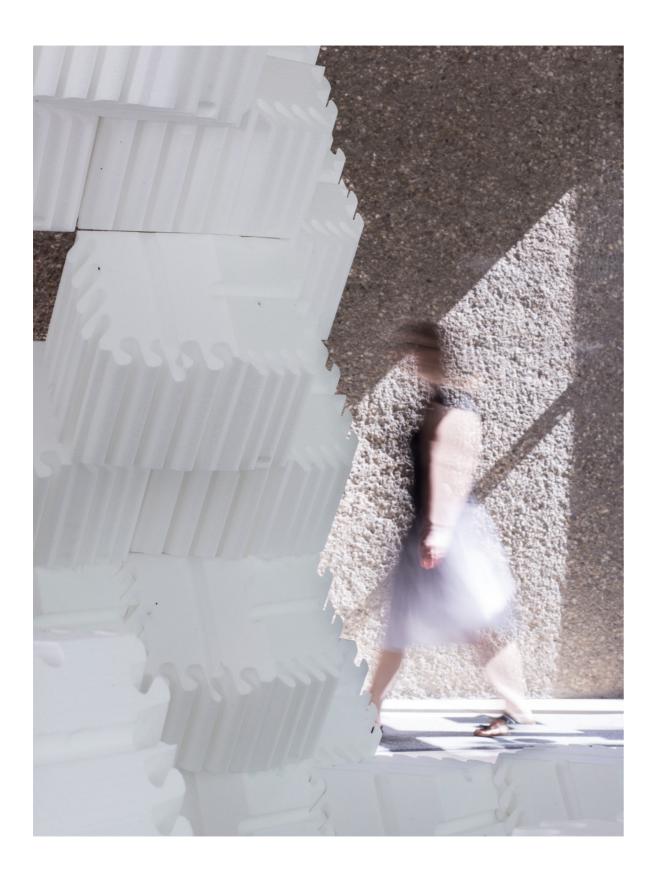
FRITZ AND TRUDE FORTMANN FOUNDATION



THE FRITZ AND TRUDE FORTMANN FOUNDATION FOR THE CULTURE OF OUR BUILT ENVIRONMENT AND MATERIALS

- 7 Nicola Fortmann-Drühe
 The culture of our built environment and materials
- 9 Gerhard Spangenberg
 How to transform an idea into material?
- 15 Mike Schlaich A wealth of materials
- 19 Susanne Hauser Materials / ecology
- 21 Michael Mönninger
 The intrinsic logic and ideology of construction materials
- 24 The foundation
- 25 Stipends
- 26 Project-specific support
- Support for basic research
 Support for publications
- 30 Approach and key interests
- Workshops
 Lecture events
- 36 About the authors and the members of the foundation
- 39 Picture credits



Nicola Fortmann-Drühe

The culture of our built environment and materials

The culture of our built environment refers to our entire built and designed surroundings. In other words, the built city, the shaped countryside, and what we find in them, the heritage of these developments. All these parts of life are enclosed in the process and can only be virtually experienced to an insufficient degree, but they are tangible, can be touched, are immediate. The culture of our built environment includes all manner of lifeworlds and a complex interaction of all milieus and defines their identities. The emergence of a culture of building occurs both at the ideational level and also concretely, in material form, in other words is linked to its realization through construction, meaning haptically tangible. Down through the centuries the materialization has, on the one hand, changed, while on the other hand it has stood the test of time, in keeping with the requirements and needs of those who bring life to and use cities, the countryside, and buildings - be it as protection, as a place to work or live, or for social representation. Global climate change is for its part also stimulating thought on how we wish to live in the future and research into the subject.

The Fritz and Trude Fortmann Foundation for the Culture of our Built Environment and Materials focuses on the relationship between that culture of buildings and the conditions under which it is lent material form. It promotes the development of construction materials and methods that are viable for the strong future as well as research on the ecological, functional, and atmospheric properties of materials.

Foam is a multiplicity of little gaseous bubbles that are connected to one another and contained in fixed or liquid walls. Foam has no edges, no fixed outlines, no describable shape. It is transient, inconstant, porous, and dissolves. Foam gives to external pressure, is light and soft. While conventional construction materials such as stone, concrete, lacquered wood, rendering plaster, etc. almost exclusively feel cold to the touch, foamed surfaces radiate warmth.

Photo left side
Supported project 2018-9
A sense of materials –
materials for the senses
Foam house.

Foam as a space-forming material Prof. Martin Ostermann, University of Stuttgart Institute of Building Construction, Chair 2, Faculty 1 Architecture and Urban Planning /Robolab: Mobin Moussavi.





Almost half the world's population lives in regions where there is little water. Desalinating seawater is one solution found to overcome this shortage of water. Countless desalination plants that obtain drinking water from seawater then introduce large amounts of the salt thus produced back into the sea and as a result put fish stocks, corals, and aquatic plants at risk. In order to counteract this problem, ways are being sought of using salt as a new construction material for architectural applications.

