. Opt for glass, stainless steel, & porcelain containers, fabric alternatives, and reusable bottles, straws, and cutlery. Your actions make a difference!



19. PLASTIC FREE JULY CAMPAIGN

At the beginning of Year 5, we launched a campaign to celebrate Plastic Free July which included the roll out of a guide called “Plastic Types: Moving Toward a Plastic Free Future.”

We’re tempted to hit you with hard facts and scary photos about plastic devastation... but chances are you already know plastics are a ~major~ issue and like us, you’re stressed. To help refocus that anxiety into advocacy, we’ve created this simple cheat sheet: “Plastic Types: Moving Toward a Plastic Free Future”. We hope this guide will help you identify common plastic types in your day-to-day and inspire you to prioritize healthier alternatives. While most plastics are not great, others are downright poisonous and should be avoided at all costs (ahem, we’re looking at you PVC).

Hang this handy guide somewhere you can easily refer to it, like your refrigerator or near your recycling bin, so you can be sure your plastics are ending up in the right bin. We recommend avoiding plastics altogether

but realize this is easier said than done. Start small and whenever possible, opt for glass, stainless steel & porcelain containers, reusable bottles, straws & cutlery, and fabric or paper alternatives whenever possible.

The handy plastics guide was shared by the Museum of Modern Arts in a newsletter.

Using Instagram for a series of posts helped to create awareness and link to the guide for **Moving Toward a Plastic Free Future** in an accessible way to a wide audience. By providing tools and guides for healthier material choices, it helps turn **supporters** into **advocates**.





PLASTIC FREE JULY INSTAGRAM POSTS

The success of each post related to Plastic Free July is measured using Instagram analytics tools. This is important because when HML's followers send our posts to friends, brand new people are viewing our profile and content. The most popular post, which included the link to the plastics guide, was saved 39 times; which means 39 individuals would like to return to this post at a later date.



WHAT DOES RADICAL CHANGE LOOK LIKE?

A SYMPOSIUM

NOV 14 + 15

MATERIAL HEALTH:
Design Frontiers
in the Built Environment

THE NEW SCHOOL
PARSONS
HEALTHY
MATERIALS LAB

MATERIAL HEALTH: Design Frontiers in the Built Environment

A SYMPOSIUM

NOV 14 + 15

Japanese Naga Seaweed Installation by Julia Lohmann. Photo credit: Petr Krejci

20. SYMPOSIUM CAMPAIGN

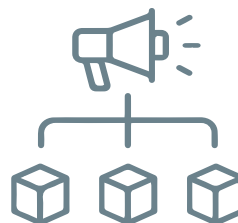
During Year 5, the lab hosted “Material Health: Design Frontiers” a symposium that provided a platform to examine issues of material health and celebrate material innovation, grapple with new and long-sustained challenges in socially engaged research and practice, as well as critically reflect on necessary changes to academic architectural and interior design programs.

Who designs the future? Who shapes it? Who teaches it? How does an understanding of the fundamental issues threatening our planet and human species change the way we teach and launch the next generation of architects and interior designers for this new era? What are the problems we will face if we don't consider the complex environmental implications of design decisions? What does the future look like if radical change happens now? These are the fundamental questions we posed to our followers, supporters and fellow material advocates to create excitement around the symposium.

To promote this event, we developed graphics for marketing on multiple platforms such as the HML website, Newsletters, Instagram, LinkedIn as well as short postings on other websites.

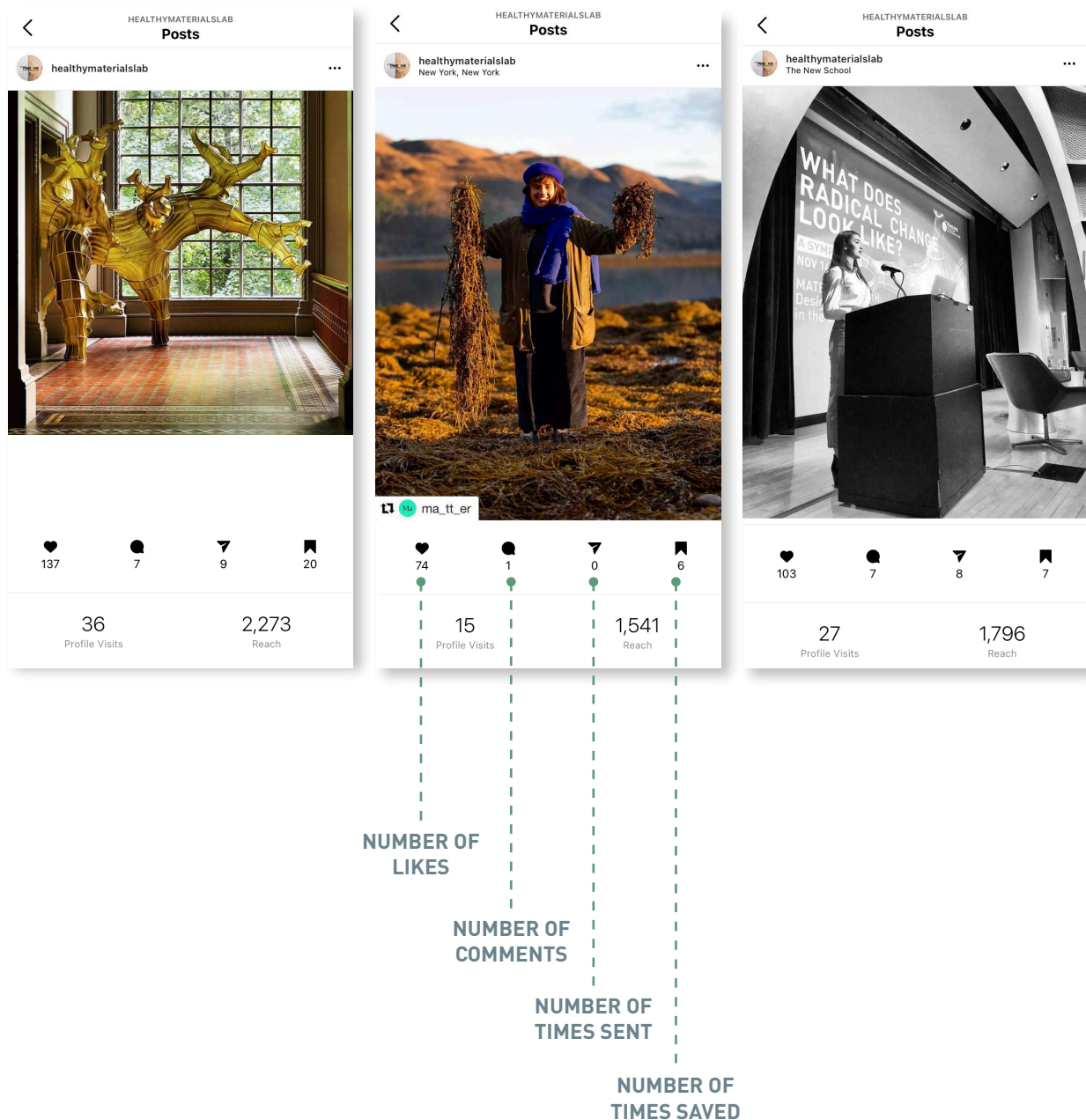
Couldn't make it to the conference? Don't worry. We posted the recorded videos to Youtube and all are available on the HML website.

Much of our communications efforts around **Material Health : Design Frontiers** were multi-platform to reach a wider range of healthy material supporters and advocates.



SYMPOSIUM INSTAGRAM POST INSIGHTS

On Instagram specifically, we highlighted various speakers and guests of the symposium. To create excitement around the event, we posted images of our guest speakers or of their work. We posted on Instagram throughout the event to keep users engaged with our content and to encourage those who did not attend, to watch the recorded videos.



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[GLOSSARY](#)

CONFERENCE

Material Health: Design Frontiers

NOVEMBER 14 – 15, 2019 THE NEW SCHOOL, NEW YORK NY

Japanese Renga Screened Installation for Public Learning
Photo credit: Peter Wilson

Conference Documentation

Schedule

Speaker Bios

Co-Chairs

Alison Mears, Parsons Healthy Materials Lab

Jonesara Ruth, Parsons Healthy Materials Lab

Conference Documentation

Winona LaDuke, Keynote, Environmentalist, Political & Climate Activist (47 minutes)

Design Frontiers: Material Health – Winona LaDuke Keynote Address

Healthy Materials Lab, Welcome (5 minutes)

Design Frontiers: Material Health – Welcome Address

TRACE MATERIAL

SEASON 01



21. TRACE MATERIAL PODCAST CAMPAIGN

On April 8th 2020, the lab launched an innovative new podcast called Trace Material that explores the convergence of our lives and the lives of the materials that surround us. Today, more than ever, we are reflecting on our homes and families. The hope for the podcast is that it will inspire new, healthier opportunities for designing and building the places where we live.

Each season we will examine a material that you might find in your interior environment to discover what it can tell us about our history, our culture, and our bodies. The first season will focus on hemp—one of the two main ingredients found in the superstar healthy material, HempLime, often called Hempcrete, through six 20-minute episodes.

Trace Material is hosted by faculty, researchers and staff from Parsons Healthy Materials Lab (HML)—a design-led research lab at Parsons School of Design at The New School. HML is dedicated to placing people's

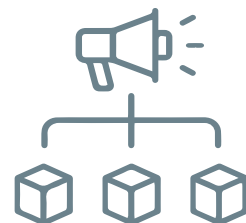
health at the center of all design decisions and committed to raising awareness about toxics in building products and creating healthier places for all people to live.

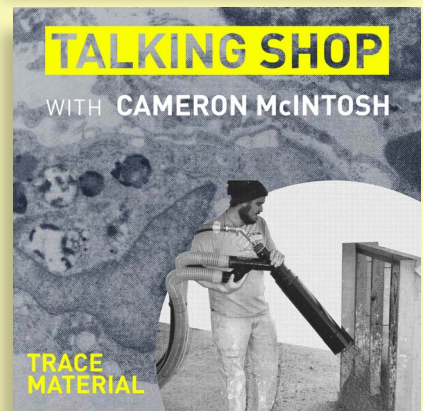
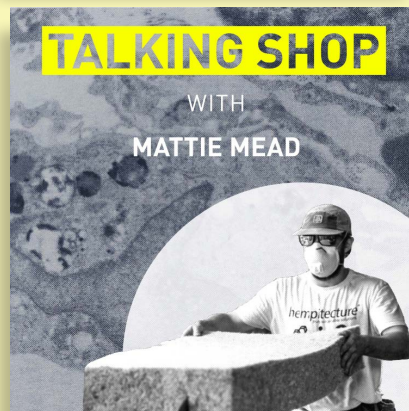
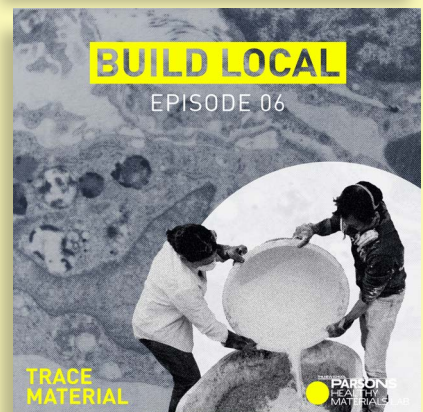
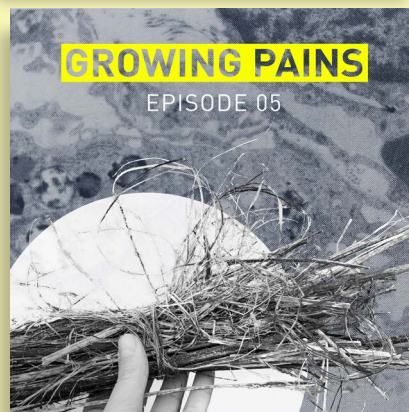
All episodes of Trace Material Season 1 are now available on Apple Podcasts, Spotify, and Stitcher.

Trace Material was first announced at the Material Health: Design Frontiers symposium. We developed an intriguing graphic language for announcement posts as well as continued marketing material for the podcast to be displayed on our Instagram, Website and Newsletters to engage our follows and encourage them to listen.

12,517
DOWNLOADS

This contest is an opportunity to celebrate and promote student innovation in the design community. An important part is publicizing the application of healthier materials in addressing systemic change.





PODCAST INSTAGRAM POST INSIGHTS

We used Instagram not only to help announce and create excitement around the podcast, but to post about each forthcoming episode. In each post we included an intriguing image and a caption about what is to come. Using Instagram insights to analyze the success of each post helped guide what types of imagery to use. The posts leading up to the release of Episode received high likes, views and profile visits.





**BE A
ROLE
MODEL**

22. ROLE MODELS CONTEST CAMPAIGN

For the first year, we extended the contest to students outside of the United States. To be eligible to enter, students had to be enrolled in an undergraduate or graduate degree-seeking design program.

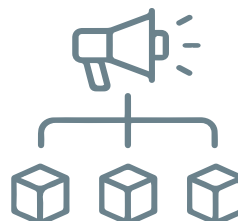
Many of our fellow advocates are facing academic and personal hardships. In Year 5, we made it so participants can still enter your work to our student design competition for a chance to win \$1,000. In lieu of finalized 3D models, we accepted in-process and digital models and/or any evidence to support your final concept.

This contest is a chance to be a role model to the rest of the design world by sharing how your innovative approach to design positively impacts our health, and the health of the planet. Now more than ever, we need designers who put people and the planet at the forefront of all design decisions!

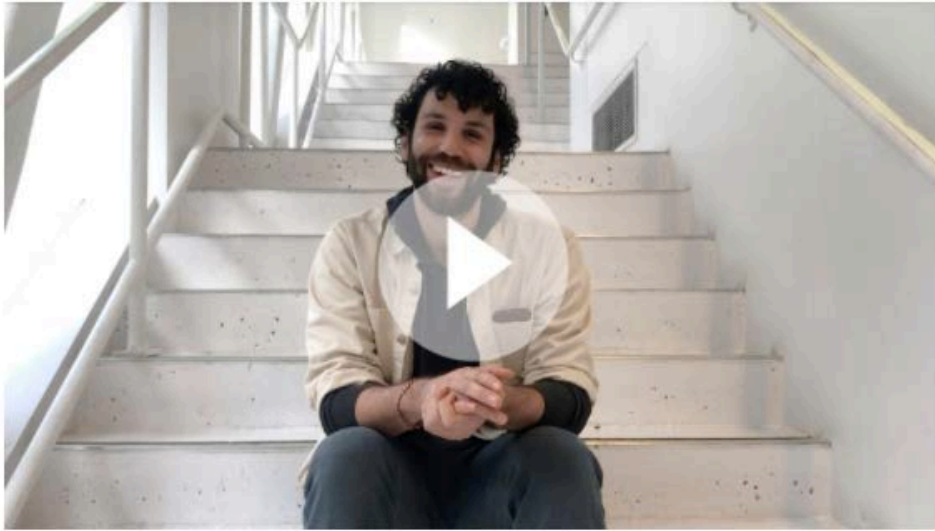
For this year's contest, we developed a series

of graphics for Instagram, Newsletters and social media platforms alike to encourage students to participate even throughout the pandemic and surrounding hardships.

Much of our communications efforts around the **Role Models Contest** were multi-platform to reach a wider range of design students.



WANT TO KNOW WHAT IT TAKES TO BE A ROLE MODEL?



[Catch up with last year's grand prize winner, Garrett Benisch, to find out what inspired his winning entry.](#)

ROLE MODELS CONTEST



Student Design Competition

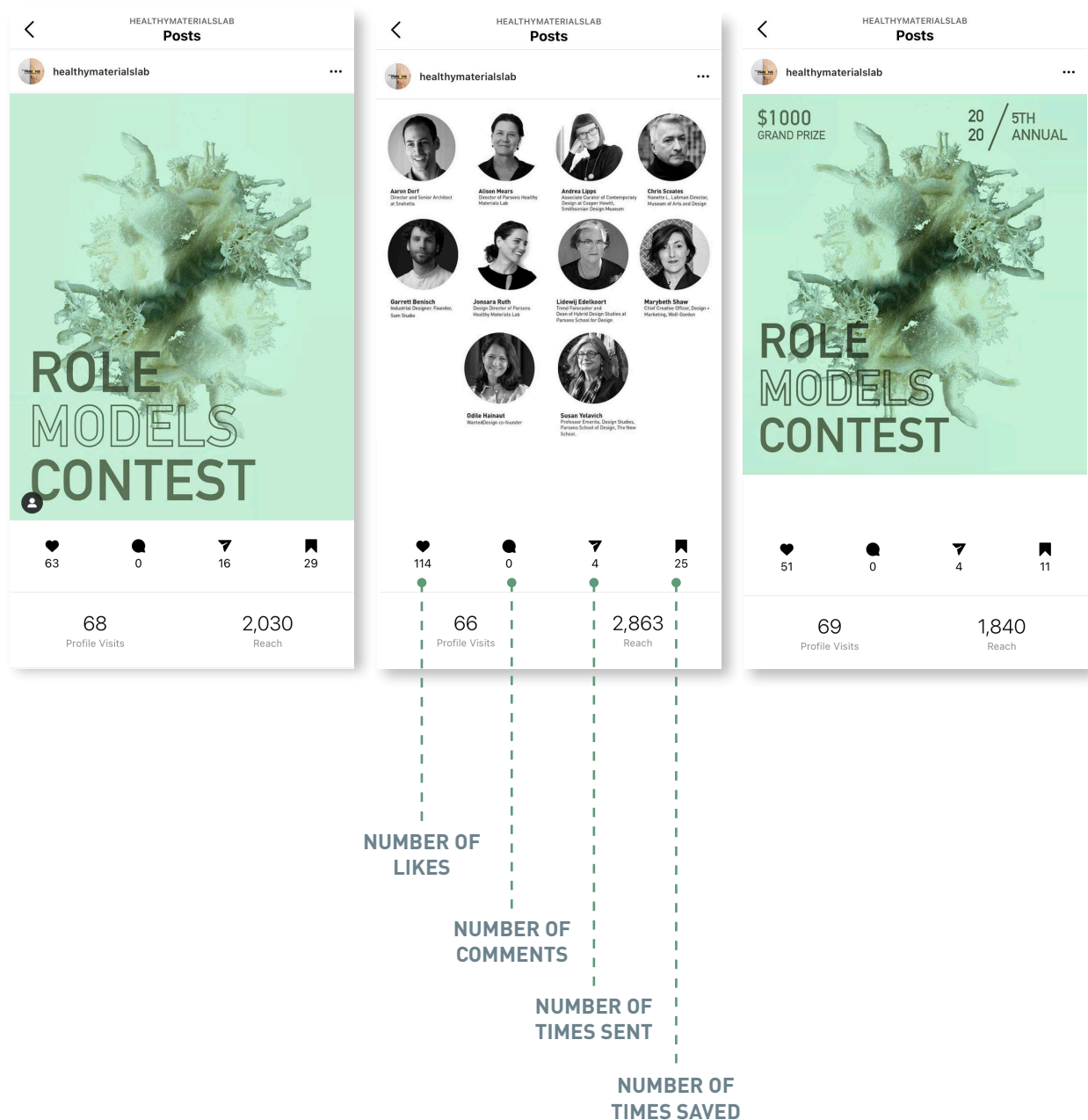
Submissions Due May 18th, 2020

For the first year, we're extending our competition to students outside of the United States. Winners will be chosen for healthy innovation and advocacy in design.

