SUSTAINABILITY IN THE BUILT ENVIRONMENT
- A DANISH RESEARCH LANDSCAPE

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Gabriella Rossi
Nicole Marie Miller

UIA2023CPH
CITA Centre for Information Technology and Architecture
Royal Danish Academy of Fine Arts
Schools of Architecture, Design and Conservation
INTRODUCTION

The UIA2023CPH World Congress of Architects ‘SUSTAINABLE FUTURES - LEAVE NO ONE BEHIND’ promotes, discusses, develops and showcases architecture as a crucial tool to achieving the UN 17 Sustainable Development Goals by 2030. The overarching goal of the UIA2023 Congress - Science Track is to foster the knowledge needed for architecture and the built environment to understand, build and fulfill its active role in achieving the UN Sustainable Development Goals.

This national mapping presents the Danish research landscape in sustainable futures through the built environment organised across the six research panels that shape the UIA2023CPH Science Track.

The aim of the mapping is to understand the current state of the art in research across architecture, landscape design and architectural engineering. The mapping highlights existing research efforts across key institutions, their research leads, projects and PhDs in order to tie them to the UIA2023CPH project.

This volume is understood as a first step into this mapping and describes the profiles of 9 institutions, 110 researchers and 72 PhDs and PostDocs.
Architecture affects our actions across environment, resource and society.

The Congress is divided into six panels that together frame the 17 UN Sustainable Development Goals. The panels are developed using Professor Katherine Richardson’s model for understanding the overarching strategising of the goals as an interfacing between the needs of the planet and the needs of humanity. By moving from concerns of the environment, through resources to the needs of humanity, the goals are grouped into topics that engage existing research communities in academia and industry.

Our aim is to articulate the panels to frame the special agency architecture and the built environment have across the Goals – shaping our society; the way we live, the way we interact and the way we build – and how the effort to change our practices can lead to a sustainable, equitable and inclusive future for all.

DEFINING SIX PANELS FOR THE UIA2023CPH SCIENCE TRACK

Architecture affects our actions across environment, resource and society.

The Congress is divided into six panels that together frame the 17 UN Sustainable Development Goals. The panels are developed using Professor Katherine Richardson’s model for understanding the overarching strategising of the goals as an interfacing between the needs of the planet and the needs of humanity. By moving from concerns of the environment, through resources to the needs of humanity, the goals are grouped into topics that engage existing research communities in academia and industry.

Our aim is to articulate the panels to frame the special agency architecture and the built environment have across the Goals – shaping our society; the way we live, the way we interact and the way we build - and how the effort to change our practices can lead to a sustainable, equitable and inclusive future for all.
Panel 1
Design for Climate Adaptation

The built environment exists within a larger, more powerful natural ecosystem. As climate patterns change, so must the role of buildings, settlements and cities and how they interface with their environment, protecting especially vulnerable residents. ‘Design for Climate Adaptation’ includes both high and low-tech solutions to environmental design which work to make buildings smarter and more self-sufficient. New adaptive methods for rainwater harvesting, heating and cooling, living roofs and new renewable energy technologies allow us to rethink how a building is operated and how it can contribute to its environment. Outside of the building, climate change is addressed by resilient landscaping; design for rising sea levels, flooding and stormwater protection as well as protection against desertification, drought and wildfire. ‘Design for Climate Adaptation’ allows us to mitigate against changing environments and encourage a symbiotic ecology, promoting peaceful and cooperative adaptation of the built environment.

Panel 2
Design for Rethinking Resources

Design shapes our world, from the places we live in to objects we use every day. As we grow more aware of the limits of our planet’s resources, shifting from an exploitative to a restorative, regenerative and circular design ideology becomes necessary. ‘Design for Rethinking Resources’ examines approaches to resourcefulness in our practice. It includes:

- The materials we use: the engineering of new materials, recycling of waste and use of bio-based materials lends the possibility to start the cycle of production sustainably.
- The methods we apply: from computational design and digital technologies, to crafts revival and vernacular building techniques allow us to innovate localised design solutions while also supporting local economies. And finally, the life-cycles we expect of our building: from design for disassembly, programmed decay, life cycle analysis and rethinking the durability of our building.

‘Design for Rethinking Resources’ means re-assessing all aspects of the production and consumption cycles with sustainability in mind.
**PANEL 3**
**DESIGN FOR RESILIENT COMMUNITIES**

Sustainable futures are dependent on the thoughtful planning of cities and communities. Rapid urbanization and high-density cities are putting unprecedented pressures on the way we live. ‘Design for Resilient Communities’ investigates multiple perspectives defining the way we live. It includes:

Economic perspectives: how self-sustaining communities, responsible land use and transformation of existing building stock reshapes the economies of our communities and allows us to change the long-term benefits for all inhabitants. Social perspectives: how the design of the public realm, both physical and digital, affects inclusiveness and the way we live in our communities and how augmenting our lives with smart technologies can provide insight into wide-scale patterns changing the way we occupy and interact within the built environment. And Environmental perspectives: how the infrastructures of our communities can be shaped to reduce our carbon footprint and allow green living. ‘Design for Resilient Communities’ asks how these perspectives can be developed and contribute to a more sustainable development of communities and urban space.