8

Gerhard Spangenberg

How to transform an idea into material?

For us, reality is a material fact, tangible, something we can grasp with our minds in a contemporary now, a remembered past, and an imagined future. This presumes the existence of an outside world. Knowledge and action connect us causally with this external world.

In actual fact, the "out there" is a field consisting of electromagnetic radiation and a rippling admixture of invisible wavelengths. It is not a conscious model of reality. Thanks to the cognitive neurosciences we now know that the external world we experience is a mental model generated by neuronal networks, an information architecture in the brain in which billions of nerve cells firing away are connected to one another and constantly constitute new activity patterns that spawn the flow of conscious experience. Material does not exist but is first formed in the human brain into a representation of the material that can be perceived through symbolization. Material is constructed. Image, material, and object are one.

The dancing patterns created by the permanently firing neurons within the central nervous system create a complete mental model that is constantly formed, distorted, and agitated by sensory perception and cognitive processes. If we focus our attention on our thought processes we catch ourselves in the state of knowledge. You know that you know something; you think that you are thinking something. You become aware of yourself and experience the certainty of existence. At the end of childhood, you were still able to experience that. In such a state of awareness, you transcend the fundamental subject/object structure of experience, i.e., you go beyond one area and into another. Namely, into that of forming metaphors: The combination of notions where one triggers the other. Using one thing to designate another thing is symbolic transfer. Forming metaphors is in other words the process where one phenomenon is transferred from the context of its meaning into another. Poetic production is at work here. Forming metaphors helps increase the focal length and depth of field of human perception. The expansion of the field of vision unfolds in exploring the profile of the field and the traces of the terrain through to images of the future. This goes hand in hand with gaining new semantic contexts. Thinking and acting metaphorically means grasping the customary use of material as a metaphorical image of transformation and development. To give material reality new meaning, as it has moved to the periphery of our

minds owing to everyday routines, we must distance ourselves from our habits. By relieving it of use and meaning, we let material become foreign, value-free, and cold. Intuitively, temporarily the properties of an object such as its color, surface texture, and the outlines of a coherent visual model are blurred. The separation of figure and background becomes opaque, mixed up as if through a kaleidoscope. Like an infant who explores an object by turning, twisting, and throwing it, and by putting it in its mouth, or like a cat that before pouncing deliberately looks past its prey, we cast aside intention to trace the properties and behavior of the materials and ignore the rules by which the material would be played. We watch the material closely in order to find out in what direction it might develop. However, by abandoning intention we are able to spell the material out in detail.

The urge to feel alive, to lead a more interesting and fulfilled life persuades us to imagine futures and devise ideas of a coming life. Conscious insights form complete mental models in tangible space — a feeling of being here. We recognize and experience how the real can be construed differently and is only one special case out of many possible ones. This means that we need to rethink the real in order to proceed onwards to possible futures. As said, by dissolving predefined functions we experience material that we had hitherto approached from a practical and less sensory angle anew, from an unknown side. Discerning the provisional status of the familiar allows for a revolutionary expansion of its properties. Precisely through decay and the transition to something new, things (and the images of them) exist within a diffuse formal order and promise both the new and something sketchy. This stimulates our sensory and image -based productivity to come up with new ways of thinking and acting. Curiosity prompts us to explore and research the properties of the material and search for images with which we can convey a new sensitivity for the material states in which we live. A process design adjusted to reflect this provides the tactics and strategies for spin-offs and fusion, for up-, re- and pre-cycling, meaning for operating in metabolic processes that need to be designed anew. This sets a construction process in motion that is aimed at a rational, more human form of design and provides aesthetic-utopian added value. The aura of a promised future shrouds this appropriation of material. Where the pre-conscious and the just conscious as well as acute contemporaneity with concrete-practical notions of the future takes material form in practical, useful structures, there the idea is transformed into material.



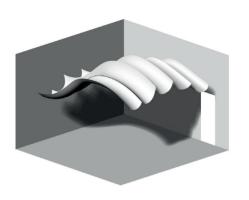
Supported project 2018-9
A sense of materials materials for the senses

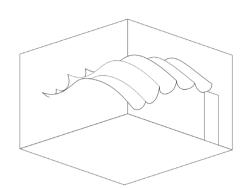
Structures made of mycelium for interiors. Research project and artistic installation by Jonas Edvard, industrial designer, Copenhagen. As a swiftly regenerating and affordable, carbon-free construction material, mycelium is ideal for manufacturing noise-absorbing building modules and may offer new opportunities for interior fit-outs – for example with this "Mycelium Sail".



12

Jonas Edvard Workshop







Supported project 2018-9
A sense of materials materials for the senses

Study for a sail made of mycelium for interiors.
Jonas Edvard and Samarbejde together with Arup Engineers,
Design Museum Danmark "Future is present", June 2022 – June 2023.