Learn More

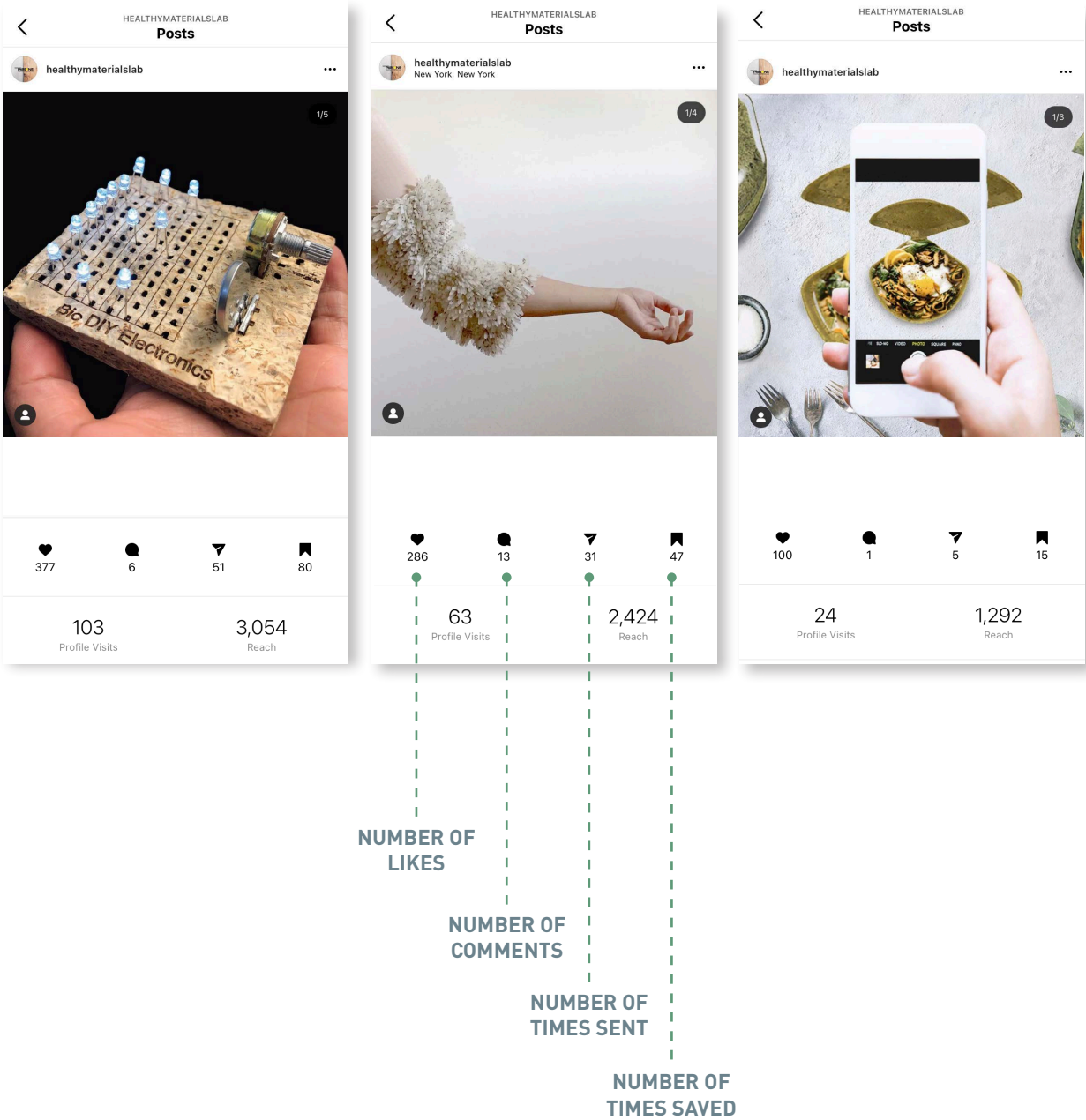
ROLE MODELS CONTEST INSIGHTS

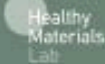
On Instagram specifically, we posted to promote Role Models. To create excitement around the contest, we posted marketing imagery, the selected jury and past winners. The post announcing the jury was highly viewed and was saved by 25 individuals.



CONTEST WINNERS INSIGHTS


On Instagram specifically, we highlighted the winners of Year 5’s Role Model Contest. By utilizing insights, we were able to see how many people viewed, liked, shared, or saved these posts. The post announcing the first price winner, resulted in 103 profile visits and was saved 80 times. Which means that 80 instagram users want to revisit this post at a later date.





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2020 June 05, 2020

2020 Role Models Contest Winner's Gallery

In Spring 2020, Parsons Healthy Materials Lab hosted the fifth annual Role Models Contest. This annual design contest offers a chance for students to be a "Role Model" to the design world by proposing an innovative approach to design combined with a demonstration of how creative practice can have a positive impact on personal health, the health of our neighbors, and the world at large. The semester was marked by the onset of the COVID-19 pandemic, causing worldwide disruptions to everyone. We acknowledge the challenges confronting students and celebrate their ability to continue to design in the midst of immense hardship.




For the first time, we were excited to be able to extend the contest to enrolled students internationally. This year we received submissions from twenty-two universities in seven countries including China, Saudi Arabia, and Zimbabwe. Anonymous submissions were judged based on the following criteria:

- Clear argument for positive health impact and environmental benefit
- Clear Motivation for Material Choice
- Demonstration of Innovation and Future Thinking
- Demonstration of Carbon Impact
- Compelling Aesthetics
- Materials Transparency

Because of the large number of excellent submissions, we awarded three winners and three honorable mentions – all of whom exemplified the innovative use of healthy materials to provide design innovations for social and environmental issues.

Congratulations to this year's winners!

First Prize: Myco-Electronics for the Circular Economy

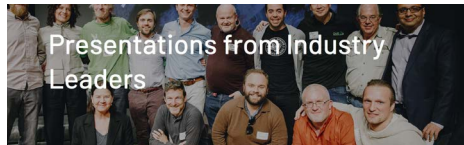


INDUSTRY & PROFESSIONALS

HML is working with government agencies and other organizations to change their specification processes and establish industry guidelines for material health. By working on both large-scale policy shifts and applied demonstrations, HML aims to create systemic, long-term changes in practices that will affect the entire building materials chain.



23 HELEN R. WALTON CHILDREN'S ENRICHMENT CENTER OPENING



Presentations from Industry Leaders

27 CONFRONTING NEW FUTURES AT US HEMP BUILDING SUMMIT



31 FINNISH CULTURAL INSTITUTE : WORKSHOP & BRUNCH



24 H&M GLOBAL CHANGE AWARDS



28 COCKTAILS AND CONVERSATION



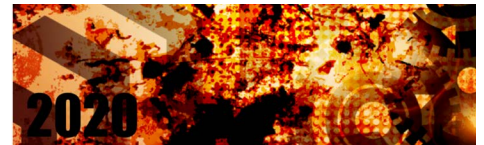
32 "A FIELD GUIDE TO SAFE AND CIRCULAR BUILDING MATERIALS"



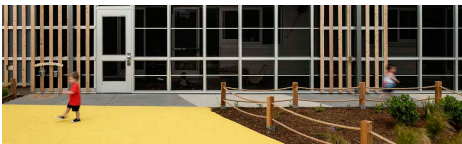
25 HEALTHY MATERIALS AND WELL BEING



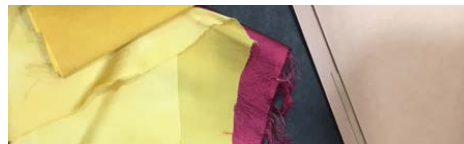
29 MATERIAL HEALTH : DESIGN FRONTIERS



33 MAINSTREAMING OF CIRCULAR BUSINESS MODELS



26 BUILDING HEALTH : THE NEXT FRONTIER

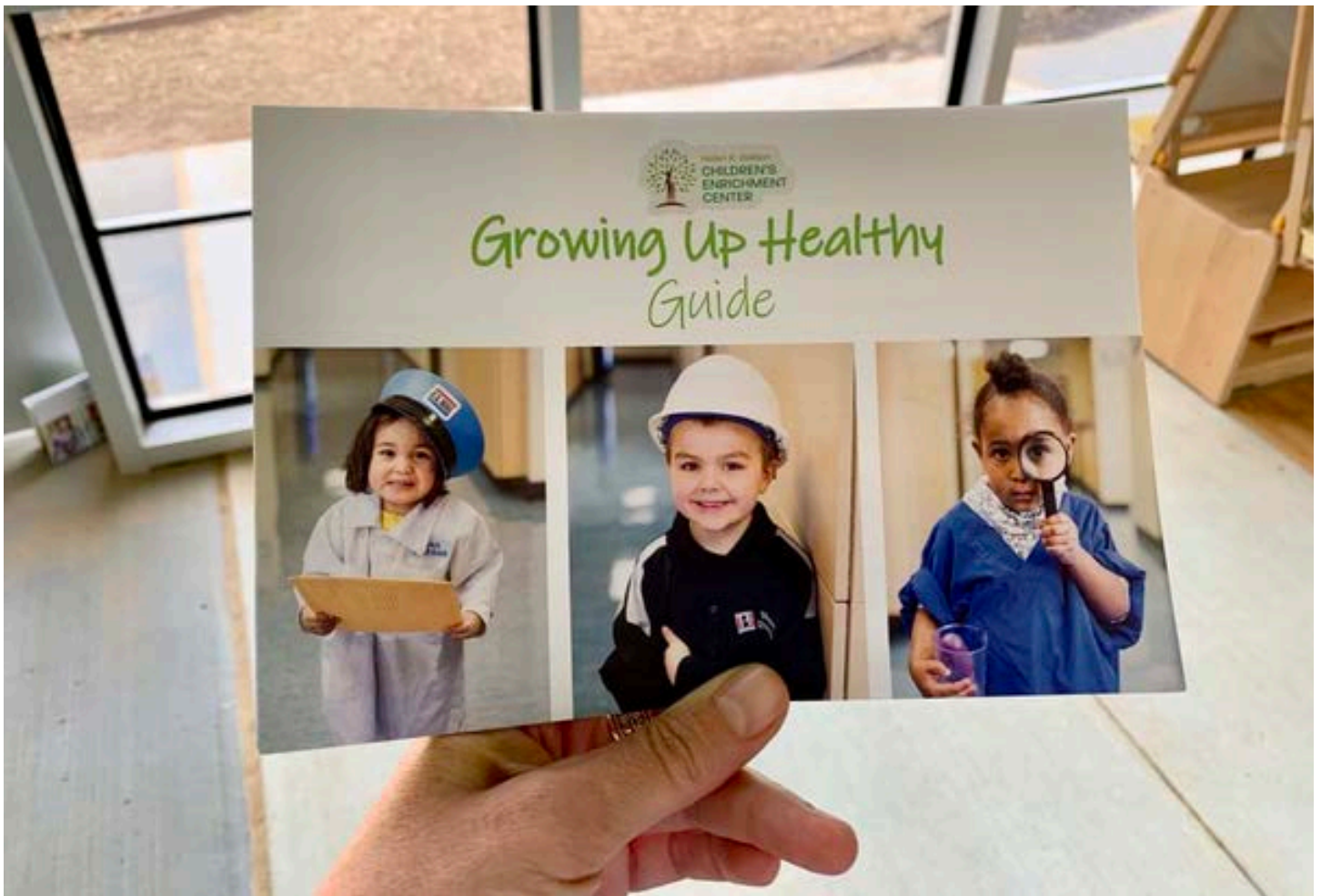


30 FRAGMENTARIO NATURAL DYE LEARNING SESSION



34 INTRO TO HEALTHY MATERIALS STRATEGIES

2017-2030 Sustainability Action Plan
THE MILLER HULL PARTNERSHIP, LLP
RED LIST V1.0



Top: Completed Helen R. Walton Children's Center. Bottom: Opening Event

23. HELEN R. WALTON CHILDREN'S ENRICHMENT CENTER OPENING

The opening of the Helen Walton Center for Early Childhood Education was an event for the entire community of Bentonville, Arkansas. The mayor, donors, and families attended, and it was a celebration of the building being named the "healthiest Early Childhood Education Center built in America." Jonsara Ruth attended as a representative from Healthy Materials Lab with LTL Architects. The contractors, engineers, teachers, and maintenance staff were there to tour the building before it opened for children. There was a sense of pride by everyone involved.

Dr. Philip Landrigan, had visited the building a few weeks before and remarked how impressed he was with the materials and objects selected for the building. This was a huge compliment for our team at HML, given Dr Landrigan's decades of research and advocacy for children's environmental health.

Also at the opening, that the buyer for Walmart's children's products came to the center for a tour. The buyer came to see what products were selected and to determine if Walmart could carry some of these healthier products.

Description of the Center:

Helen R. Walton Children's Enrichment Center (HWCEC-ECIC) is a model early childhood center and professional training facility dedicated to healthier learning and development during the first few years of children's lives.

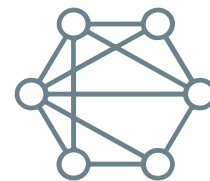
Shortly after LTL Architects was awarded the project to design this new building in 2016 in Bentonville Arkansas, Parsons Healthy Materials Lab began working with LTL Architects to identify strategies to ensure the installation of the healthiest materials possible and to educate all members of the design, construction, and operations teams on strategies specific to improving children's health.

This new home for the Helen R. Walton Children's Enrichment Center and HighQ embodies an ambitious vision for nurturing and raising children. As one of the healthiest early childhood education centers in the United States, the project sets a national model for what an early childhood center can and should be.

240

STUDENTS ATTEND
PRESCHOOL AT
THE ENRICHMENT
CENTER

Healthy Materials Lab's involvement with this project brought forward the importance of material health and occupant health, especially children, to a group of **observers**, in turn, changing them into **supporters** and **advocates**. The potential of healthier products being carried by Walmart, is a huge step.

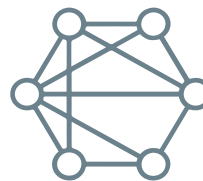


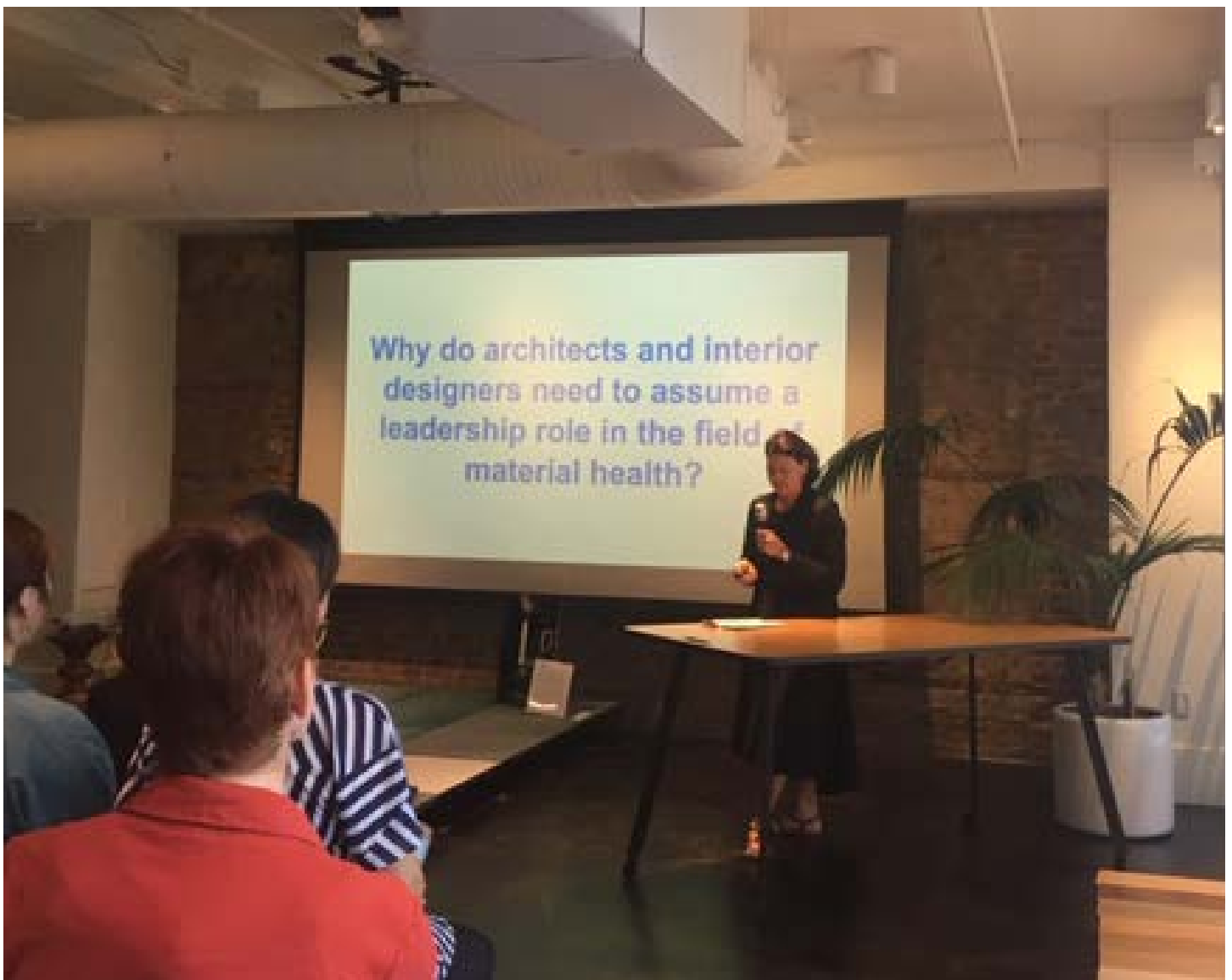


24. H&M GLOBAL CHANGE AWARDS

The Global Change Award is one of the world's leading challenges for early stage innovation, and the largest initiative of its kind in the fashion industry. It was initiated to accelerate the shift from a linear to a circular fashion industry, to protect the planet and our living conditions. NOC has been partnering with the fantastic team at H&M Foundation to create the look and feel, design and execution of the experience four times, since day one. In Year 5, Healthy Materials Lab team members attended this event with the goal to explore how H&M and the Fashion industry can evolve to make zero-waste, and healthy products and packaging.

Attending this event allowed HML to grow their audience and meet like-minded individuals to gain **supporters** and **advocates**.