**PANEL 4**
**DESIGN FOR HEALTH**

The built environment affects our physical and mental health as humans. With increases in population and unequal infrastructure, considerations of access to healthcare, the spread of diseases and preventable premature mortality are of major concern for sustainable futures. ‘Design for Health’ problematises what design for healthy communities can be. From the direct design of hospitals and places for healing to the strategic design of healthcare facilities to reduce the transmission of communicable disease or focus on vulnerable groups, architecture contributes to the reduction of mortality rates and better health. Beyond direct healthcare, taking action to improve basic infrastructure such as developing sewage systems for informal settlements or better building practices for disease prevention, sharply increases public health and wellbeing. Finally, design can promote individual health by shaping mobility and accessibility for all, creating spaces for an active outdoor life and ensuring indoor climate health and comfort. ‘Design for Health’ engages the breadth of society moving from the public efforts of healthcare provision to the well-being of each individual person.
PANEL 5
DESIGN FOR INCLUSIVITY

The ideal for a sustainable future is that no one is left behind and to endeavour to reach the furthest behind first. ‘Design for Inclusivity’ considers how a more egalitarian and humanitarian design ethos can be promoted: how architecture and the built environment can encourage awareness of and dialogue about the socio-economic and political division between the Global South and the Global North and contribute to a built environment designed for all. It addresses universal design and the shaping of gender equal environments and it discusses: how vulnerable and marginalised groups can be included through the careful consideration of cultural differences and strategies for cultural preservation, how social housing strategies and design of inclusive community buildings can work to cement cohesiveness across communities, how responsible improvement of informal settlements can stimulate social equality, and how innovation can offer new solutions to emergency shelters, refugee housing and post-disaster regeneration. ‘Design for Inclusivity’ ensures no one is left behind by critically addressing our understanding of design agency and re-drawing a more inclusive practice.

PANEL 6
DESIGN FOR PARTNERSHIPS OF CHANGE

‘Design for Partnerships of Change’ happens when we collaboratively work towards peace, social justice, and a sustainable future with strong coalitions. Implementing changes requires partnerships between governments, the private sector and civil society. ‘Design for Partnerships of Change’ examines how architecture and the built environment can encourage such partnerships, the agency they embody and the results they can achieve. Architecture can be an important driver for change in its ability to be an instrument of governance from the forming of local policies and private-public partnerships, a partner in creating new sustainable practice, to the creation of participatory design methods for democratic and collaborative community planning that includes all. It can be a critical geopolitical method for cultural discourse and human rights, creating awareness of territory and border issues. And it can be used as a voice to start interdisciplinary dialogues by critical curation and dissemination. ‘Design for Partnerships of Change’ challenges the boundaries of architectural design, its repercussions and our understanding of why, how and by whom architecture is produced.
Panel 1: Climate Adaptation
Total Actors: 37
Senior Researchers: 23
PhD Students: 13
PostDocs: 1

Panel 2: Rethinking Resources
Total Actors: 47
Senior Researchers: 31
PhD Students: 16

Panel 3: Resilient Communities
Total Actors: 38
Senior Researchers: 22
PhD Students: 16

Panel 4: Design for Health
Total Actors: 12
Senior Researchers: 8
PhD Students: 4

Panel 5: Inclusivity
Total Actors: 31
Senior Researchers: 15
PhD Students: 15
PostDocs: 1

Panel 6: Partnerships of Change
Total Actors: 17
Senior Researchers: 13
PhD Students: 4

Total: 184
Senior Researchers: 112
PhD and Post Docs: 72
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<th>University</th>
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</tr>
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<tbody>
<tr>
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<td>19</td>
</tr>
<tr>
<td>Aarhus School of Architecture</td>
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</tr>
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<td>University of Copenhagen</td>
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<td>Roskilde University</td>
<td>149</td>
</tr>
<tr>
<td>Aarhus University</td>
<td>153</td>
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</tbody>
</table>
NATALIE MOSSIN
Architect and Head of Institute
IBT: Institute for Architecture and Technology
Royal Danish Academy of Fine Arts (KADK)

Research Focus
- Organizational developments
- Interaction on building value chain
- Sustainable construction frameworks

PANEL 6: PARTNERSHIPS OF CHANGE
SDG 17 - Partnership for the Goals

METTE RAMSGAARD THOMSEN
Architect, Professor, and Head of CITA
Center for IT and Architecture (CITA)
IBT: Institute for Architecture and Technology
Royal Danish Academy of Fine Arts (KADK)

Research Focus
- Digital technologies and fabrication
- New materials
- Information modelling
- Textile architecture
- Digital crafting

PANEL 2: RETHINKING RESOURCES
SDG 12 - RESPONSIBLE CONSUMPTION, SDG 9 - INNOVATION AND INFRASTRUCTURE

PhD Researchers

Yuliya Sinke
Design of highly specified functionally graded CNC-knitted membranes for lightweight structures
2019-2022

Candidate
PREDICTIVE RESPONSE
Machine Learning for material specification
2019-2022

Veronika Hodges
A transformative architecture made in paper
2018-2021
PHIL AYRES

Architect and Associate Professor

Center for IT and Architecture (CITA)
IBT: Institute for Architecture and Technology
Royal Danish Academy of Fine Arts (KADK)

PANEL 2: RETHINKING RESOURCES

Research Focus

- Bio-Hybrid systems
- Fungal architecture
- Digital architecture design and simulation
- Unconventional robotics

PhD Researchers

Adrien Rigobello
FUNGAR
Mycelium-based architectural components
2020-2023

MARTIN TAMKE

Architect and Associate Professor

Center for IT and Architecture (CITA)
IBT: Institute for Architecture and Technology
Royal Danish Academy of Fine Arts (KADK)

PANEL 2: RETHINKING RESOURCES

Research Focus

- Computational Design
- Digital fabrication
- Innovation in sustainable material usage for new construction methods
- 3D printing
PANEL 2: RETHINKING RESOURCES
SDG 12 - RESPONSIBLE CONSUMPTION, SDG 9 - INNOVATION AND INFRASTRUCTURE

ANNE BEIM
Professor and Head of CINARK
Center for Industrialized Architecture (CINARK)
IBT: Institute for Architecture and Technology
Royal Danish Academy of Fine Arts (KADK)

Research Focus
- Industrialized architecture
- Circular building components
- Ecological architecture
- Applied materials

PhD Researchers
Line Kjær Frederiksen
Resource Conservation
Tectonic Design Strategies
2017-2020

JAKOB BRANDTBERG KNUDSEN
Architect and Dean of School of Architecture
IBT: Institute for Architecture and Technology
Royal Danish Academy of Fine Arts (KADK)