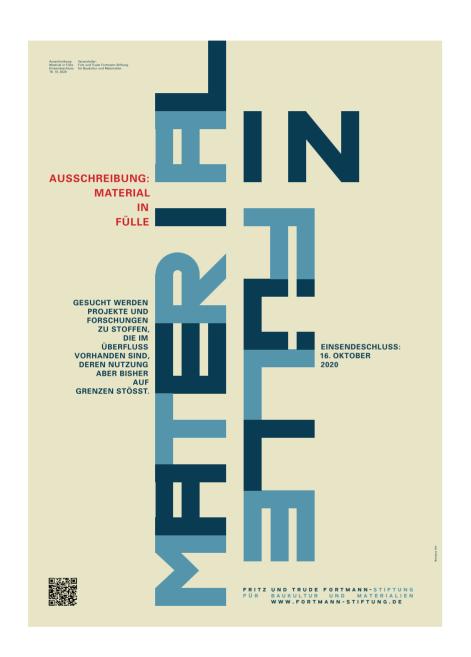
A wealth of materials

Three of the major challenges going forwards are population growth, resource scarcity, and climate change, and they are all three closely bound up with the construction industry, which is, as is well known, responsible for one quarter of all carbon emissions. As a result, in particular everyone involved in construction, the private and the public developers, the construction industry, architects and engineers, scientists and practitioners all bear a special responsibility for initiating changes and joint responses and are in the right position to do so.

The current call by the Foundation for tackling the "wealth of materials" and investigating their energy cycles, their possible uses, reuse and onward use is an invaluable stimulus and the raft of answers will form a valuable foundation for future generations.

The now omnipresent paradigm shift toward factoring into the equation all the energy required to produce, transport, process, use and dispose of construction materials has immensely boosted research. For some years now we have at university level been intensely addressing the related issues as without research there can be no innovation. Continuing to build only in line with the state of current knowledge would be to stand still, and today a standstill already spells deterioration. To face up to the challenges of the age means to go beyond the limits of existing bodies of rules and beyond the limits of our minds. The emphasis must not always be on inventing new materials.

Innovation also means constructing or combining tried-and-true materials in such a way that they are instilled with new properties and thus meet the conditions for construction with a viable future.



Call for applications poster A wealth of material 2020

Concrete is such a material, for example, which for decades was available in massive quantities and supplies of it seemed to be more or less unlimited, but since the onset of the debate on sustainability needs to be viewed very critically because climate-damaging cement is required to make it. Just short of 10 percent of global greenhouse gas emissions are attributable to cement production alone. In addition, outside walls made of concrete are almost always connected with insulating materials in such a way that at the end of the lifecycle all that remains is toxic waste.

On the other hand, concrete can be shaped, is firm, and permanent and, as a material, has many great qualities. So this classical building materials has not reached the end of its service life. It therefore seems obvious to find a new kind of concrete that can bear loads, can be shaped, and is durable but also adapts to temperatures and can, in addition, be designed such that we do not lose sight of our architectural-cultural standards given all the problems we face.

Perhaps there is a wealth of other materials whose potentials we have not exhausted. Here, there are great prospects in the field of energy for each and every one of us: If we have a surfeit of cheap, renewable, and clean energy from the sun then we can save on heat insulation or forgo it altogether, and only if what we build improves the quality of life and does not neglect having a good design, meaning an aesthetic appearance, have we got it right. Issues of the culture of our built environment and energy supply systems must therefore go hand in hand and be considered together in all our efforts, be it in theory, research, or support related to materials.









No design focus on materials has ever been able to avoid addressing the intrinsic properties of the respective material and its specific dynamics. Neo-materialist theories that are currently the rage in the design disciplines now go a clear step further as regards the emphasis on the dynamism of the material by presuming its fundamental impact and specific transformational qualities.

However, these theories hardly ever concern themselves with the design. Yet the notion of a high-impact, transformative material is of interest with a view to design processes as it ignores what are now unviable oppositions and dualisms in western thought. The latter includes the presumed opposition of passive material and active form, the juxtaposition of lively, material bodies and immaterial mind, as well as the notion of controlled nature and the culture that controls it and simply considers it a materials resource. The inapplicability of such concepts is particularly striking given a situation in which the capacity for material transformations is greater than ever before, while countless consequences that are injurious to humans and other creatures alike evade recycling, control, or repair.

There are thus good reasons why materials and materiality have become a topic in philosophy, biology, cultural studies, and the social sciences, in art and design. After all, the eco-impact of past material transformations is becoming ever more apparent, and the finiteness of countless resources is abundantly obvious. Other processes likewise suggest we should critically examine matter, materials, and materiality: Developments in genetics change our relationship to living matter, organic material and manipulations thereof, and digital options have reframed the question as to what is real. The assumption connected to this of the relationality and interwoven nature of materials, bodies, things, and all conditions in the processes in which they act together is a thought that provides a fruitful starting point for design processes. The idea of passive material has passed its sell-by date, the assumption of impactfulness can offer new ecologically-smart perspectives.