25. HEALTHY MATERIALS AND WELL BEING: CELEBRATING THE ROLE OF OCCUPANT HEALTH AND COMFORT

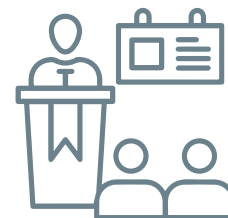
Most architects and other designers are unaware of the relationship between the building materials they choose and the impact of those building materials on human health. However, there is growing evidence that health risks can arise from unintended exposure to the chemicals that are used to create building products. Understanding high priority hazards that can be avoided through informed choice is critical to creating healthier buildings for occupants and to promoting environmental justice in communities. This panel shared lessons-learned and instructive take-aways to help participants succeed in selecting and specifying safer materials for their clients. We explored the highly collaborative nature of this type of work, and how each discipline contributes unique and helpful resources.

PARTICIPANTS

- Rachel Berman, Sustainability Program Manager, MechoSystems
- Catherine Bobenhausen, Senior Consultant, Colden Corporation
- Susan Kaplan, Director of Specifications and Sustainability, HLW
- Brian Kaplan, Associate Director, Skidmore Owings & Merrill LLP
- Alison Mears, Director, Healthy Materials Lab at Parsons School of Design
- Tim Conway, Vice President Sustainability, Shaw Contract

70
ATTENDEES

The event at Shaw Contract effectively brought together a community of **design advocates**. The presentation HML Director participated in was framed to address **advocates** as it spoke to the designer's **leadership role** in sustainability & health.





26. BUILDING HEALTH: THE NEXT FRONTIER

Current construction practices lead to buildings with short lifespans made from products that contain a range of toxic chemicals, whose toxic afterlives can span millennia, that pollute our homes and create a host of health conditions. All people are at risk of unwanted exposures in daily habitats, but those most vulnerable are the young and the poor—traditionally and continuously marginalized.

Healthy Materials Lab at the Parsons School of Design is dedicated to the creation of better buildings for all. In this AIANY presentation for the Committee on the Environment (COTE), Healthy Materials Lab co-founders Alison Mears and Jonsara Ruth will joined a conversation with David J. Lewis about LTL Architects' recent project that establishes new paradigms for better, healthier building practices.

PARTICIPANTS

- David J. Lewis, LTL Architects
- Alison Mears, Healthy Materials Lab
- Jonsara Ruth, Healthy Materials Lab

45
ATTENDEES

Conversation with David J Lewis was an opportunity to access a **new audience**; as we spoke about a LTL Architects recent project.





27. CONFRONTING NEW FUTURES AT US HEMP BUILDING SUMMIT, KETCHUM, IDAHO

Faced with a climate change crisis, there is an increasing demand from the construction industry for renewable, environmentally sustainable and benign construction materials. One of these alternative materials is a product sometimes called hempcrete. Hempcrete combines industrial hemp, lime and water to create a building product with a range of valuable physical and natural chemical characteristics including fire resistance, lightness, thermal performance and a low environmental impact, all of which make it a compelling choice in construction. Interest in hempcrete has gained steady momentum within the fields of architecture and design as a viable construction material.

The Hemp Building Summit launched the US Hemp Building Association to share knowledge, change building codes and enable hemplime construction to become a part of the US construction industry.

How can we contribute to change in construction by creating a new system of viable materials production? A new agriculturally based system, with new

models of production, will create new opportunities in agriculture for farmers, as well as provide new training opportunities for workers, setting into motion the production of new materials, and new jobs in construction. Not only will we be able to design and construct better affordable houses, we will also create new value chains for rural communities.

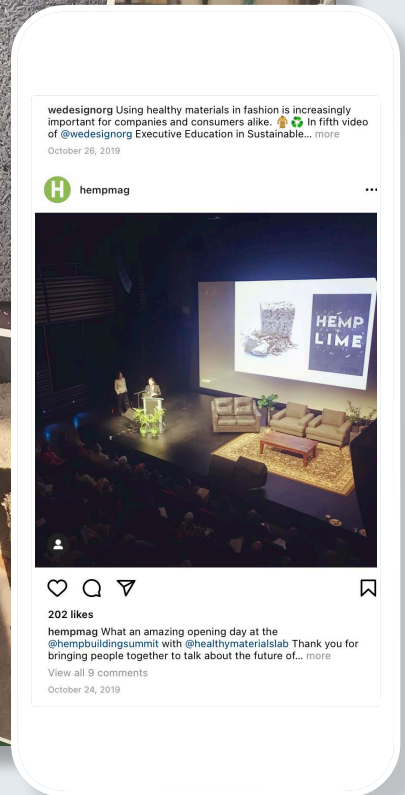
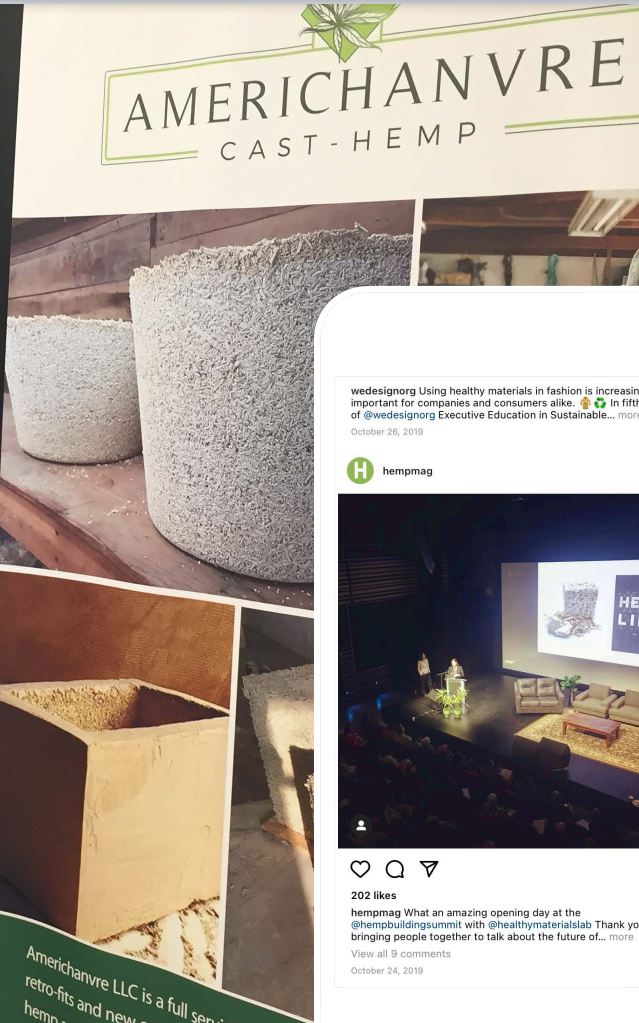
PARTICIPANTS

- Steve Allin, Director, International Hemp Building Association
- Alison Mears, Healthy Materials Lab
- Jonsara Ruth, Healthy Materials Lab
- Alex Sparrow, Director, UK Hempcrete
- Chris Magwood, Founder, The Endeavour Centre
- Liam Donohue, Dublin Institute of Technology

250
ATTENDEES

The Hemp Building Summit effectively brought together a community of **design and construction advocates**. The event was framed to address **advocates** as it spoke to the innovation and urgency of the use of alternative materials.





FACULTY & PROFESSIONALS, THIS IS FOR YOU!

HEALTHIER FUTURES: COCKTAILS & CONVERSATIONS



October 30th, 2019

28. HEALTHIER FUTURES: COCKTAILS & CONVERSATIONS AT PARSONS SCHOOL OF DESIGN, NY

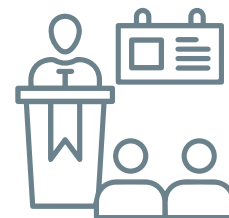
According to the EPA, Americans spend more than 90% of our time indoors. Our working, healing, commercial, and living spaces are filled with toxic chemicals found in the building materials that make up our environments. These chemicals may be released into our interior spaces where they can be inhaled, absorbed and ingested. Scientific studies show that exposure to these chemicals can adversely impact human health and have dangerous health effects on our families. The effects are so widespread that pediatricians and environmental health professionals refer to this as a “silent epidemic”.

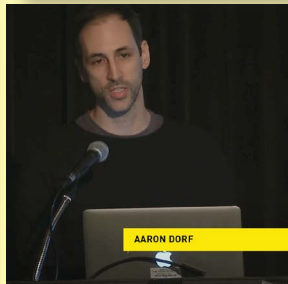
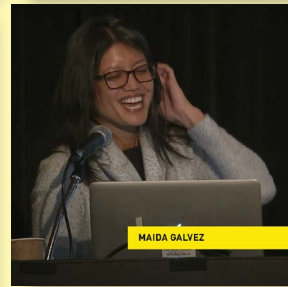
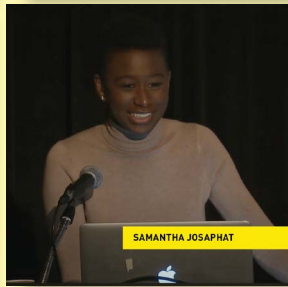
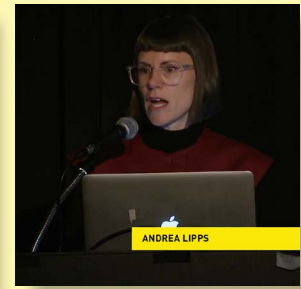
Kick off an evening surrounded by colleagues with a similar interest in healthier buildings and interiors over a cocktail and casual conversation at Parsons School of Design, NY. Parsons’ Healthy Materials Lab will look more closely at this issue and share design strategies we have developed, to change practice. We’ll discuss how to set health criteria and create frameworks that can be implemented so that the process of specification and design

innovation produces the best and healthiest built work. Please bring your questions, talk about the success and challenges you face and we can all work together to find ways to create positive outcomes and transform practice.

65
ATTENDEES

By gathering professionals in an informal setting, speakers were able to present the issue of material health and impart actionable advice on how to change their practice. This event was perfect for **supporters** who would like to become **advocates**.





29. MATERIAL HEALTH : DESIGN FRONTIERS

Material Health was a two-day symposium held in New York City in November 2019 that convened a multidisciplinary panel of pioneers to discuss and bring definition to the burgeoning, new, interdisciplinary field of "Material Health. Speakers included activists, educators, designers, scientists, doctors, architects, curators, contractors, artists and material innovators who discussed critical topics of material health in this era of climate crisis. Material Health is recognized as

a new field of study in Architecture and Interior Design disciplines, yet we see expertise from a wide range of disciplines. The symposium featured the keynote by environmentalist, economist, writer and industrial hemp grower Winona LaDuke. This was followed by Maya Halden, a teenage climate activist, whose words inspired and reminded all of the urgency of the young generation that was inheriting the climate crisis. The symposium organized six unique panels with presentations followed by moderated Q&As. The panels were: Air and Toxicity, Carbon, Equity, Waste and Circular

Economies, Ecosystems: From Fossil Fuels to Renewables via Transparency, and Futuring Materials. The symposium also hosted the Material Health Exhibition and the

Gleaners Buffet Design Installation in collaboration with Parsons MFA Textile Design.

Material Health: Design Frontiers brought together the exceptional perspectives of the multidisciplinary experts to illuminate new paths for the next generation of architects and designers.

343
ATTENDEES

900
VIRTUAL
ATTENDEES

By gathering professionals in an symposium, speakers were able to present the issue of material health and their work in the subject to impart actionable advice on how to change their practice.







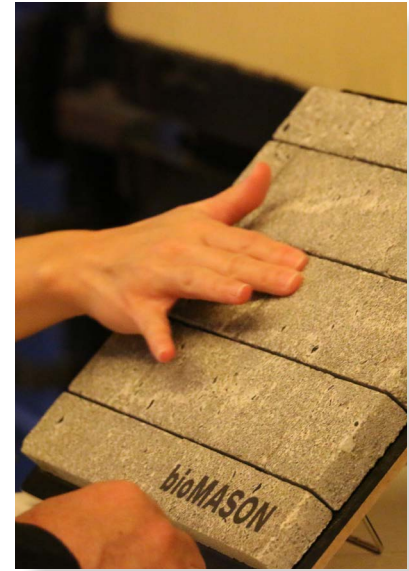
EXHIBITORS



VTT Technical Research Centre of Finland "Finnish Circular Economy Roadmap, 2016 - 2025" exhibition by Anastasia Ivanova of a collaboration of VTT and Aalto University



Ant Studio: CoolAnt Natural Air Cooler



bioMASON Blocks



Danish Cleantech Hub: Ege Carpets, Gamle Mursten, Small Planet, Dansk Affaldsminimering



Sustainable Systems, Parsons School of Design by Derek Haffar & Oliver Kellhammer



Donghia healthier Materials Library's Transparency Corner in collaboration with **Brightworks Sustainability**, and featuring the Health Product Declaration Collaborative (HPDC), ILFI's Declare and Living Product Challenge, mindful Materials, Red 2 Green and GIGA's newly launched Matter platform. Featured manufacturers in the scoring showcase include: Humanscale, Shaw, Superior Essex, Crossville, Mecho, Owens Corning, and USG.

SUPPORTING PARTNERS



Aalto University



Cooper Hewitt,
Smithsonian Design Museum



Danish Cleantech Hub



Finnish Cultural
Institute in New York



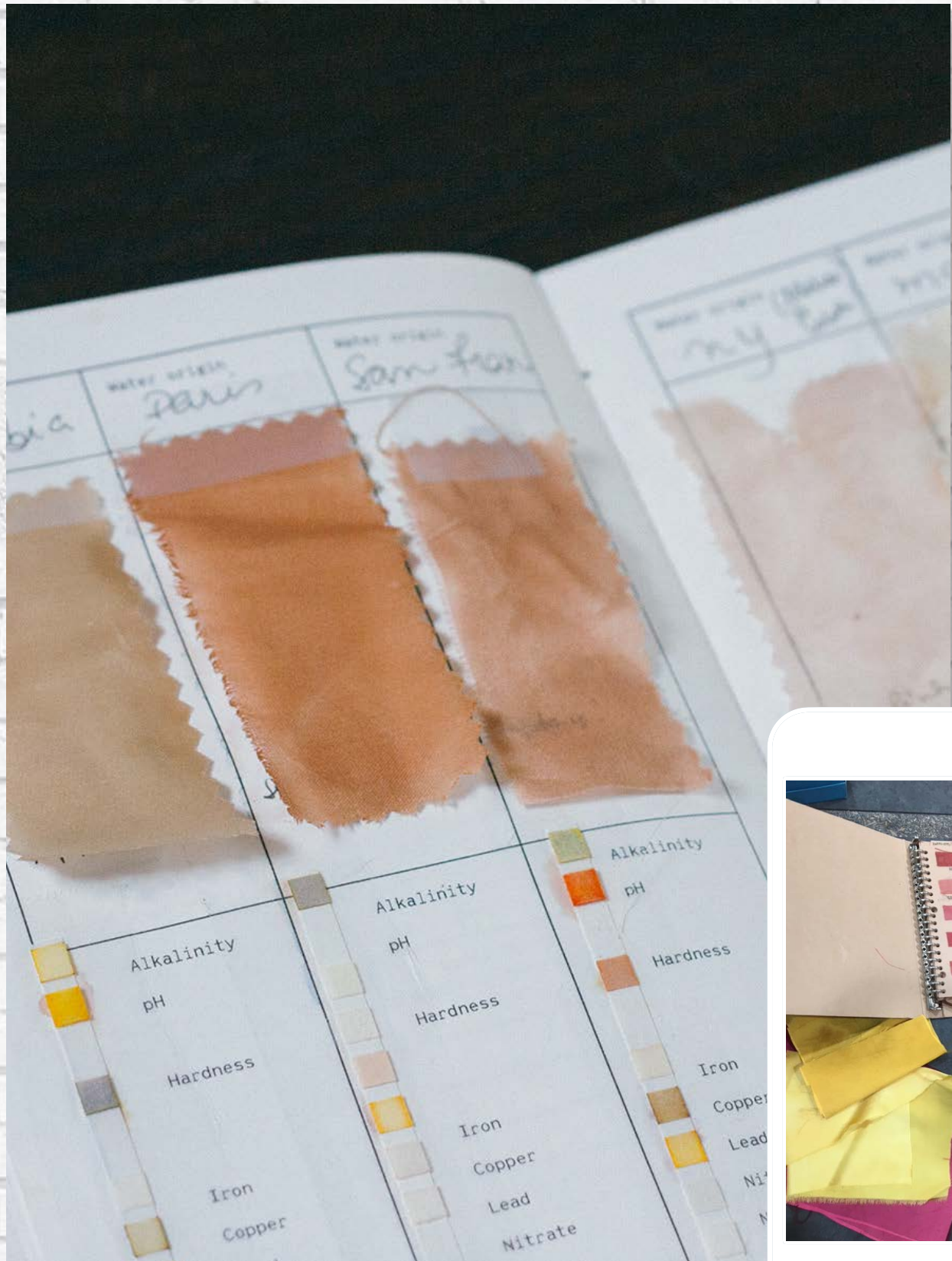
Widow Jane



Wolffer Estates

MEDIA PARTNERS





30. LEARNING SESSION : NATURAL DYE

The bedding company Buffy had reached out to Parsons HML in order to have their naturally dyed sheets from Buffy listed on the HML Material Collection list.

In the course of learning more about the composition and treatment of these sheets, Buffy kindly gave us the name of the two experts who worked with the company on the development of the natural dyes line (eucalyptus fiber sheets from Austria dyed naturally) Maria Elena Pombo Reyes is one of the two experts. At the time, she was part-time faculty at Parsons and with her Studio, Fragmentario is doing tremendous work in experimenting with natural dyes and specifically with avocado pits which she collects from local (Brooklyn) restaurants.

Jonsara Ruth and Leila Behjat met with her in the Donghia Healthier Materials Library to:

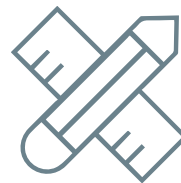
- a) understand more about her insights on the natural dyes in the Buffy line (what ingredients used, whether there are further treatments, how it is scaled)

- b) learn more about her impressive work on experimenting with natural dyes and observing how different water sources impact the color outcome.

Mrs. Pombo Reyes' keen reflection on resource awareness, social justice and circularity are extremely precious and her thought contribution was very helpful.

The Lab is connected to Mrs Pombo Reyes and featured her work on the social media platform Instagram.

Conducting a learning session in the lab allowed healthy material advocates to come together and promote transparency of products.





31. FINNISH CULTURAL INSTITUTE : WORKSHOP & BRUNCH

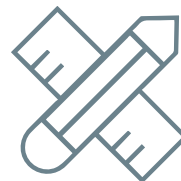
This event was a multi-sensory workshop and brunch led by Pirjo Kääriäinen on October 16, 2019 at The Finnish Cultural Institute in New York.

In this intimate Saturday morning gathering, participants were invited to engage with and learn about new bio-based materials in playful and multi-sensory ways. The workshop was organized by the Finnish Cultural Institute in New York and the Healthy Materials Lab, in conjunction with Material Health: Design Frontiers symposium at The New School.