PANEL 4: Design for HEALTH
SDG 3 - Good health and wellbeing

Research Focus
- Health and architecture
- Architecture for the prevention of malaria
- Digital modelling of indoor climate
- Affordable housing
- Tropical architecture

PhD Researchers
Candidate
The Impact of Architecture on Epidemics
2020-2023

Candidate
Architecture and Health
2020-2023

Collaborations
- University of Oxford, UK
- Mahidol-Oxford Tropical Medicine Research Unit, Thailand
- Durham University, UK
- London School of Hygiene & Tropical Medicine, UK
OLGA POPOVIC LARSEN

Professor and Architect

IBT: Institute for Architecture and Technology
Royal Danish Academy of Fine Arts (KADK)

Research Focus
- Innovative sustainable timber structures
- Reciprocal frame architecture
- New bio-based materials
- Emergency architecture
- Adaptable building elements

PELLE MUNCH-PETERSEN

Architect and Assistant Professor

IBT: Institute for Architecture and Technology
Royal Danish Academy of Fine Arts (KADK)

Research Focus
- Circular facade design
- Circular building economy
- Material architecture tectonics
MASASHI KAJITA
Architect and Assistant Professor
IBD: Institute for Architecture and Design
Royal Danish Academy of Fine Arts (KADK)

Research Focus
- Body and disabilities in architecture
- Universal design for inclusivity
- Accessibility for all
- Universal design pedagogy

PhD Researchers
Roberta Cassi
Disability, Experience and Architecture: Towards Inclusive Sport and Leisure Buildings 2018-2021

ANNE ROMME
Architect, Associate Professor, Vice Head of Institute
IBK: Institute for Architecture and Culture
Royal Danish Academy of Fine Arts (KADK)

Research Focus
- Self-build
- Dialogical processes
- Alternative housing strategies
- Digital material technology

PANEL 5: INCLUSIVITY
SDG 16 - peace and justice, SDG 10 - reduced inequalities

PANEL 6: PARTNERSHIPS OF CHANGE/
PANEL 5: INCLUSIVITY
NICOLAI BO ANDERSEN

Architect and Associate Professor

IBK: Institute for Architecture and Culture
Royal Danish Academy of Fine Arts (KADK)

PANEL 2: RETHINKING RESOURCES/
PANEL 5: INCLUSIVITY

Research Focus
- Cultural heritage
- Transformation
- Conservation
- Sustainability

CHRISTOFFER HARLANG

Architect and Professor

IBK: Institute for Architecture and Culture
Royal Danish Academy of Fine Arts (KADK)

PANEL 3: RESILIENT COMMUNITIES/
PANEL 2: RETHINKING RESOURCES

Research Focus
- Resilient architecture
- Building culture transformation
- Urban densification
- Transformations
PANEL 5: INCLUSIVITY/
PANEL 2: RETHINKING RESOURCES

SØREN VADSTRUP
Architect and
Associate Professor
IBK: Institute for Architecture and Culture
Royal Danish Academy of Fine Arts (KADK)

Research Focus
- Building restoration with traditional craft techniques
- Historic building technology and material science
- Sustainable building heritage and building restoration
- Intangible cultural heritage

PhD Researchers
Victor Boye Julebæk
Material Quality – Spatial Character
2016-2022

PANEL 1: CLIMATE ADAPTATION /
PANEL 2: RETHINKING RESOURCES

THOMAS KAMPMANN
Architect and
Associate Professor
IBK: Institute for Architecture and Culture
Royal Danish Academy of Fine Arts (KADK)

Research Focus
- Building archeology
- Sustainable architecture
- Energy performance of windows

PhD Researchers
Victor Boye Julebæk
Material Quality – Spatial Character
2016-2022
MORTEN BIRK JØRGENSEN
Architect and Assistant Professor
IBK: Institute for Architecture and Culture
Royal Danish Academy of Fine Arts (KADK)

Research Focus
- Sustainable building heritage
- Sustainable transformation of rural buildings
- Cultural heritage

PhD Researchers
Peter Møller Rasmussen
Rural Development / “Precarious Rural” Project

NIELS GRØNBÆK
Architect and Associate Professor
IBK: Institute for Architecture and Culture
Royal Danish Academy of Fine Arts (KADK)

Research Focus
- Critical sustainability
- Danish welfare landscapes
- History and culture

PANEL 5: INCLUSIVITY
PANEL 3: RESILIENCY COMMUNITIES

PANEL 6: PARTNERSHIPS OF CHANGE
PANEL 5: INCLUSIVITY
**DAG PETERSSON**

Art Historian and Associate Professor

IBK: Institute for Architecture and Culture
Royal Danish Academy of Fine Arts (KADK)

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**Research Focus**

- Critical sustainability
- Spaces of Danish welfare
- Urban poverty
- Climate change and nature

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**PANEL 6: PARTNERSHIPS OF CHANGE/
PANEL 5: INCLUSIVITY**

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**JONNA MAJGAARD KRARUP**

Architect and Associate Professor

IBL: Institute of Architecture Urbanism and Landscape
Royal Danish Academy of Fine Arts (KADK)

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**Research Focus**

- Climate adaptation
- Landscape and public space
- Urban ecology

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**PhD Researchers**

Kristine Cecilie Holten Andersen

Adaptation of Cities to Landscape and Climate: Prospects and Methods in Urban Planning
2018-2021

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**PANEL 1: CLIMATE ADAPTATION**

SDG 13 - Climate action, sdg 14 Life below water, sdg 15 life on land

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Kristine Cecilie Holten Andersen

Adaptation of Cities to Landscape and Climate: Prospects and Methods in Urban Planning
2018-2021
DEANE SIMPSON

Architect and Professor

IBL: Institute of Architecture, Urbanism and Landscape
Royal Danish Academy of Fine Arts (KADK)

Research Focus
• Welfare urbanism
• Urban securitization
• Demographic change
• Urban regimes of sustainability