Supported project 2018-9
A sense of materials –
materials for the senses
Structures made of mycelium
for interiors.
Research project and art installation
by Jonas Edvard,
industrial designer, Copenhagen.

Photo side 20/22 Supported project 2016-7 Cost-effective building materials and construction methods for residential construction NAVAPA - Sustainable composite

components made of paper

Bauhaus-Universität Weimar,

Prof. Rainer Gumpp/Dr.-Ing. Stephan Schütz,

materials.

Chair of Design

and Structural Design

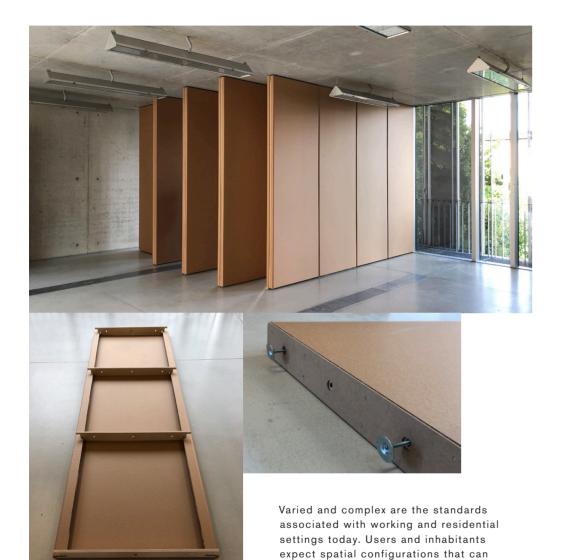
Michael Mönninger

Intrinsic logic and ideology of construction materials

One of the sweetest figures of thought in Aristotle's work relates to the concept of "entelechy": According to it, there is a force innate in each and every material that drives it to form an ideal and optimal shape in the sense of self-realization. To use more contemporary language, one could speak of the self-organization of matter or of its morphogenetic dimension, something that challenges artisans and artists to hearken what the material has to say. Astonishingly, this also connects to the latest debate in design research and materials sciences today, which investigate the self-transformative potential of materials in order to explore their intrinsic logic and vitality. In current design theory, the design of things no longer imposes a shape on them, but elicits such from the material, as it were. In this view, humans and materials enter into a partnership in production and design because things are not dead, but resilient, have their own intrinsic dynamic and are able to act.

Gottfried Semper recognized this fundamental law of design when he defined style as what accords with both the object's useful purpose and the material. Henry van de Velde went one further and discovered in the intrinsic dynamic of processing a material its self-transformative compulsion to flee materiality. No material is per se beautiful, he opined in 1910, and rather aesthetic enjoyment first arises when the material is brought to life by its artistic working: "The development of a material occurs in a sequence of appearances through which it pursues the expression of its perfect dematerialization."

A material history of art and architecture that examines the influence of construction materials on forms and styles has not to date been written. It is likewise unclear whether there is such a thing as the technical determinism of materials. At least, today's buildings with their curtain-wall facades no longer show whether they rely on a wooden, steel, or concrete load-bearing structure. Indeed, the traditional hierarchy of materials – ma-



respond flexibly to swiftly changing conditions. NAVAPA entails the development and realization of floor-to-ceiling wall sections made of honeycomb panels of corrugated paper materials. Honeycomb panels made of recycled paper used in the packaging industry thus gain a lease of life in new applications in architecture.

22

sonry, wood, concrete, and iron – has been flattened out. Moreover, so many different materials are used in construction that only the trained building physicist will be able to distinguish between the new, flexible compounds and the traditional types of stone and steel, between tinted-glass facades and dyed metal panels.

This generates new freedoms, but also a new form of tyranny. For this reason, the Fortmann Foundation prioritizes support for projects that research the production and use of materials. The emphasis is on creating a corrective so that the great dream of a progressive, self-organized intrinsic life of materials does not flip over into techno-magic and material fetishism. However fascinating the Ancient Greek idea of entelechy still is, the risk remains that we hearken only that in materials which we ourselves associated with them in the first place. For this reason, the Fortmann Foundation supports committed scholarly and artistic basic research that combines the economic rationality of using the materials with the standards society sets for a sustainable culture of the built environment.

The Foundation

The non-profit Fritz and Trude Fortmann Foundation for the Culture of our Built Environment and Materials concerns itself with architecture and its materialization. It supports the development of construction materials and methods for the future and research on the ecological, functional, and atmospheric properties of materials.

The Fritz and Trude Fortmann Foundation was established at the end of 2013 and is recognized as a non-profit incorporated foundation under civil law. After the Board of Trustees was set up, in 2015 the Foundation started its substantive and programmatic work.

The Foundation bears the names of entrepreneurs Fritz and Trude Fortmann. She was a chemist and he a businessman who after World War II, during a period of upheaval in architecture and urban planning went down new paths in the development of construction materials. This is the context in which the Foundation's activities revolve around the topic of the "culture of our built environment and materials" and are continually being expanded.