Pirjo Kääriäinen works as a professor between two Aalto University Schools: the School of Arts, Design and Architecture (ARTS) and the School of Chemical Engineering (CHEM). Since 2011 she has been facilitating interdisciplinary CHEMARTS collaboration together with professor Tapani Vuorinen. CHEMARTS is aiming to inspire students and researchers to explore bio-based materials together, and to create new material concepts for the future. Kääriäinen is FCINY's designer-in-residence in Nov-Dec 2019.

30
ATTENDEES

Creating a space to engage with new bio-based materials promotes excitements and allows **observers** to become **supporters** and **advocates**.





NOVEMBER 19-22, 2019

Georgia World Congress Center | Atlanta, GA



Greenbuild Conference in Atlanta, GA

32. A FIELD GUIDE TO SAFE AND CIRCULAR BUILDING MATERIALS AT GREENBUILD ATLANTA

Greenbuild was an international conference and expo held in Atlanta in November 2019. Alison Mears was one of the speakers in the workshop titled “A Field Guide to Safe and Circular Building Materials”.

Green and healthy buildings require selecting products that are safe for humans and the environment. This session provided practical guidance and tools from industry experts for making responsible purchasing decisions based on core principles of material health, transparency and circularity to ensure project goals—including achieving the latest LEED and WELL requirements—are met.

Leading industry experts and practitioners explored proven approaches and strategies for prioritizing material health, transparency and circularity in building products selection and purchasing. This workshop was designed to equip architects, designers, specifiers, project managers, contractors and manufacturers to embrace opportunities and overcome barriers to making responsible material choices. Through first hand experiences and real world examples shared by experts from the field, attendees will learn tools and frameworks that will enable smart decision making to realize material health and circularity goals at

the building level. Among these resources, attendees got a preview of the new Cradle to Cradle Certified Product Standard v4 to see how material health and circularity criteria evolved to drive greater adoption and impact. They also heard how HPDC and C2CPII are working together to ensure verified data can fulfill needs for both product transparency and optimization.

In this session, attendees examined the implications of materials choices, brainstorm the potential for optimizations, and explore how best practices can be scaled from the project to portfolio level. They were challenged to identify potential interventions to advance material health and circularity in their own work including opportunities to source and integrate safe and circular materials into building projects. The session helped clarify roles and equipped attendees to initiate necessary collaboration with other stakeholders throughout the supply chain to achieve positive outcomes.

90
ATTENDEES

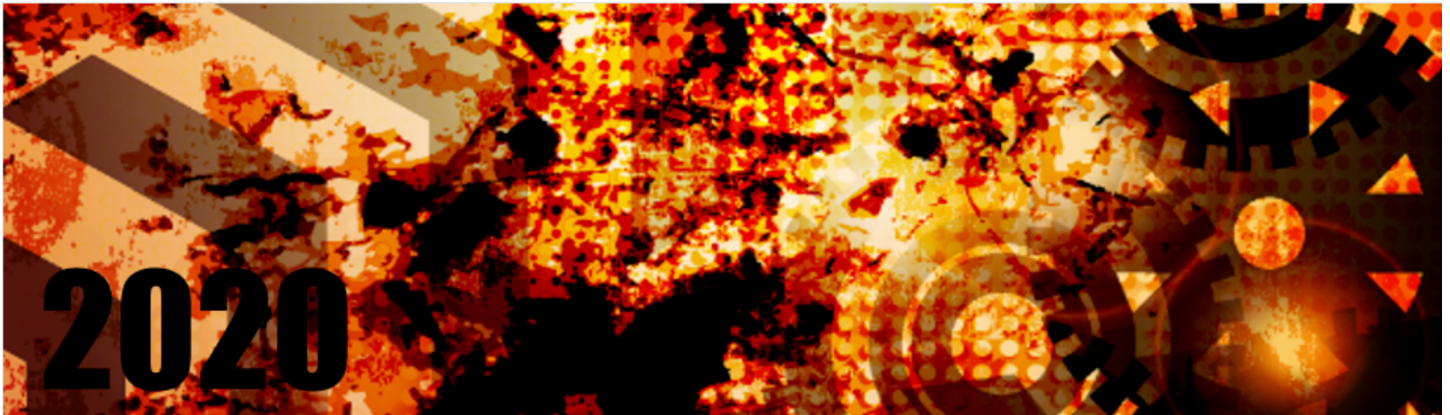
Presenting at an international conference increased our audience. A large group of sustainability supporters were introduced to strategies around material health, encouraging **advocacy** amongst the audience.



29
JAN

MAINSTREAMING OF CIRCULAR BUSINESS MODELS: DENMARK MEETS NEW YORK

EVENT: PITCHES FROM DANISH PIONEERS ON CIRCULAR DESIGN AND BUSINESS MODELS



33. MAINSTREAMING OF CIRCULAR BUSINESS MODELS : DENMARK MEETS NEW YORK

A new decade just started, and it is already predicted that the circular economy will accelerate to a new level in 2020. Winning strategies for businesses have been proposed and circular business models have been optimized in the recent years. The next step is to mainstream circular business models and unlock the massive economic potential.

At its core, a successful circular business model starts with product design and with the aim to design out waste. What are the key drivers we need to attack in 2020 to reach the next level of mainstreaming circular business models in New York versus Denmark?

Denmark is among the most efficient countries in the world when it comes to waste and resource management. The Danish waste management and resource sectors are experts at collecting and treating waste to minimize environmental impact and efficient reuse of materials.

PANEL

- Rodrigo Baustista, Forum for the Future
- Michael Waas, TerraCycle
- Jonsara Ruth, Healthy Materials Lab

70
ATTENDEES

This presentation and participation on the expert panel brought awareness to an interested audience and promoted **advocacy**.



MAKING THE CASE FOR HUMAN HEALTH

Nurse exposure to cleaning products risks respiratory health, study finds

25 OCTOBER, 2019 | BY REBECCA GILROY



Nurses may be at risk of developing chronic obstructive pulmonary disease (COPD) as a result of regularly using chemical disinfectants, occupational health research suggests.

A study has found that, between 2009 and 2015, exposure to cleaning products and disinfectants was associated with a 25-38% increased risk of developing COPD in

Cleaning products increase risk of respiratory problems.

In this study, typical cleaning products used to clean VCT floors in hospitals were found to increase the risk by **25%-38%** of respiratory problems in nurses.

Donghia healthier Materials Library About Us Blog & Events

WHY HEALTHY MATERIALS? EDUCATION MATERIAL COLLECTIONS TOOLS & GUIDES PROJECTS

Product Health Reporting

How do you know if a product is healthy? What hazardous ingredients should you look out for? When you see a certification, how do you know if it's reliable? Here is an overview on product health reporting.

Overview Disclosures Certifications Related Tools

Overview

Certifications and disclosures can provide useful information in assessing product health, but what exactly is the difference between the two?

Disclosures

- ✓ Provide information on product contents and associated hazards
- ✓ May include assessment of chemicals for health, safety, and environmental impacts
- ✓ Can be self-declared by manufacturer or reported and verified through an independent third-party
- ✓ Does NOT include a rating or score

Certifications

- ✓ Provide a rating, score, or official endorsement that a product has met a certain standard
- ✓ May examine a single attribute (e.g., VOC emissions), or can measure multiple attributes (e.g., chemical content, VOC emissions, and energy usage)
- ✓ Can be self-declared by a manufacturer that a product meets a certain standard, or come from an independent third-party organization
- ✓ Very few certifications ensure complete content screenings of all hazards, so



REMOVE RED LIST CHEMICALS

2017-2030 Sustainability Action Plan
THE MILLER HULL PARTNERSHIP, LLP

RED LIST V1.0



PVC • Cadmium • Chlorinated Polyethylene and Chlorosulfonated Polyethylene • Chlorobenzenes • Chlorofluorocarbons (CFCs) and Hydrochlorofluorocarbons (HCFCs) • Chloroprene (Neoprene) • **Halogenated Flame Retardants (HFRs)** • Chromium VI • Chlorinated Polyvinyl Chloride (CPVC) • Formaldehyde (added) • **Hexavalent Chromium (Hex 6)** • Lead (added) • Mercury • Polychlorinated Biphenyls (PCBs) • Perfluorinated Compounds (PFCs) • **Phthalates** • Polyvinylidene Chloride (PVDC) • Short Chain Chlorinated Paraffins • Wood treatments containing Cresote, Arsenic or Pentachlorophenol • **Formaldehyde** • Volatile Organic Compounds (VOCs) in wet-applied products • **Alkylphenols** • Asbestos • Bisphenol A (BPA)



35. THE NEW SCHOOL & FXCOLLABORATIVE: INTRO TO HEALTHY MATERIALS STRATEGIES

In Year 5, FX Collaborative, a New York based architecture, interior and planning firm, was hired by The New School to design the renovation of multiple floors of an existing dormitory building at 118 E 13th Street, NY for a new faculty and student resource center. Healthy Materials Lab joined the project as material collaborators and consultants for FXC. As part of the early stages of the project, HML conducted training sessions and presentations to the key constituents of the project--including the owner and owner's representative, the architects, and the project manager. Initially and throughout the project, HML provided the team with design methods and processes to achieve healthier interior renovation, and optimal healthier interior air/environmental qualities. The HML team then conducted an all day workshop session to work through the material health process and implementation.

Attending: TNS Design & Construction, Construction Manager, Building Staff, FXC Team

15
ATTENDEES

Bringing together a project team of designers and contractors, allowed for a group to go from **observers**, to **supporters** and **advocates**.



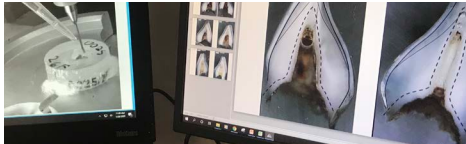
RESEARCH

The introduction of a new “Research” section in the Year 5 report is certainly reflective of exciting developments in the Lab’s partnerships and body of work. The inclusion of a chapter dedicated to research-related initiatives highlights a diversification in the Lab’s projects and methods for addressing overall goals of building knowledge and awareness, and creating healthier homes for all. As shown in the Theory of Change, research initiatives are crucial to building pathways that enable people to change practices, and supporting advocacy efforts long term.

In conjunction with ongoing projects and initiatives that focus on Demonstration & Innovation, the Healthy Materials Lab is dedicated to conducting rigorous design based research with aims of contributing to the ever-changing and expanding field of material health. The Lab understands that expertise comes in many forms, from varied sources and experiences. The research initiatives of the Lab are deeply collaborative and engaged with partners in the fields of design, advocacy, public health, and more. Through engagement in diverse research initiatives, the Lab simultaneously gains from invaluable knowledge exchanges with researchers, practitioners, and advocates, while growing its network through meaningful, fulfilling partnerships. The variety of research endeavors jointly launched and continued this year add to the ever-shifting definition and application of measures for environmental health.



35 EXPANSION & GROWTH



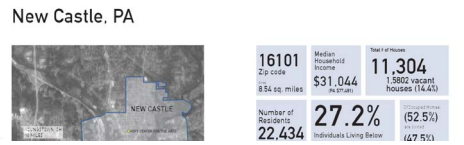
38 MOUNT SINAI: TOOTH BIOMONITORING



36 HEMP+LIME PUBLICATION



39 MOUNT SINAI: LITTLE SISTERS



37 AFFORDABLE HOUSING WITH HEMPLIME

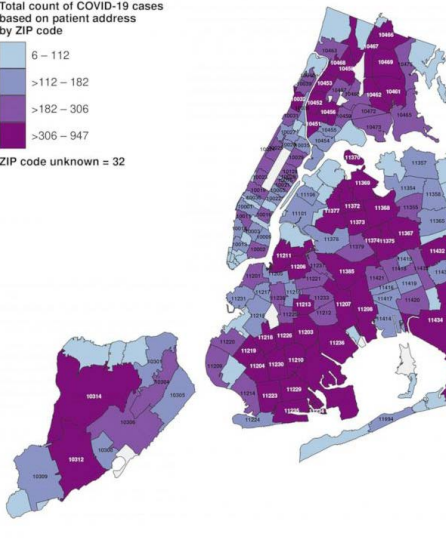


40 UVC LIGHTING INITIATIVE

DESIGN

Total count of COVID-19 cases based on patient address by ZIP code

6 – 112
>112 – 182
>182 – 306
>306 – 947
ZIP code unknown = 32



THE NEW SCHOOL
PARSONS
LIGHTING DESIGN MFA
ARCHITECTURE MARCH

PUBLIC HEALTH

TOOTH BIOMONITORING



Lead Levels During Pregnancy



Lead Levels at 1 Years Old



Mount
Sinai
Hospital



THE NEW SCHOOL
PARSONS
HEALTHY
MATERIALS LAB

ADVOCACY



LSA
family
health
service

PRACTICE



35. EXPANSION & GROWTH THROUGH RESEARCH INITIATIVES

The work of the Healthy Materials Lab expands as we work with new and existing collaborations. Both new and ongoing partnerships bring a wide variety of experiences and knowledge to the Healthy Materials Lab network, especially through collaborative research.

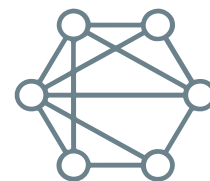
The research with which Healthy Materials Lab team members are engaged reveals and proves that space is plentiful and entry points varied when it comes to conversations about health and the built environment.

Whether it is the individuals involved in the Hemp & Lime cultivation and production process, or public health experts and scientists involved with research on environmental exposures and their effects, the ways in which the Lab has expanded its collaborative research initiatives is reflective of the expansive and generative nature of the Lab's work and mission.

Through ongoing research, the Lab has been involved in a collective knowledge-making and sharing process with designers, scientists, pediatricians, contractors, farmers, for example.

5 RESEARCH INITIATIVES

Research initiatives across the disciplines of design, science, agriculture, lighting, and beyond, increases our audience and changes largely unaware or observing groups to **supporters** and **advocates**.



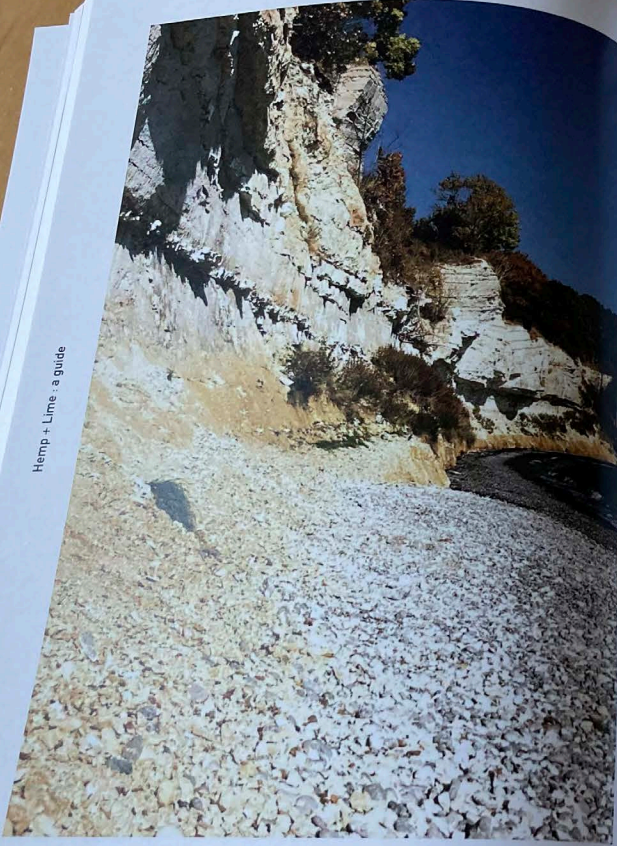


Fig 4.7 Limestone and Chalk Cliff at Stevns Klint, Zealand, Denmark.

Types of Limestone

Limestone is a naturally occurring mineral found in many regions around the world. Classified as either a chemical sedimentary rock or a biological limestone is formed indicates qualities that will be used to evaluate sedimentary rocks, formed later. Chemical precipitation, include as a result of the direct precipitation, recognizable by its banded appearance. Biological limestone occurs as a result of the accumulation of organic skeletal matter.⁵⁸ Biological limestone such as bioparticles are of the limestone deposits that were once located at the bottom of bodies of water and have since been made accessible for human use by receding waters and rising lands.

Quarries of biological limestone within the United States are located around various bodies of water. The US Great Lakes region are surrounded by dolomitic limestone deposits. When dolomite, a mineral, is found adjacent to limestone, it changes the chemical property of limestone. Some regard dolomitic limestone as the highest quality of limestone available. Dolomitic limes create mortars with high strength.

Defined both by the way in which the limestone has formed, as well as, the extent to which the limestone has been crushed in the processing phase, the granular size of the limestone determines the texture of the resulting products. There are four different classifications of grain size for limestone. The four classifications of grain size include: micro-grained (less than 4 um); fine-grained (4 to 60 um); medium-grained (60 to 200 um); and coarse-grained (over 200 um to approximately 1000 um). With the use of additives such as clay, soil and specific minerals, many companies experiment with different combinations of lime to create mixtures that best suit their range of building needs.

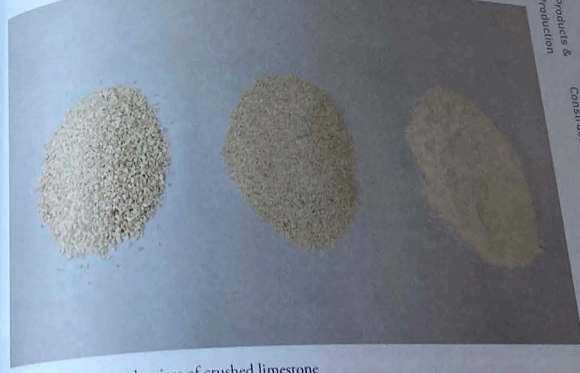


Fig 4.8 Different granular sizes of crushed limestone



Fig 2.9 Minnesota filmmaker Keri Pickett's documentary "First Daughter and the Black Snake" follows Ojibwe activist Winona LaDuke's campaign against oil pipelines in northern Minnesota. It is one of many Minnesota films in the MSPIFF 2017

to air and water pollution, fracking also increases the potential for oil spills, which can harm the soil and surrounding vegetation. With a traumatic genocide that spans centuries, performative efforts towards reconciliation and medicine support for issues such as mental health, crumbling infrastructure, mass unemployment, and a lack of access to resources like food and water, Indigenous Nations are doing their best to survive. Deprived of the means to thrive, some have been left with no recourse but to sign up for fractured leases. Nations tell themselves that "things haven't been going too well for us, so we're going to sign a few more of these leases, because, after all, nothing has ever worked out well for us. And so, we're going to get a little bit of money."⁵⁹ As the director for Indigenous environmentalism, Winona LaDuke nonprofit organization Honor the Earth, LaDuke is advocating for a regenerative economy wherein Indigenous Nations participate and flourish.⁶⁰ She proposes that the hemp industry can surpass and replace Indigenous gambling revenues for the Nations that have such an industry. She emphasizes how this sustainable and durable alternative is advantageous for its important "health and environmental benefits."⁶¹

Hemp is valued as "the most complete food source and the strongest natural fiber on earth."⁶²

Alex White Plume of the Oglala Lakota Nation has been cultivating and selling hemp since 1968. The Lakota Nation has legalized Wahupta Ska Pajuta, or hemp, on the Pine Ridge Reservation since the 1851 Ft. Laramie Treaty. Despite its local, legal status, White Plume's farm was plundered in 2000 by the Drug Enforcement Administration (DEA). Charging in with machine guns and helicopters, they confiscated his hemp and cost taxpayers over \$200,000. White Plume continued to grow hemp as an assertion of Indigenous sovereignty and self-determination; the government, however, destroyed his crops in 2001 and threatened him with an injunction the year after that. They decreed that he would be jailed without trial or jury for so much as touching hemp. Had the settler state honored their recognition of the Oglala Lakota as a sovereign

government, White Plume estimated that he could have brought in \$16,000 for his community from 160 acres of hemp.