PhD Researchers
Max Pedersen
SPACES OF DANISH WELFARE
2017-2021

JØRGEN ESKEMOSE

Architect, Town Planner, and Associate Professor Emerita

IBL: Institute of Architecture, Urbanism and Landscape
Royal Danish Academy of Fine Arts (KADK)

Research Focus
• Informal urbanization in the Global South
• Informal settlement improvement projects in Sub-Saharan Africa
• Land rights
• Urban densification

PhD Researchers
Johan Mottelson
Casas Melhoradas
2018-2021

PANEL 5: INCLUSIVITY/
PANEL 3: RESILIENT COMMUNITIES
RENE KURAL

Associate Professor and Director of the Centre of Sports and Architecture

IBL: Institute of Architecture
Urbanism and Landscape
Royal Danish Academy of Fine Arts (KADK)

RESEARCH FOCUS

• Health, movement and sport in cities
• Spaces for body culture
• Spaces for seniors
• Activity and health enhancing Physical Environments Network (APEN)

RUNA JOHANNESEN

Architect and Assistant Professor

IBL: Institute of Architecture
Urbanism and Landscape
Royal Danish Academy of Fine Arts (KADK)

RESEARCH FOCUS

• Spaces of Danish Welfare
• Critical sustainability
• Political architecture
• Architecture and destruction in occupied Palestine
GUSTAVO RIBEIRO

Architect, Urban Planner and Associate Professor

IBL: Institute of Architecture Urbanism and Landscape
Royal Danish Academy of Fine Arts (KADK)

Research Focus

- Sustainable urban development
- Strategic spatial planning and climate change
- Strategic urban governance
- Participatory processes

BORIS BRORMAND JENSEN

Architect, Urban Planner and Associate Professor

IBL: Institute of Architecture Urbanism and Landscape
Royal Danish Academy of Fine Arts (KADK)

Research Focus

- Participatory processes
- Sustainable urban development
- Inclusive urban design
- Urban processes of change
CAMILLA HEDEGAARD MØLLER

Architect and Associate Professor

IBL: Institute of Architecture
Urbanism and Landscape
Royal Danish Academy of Fine Arts (KADK)

PANEL 5: INCLUSIVITY /
PANEL 6: PARTNERSHIPS OF CHANGE

Research Focus

- Transformation of public housing
- Spatial organization for learning
- Inclusive public space
- Housing in low income neighborhoods
- Participatory processes
ARKITEKTSKOLEN
AARHUS
Senior Researchers : 6
Phd: 5
PostDoc : 1

AARHUS SCHOOL OF
ARCHITECTURE

Senior Researchers : 23
PhDs: 6
PostDocs: 1
TORBEN NIELSEN
Architect and Head of School
Head of School
Aarhus School of Architecture

PANEL 3: RESILIENT COMMUNITIES
SDG 11 - sustainable cities and communities

Research Focus
- Engaging through architecture
- Responsible urban regeneration

Collaborations
Resilience Lab Denmark (Vejle)

TOM NIELSEN
Architect, Professor, and Lab Coordinator
ResearchLab1: Transformation, Architecture and Territories
Aarhus School of Architecture

PANEL 3: RESILIENT COMMUNITIES/
PANEL 5: INCLUSIVITY

Research Focus
- Urban and landscape planning
- Welfare architecture

PostDoc Researchers
Sidse Martens Gudmand-Høyer
Social Housing and Welfare Architecture
KATRINA WIBERG

Landscape Architect and Assistant Professor

ResearchLab1: Transformation, Architecture and Territories
Aarhus School of Architecture

PANEL 1: CLIMATE ADAPTATION
SDG 13 - Climate action, sdg 14 Life below water, sdg 15 life on land

Research Focus

• Resilient waterscapes
• Coastal development
• Rising sea levels and settlements change

PhD Researchers

Soo Ryu
Urban seascaping as a catalyst for urban transformation
2019-2022

Collaborations

Affiliated consultant at Gustin Landskab

MOGENS MORGEN

Architect and Associate Professor

ResearchLab1: Transformation, Architecture and Territories
Aarhus School of Architecture

PANEL 3: RESILIENT COMMUNITIES

Research Focus

• Welfare architecture in Denmark
• Socially vulnerable neighborhoods research
• Social housing
• Urban transformations

PhD Researchers

Mathilde Kirkegaard
Transformation of cultural environments
2018-2021

Janni Rosenberg Bendsen
Welfare city representation and visual culture
2019-2022
ANNE METTE BOYE
Architect and Associate Professor
ResearchLab1: Transformation, Architecture and Territories
Aarhus School of Architecture

Research Focus
• Transformation of industrial areas
• Resilient waterscapes

PANEL 3: RESILIENT COMMUNITIES/
PANEL 1: CLIMATE ADAPTATION

SIMON OSTENFELD PEDERSEN
Architect and Associate Professor
ResearchLab1: Transformation, Architecture and Territories
Aarhus School of Architecture

Research Focus
• Transformation of cultural environments
• Adaptive reuse
• Architectural heritage

PANEL 5: INCLUSIVITY/
PANEL 2: RETHINKING RESOURCES
BIRGITTE EYBYE TANDERUP
Architect and Assistant Professor
ResearchLab1: Transformation, Architecture and Territories
Aarhus School of Architecture

Research Focus
• Vernacular architecture
• Architectural sustainability as a design parameter
• Sustainability in architectural heritage

PANEL 2: RETHINKING RESOURCES/
PANEL 5: INCLUSIVITY

JENS CHRISTIAN PASGAARD
Architect and Associate Professor
ResearchLab1: Transformation, Architecture and Territories
Aarhus School of Architecture

Research Focus
• Collaborative place-making interventions
• Transformations
• Redesigning tourism

PANEL 6: PARTNERSHIPS OF CHANGE /
PANEL 3: RESILIENT COMMUNITIES
STEFAN DARLAN BORIS

Architect and Associate Professor

ResearchLab1: Transformation, Architecture and Territories
Aarhus School of Architecture