S t i p e n d s

The non-profit Fritz and Trude Fortmann Foundation for the Culture of our Built Environment and Materials awards annual stipends by way of support for concepts, research and designs and the development of construction materials and methods with a strong future as well as research on the ecological, functional, and atmospheric properties of materials. The calls for applications address students, doctoral candidates, and academics whose research on topics and objects is in line with the Foundation's objectives.

The stipends serve to enable research projects that it would not be possible to realize otherwise. They are awarded on the condition that for the duration of the period for which the stipend is awarded the researchers concentrate on the project presented in their application.

The stipends are granted in the form of lump-sum financial support paid out on a monthly basis and destined to cover a person's daily cost of living. Furthermore, support can also take the form of in-kind contributions. In addition, stays abroad and internships can be supported to the extent they serve the purpose of the research described in the application.

Grants take the form of final-year project stipends (duration: up to 12 months) and doctoral stipends (duration: up to three years). In individual cases, stipends can be awarded to persons with the due qualifications (... master craftspeople, architectural practice, design ...) who wish to withdraw from active professional life for a period in order to pursue a research project that aligns with the criteria for support in terms of the Foundation's objectives.

All information on the current call for applications can be clicked on the Foundation's Website:



Information on applications

Project-specific support

The Foundation regularly calls for applications, whereby the focal theme changes. By means of these calls, the Foundation searches to identify innovative ideas and projects in the fields of research and applied research that are dedicated to developing or improving materials and construction methods or finding novel applications for such. The idea is to highlight pioneering topics and approaches and by providing support help them move forwards. Every two years the Foundation calls for the submission of sketches of ideas for projects or research proposals on a respectively current overarching theme. The call is open for architectural or artistic-experimental projects or those investigating materials as well as for theoretical and media cultural-studies projects.

A two-tier approach is used to choose which projects shall receive support. First, those sketches of ideas are selected that meet the Foundation's criteria for support (long list). The Foundation then requests indepth project descriptions on these ideas. In the subsequent final round, up to three projects are identified that the Foundation grants a sum of 20,000 (twenty thousand) each. The calls to date:

Cost-effective construction materials and methods for housing construction (2016-7)

The first call focused on concepts and designs for cost-effective housing construction, with the key emphasis on the quality of the materials. The Foundation supported projects or research projects that concentrated on the origination and production process of cost-effective materials or on the processing of the materials and/or their built realization. The following parameters were set as criteria for cost-effective materials:

- Economy and energy efficiency
- Sustainability in the production
- Durability and recyclability
- Low processing workload and ease of onward use
- Materials' flexible adaptation to the edifice's built and social contexts.

A sense for materials – materials for the senses (2018-9)

Projects and research projects received support that investigated the interaction of the use of a material and its appeal to the senses.

Digitization and virtualization have led to a stronger fascination with the nature of objects, haptics, and sensory perception of the designed environment that goes far beyond their visual communication by image-based media. So-called "materials libraries" serve to meet the wish to be able to try materials out by touching them. When it comes to using materials, many designers seek to instill objects with a direct appeal to be touched and used; conversely, new materials respond to environmental influences and user behavior (color, warmth, pressure). The use of responsive materials in the public realm (silent asphalt, noisy concrete, floors with reliefs) are felt to be able to influence behavior. And then there are materials whose surfaces intimate materials without possessing the actual properties, a kind of "fake" material. When working with them, materials' properties can be pointed up or manipulated in order in this way to enable special sensory experiences.

A wealth of materials (2020-1)

With this call for submissions the Foundation supported concepts, research, and design proposals where the focus was on materials that are available in surfeit but whose use to date has come up against limits. In times when raw materials are becoming ever more scarce, the idea must not only be to minimize consumption but also to tap into new or unused resources. Conceivable materials would be like – CO2 ("carbon storage") – crushed concrete from dismantling and demolition (concrete recycling) – algae– salt – plaster – locusts – plastic.

Many of these materials have hitherto not been viewed as resources but are treated as waste and usually disposed of in a way that is damaging to the environment. How to process these materials such that they become new materials? What functions could they assume? Which of their properties could be used? What redefinitions are necessary in order to stop viewing these materials as waste but as a resource?

Support for basic research

With a new program launched in 2022 the Fritz and Trude Fortmann Foundation is supporting projects involving basic research on the culture of our built environment and materials.

Projects are eligible that contribute to minimizing the carbon footprint of construction activities – from planning and construction and operation through to waste disposal and reuse, and thus help us achieve Net Zero.

The program is primarily aimed at scholars who are responding to these challenges with innovative approaches and are active at universities or publicly supported research establishments. There are no restrictions essentially on a person's particular field.

A project schedule of up to three years is possible, with grants of up to EUR 100,000.00 per year.

When first making contact with the Fortmann Foundation interested researchers should please send a short description of their field and a statement on the approach for which they seek project support to the Foundation's office.