Marcus Grignon, a Menominee hemp farmer and longtime advocate, was inspired by Alex White Plume. The Menominee Nation began working with the federal government to negotiate hemp cultivation on Menominee territory in March 2019. Discussions were smoothly until the DEA destroyed his crops in October. Since Grignon's cultivation efforts were suppressed, he focused on education. In a document dating from the nineteenth century, he found that his Nation they used to weave baskets out of it. He noted that knowledge relating to sh'n'ap agronomy was lost due to assimilation and repression. Grignon asserts that hemp is a solution to a number of issues. Not only is it a sustainable way of reducing the exploitative and coerced dependence on the fossil fuel industry, but since hemp can revitalize Indigenous knowledge, cultural heritage and relationships to ancestral territories.⁶³ Marial Youngbear, a Meskwaki involved in the economic development of hemp agronomy in Indigenous Nations, views hemp as a way "communities... [can] be a place people run to, not from."⁶⁴ However, Indigenous Nations' autonomy and ability to thrive undermines the state's and corporation's ability to exploit them and prey on their land and resources.

Oloah, a long-time hemp Oglala Lakota farmer from the Pine Ridge Reservation, spoke at NoCo, the largest hemp convention, in April 2019. She remarked that this is a dangerous time for Indigenous peoples. As hemp has proven to be a lucrative business, powerful outside interests are looking to sink their teeth into the industry, wanting to acquire land, they threaten to displace Indigenous communities and further disregard the potential hemp possesses to revitalize their cultures and territories. Oloah talks about Lakota term *wasicu*, which can be understood as "fat-taker." She explains that "*wasicu* is taker of the best part of the meat, takes the best part for [themselves]." This term is used to refer to the white man, but she explains that it can extend to people of all ethnicities. She paraphrases LaDuke in

36. HEMP+LIME PUBLICATION

The completion of the Hemp+Lime publication marks a significant milestone in the Lab's ongoing research journey centered on identifying plant and mineral based alternatives to petrochemically based products.

The publication examines the feasibility of hempcrete block production through a hempcrete demonstration project in Upstate New York and elsewhere. Included are introductions to industrial hemp cultivation, lime and lime use, the potential of manufacturing, and creation of hemp-based products to create a complete cycle of block production to construct affordable and healthier housing. The project explores the potential creation of job training and new jobs in agriculture and in the construction industry in small, under-served rural communities.

For this project, the Healthy Materials Lab, in partnership with local farmers, producers, and developers aim to design and demonstrate how healthier building materials can be incorporated to create affordable housing in rural communities across the United States.

The design, construction, and production of our habitable spaces impacts both human and environmental health alike. Products produced in the current system affect human health at all stages of the life cycle not only during their use, but also through their processing, manufacturing, and disposal. Cumulatively, the materials and processes that make our built environments possible contribute to a significant proportion of local and global economic activity. However, these activities have the potential to both positively and negatively affect the health of people and the

environment. From a planetary perspective, building materials consume large amounts of energy and add significant amounts of CO2 into the environment during the production and construction phases. While we consider the entire building ecosystem in our research, we prioritize the use phases where products and materials can emit unnecessary and hazardous toxins into both exterior and interior environments.

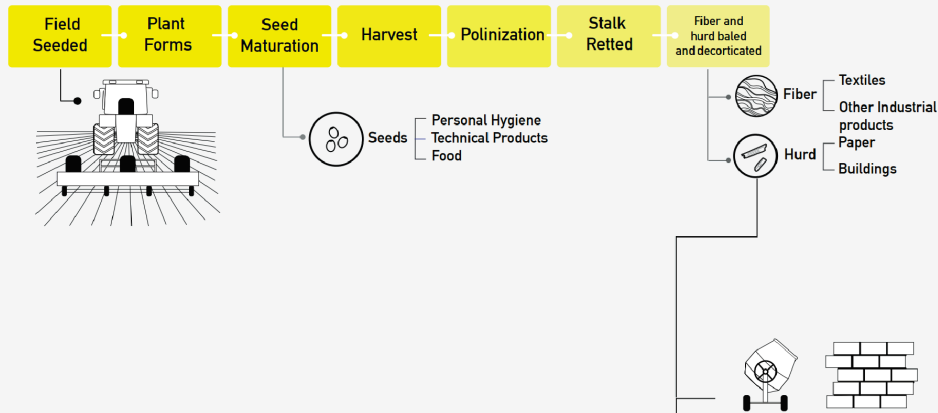
As a response to the climate change crisis there is an increasing demand from the construction industry for renewable, environmentally sustainable and benign construction materials. One of these alternative materials is hempcrete. Hempcrete combines industrial hemp, lime and water to create a product with a range of valuable physical and natural chemical characteristics including fire resistance, lightness, thermal performance and a low environmental impact, all of which make it a compelling choice in construction. Interest in hempcrete has gained steady momentum within the fields of architecture and design as a viable construction material.

We have conducted case study research in five different geographic locations in the US where affordable housing developers, their teams and architects are working to push the boundaries of current construction practices and consider healthier material alternatives. But alternate products that are healthier and affordable and appropriate for use in affordable housing are limited. Discovering a viable, sustainable, insulating hempcrete wall system as an alternative to current walls is

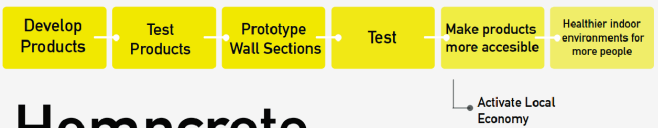
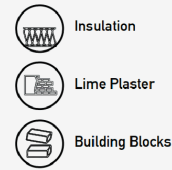
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Hemp Cultivation

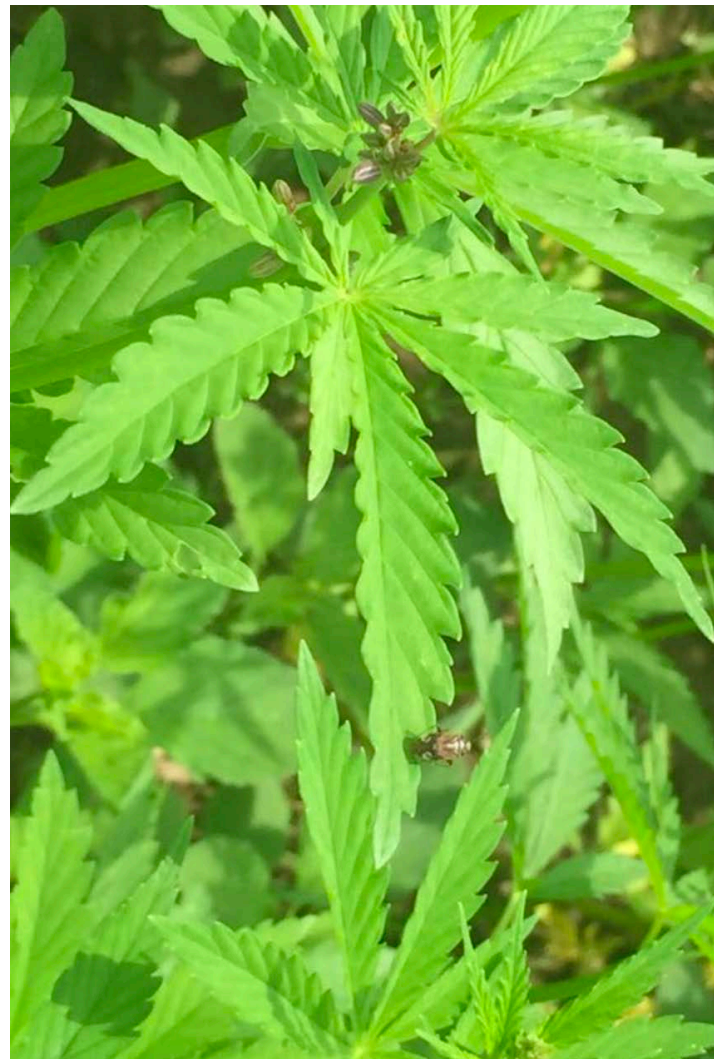
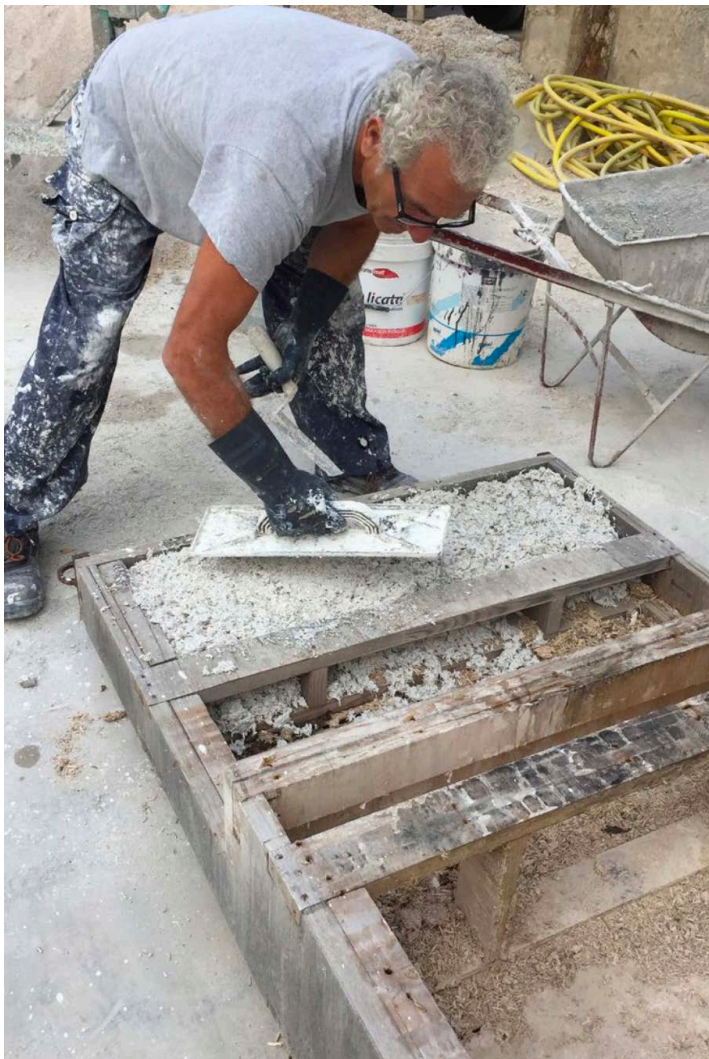
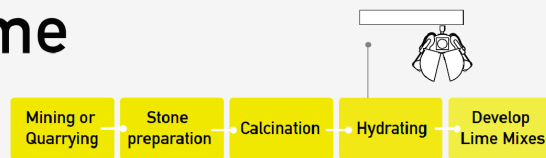


Building Industry



Hempcrete

Lime



intriguing and worth exploring.

The ingredients which make up hempcrete, industrial hemp and lime, are of interest in their own right. As a crop, industrial hemp can be reintroduced into rural communities and locally cultivated, minimizing transportation to a factory or site for subsequent production. Therefore, products utilizing industrial hemp have a reduced carbon footprint. The cultivation of industrial hemp does not require irrigation, added fertilizer or pesticides making it a more sustainable agricultural material choice.

Currently, industrial hemp cultivation and use is limited by the federal government, as hemp as a species is classified as a controlled substance. Academic and other organizations can apply for licenses to grow and harvest industrial hemp. These restrictions are gradually being lifted, opening up agricultural and industrial opportunities. New York State recently passed legislation promoting a new carbon farming initiative in Columbia and Dutchess counties. This legislation promotes sustainable farming practices such as industrial hemp cultivation that would use the crop to sequester carbon in the soil and improve soil productivity.

In addition to a reliable source of locally grown industrial hemp, hempcrete products also require lime. There are a range of US companies producing lime mixes designed as additives to produce hempcrete. Lime is made from limestone a carbonate sedimentary rock found across the US. Locally sourced limestone, that could be processed locally is an ideal option as it would also reduce transportation costs and carbon emissions. The viability of local limestone and its processing into lime for use in hempcrete will be explored in this project.

To make hempcrete, hemp's woody core is combined with water and a lime mix which acts as a mineral binder to coat the hemp hurd. The hempcrete produced in this process creates a naturally antimicrobial and anti-fungal mixture, a simulated "concrete" material and a product that has a range of construction uses. Today very little hempcrete product development is being undertaken for use in any sector of the construction industry in the United States, primarily because of the restrictions on hemp cultivation. However, we maintain that hempcrete is an innovative product with many useful construction properties and maintain its use as an alternate affordable healthier building product will produce a multitude of beneficial outcomes.

Families, especially children, living in affordable housing are often subjected to poor living conditions. Creating alternate products and building systems made from locally grown and sourced hemp and lime materials will contribute to improved health outcomes for children and families living in affordable housing. Families living in affordable housing are often excluded from important conversations about their futures as it pertains to their health, housing, and other critical issues. In all of our work and in this project we focus on amplifying and embodying the voices of local community members. By making it a priority to work with local community members, we gain valuable insight into how to make the most of the strengths and resources of rural community members so that those critical local voices will also guide and inform the process.

Construction and finish materials currently used in affordable housing are often the



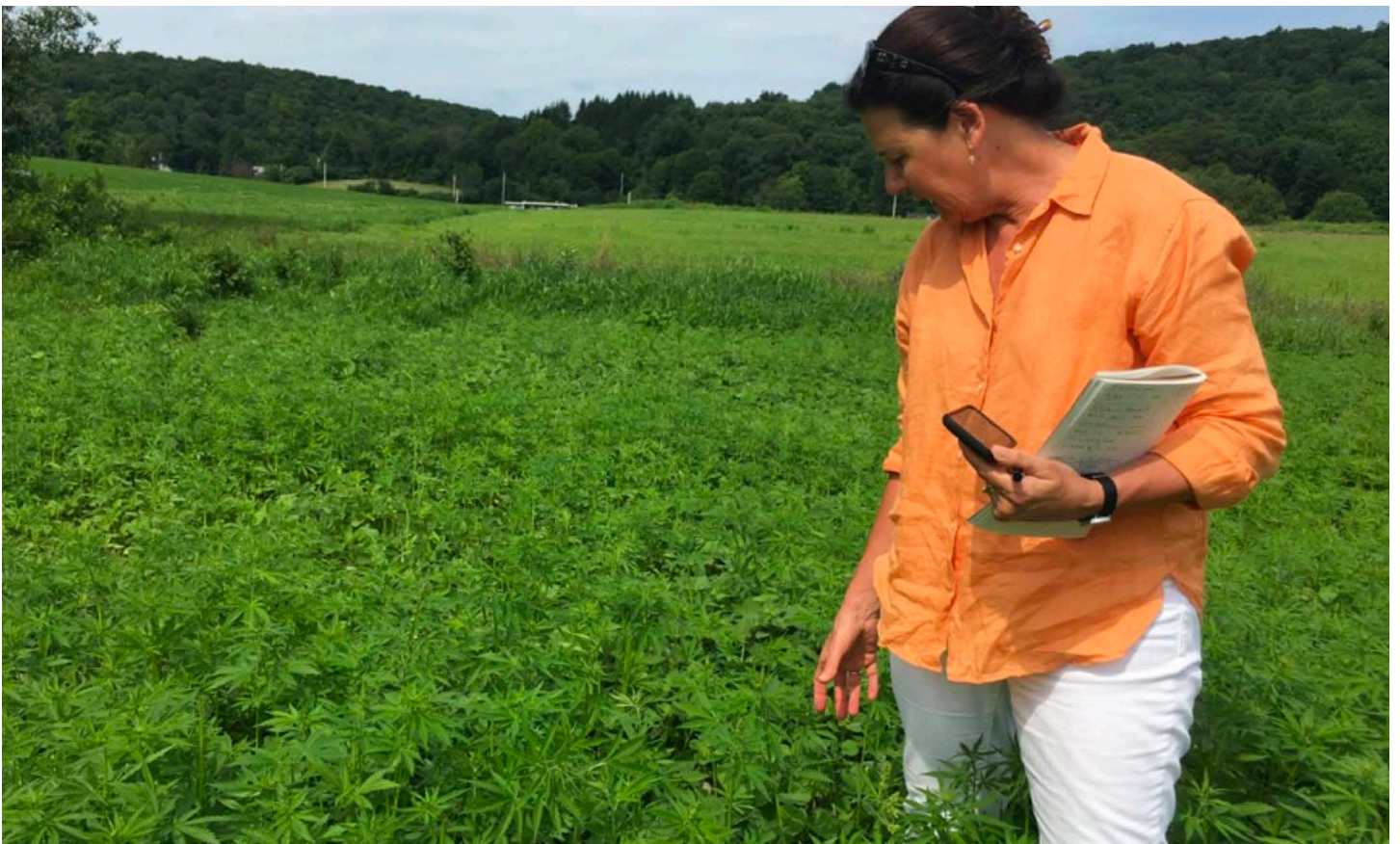
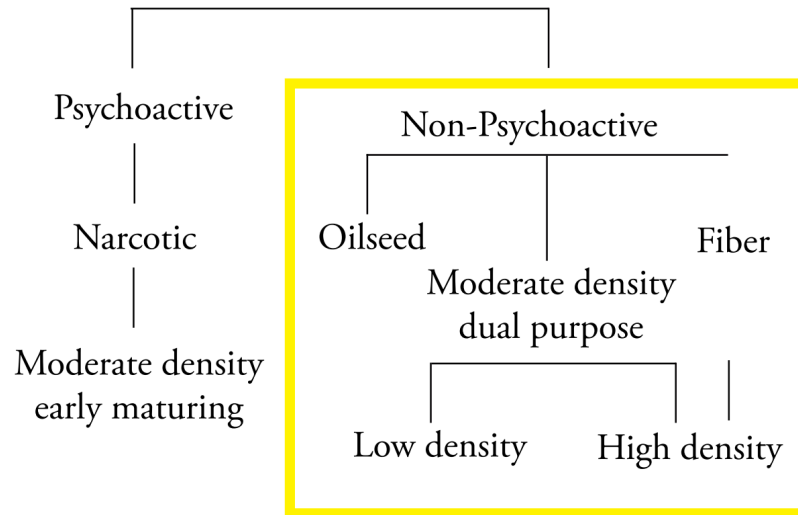
Indica



Sativa



Ruderalis



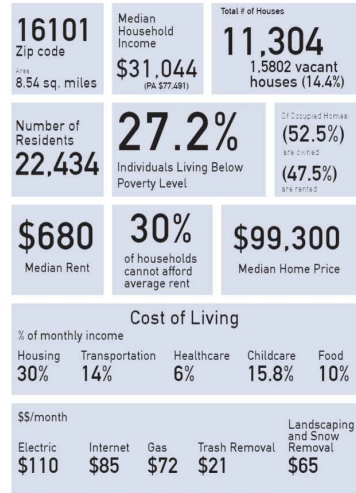
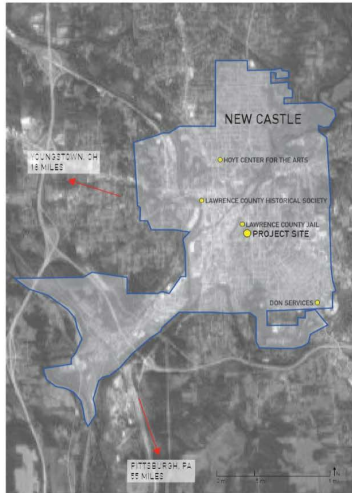
cheapest and least healthy on the market. We have conducted case study research in five different geographic locations in the US where affordable housing developers, their teams and architects are working to push the boundaries of current construction practices and consider healthier material alternatives. (footnote studies). But alternate products that are healthier and affordable and appropriate for use in affordable housing are limited. Discovering a viable, sustainable, insulating hempcrete wall system as an alternative to current walls is intriguing and worth exploring.