Research Focus
• Garden nature laboratory
• Transformation and adaptation
• Biodiversity

MARTIN ODGAARD

Architect and Assistant Professor

ResearchLab1: Transformation, Architecture and Territories
Aarhus School of Architecture

Research Focus
• The relationship between urban development and nature
• Biodiversity
• Rethinking urban habitats
MO MICHELENS STOCHOLM Krag

Architect and Assistant Professor

ResearchLab1: Transformation, Architecture and Territories
Aarhus School of Architecture

Research Focus
- Revitalization of rural areas
- Transformation of abandoned buildings
- Critical Practice in preservation of rural identity

Panel 3: Resilient Communities/
Panel 5: Inclusivity

Jonathan Foote

Architect, Associate Professor and Lab Coordinator

ResearchLab2: Technology, Building Cultures and Habitation
Aarhus School of Architecture

Panel 2: Rethinking Resources
SDG 12 - Responsible Consumption, SDG 9 - Innovation and Infrastructure

Research Focus
- Local resource usage - Nordic marble
- Material research
DAVID TAPIAS MONNÉ

Architect and Associate Professor

ResearchLab2: Technology, Building Cultures and Habitation Aarhus School of Architecture

Research Focus
- Collaborative housing
- Resilient and inclusive building systems
- Participatory processes

MICHAEL ASGAARD ANDERSEN

Architect and Associate Professor

ResearchLab2: Technology, Building Cultures and Habitation Aarhus School of Architecture

Research Focus
- Collaborative housing
- Sustainable housing design
RUTH BAUMEISTER

Architect and Associate Professor

ResearchLab2: Technology, Building Cultures and Habitation
Aarhus School of Architecture

Research Focus

• The life-cycle of 20th century office buildings
• Material, economic, and social sustainability in building life-cycle analysis

PANEL 3: RESILIENT COMMUNITIES/
PANEL 5: INCLUSIVITY

ANDERS KRUSE AAGAARD

Architect and Assistant Professor

ResearchLab2: Technology, Building Cultures and Habitation
Aarhus School of Architecture

Research Focus

• Workflows for wood architecture
• Test building with irregular wood
• Sustainability of wood
• Material behaviors

PANEL 2: RETHINKING RESOURCES
SDG 12 - RESPONSIBLE CONSUMPTION, SDG 9 - INNOVATION AND INFRASTRUCTURE
PANEL 2: RETHINKING RESOURCES
SDG 12 - RESPONSIBLE CONSUMPTION, SDG 9 - INNOVATION AND INFRASTRUCTURE

DAGMAR REINHARDT
Architect and Associate Professor
ResearchLab2: Technology, Building Cultures and Habitation
Aarhus School of Architecture

Research Focus
- Robotics in architecture
- Human centric spaces
- Digital design thinking
- Synthetic biologies for coral reefs

PhD Researchers
Ryan Hughes
Digital Timber
2019-2022

Jens Pedersen
On-site robotic timber
2019-2022

Collaborations
Owner of the design practice
Reinhardt-Jung

NIELS MARTIN LARSEN
Architect and Associate Professor
ResearchLab2: Technology, Building Cultures and Habitation
Aarhus School of Architecture

Research Focus
- Workflows for wood architecture
- Building with irregular wood
- Sustainability of wood
- Material behaviors

PANEL 2: RETHINKING RESOURCES
SDG 12 - RESPONSIBLE CONSUMPTION, SDG 9 - INNOVATION AND INFRASTRUCTURE
CHRIS THURLBOURNE

Architect and Associate Professor

ResearchLab2: Technology, Building Cultures and Habitation
Aarhus School of Architecture

Research Focus

• Recovering plastic for new architectural building components
• Material tectonics

PANEL 2: RETHINKING RESOURCES
SDG 12 - RESPONSIBLE CONSUMPTION, SDG 9 - INNOVATION AND INFRASTRUCTURE

CAROLINA DAYER

Architect and Assistant Professor

ResearchLab2: Technology, Building Cultures and Habitation
Aarhus School of Architecture

Research Focus

• Critical regionalism
• Architectural drawing, material culture and habitation
• Material imagination in everyday habits
• Activism in architecture

PANEL 6: PARTNERSHIPS OF CHANGE/
PANEL 5: INCLUSIVITY
PANEL 3: RESILIENT COMMUNITIES/
PANEL 6: PARTNERSHIPS OF CHANGE

THOMAS HILBERTH

Architect, Psychologist, Associate Professor, and Program Coordinator

ResearchLab3: Emerging Sustainable Architecture
Aarhus School of Architecture

Research Focus
- Global cities
- Urban cultures
- Local construction
- Participatory design projects

PhD Researchers
- Ricelli Laplace Resende
  Sustainable building practice for behavioral change
  2018-2021

- Stine Dalager Nielsen
  Architectural Sustainability as a Cultural Practice
  2019-2022

Collaborations
- Umeå Arkitektskolen

URSZULA KOZMINSKA

Architect, Engineer, and Assistant Professor

ResearchLab3: Emerging Sustainable Architecture
Aarhus School of Architecture

Research Focus
- Nordic Sustainable Architecture
- Sustainability theory
- Circular design
- Alternative materials
- Zero energy refurbishments

PANEL 2: RETHINKING RESOURCES/
PANEL 1: CLIMATE ADAPTATION

Ricelli Laplace Resende
Sustainable building practice for behavioral change
2018-2021

Stine Dalager Nielsen
Architectural Sustainability as a Cultural Practice
2019-2022
ELIZABETH DONOVAN

Architect and Assistant Professor
ResearchLab3: Emerging Sustainable Architecture
Aarhus School of Architecture

PANEL 6: PARTNERSHIPS OF CHANGE/
PANEL 1: CLIMATE ADAPTATION

Research Focus

- Sustainable architecture discourse and theory
- Sustainable modes of practice
- Resilient design principles
- Nordic sustainable architecture
- Environmental design
ARKITEKTSKOLEN