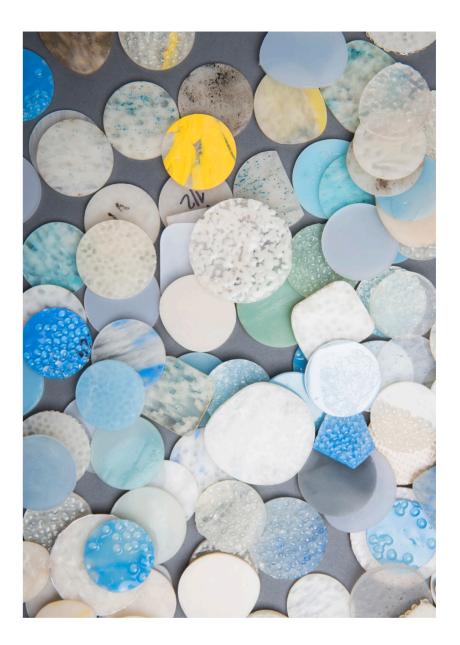
Support for publications

Fritz and Trude Fortmann Foundation wishes to support the publication of scholarly works that address traditional, new, or pioneering materials in architecture.

This support program is aimed at researchers in all disciplines who offer new insights in this context: to scholars in the natural sciences and the humanities, in design or technical fields.

Should you be interested, please simply contact the Foundation through its office.

28



Supported project 2018-9

A sense for materials - materials for the senses

BREATHE IN /BREATHE OUT - NUATAN.

"Exploring scents of future materials."

crafting plastics! studio, Vlasta Kubušová, Berlin
and OFFICE MMK, Moritz Maria Karl, Berlin.

To date there has been hardly any research into
the scent of bioplastic and no aromas are
associated with the material.

The NUATAN project focused on developing a unique
scent library for bioplastic and transferring
the aromas explored into a bioplastic construction material.

Materials in the design process

The intrinsic logic of materials

Morphogenetic energies

Set aims when selecting materials

Processes and materials

Materials as agents in the design process

Materiality as a topic

Philosophical positions
Neo-materialism
Anthropological positions
Physical and chemical descriptions
Dematerialization

Mediality of materials

History of iconography
Materials in art
Aesthetic preferences in the choice of materials
Materials and communication
Symbolic use of materials

30

Materials and Economics

Sparing materials
Recycling materials
Substituting materials
Materials and cycles
Rationalization
Economic concepts

Materials' properties and aesthetic

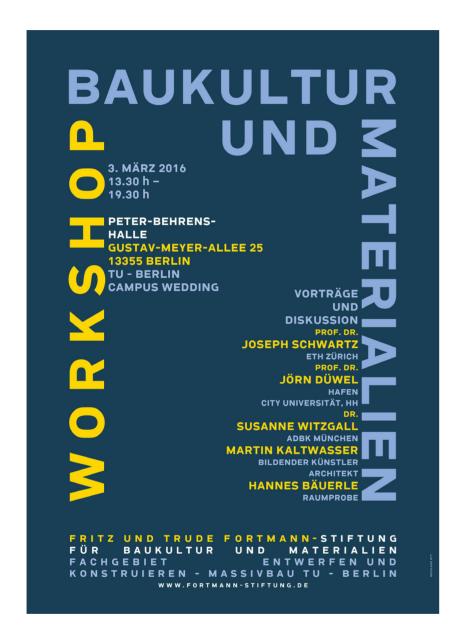
Rigidity
Elasticity
Weight
Resistance
Durability
Sensory appeal and feel
Responsive, smart materials

Materials and origins

Regional ties
Reducing production
Mining
Transportation
Trading
Tradition
Heritage

Materials and norms

Government regulation EU norms in the construction sector Norms and the culture of the built environment Certification



Poster Lectures and discussion Spatial fabric - Textiles and Architecture 2016

32

Vorkshops .ecture events

The program with workshops and calls for entries generate mutual, thematic stimuli. It gradually formulates the Foundation's evolving substantive profile.

The workshops are intended to address current materials-related topics in research on construction and building practice from a transdisciplinary point of view and put them up for discussion. They provide a platform for opinions to be formed and ideas swapped, to network the relevant actors, and to strengthen the awareness of the importance of the relationship of the culture of the built environment and the conditions of its materialization.

At irregular intervals, public lecture events and discussion rounds will be organized on topics relating to the projects the Foundation supports.