How can we contribute to change in affordable housing by creating a new system of viable materials production? A new agriculturally based system, with new models of production, will create new opportunities in agriculture for farmers, as well as provide new training opportunities for workers, setting into motion the production of new materials, and new jobs in construction.

Year 5 marked HML's ongoing commitment to the research and application of Hemplime as a viable alternative building material. The resulting publication is designed to address audience members anywhere from **unaware** to **advocates**.



New Castle, PA

Cost of Living in New Castle www.cipolab.com/data/16101 www.danahacountyplanning.com/pa

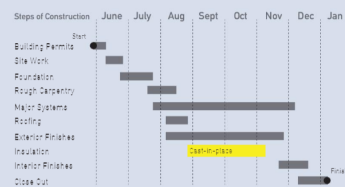
Construction Schedule

A typical and idealized six month construction schedule for an American home begins at the end of May and closes out at the end of November. When HempLine is a building material, it can be utilized in two forms: cast-in-place or pre-cast components. If cast-in-place HempLine walls are used, the minimum of two months that it takes for the material to cure will push the completion of construction into January of the following year. When HempLine is pre-cast into components, it does not add any significant time to the schedule. HempLine is not yet standardized or widely utilized as a building material and this research shed light onto how it might be efficiently integrated into typical construction methods.

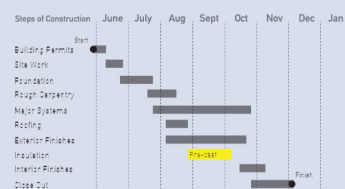
1+ month

can be eliminated from construction time if HempLine pre-cast components are used

Cast-in-place HempLine



Pre-cast HempLine Components

Rafter House
Meryl Smith

This project takes the typical anonymous roof lines that are seen throughout suburban America and dilutes it down to a simple form extruded along the narrow site for a fully accessible first floor with subtracted elements. These create generous outdoor spaces that engage with the old site to allow for multiple opportunities to be alone, or together. Where the subtractions are made, the rafters are revealed using a three-layer structural system with loose fill HempLine insulation to bring light into the home and make the most of the southern exposure.



Fig.3.3 Exterior View, North

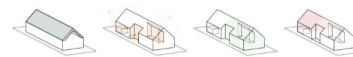


Fig.3.4 Roof Diagram

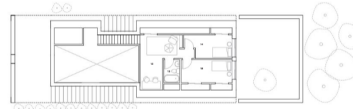


Fig.3.5 Second Floor Plan



Fig.3.6 First Floor Plan



Fig.3.7 Living Area, Kitchen & Dining (Left) Private Porch that maximizes southern exposure (Right)



Fig.3.8 Wall Section, private porch

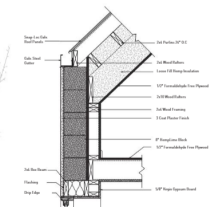


Fig.3.9 Concealed Gutter and Roof System detail

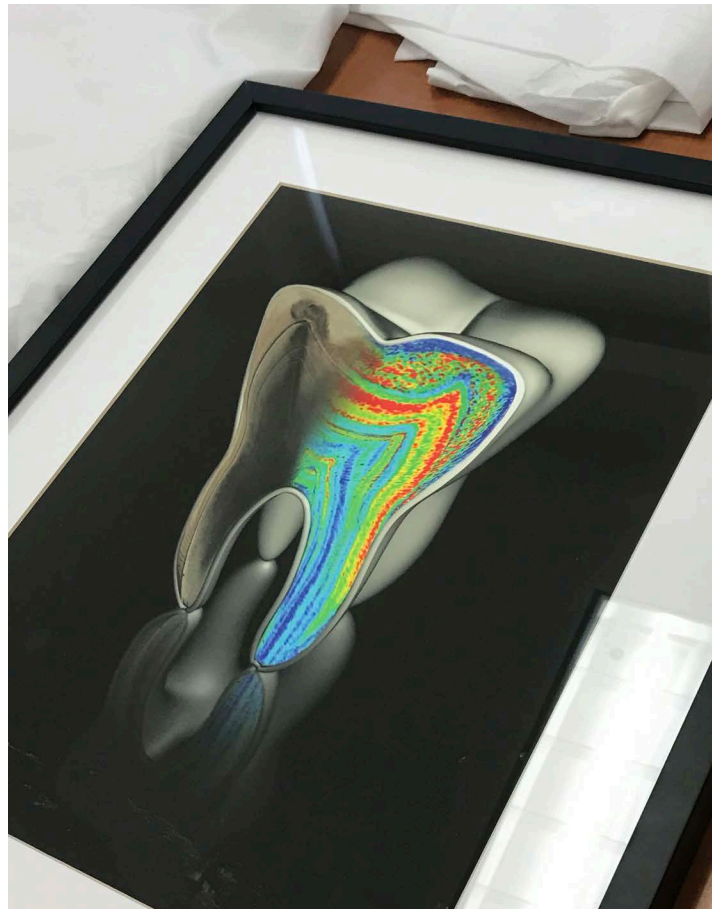
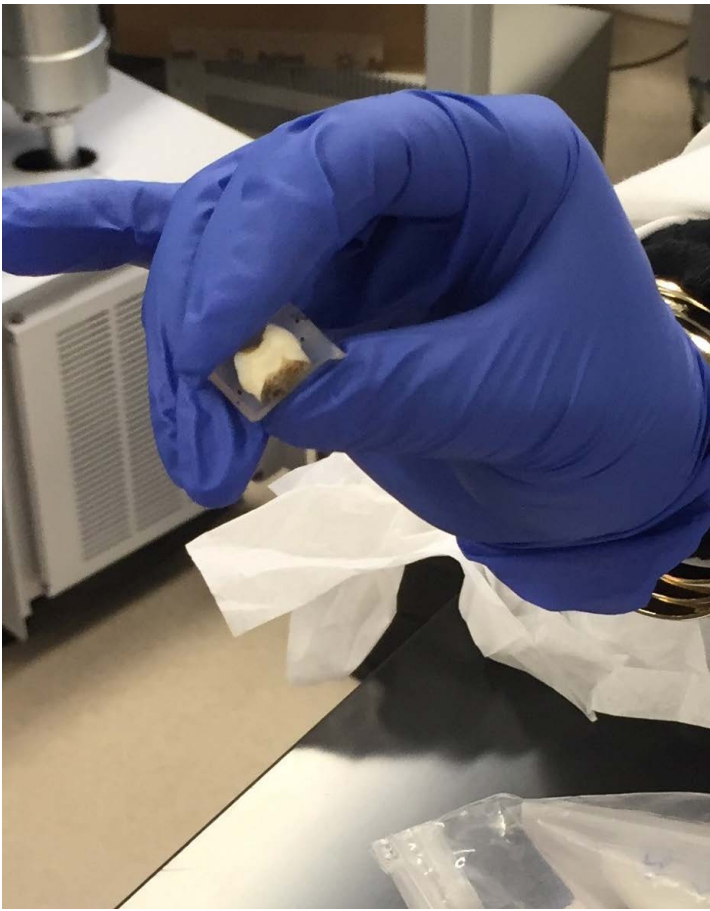
37. AFFORDABLE HOUSING WITH HEMPLIME

In Spring 2020, second year Master of Architecture Students at Parsons School of Design were given the challenge by Parsons Healthy Materials Lab to rethink the American Home by changing the material of construction to use healthier materials. "Since WWII, home construction has been the result of a concerted effort by the petroleum and chemical industries, timber barons, real-estate developers, automobile manufactures, the US government and military to shape the form and organization of post-war America. Based on platform wood construction, the typical American home is an accumulation of standardized parts, systems, products and construction techniques that have sought to maximize short-term profit, leveraging global distribution chains, and low skilled labor." (Lewis, David J, Design Studio IV, Course Syllabus, 2020). Students developed their design proposals for affordable single family homes in New Castle, PA.

In Year 5, HML compiled all of the research, insights and innovations developed by students and published "Affordable Housing with Hemplime" on ISSUU. This publication combines specific findings and projects which illustrate the possibilities of Hemplime as an affordable housing building material to provide a resource for our collaborators and designers alike.

Year 5 marked HML's ongoing commitment to the research and application of Hemplime as a viable alternative building material. The resulting publication is designed to address audience members anywhere from **unaware** to **advocates**.





38. PARTNERSHIP WITH MOUNT SINAI: TOOTH BIOMONITORING

Through a partnership with the Icahn School of Medicine at Mount Sinai Hospital, the Healthy Materials Lab has embarked on a research journey that encompasses aspects of environmental justice, accessible language, data visualization, and collaborative knowledge production through the Tooth Biomonitoring Project, launched during Year 5.

The impact that systemically unjust policies and design practices are especially highlighted through disproportionate exposure to toxins in both natural and built environments. Historically, marginalized and frontline communities have taken on the brunt of environmental injustices, and this particular project focuses on both the impacts of and treatment for lead exposure. Through an iterative design process informed by the Lab's partners at Mount Sinai, and through the co-creation of knowledge via virtual interviews, the goal of the project is to create design assets and data visualizations that both share information about lead exposure, and empower individuals and groups to implement actions for healthier homes and neighborhoods. A secondary goal is that the production of these design assets considers customization for utilization and dissemination for cohorts across the world.

Since the project's inception, both the HML and Mount Sinai teams have been adamant on approaching the issue of lead exposure from an equity lens, acknowledging that rather than place blame on impacted communities, the focus should be on building shared understanding of the root causes of disparities in environmental health damage. By recognizing that many contemporary

environmental injustices point to intentional harm inflicted by institutions and government entities through certain policy choices, the project moves towards environmental health as an ongoing endeavor to be adopted by all of us. This kind of framework greatly influenced the visual and written language for design assets. Thorough initial research helped form these crucial guidelines principles for the project.

The particularly unique aspect of this initiative is the extremely novel nature of the research. While traditional methods of measuring lead levels are through blood tests, the research team at Mount Sinai has been utilizing baby teeth as biomarkers for understanding exposure over lengthy periods of time. Measuring utilizing teeth touches upon the fact that lead is absorbed by our bones, and may remain in our bodies much longer after initial exposure. Not only do these assets aim to empower individuals and groups with knowledge about lead, it specifically intends to present steps to navigating processes for addressing lead concerns, which are typically made incredibly obtuse and difficult to understand. The goal is that being empowered with this information will lead to individual and collective mobilization.

Overview of Project Goals:

Since the initiation of the project, further goals for the project have expanded beyond the development of informational design assets.

COLLABORATORS

Parsons Healthy Materials Lab Researchers and Research Assistants: Burgess Brown, Daniela Castillo and Nada Salem

Transdisciplinary Center on Early Environmental Exposures, Icahn School of Medicine, Mount Sinai Hospital:

Dr. Sarah Evans, PhD

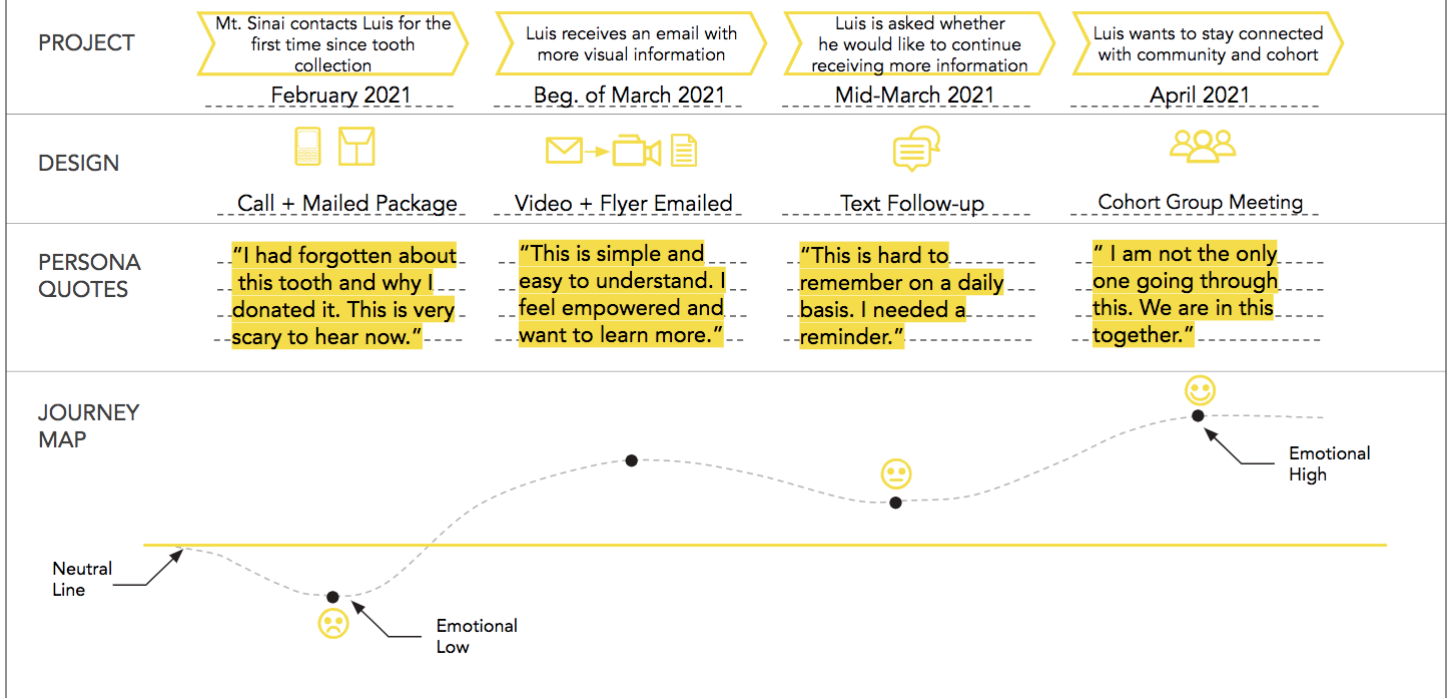
Dr. Maida Galvez, MD

Community Engagement Coordinator, Luz Guel

LUIS' POTENTIAL JOURNEY- DRAFT



LUIS



HIGH LEVEL INSIGHTS

- + Parents are not to blame for environmental exposure.
- + This kind of research is aimed at late prevention and changes to policy.
- + Goal is to empower parents by sharing results.
- + Unique quality to tooth biomonitoring: Significance of time of exposure and dose.
- + Report back examples... it is an ongoing process!
- + Even if there's uncertainty in findings, participants would like to know results!

GUIDING DESIGN PRINCIPLES

- + Metaphors are helpful tools: "Tooth as... time machine, biological hard drive, tree rings..."
- + Need for thorough communication plan
- + Avoid usage of "alarmist" language.
- + Avoid "us vs. them" language, as environmental health is a joint challenge we all face. Aim for avoidance of shame or guilt by prioritizing inclusive language.
- + Facilitate co-creation of knowledge by utilizing "collaborator" instead of "subject" throughout shared process.

As compiled and presented, they include:

1) Designing report back process that explains tooth lead levels through visuals and accessible language,

2) Designing report back process that provides information about lead exposure and prevention via thorough, caring, and empowering methods,

3) Challenging traditional processes of knowledge-production within the field of medical sciences by prioritizing collaborative processes,

4) Creating useful assets that are conducive to translation and customization by research cohorts and environmental health advocates across the globe.

...

I. Design Research Process

A crucial first step to beginning the project consisted of HML members engaging in a thorough introduction and thoughtful familiarization with both the Mount Sinai team members and their work within the field of environmental exposure (more formally, exposomic research). This entailed an orientation day of presentations and a lab tour at The Institute for Exposomic Research at the Icahn School of Medicine at Mount Sinai in Harlem in late January. Through this visit, the Lab team members were introduced to the various individuals involved in research around environmental exposures, which combines the skills and knowledge of pediatricians, clinicians, scientists, and community organizers. The Healthy Materials Lab team received a thorough walk-through of the Institute's labs, and more specifically, the unique and cutting-edge processes developed for extracting

data on environmental exposures from baby teeth. The presentations covered the following themes: Introduction to Lead and Children's Health, Tooth Biomonitoring Methodologies, Reporting Back Data, and Conducting Focus Groups.

This initial launch set the tone for the highly collaborative and synergistic nature of this partnership, which has consisted of fruitful, continuous dialogue between both teams and rich information sharing regarding design processes and best practices - continuing even within the virtual context presented by the pandemic. Building on top of the information shared that day, the researchers on the HML team consulted additional resources and reference documents to inform the design research process. This included reviewing existing relevant case studies, analyzing existing report back materials, compiling visualization examples, conducting direct researcher participation and observation, and scheduling interviews with individuals involved in similar projects. The research team collectively compiled their understandings gleaned from this research, and presented their analysis as major insights from the various resources. These main findings were translated into Guiding Principles to inform the development of Report Back processes and accompanying materials.

II. Development of Design Assets

As presented in the visual, the analyses presented by the researchers were utilized in determining guidelines that would frame and inform the next phases of the project. The guiding principles were largely influenced by the research done around admirable aspects of existing Report Backs which were seen as worth replicating, versus detrimental or inefficient qualities

USING A METER TO REPORT BACK LEVELS

What does this mean?

During your pregnancy your child's tooth lead level was lower than the average tooth lead of other participants in this study and lower than the average tooth lead level of pregnant participants in another study that took place in Boston, Massachusetts.



What does this mean?