Senior Researchers : 6
Phd: 5
PostDoc : 1

UNIVERSITY OF
COPENHAGEN

Senior Researchers : 26
PhDs: 24
PANEL 1: CLIMATE ADAPTATION

SDG 13 - Climate action, sdg 14 Life below water, sdg 15 life on land

Research Focus

- SDG frameworks for sustainable climate adaptation
- Resilient landscapes and green infrastructure
- Water quality, nature-based treatment and reuse options

PhD Researchers

Lotte Fjendbo Møller Francis
Green Roofs - Services and Aesthetics
2018-2021

Emilia Danuta Lausen
Vertical green stormwater elements - technology and perception
2016-2020

Guohan Zhao
Rapid 2D Flood Modeling,
2015-2020

PANEL 1: CLIMATE ADAPTATION/ PANEL 3: RESILIENT COMMUNITIES

Research Focus

- Urban climate action through landscape
- Landscape management
- Landscape planning
- Urban fringe
- Copenhagen cultural landscape

PhD Researchers

Gaoyuan Yang
Research on residents’ preference to urbanized landscapes in rural construction

Hanyan Zhang
The potential of urban trees on the reduction of rainwater runoff in areas of Denmark

Haiyun Xu
Research on construction of China “Tibetan-Qiang-Yi tea-horse road cultural-ecological corridor”

Nevruz Cinar Öztil
The role of Public Realm in Urban Design

Tongyun Du
Social Impact of contemporary Urban renewal
2019-2022
PANEL 1: CLIMATE ADAPTATION
SDG 13 - Climate action, sdg 14 Life below water, sdg 15 life on land

Research Focus
- Climate change impacts on ecosystems
- Bio-geochemical cycling in terrestrial ecosystem
- Ecosystem functioning
- Extreme ecological events

Collaborations
Aarhus University

ULRIKA K. STIGSDOTTER
Landscape Architect and Professor MSO
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

PANEL 4: Design for HEALTH
SDG 3 - Good health and wellbeing

Research Focus
- Urban green space and health
- Nature-based mindfulness
- Participatory landscape design
- Nature-based stress therapy

PhD Researchers
Marie Christoffersen Gramkow
MOVE GREEN PROJECT
Design of accessibility and health-promoting nature for people with disabilities

Dorthe Djernis
Nature-Based Mindfulness: adjusting indoor mindfulness to outdoor setting
ELLEN BRAE

Landscape Architect and Associate Professor

Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus

- Post-industrial urban landscape
- Urban transformation and regeneration
- Theory and practice of cultural heritage
- Landscaping tools in historical perspectives

PhD Researchers

Asbjørn Jessen
RECONFIGURING WELFARE LANDSCAPES
Materialising Welfare

Kristen van Haeren
RECONFIGURING WELFARE LANDSCAPES
Welfare Imagined

Lærke Sophie Keil
RECONFIGURING WELFARE LANDSCAPES
Practicing Welfare Landscapes

Johanne Heesche
Transformation of suburban Industrial landscapes in Loop City

JENS VILLIAM HOFF

Political Scientist and Professor

Department of Political Science
University of Copenhagen

Research Focus

- Sustainability and climate change governance
- Governance and citizen participation
- Use of ICT in politics
- Klima100 Advisory Board

PhD Researchers

Anne Nielsen
How cities respond to increasing climate change risk
2018-2021

Anette Gravgaard Christensen
Green Communities in the City - Civil Engagement and Citizenship in Urban Nature and Urban Ecology
2018-2021

Maria Toft Möller-Christensen
Collective movements and pathways to a sustainable society
2018-2021
ANNE MARGRETHE WAGNER

Architect and Assistant Professor

Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
• Land use and management
• Urban transformation
• Public space
• Co-design and participatory design
• Everyday life
• Material practice
• Temporary use

PANEL 3: RESILIENT COMMUNITIES/
PANEL 6: PARTNERSHIPS OF CHANGE

ANNE TIETJEN

Architect and Associate Professor

Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
• Transformation and development of cities and landscapes through spatial design
• Politics and agency of design
• Strategic planning
• Urban/rural public space
• Heritage in planning
• Research-through-design

PANEL 3: RESILIENT COMMUNITIES
SDG 11 - sustainable cities and communities
BETTINA LAMM

Landscape Architect and Associate Professor
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
- Interaction between the built environment and the lived life
- How temporary interventions and art strategies can contribute to a reprogramming of the interim landscape by introducing new site readings and experiences
- Temporary use as a development tool for reprogramming former industrial and derelict urban spaces.

PhD Researchers
Sophia Charlotte Rose Jerram
How art practice contributes to spatial communing
Laura Winge
Co-creation and design of urban spaces

CHRISTIAN FERTNER

Urban Planner and Associate Professor
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
- Spatial planning
- Sustainable urban development
- Resource and energy efficient cities
- Land use change
- Urban sprawl
- Functional regions
- Small towns
- Spatial analysis and digital planning
DORTHE VARNING POULSEN
Associate Professor
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
- Connections between nature and human physical, mental and social health
- Life style diseases
- Nature based therapy

PANEL 4: Design for HEALTH
SDG 3 - Good health and wellbeing

GERTRUD JØRGENSEN
Professor
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
- Urban development
- Urban regeneration
- Use and perception of the urban environment
- Urban policies and planning
- Development and planning in peripheral rural areas
- Climate adaptation
- Strategic planning and design

PhD Researchers
Peng Ding
Urban Regeneration from the Children’s Perspective
HANS SKOV-PETERSEN

Senior Researcher and Head of the Research Group GIScience and Geodesign
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

PANEL 3: RESILIENT COMMUNITIES
SDG 11 - sustainable cities and communities

Application of GPS tracking in bicycle research

Research Focus
- Indicators of urban environment
- GIS-based models of humans’ spatial behavior
- Agent based models
- Geodesign technologies
- GIS in relation physical planning processes
- Data and model inaccuracy
- GIS-based communication