Workshop 2016 March 3, 2016

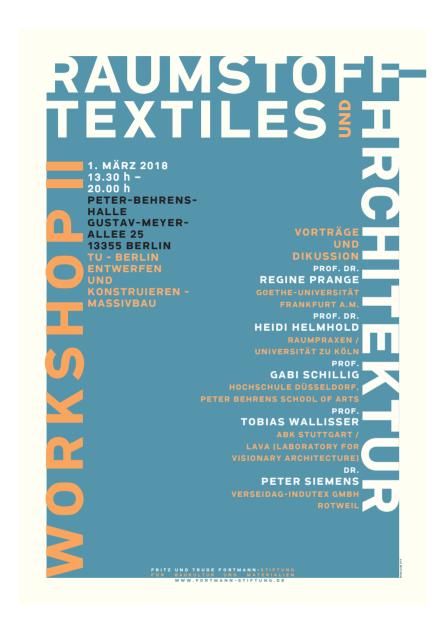
The culture of the built environment and materials

TU-Berlin Peter Behrens Hall Gustav-Meyer-Allee 25 13355 Berlin Germany

The Fritz and Trude Fortmann Foundation for the Culture of our Built Environment and Materials focuses on the relationship of the culture of the built environment and the conditions for its materialization. It promotes the development of construction materials and methods with a strong future as well as research on the ecological, functional, and atmospheric properties of materials.

Speakers from different fields in construction discuss the potential and significance of materials in architecture, the construction sector, and for the culture of the built environment.

Prof. Dr. Joseph Schwartz ETH Zürich
Prof. Dr. Jörn Düwel Hafen City University Hamburg
Dr. Susanne Witzgall AdbK Academy of Fine Arts in Munich
Martin Kaltwasser artist, architect
Hannes Bäuerle raumPROBE



Plakat Vorträge und Diskussion Raumstoff - Textiles und Architektur 2016

Workshop 2018 March 1, 2018

In cooperation with the Dept. of Conceptual and Structural Design TU Berlin

Spatial fabric - Textiles and Architecture

TU-Berlin Peter Behrens Hall Gustav-Meyer-Allee 25 13355 Berlin Germany

Textiles are one of humanity's oldest construction materials, they envelope, create space, protect, divide, connect, and ornament.

The Fritz and Trude Fortmann Foundation for the Culture of our Built Environment and Materials explores the significance of textiles for architecture and the future of construction.

Prof. Dr. Regine Prange

Goethe-University Frankfurt/M. Gottfried Semper's 'Carpet Wall'.

On the theory of architecture's origins in textiles and its current forms

Prof. Dr. Heidi Helmhold

Raumpraxen / University of Cologne

Textile Architecture – Affect politics of space and the body

Prof. Gabi Schillig

University of Applied Sciences Düsseldorf, Peter Behrens School of Arts Responsive Architectures

Prof. Tobias Wallisser ABK Stuttgart / LAVA (Laboratory for Visionary

Architecture) More with less -

Creating space with membranes

Dr. Peter Siemens VERSEIDAG-INDUTEX GmbH, Krefeld

From fiber to architecture – the development of high-tech textile construction materials taking the example of the Rottweil Testing Tower

About the authors and

Nicola Fortmann-Drühe Studied Architecture at TU Hanover, Construction Assessor in North Rhine Westphalia, self-employed since 1981 in Dortmund, since 1991 in Potsdam. Lives in Berlin.

Dr. Thomas Durchlaub Studied Law and Business Administration at the universities of Bochum, Hagen and Wales, 1992 gained a doctorate in Law, 1995 admitted to the bar, 1997 Master of Business Administration (MBA), 2004 appointed a notary public. Lives in Bochum.

Prof. Dr. Susanne Hauser 1977-83 Studied History, Linguistics, German Language and Literature, and Art History in Bonn, Freiburg and Berlin. Gained a doctorate in 1989 at TU Berlin for a thesis on the literary view of the city. Made a professor of cultural studies in 1999 at Humboldt Universität zu Berlin with a thesis on designs for abandoned industrial plants. 1995-6 Fellow at Wissenschaftskolleg zu Berlin. 2000-3 Visiting Professor, Kassel University, in the Dept. of Urban and Landscape Planning. 2003-5 Professor at TU Graz. Since 2005 Professor for Art and Cultural History in the Faculty of Architecture, Berlin University of Arts. Lives in Berlin.

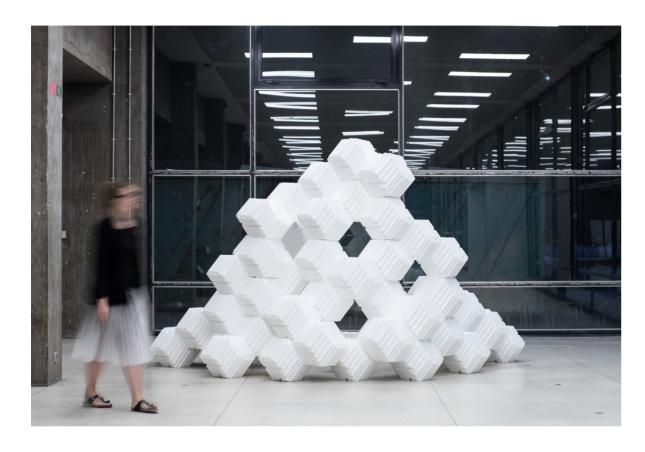
Dr. Ursula Kleefisch-Jobst Studied Art History, Classical Archaeology and German Language and Literature in Bonn and Munich, 1981-3 research fellowship at Bibliotheca Hertziana (Max-Planck-Institute) in Rome, 1986 gained a PhD. at Universität Bonn on architecture among the mendicant orders in Middle Italy, 1985-8 member of the research project on "Census of Antique Works of Art and Architecture known to the Renaissance" (Bibliotheca Hertziana), 1989-90 member of staff of the State Heritage Office in Berlin, since 1991 works as an architecture critic, 2001-7 free curator at Deutsches Architekturmuseum in Frankfurt/M., 2008-20 Managing Curator of M:Al Museum für Architektur und Ingenieurkunst des Landes Nordrhein-Westfalen, 2020-2 General Curator of Museum der Baukultur in the context of the Baukultur Nordrhein-Westfalen. Lives in Kiel.