When your child was one year old, their tooth lead level was higher than the average tooth lead of other participants in this study and higher than the average tooth lead level of one year old children in another study that took place in Boston, Massachusetts.



PARSONS
HEALTHY
MATERIALS LAB

ALL ABOUT TOOTH LEAD LEVELS

Lead is one chemical that is incorporated into its child by its developing. In our lab, we can pinpoint when a person was exposed to lead by looking at where it is in the blood. For example, lead that your child was exposed to before they were born would be found in a different part of the blood than lead they were exposed to when they were one year old.

What does it mean if lead is found in your child's hair?
High lead levels in hair can indicate that your child has higher lead exposure during that time period.

If a parent is understanding that finding lead in your or your child's tooth does not mean that your child has lead health problems.

More research is needed to understand the link between lead measured in tooth and health problems. If researchers look that the lead in your child's tooth is of concern, we will recommend that you get your child's blood lead level tested. This will tell us if your child has lead in their blood. If you are concerned about lead exposure, your doctor can do a simple test for blood lead.

It has important that everyone try to reduce their exposure to lead as much as possible. We have included information in this packet that will help you find and eliminate sources of lead in your home.

Lead is everywhere in our world. It is not possible to avoid it all together in your life. If you are concerned about lead exposure, your doctor can do a simple test for blood lead.

We sincerely thank you for your efforts in this journey together, and we hope to work together to create healthy environments for all families. If you have any questions about the child's lead levels I figure 2 or the information presented in this packet please do not hesitate to contact us at:

Many thanks for your participation.
 • Nevada Adult and the Youth Research Risk Team











LEARNING ABOUT LEAD TOGETHER

[illegible]

DAILY CHECKLIST

to keep the lead out

- 
- Wash Your Hands Often**
- Washing your hands doesn't just protect you from germs; it also helps you to prevent food spoilage.
-
- 
- Reduce Pollution**
- One way to help is to change your car's oil and engine oil.
-
- 
- Repair Peeling and Chipping Paint**
- When you see peeling lead and old flaking and lead can get up to your children's mouth.
-
- 
- Eat Foods that Help Keep Lead out of your Body**
- Good foods like leafy greens are good and nutritious for you too.
-
- 
- Mentally Remove Sources of Lead**
- Lead for some of us is a dangerous invisible threat to home.
-
- 
- Test your Tap Water for Lead**
- Find more information [HERE](#)
-
- 
- Have your Home Inspected for Lead**
- Call 201 for more information.
-
- 
- Share the knowledge**
- Take your information, articles, and bring about steps to reduce lead exposure.

MEAL PLANNING

INGREDIENTS

- to keep the lead out**
- Low-Fat Foods**
helps lead from being absorbed
- Low-fat milk
Broccoli
Beans and cabbage
Eggs and spinach
Beans and lentils
- High-Fiber Foods**
helps your body strong and helps keep lead out
- Apples and pears
Dark leafy greens
Berries and kiwifruit
Tofu
- Low-Calcium Foods**
helps the body absorb iron better
- Tomatoes
Potatoes
Peanuts

WHAT WE'RE COVERING TOGETHER

**TREATING AND
PREVENTING LEAD
EXPOSURE:**

**A PRACTICAL
BOOKLET AND GUIDE
FOR FAMILIES**

Presented by:



COMMENDATIONS

REPORT BACK LETTER

INFORMATIONAL LEAD SHEET

DAILY CHECKLIST

GROCERY LIST

INFORMATIONAL BOOKLET AND GUIDE

worth avoiding in this project. Additionally, gaining further context into recent developments within epidemiological studies that gravitate towards uplifting collaboration and regarding “subjects” as “co-creators” of knowledge.

Before embarking on the design process, the research team turned to certain strategies often utilized in human-centered research methods for products or services: 1) journey mapping, and 2) development of personas. Within this process, the team aimed to map out the various potential experiences of a hypothetical parent who would be receiving their child’s tooth lead levels. By attempting to forecast the wide range of responses that a parent might have (including highs, lows, points of confusion, etc.), the team gained insights into potential touch points throughout the report back process, which allowed for envisioning assets that would be helpful in addressing anticipated parent/caretaker responses. By engaging in this exercise and exchanging thoughts, both the HML and Mount Sinai teams determined early on that a suite of diverse materials would be both helpful and necessary in addressing potential additional questions, concerns, or provocations brought up during the report back process.

With this in mind, major objectives of the suite of design assets were to...

1) Describe potential sources of lead exposure,

2) Explain the impacts of exposure,

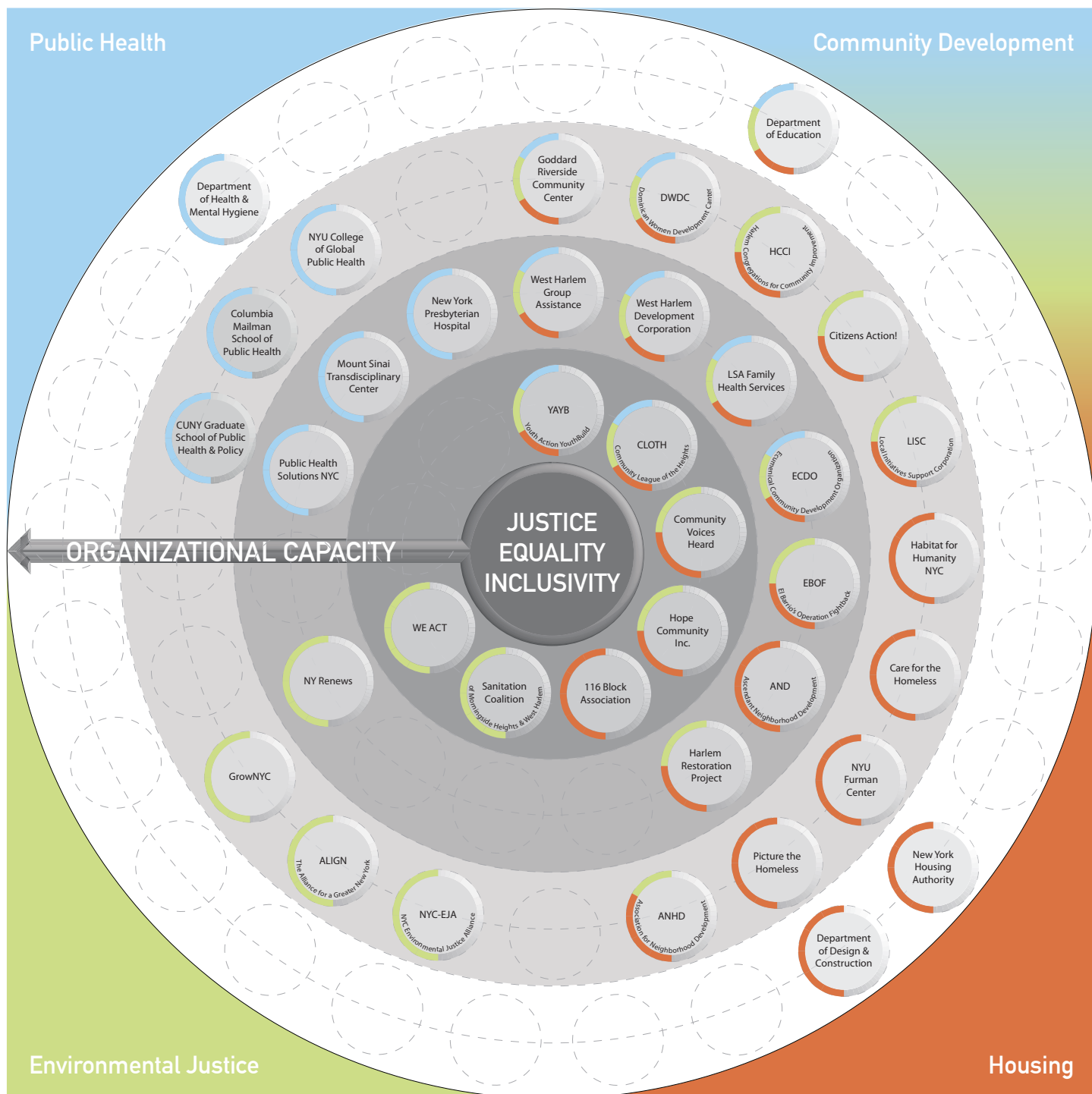
3) Present everyday steps to treat and prevent exposure, and

4) Offer compilation of services to address lead concerns and steps to follow.

In regards to developing design assets, the HML team decided to begin by translating an informational sheet about lead that had previously been developed by Mount Sinai; this provided an opportunity to experiment with and decide upon the visual language of the materials after consulting numerous examples. By referring to the aforementioned guiding principles and experience of the Mount Sinai team members, the language of the design assets was collectively developed with aims of being friendly, approachable, and accessible to anyone outside of the medical sciences. By focusing on the production of this informational lead sheet as one of the main resources that a parent would receive, ideas for the supplemental materials required to further divulge certain details or provide additional information began to reveal themselves during review sessions with Mount Sinai. For example, simply prescribing families healthy diets that are rich in vitamin C, iron, and calcium seemed insufficient, as understanding of the specific food items that fall under each category will be varied. Thus, the team developed a shopping list to guide parents and/or caretakers while making trips to their local grocery store.

This partnership highlights an environmental justice framing in the work of the Lab. By engaging in this research initiative that focuses on collective knowledge-production processes for developing information-sharing tools, HML is doubly working towards directly addressing direct environmental harm and empowering new **advocates**.





39. CAPACITY BUILDING WITH LITTLE SISTERS OF THE ASSUMPTION

Children in the US are exposed to multiple chemical and non-chemical threats to health, including lead, mercury, pesticides, mold, second-hand smoke, contaminants in drinking water, and toxic chemicals in consumer and building products. Children in low-income, minority communities suffer disproportionately from hazardous environmental exposures and diseases caused by untenable living conditions in their homes.

In the fight against hazardous exposures in the home, community health workers are on the front lines. Community health workers (CHWs) serve as a liaison between the healthcare system and communities often disconnected from that system. Critically, CHWs are from the community they represent and have an understanding of how best to navigate among and communicate with residents. CHWs perform much of their work in homes and have proven to be vital in mitigating diseases like diabetes, hypertension and other cardiovascular diseases, and, more recently, childhood asthma. CHWs across the country have integrated asthma treatment programs into their work, focusing on the remediation of household triggers. However, there is mounting evidence that more is needed than caregiver education programs

to effectively reduce and prevent asthma in children. There is growing precedent that renovations are needed in the home environment.

At Healthy Materials Lab we have convened a team of interdisciplinary design researchers that are at the forefront of the movement towards healthier building practices. Our expertise in design, architecture, communication, and education have uniquely qualified us to partner with CHWs to introduce an increased focus on toxic chemicals and material health to existing practices. While CHWs have a track record of successfully addressing asthma triggers in the home, more can be done to eliminate toxics that trigger diseases and conditions like obesity, cancer, infertility, and autism. We at HML are working with leaders in the field to create both print and video training materials that outline the links between toxics found in households and disease as well as introduce renovation protocols to safely eliminate triggers that are the root causes of many diseases.

COLLABORATORS

Alison Mears, Director,
Parsons Healthy Materials
Lab

Burgess Brown, Parsons
Healthy Materials Lab

Mount Sinai Hospital

Little Sisters of the
Assumption

This partnership highlights an environmental justice framing in the work of the Lab. By engaging in this research initiative that focuses on collective knowledge-production processes for developing information-sharing tools, HML is doubly working towards directly addressing direct environmental harm and empowering new **advocates**.



GOAL:

Gain a better understanding of how ultraviolet germicidal irradiation can mitigate the spread of airborne bacterial and viruses including SARS-CoV-2 and how to best implement lighting design for human health and material health in the built environment.

QUESTIONS:**1**

How can designers implement germicidal UVC to eradicate pathogens, especially SARS-CoV-2, safely and effectively?

2

How can spaces be designed to most effectively implement UVC to inactivate viruses? What are the main variables? How should designs adapt for each variable?

3

What are the effects and effectiveness of far-UVC on viruses, humans, materials? How can that best be measured and tested? Is upper air disinfection a better option?

4

How can germicidal UVC be retrofit into existing architectural lighting or easily integrate into existing spaces? What safety precautions should be taken and upkeep to maintain high eradication efficiency?

TESTING**IMPLEMENTATION**

40. PARSONS UVC LIGHTING INITIATIVE

Ultraviolet light can be used to reduce the spread of airborne viruses and bacteria in indoor environments. We have been researching how this technology can utilize existing light fixtures in schools and other public spaces like the hallways of public housing developments.

Many commonly used disinfectants include antimicrobials which are chemicals that are associated with developmental, hormonal, and reproductive problems. Germicidal UV could be a healthier option. Since the summer of 2020 HML, in collaboration with Parsons MFA Lighting Design Program, have been researching and testing how germicidal ultraviolet light might be implemented to create healthier indoor spaces by reducing the spread of bacteria and viruses.

Germicidal UV uses specific wavelengths of nonvisible ultraviolet light to inactivate viruses and bacteria. Healthcare facilities often use germicidal UV to sanitize both air and surfaces. At the onset of the pandemic, we began wondering how this technology could be used in a wider variety of spaces, including our own school. After months of extensive,

cross-disciplinary research, MFA Lighting Design faculty member, Craig Bernecker is sourcing lights that will be used in testing. Accidental exposure to specific wavelengths of ultraviolet light can cause eye and skin irritations. By orienting the fixtures towards the ceiling and carefully designing the controls, germicidal UV can safely reduce viral transmission. As people occupy the room, the air they exhale will rise, be treated, and then can safely circulate through the room.

We here at HML are especially interested in what this could mean beyond our own institution's walls. Could this be a safer and easier way to keep the air clean in community spaces? Could it be a feasible option for affordable housing?

COLLABORATORS

Craig Bernecker, Director,
MFA Lighting Design

Alison Mears, Director,
Parsons Healthy Materials
Lab

Jonsara Ruth, Design
Director, Parsons Healthy
Materials
Lab

Research Fellows:
Katrina Matejcik, MFA
Lighting and Interior Design

Meryl Smith, M. Arch

INDUSTRY PARTNERS

Acuity Brands

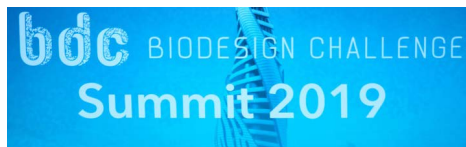
The Lighting Quotient

Collaborating with Parsons' School of Design MFA Lighting Design Program expands our audience in hopes to create more **advocates** through thinking about how light can improve occupant health in the age of COVID-19.

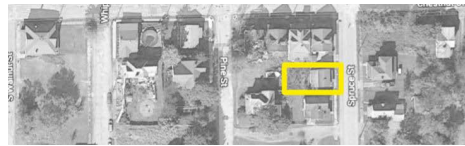


DEMONSTRATION & INNOVATION

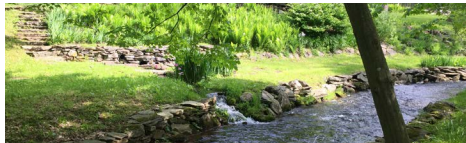
HML uses demonstration projects as a tool to test material properties and installation in a variety of high-use areas. We are prototyping new materials use at The New School (TNS) to demonstrate how the institution can adopt healthier affordable material practices while also allowing us an opportunity to explore potential future uses of those products in the affordable housing sector. Taking this local knowledge we are also proposing to test installation and performance of new affordable products at the New York City Housing Construction Agency (NYCA) and other affordable housing locations in NYC as well as in Warren, Ohio. Specification and installation of healthier, affordable interior products situates human health as a core criteria influencing decisions from the persons in charge of specifying. In addition, we are also conducting more experimental demonstrations in an exhibition format to highlight healthier materials currently used in affordable housing. In this context we look to surprise and inspire existing design students and provoke current designers to rethink their practices.



41 PARSONS BIODESIGN CHALLENGE



44 PA HEMP HOME WITH DON SERVICES AND AMERICANVRE



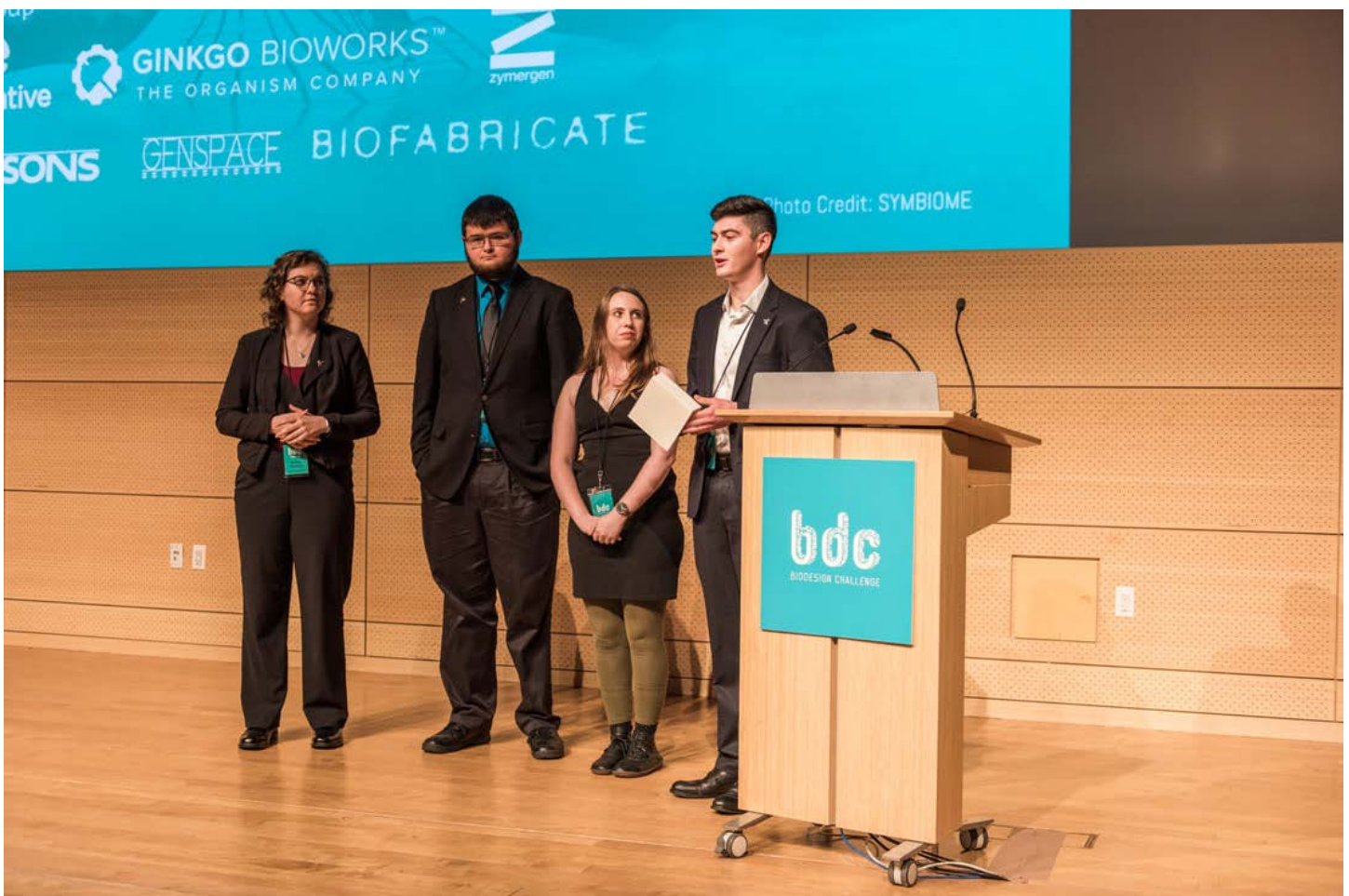
42 ENVIRONMENTAL JUSTICE : TEAM RETREAT



45 ROLE MODELS CONTEST



43 THE NEW SCHOOL: COLLABORATORY EVENT



41. PARSONS BIODESIGN CHALLENGE

Members of the Healthy Materials Lab were recognized and invited to be part of the jury for the well-known, respected and highly attended Biodesign Challenge, whose 2019 Summit was held at Parsons School of Design.