PhD Researchers
Mariusz Hermansdorfer
Generative Design for Digital Terrain Modelling

HENRIETTE STEINER

Architect and Associate Professor
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
- The cultural role and meaning of architecture, cities and landscapes
- Emergence of cities

PANEL 3: RESILIENT COMMUNITIES/
PANEL 6: PARTNERSHIPS OF CHANGE

Henrik Steiner

Research Focus
- The cultural role and meaning of architecture, cities and landscapes
- Emergence of cities

THE EMERGENCE OF A MODERN CITY
Golden age Copenhagen 1860-1880

Emergence of cities
PANEL 1: CLIMATE ADAPTATION/
PANEL 3: RESILIENT COMMUNITIES

Landscape Architect and Senior Research Consultant

Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus

- Urban design as well as landscape design and landscape detailing
- The development of our built up areas and their associated challenges
- Develops innovative design responses to urban congestion and climate change
- Sustainable storm water techniques, focusing especially on the design of permeable pavements

PANEL 1: CLIMATE ADAPTATION/
PANEL 2: RETHINKING RESOURCES

Landscape Architect and Associate Professor

Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus

- Climate change adaptation
- Stormwater management
- Added values
- Green infrastructure
- Nature-based solutions
LISE BYSKOV HERSLUND
Associate Professor
Section for Landscape Architecture and Planning
Institute of Geosciences and
Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
- Volunteerism
- Collective action, civil society, co-creation
- Urban climate change adaptation
- Rural development
- African cities
- European rural areas

PhD Researchers
Leneisja Dennie Marija Jungsberg
Local Strategies for Nordic Arctic Communities with Large-Scale Exploitation of Natural Resources

NATALIE MARIE GULSRUD
Associate Professor
Section for Landscape Architecture and Planning
Institute of Geosciences and
Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
- Urban landscapes
- Urban sustainability science
- Urban governance
- Green infrastructure
- Environmental justice
- Transportation geography
- Smart cities
- Social ecological technological systems
- Automation

PANEL 6: PARTNERSHIPS OF CHANGE/
PANEL 5: INCLUSIVITY

PANEL 3: RESILIENT COMMUNITIES/
PANEL 6: PARTNERSHIPS OF CHANGE
OLE FRYD

Civil Engineer and Associate Professor
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
- Integration of strategic planning, physical urban design and environmental sustainability with a special emphasis on integrated urban water management and the planning and design of urban green infrastructure

PETER STUBKJÆR ANDERSEN

Senior Advisor
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
- Landscape management and planning with special focus on landscape ecology, ecosystem services, landscape multi-functionality, and innovative landscape planning processes
RIKKE MUNCK PETERSEN

Landscape Architect and Associate Professor

Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus

- Drone filming
- Perception
- Landscape architecture methodology
- Atmosphere
- Transformation
- Experimental phenomenology
- Film and emotion
- Co-creation

PANEL 6: PARTNERSHIPS OF CHANGE/
PANEL 3: RESILIENT COMMUNITIES

SUS SOLA CORAZON

Associate Professor

Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus

- Interdisciplinary research on the relationship between natural environments and human health
- Nature-Based Therapy (NBT) for various patient and client groups
- How natural environments can promote health
- Health-promoting natural environments and activities for people with mobility disabilities

PANEL 4: Design for HEALTH
SDG 3 - Good health and wellbeing
SVAVA RIESTO

Associate Professor
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

PANEL 6: PARTNERSHIPS OF CHANGE/
PANEL 3: RESILIENT COMMUNITIES

Research Focus

- Cultural studies of urban landscapes, cities and architecture, specifically from the 20th and 21st century - focusing on their production, uses, historiographies, imaginaries and power
- Politics of historiography and urban heritage, and their intersections with urban planning, landscape architecture, and urban climate adaptation.

TRINE AGERVIG CARSTENSEN

Associate Professor and Head of the Research Group
Spatial Change and Planning
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

PANEL 3: RESILIENT COMMUNITIES/
PANEL 6: PARTNERSHIPS OF CHANGE

Research Focus

- Urban planning, urban development and transformation
- Everyday life, urban life, public space and livability
- Cycling, transport culture, transport behavior and sustainable mobility
- Urban gardening and urban nature
- Public participation, co-creation, citizen sensitive
- Place attachment, place identity, place-making
- Energy efficient behavior

PhD Researchers

Anne Madsbjerg
Urban Gardens as Drivers for Livability and Community Coherence
ULRIK SIDENIUS
Assistant Professor
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
- Sound understanding of the relation between design of natural environments and human health
- Relations between landscape architecture and human health from a salutogenic approach

ZHAOWU YU
Assistant Professor
Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

Research Focus
- Urban Ecology
- Environment Planning
- Urban Climate
- Landscape Management

PANEL 4: Design for HEALTH
SDG 3 - Good health and wellbeing

PANEL 1: CLIMATE ADAPTATION/
PANEL 3: RESILIENT COMMUNITIES
MARK TAYLOR RANDALL

Engineer and Assistant Professor

Section for Landscape Architecture and Planning
Institute of Geosciences and Natural Resource Management, Faculty of Science
University of Copenhagen

PANEL 1: CLIMATE ADAPTATION
SDG 13 - Climate action, sdg 14 Life below water, sdg 15 life on land

Research Focus

- Sustainable urban drainage
- Flooding and climate change adaptation in urban areas
- Urban ecosystems
CAMILLA BRUNSGAARD
Civil Engineer and Associate Professor
Institute of Architecture and Media Technology,
Section of Architecture, Urban Design and Sustainable Architecture
Technical Faculty of IT and Design
Aalborg University

Research Focus
- Passive housing
- Adaptive architecture in changing climates
- Climate specific architecture
- Sustainability certifications
- Education for architectural sustainability

PhD Researchers
Mikkel Poulsen Rydborg
Climate adaptations of existing and future building stock.
2017-2020