members of the Foundation

Prof. Dr. Michael Mönninger Studied German Language and Literature, Philosophy, Sociology and Art History in Frankfurt/M. and Karlsruhe. Awarded an M.A. in 1985. Ph.D. in 1995 in Karlsruhe under Heinrich Klotz and Hans Belting on 19th century art theory. 1986-2007 editor, architecture critic and foreign correspondent, among others at F.A.Z., SPIE-GEL and DIE ZEIT. 1995-6 Fellow at Wissenschaftskolleg zu Berlin. Proxy professor for Friedrich Achleitner at University of Applied Arts Vienna. Since 2007 University professor of History and Theory of Building and Spatial Art at Hochschule für Bildende Künste Braunschweig. Lives in Berlin.

Gerhard Spangenberg Studied at TU Berlin: German Language and Literature under Walter Höllerer, Architecture under Oswald Mathias Ungers. Since 1968 self-employed architect, among others in partnerships with Jonas Geist and with Jürgen Sawade. Buildings include "Bücherbogen" on Savignyplatz; "Taz-Haus" on Kochstrasse; AllianzHochhaus Treptow; Radialsystem V; Exzenterhaus Bochum. In planning: smart highrise for a constructionmaterials corporation; high-rise for an urban mixture "Columna Sin Fin". Lives in Berlin.

Prof. Dr. sc. techn. Mike Schlaich Studied Construction Engineering in Stuttgart and at ETH Zurich and gained a Ph.D. in 1989 at ETH. Since 1993 a partner at schlaich bergermann partner (sbp) consulting engineers for the building and construction industry. He is a test engineer for load-bearing structures and since 2004 Ordinary Professor and holder of the Chair of "Conceptual and Structural Design" at Technische Universität Berlin. His research focuses on lightweight structures, at present above all the use of carbon materials for non-fatiguing, corrosion-free bridges and roofs with broad spans as well as with infra-light concrete as a load-bearing form of heat insulation for monolithic fair-faced concrete structures without additional insulation materials. As part of his activities as Managing Director of sbp he has been responsible for international award-winning bridge and civil engineering projects. He is co-author of the book "Fußgängerbrücken – Konstruktion, Gestalt, Geschichte" and has authored countless publications. Lives in Berlin.



Supported project 2018-9 A sense of materials – materials for the senses Foam house

The Fritz and Trude Fortmann Foundation for the Culture of our Built Environment and Materials would like to thank all the researchers for kindly providing the image material.

The Fritz and Trude Fortmann Foundation for the Culture of our Built Environment and Materials assumes no liability for the correct naming of copyright holders. We crave your indulgence should references not be stated correctly and request we be informed accordingly.

Picture credits

- page 2 © Nifor
- 6+18 Photos: © Prof. Martin Ostermann / Universität Stuttgart / IBK 2 Academic staff: Eliza Biala, Piotr Fabirkiewicz, Andreas Greiner, Johannes Pellkofer Supervisor
 - 6 © TXXL Upscaling Textiles. Coarse knitted wovens as functional surfaces, Christiane Sauer, formade, 2018-9
- 11+12+19 Photos: © Jonas Edvard Nielsen, Cand. Design / Jonas Edvard Studio Material and Product design
 - 13 Drawing Jonas Edvard and Samarbejde together with Arup Engineers
 - 14 © Nicolaus Ott
 - 17 © TXXL Upscaling Textiles. Coarse knitted wovens as functional surfaces, Christiane Sauer, formade, 2018-9
 - 18 Photo: © Jonas Edvard Nielsen, Cand. Design / Jonas Edvard Studio Material and Product design
 - 20+22 Photo: Stephan Schütz / Bauhaus-Universität Weimar
 - 29 © Vlasta Kubusova / Moritz Maria Karl, OFFICE MMK
 - 32+34 © Nicolaus Ott

Publisher The Fritz and Trude Fortmann Foundation for the Culture of our Built

Environment and Materials

Universitätsstrasse 60 44789 Bochum Germany phone +49 234 33 88 93 20 fax +49 234 33 88 93 21

info@fortmann-stiftung.de www.fortmann-stiftung.de

Copyright 2023 with the authors

Editorial desk Karen Jung

Translation gainestranslations.de

Design Nicolaus Ott

Print Reiter-Druck Berlin