As presented by the BioDesign Challenge: “Biotechnology is spreading into every aspect of our lives— from our materials to our everyday products.” The goal of the challenge is to “bridge art, design, and biotech to develop the first generation of professionals who cross disciplines, anticipate promises and pitfalls, and engage the public in dialogue about the broader implications of emerging biotech.”

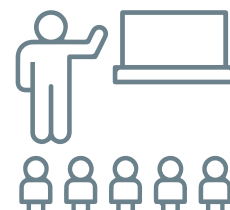
Showcasing students’ work during the summit provides an opportunity for sharing knowledge, and fostering public dialogue around biotech.

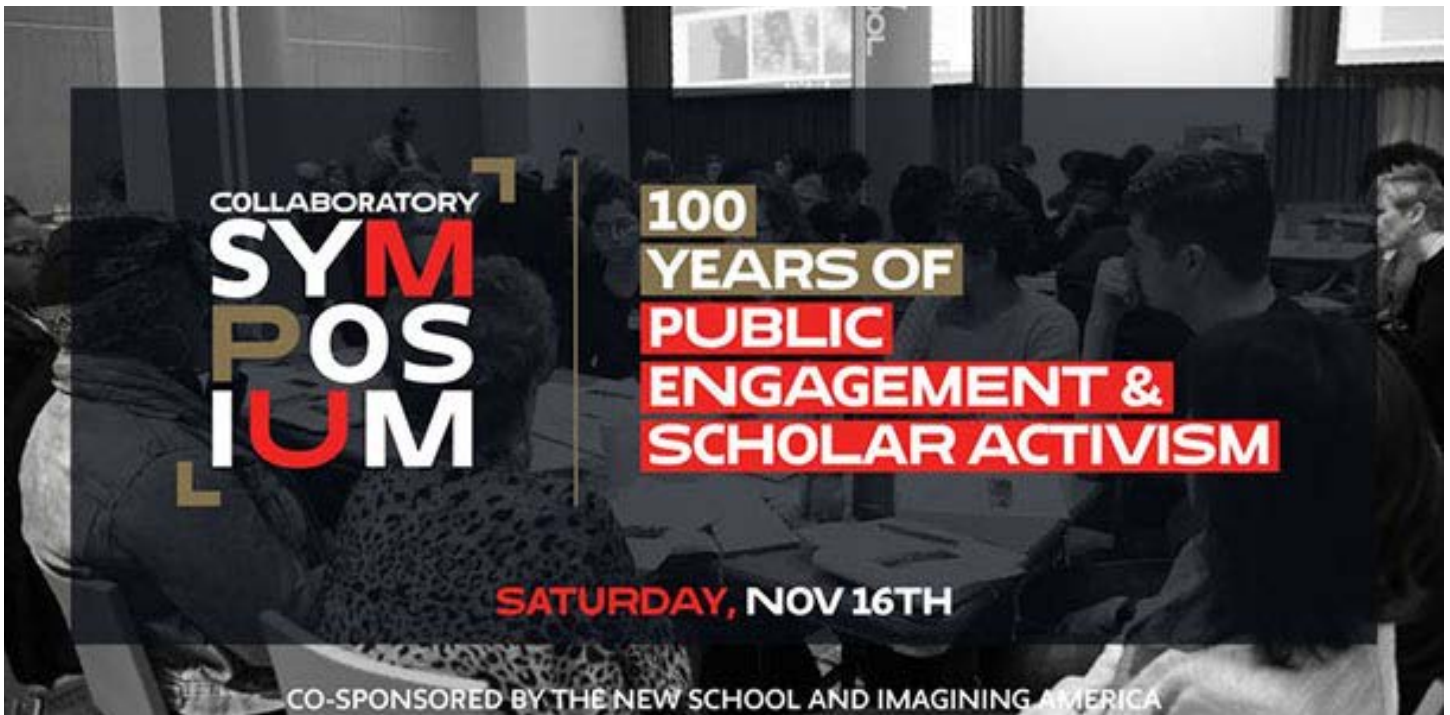
Each summit brings together an exciting and prestigious group of speakers, panelists, judges, and student-designers.

As the challenge was being hosted by Parsons School of Design, the Healthy Materials Lab team took part in fostering “a community of collaboration among artists, designers, and biologists”, and in sharing the Lab’s knowledge by engaging in conversation with a new generation of designers.

30
PARTICIPANTS

This event is representative of the opportunity available to engage with existing and emerging designers, and share knowledge so that students of varying backgrounds (and from different institutions) become **supporters.**





42. THE NEW SCHOOL COLLABORATORY

On November 16th, 2019, The New School Collaboratory hosted its second symposium to celebrate and critically reflect on the university's 100-year commitment to scholarly activism and public engagement. Collaboratory symposia are designed through a participatory process to nurture interdisciplinary partnerships, grapple with new and long-sustained challenges, and create an inclusive setting for generative discussions with peers on best practices for ensuring equity and impact in academic-community collaborations. Through a partnership with Imagining America, the event brought together experienced faculty and community partners from universities and colleges in the region to jointly envision a more just and resilient future.

The Symposium included a panel, roundtable sessions, and creative interactions to examine new approaches to creating a more just, resilient and equitable society through public scholarship and project-based, engaged learning. The roundtable discussions were structured around diverse themes, and the

Healthy Materials Lab was honored to be in conversation with symposium attendants about initiatives involving community engagement.

Since the Lab was a featured presenter during the breakout roundtable session, this offered an opportunity to discuss the work of the Lab with participants in a more intimate, personable setting. Lab team members discussed ongoing work through a roundtable discussion entitled **"Healthy Materials Lab: Health- centered Design through Reciprocal Capacity Building in East Harlem & Beyond"**. This was a welcomed opportunity to share about the Lab's ongoing work with Little Sisters of Assumption and to engage in dialogue about fostering healthy partnerships with participants generally interested in equity and collaborative learning projects.

SPEAKERS:

Burgess Brown, Parsons
Healthy Materials Lab

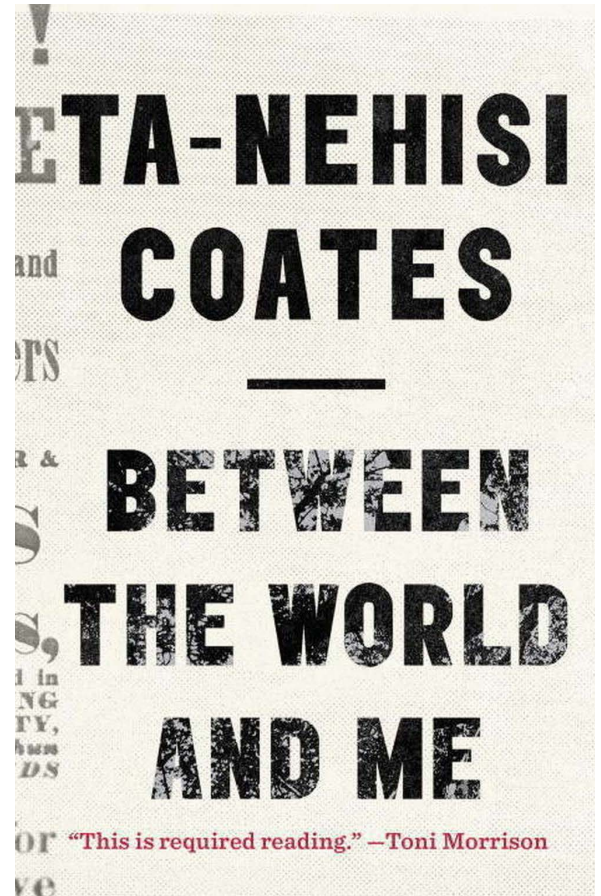
Alison Mears, Director,
Parsons Healthy Materials
Lab

50

PARTICIPANTS

This event is representative of the opportunity available to connect with a variety of students and members of The New School, as well as community partners, by engaging in ongoing conversations around the topic of Scholar-Activism. The participants present were a range of **newcomers, observers, and supporters** of the Lab.





43. ENVIRONMENTAL JUSTICE : TEAM RETREAT

In May 2019 the core HML team traveled outside NYC to Troutbeck. Guiding quote:

"No feudal continuity of blood, but a democratic continuity of spirit binds together the families that have occupied Troutbeck."—L. Mumford

The intention of the retreat was to explore the next 2 years at HML. In particular we wanted to focus on our outreach and communications to new audiences in projects where we engage with the community. The team all read Ta-Nehisi Coates' "Between the World and Me" to help frame our conversation. We also watched "Expanding the Table.." for Racial Equity #3: White Privilege presented by Dr. Robin DiAngelo. We reviewed a number of questions including "Coates is careful to avoid assuming that whiteness is a given. Rather, he calls attention to the constructedness of race when he describes families and individuals who "believe themselves to be white" or children who are "raised to be white" (10). At the same time, whiteness is a powerful social force, a descriptor for a community of those who have "maximum power and minimum responsibility," those who have the power to take the lives of others without

punishment (80). What role does race play in your self-understanding? How does your understanding of yourself and your identities connect to Coates' discussion on historical and social constructions which have defined race in the United States? "

The retreat was an important opportunity for our team to come together to discuss often difficult "race" related issues in a place that was beautiful and separate from our work place. The team made a commitment to listen, to learn, to understand and confront our privileged position, and to intentionally make our work with and for others meaningful and useful.

The retreat began an ongoing journey for the Lab to be more intentional and explicit in our understanding of our place in the discussions centered on environmental justice.





44. PA HEMP HOME WITH DON SERVICES AND AMERICANVRE

In Year 5, we are proud to be working on a HempLime home designed as healthy, affordable, and accessible housing. The project is called "PA Hemp Home" and is supported by the Pennsylvania Department of Agriculture. We are partnered with an expert HempLime builder, Cameron McIntosh from Americanvire, and DON Services—a consumer-controlled, nonprofit organization in Western Pennsylvania that empowers people with disabilities to live as independently as they choose. DON Services acquired an 800-square foot, two-story house in the Lower East Side of New Castle, Pennsylvania, and recently began demolition work.

With Masters of Architecture student Meryl Smith, HML co-directors Alison Mears and Jonsara Ruth have developed architectural and construction plans that will be used to renovate the home using hemplime for the exterior and interior walls. The ground floor will be fully accessible, and human health will be considered and prioritized at every stage. HML also plans to use the home to conduct interior air quality monitoring. When the renovation is complete, DON Services will sell the house at an affordable price.

COLLABORATORS AND PARTNERS:

DON Services, Inc

Americanvire, Cast-Hemp

UK Hempcrete

From researching Hemp and Lime, to introducing graduate students to this innovation and partnering with DON Services, the start of this project is creating excitement, **advocacy and support** around affordable housing with a healthy material.

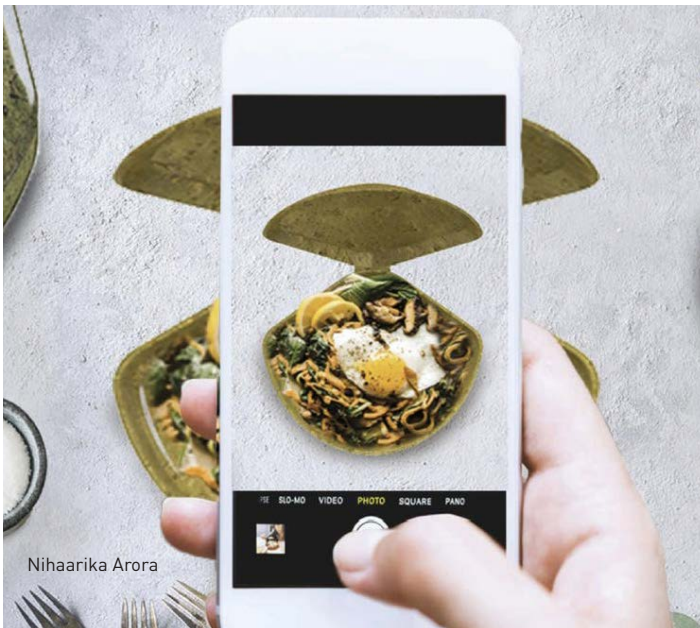




Eldy Stephanie Lazaro Vasquez



Jacob Olmedo



Nihaarika Arora



Zhao Xiang Zhi



Uyen Tran Benisch



45. ROLE MODELS COMPETITION

In Spring 2020, Parsons Healthy Materials Lab hosted the fifth annual Role Models Contest. This annual design contest offers a chance for students to be a “Role Model” to the design world by proposing an innovative approach to design combined with a demonstration of how creative practice can have a positive impact on personal health, the health of our neighbors, and the world at large. The semester was marked by the onset of the COVID 19 pandemic, causing worldwide disruptions to everyone. We acknowledge the challenges confronting students and celebrate their ability to continue to design in the midst of immense hardship.

For the first time, we were excited to be able to extend the contest to enrolled students internationally. This year we received submissions from twenty-two universities in seven countries including China, Saudi Arabia, and Zimbabwe. Because of the large number of excellent submissions, we awarded three winners and three honorable mentions – all of whom exemplified the innovative use of healthy materials to provide design innovations for social and environmental issues.

WINNERS:

Eldy Stephanie Lazaro
Vasquez, UC Davis

Jacob Olmedo, Parsons
The New School

Nihaarika Arora, Parsons
The New School

Zhao Xiang Zhi, Beijing
Normal University

Uyen Tran, Parsons The
New School

Maryangela Sanchez
Rocca, Parsons The New
School

22
UNIVERSITIES
PARTICIPATED
GLOBALLY

This contest is an opportunity to celebrate and promote student innovation in the design community. An important part is publicizing the application of healthier materials in addressing systemic change.

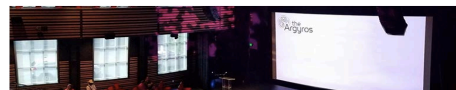


PRESS



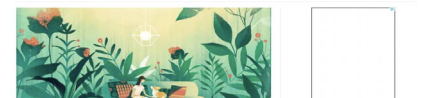
Children's Enrichment Center settling into new building
**NORTHWEST ARKANSAS
 DEMOCRAT GAZETTE**
 "Children's Enrichment Center
 settling into new building" June
 2019

Hemp building advocates in USA see a
 'perfect storm'



HEMP TODAY
 "Hemp building advocates in
 USA see a 'perfect storm'"
 August 2019

Houses are filled with chemical additives. Here's how to find
 healthier materials.



WASHINGTON POST
 "Houses are filled with
 chemical additives. Here's how
 to find healthier materials"
 August 2019



**MCKNIGHT'S LONG-TERM
 CARE NEWS**
 "Sustainable strategies for
 healthcare facilities" August
 2019

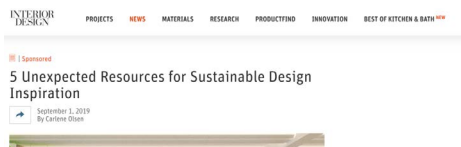


THE TELEGRAM
 "Houses are filled with
 chemical additives. Here's how
 to find healthier materials"
 August 2019

Is Your Furniture Doing More Harm Than Good?



ONE GREEN PLANET
 "Is Your Furniture doing more
 Harm than Good?" August 2019



INTERIOR DESIGN
 "5 Unexpected Resources for
 Sustainable Design Inspiration"
 Septmeber 2019



IDAHO MOUNTAIN EXPRESS
 "Hemp experts to convene in
 Ketchum" October 2019



AIA NY
 "Building Health : The Next
 Frontier" October 2019

New technologies and materials advance green building



USGBC

“New technologies and materials advance green building” October 2019



MATERIAL HEALTH: Design Frontiers in the Built Environment

Press Release

Please follow these steps to send press releases:

1. Complete email addressed to: communications@parsons.com
2. Put press release text in the body of the email.
3. Attach low-resolution JPEG photo (300 dpi)

Upcoming Events



NEW SCHOOL NEWS

“Parsons Healthy Materials Lab Offers Online Courses for a New Generation of Architects and Designers” December 2019



ARCHITECTURAL RECORD

“Continuing Education: Materials & Toxicity” January 2020



HEMP TODAY

“Houses are filled with chemical additives. Here’s how to find healthier materials” April 2020



ARCHINECT

“Architecture and design competitions to keep you busy during this “new normal”” April 2020



Special guest presenters Alison Mears and Jonsara Ruth

HEMPSTONE

“Learning about Hemp + Lime from The New School” April 2020

PARSONS LED INITIATIVE TO IMPROVE HEALTH AND TRANSPARENCY OF BUILDING MATERIALS

Healthy Materials Lab Aims to Reduce Use of Toxics in the Construction Industry

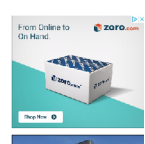
NEW YORK, May 15 - The New School's Parsons School of Design, Healthy Building Network, Green Science Policy Institute and Health Product Declaration Collaborative announce the creation of the Healthy Materials Lab (HML), an initiative funded by The PB Foundation aimed at optimizing the



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NEW SCHOOL PRESS ROOM

“PARSONS-LED INITIATIVE TO IMPROVE HEALTH AND TRANSPARENCY OF BUILDING MATERIALS” May 2020

ARCHINECT

“New architecture and design competitions call for self-reflection and design intention” May 2020



Design firms and communities of color collaborate on reopening strategies in the wake of COVID-19

BRONX TIMES

“Design firms and communities of color collaborate on reopening strategies in the wake of COVID-19” June 2020

Role Models Award Winners Lead the Way in Healthy Materials

The Parsons School of Design competition highlights student innovation in the realm of healthy materials.

by Bronx Times
6/10/2020



News

FEBRUARY 24, 2021
Tishman Environment & Center Prioritizes the Challenges of Environment Degradation and Racial

The past year was a tumultuous one with several international

DECEMBER 15, 2020

METROPOLIS

“Role Models Award Winners Lead the Way in Healthy Materials” July 2020

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STATE OF NEW YORK
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