KJELD SVIDT
Agricultural Researcher, Associate Professor, and Head of Division
Building Informatics Research Group
Department of Civil Engineering
Aalborg University

Research Focus
- Integrating sustainability in BIM
- Virtual design and construction
- Thermal analysis in BIM
- AR and VR in construction
- Digital Project Participation in new area of Aalborg Zoo

PhD Researchers
Ekaterina Aleksandrova Petrova
Holistic BIM-based Sustainable Building Design and Performance Assessment
2017-2020
MARWA DABAIEH
Engineer and Professor
Institute of Architecture and Media Technology, Section of Architecture, Urban Design and Sustainable Architecture Technical Faculty of IT and Design Aalborg University

Research Focus
- Architecture for arid climates
- Climate optimized housing for refugees
- Vernacular low carbon construction

PANEL 1: CLIMATE ADAPTATION/
PANEL 5: INCLUSIVITY

SØREN AGGERHOLM
Engineer and Head of Research
SBI Statens Byggeforskningsinstitut The Faculty of Engineering and Science Aalborg University

Research Focus
- Energy savings in buildings
- Sustainable building renovation
- Building regulations and sustainability

PANEL 2: RETHINKING RESOURCES
SDG 12 - RESPONSIBLE CONSUMPTION, SDG 9 - INNOVATION AND INFRASTRUCTURE

PhD Researchers
Lasse Rohde
Sustainable building renovation
2016-2020
HARPA BIRGISDOTTIR
Engineer and Senior Researcher
Building Sustainability Group
SBI Statens Byggeforskningsinstitut,
The Faculty of Engineering and Science
Aalborg University

Research Focus
- Life cycles assessment
- Sustainable building certification
- Climate impact of buildings
- Zero energy building renovation

PhD Researchers
Leonora Malabi Eberhardt
Implementing circular economy in the construction industry
2017-2020

KIRSTEN GRAM-HANSSEN
Engineer and Professor
Sustainable Cities and Everyday Practice Group
SBI Statens Byggeforskningsinstitut
The Faculty of Engineering and Science
Aalborg University

Research Focus
- Housing and energy consumption
- Lifestyle, consumerism, and the environment
- Technology for energy efficiency in housing
- Everyday practice and carbon footprint
- Transition into sustainable cities

PhD Researchers and PostDocs
Line Valdorff, PostDoc
New Energy Consumer roles and smart technologies
2018-2023 EU Funds

Freja Friis
Sustainable Innovative Mobility Solutions
2019-2023

Simon Peter Aslak Kondrup Larsen
Integrating Households, Utilities and Buildings
2018-2021

Sirid Bonderup
Dynamic Heating Accounting
2018-2021
CLAUS BECH-DANIELSEN

Architect and
Professor

Transformation of Houses and Cities Group
SBi Statens Byggeforskningsinstitut
The Faculty of Engineering and Science
Aalborg University

Research Focus
• Ecological social housing
• Urban research on vulnerable areas
• Residential construction
• Community and social sustainability

PANEL 5: INCLUSIVITY /
PANEL 3: RESILIENT COMMUNITIES

RIKKE SKOVGAARD NIELSEN

Architect and
Senior Researcher

Transformation of Houses and Cities Group
SBi Statens Byggeforskningsinstitut
The Faculty of Engineering and Science
Aalborg University

Research Focus
• Governance policies to target diversity
• Urban ethnic diversity
• Strategic management of housing schemes
• Community housing markets
• Research in Bispebjerg Copenhagen on diversity

PANEL 5: INCLUSIVITY /
PANEL 6: PARTNERSHIPS OF CHANGE
**LEA HOLST LAURSEN**

Architect, Associate Professor, and Head of Section

Head of Section of Architecture and Urban Design
Department of Architecture, Design and Media Technology
Aalborg University

**Research Focus**
- Adaptive urban design
- Urban and landscape transformation
- Local urban design responses to climate challenges

**PhD Researchers**

**Elias Melvin Christiansen**
Tectonics and the City: In search of a critical perspective on assembling the city 2017-2020

**Mikkel Poulsen Rydborg**
Adaptive Architecture in Changing Climates

**ISAK WORRE FOGED**

Architect and Associate Professor

TiA – Research Group for Tectonics in Architecture
Section of Architecture and Urban Design
Department of Architecture, Design and Media Technology
Aalborg University

**Research Focus**
- Adaptive envelopes/membranes
- Thermal sensations
- Acoustic sensations
- Behavioural material systems

**PhD Researchers**

**Mads Brath**
TiA – Research Group for Tectonics in Architecture

**Jinsong Liu**
TiA – Research Group for Tectonics in Architecture
MARIE FRIER HVEJSEL

Architect and Associate Professor

TiA – Research Group for Tectonics in Architecture
Section of Architecture and Urban Design
Department of Architecture, Design and Media Technology
Aalborg University

Research Focus

• Tectonics as critical method across the architectural scales
• The technique of spatial Gestures as social, economic, and environmental resource

PANEL 2: RETHINKING RESOURCES/
PANEL 3: RESILIENT COMMUNITIES

PhD Researchers

Kemo Usto
‘Tectonics Without Architecture: Cultivating a New Material Culture in Architectural Design’
2019-2022

Eszter Sántha
‘Catalyst: Architecture as catalyst for social and socio-economic value creation’
2020-2023

RUNA T. HELLWIG

Architect and Professor

Sustainable Architecture (SARC)
Section Architecture and Urban Design
Department of Architecture, Design and Media Technology
Aalborg University

Research Focus

• Human-building interaction
• Indoor climate perception and comfort
• Sufficiency approaches in architecture
• Resilience and energy use of indoor environments
• Integrated architectural design

PANEL 1: CLIMATE ADAPTATION/
PANEL 3: RESILIENT COMMUNITIES
TENNA DOKTOR OLSER TVEDEBRINK

Architect, Associate Professor and Head of Board of Studies
Sustainable Architecture (SARC)
Section Architecture and Urban Design
Department of Architecture, Design and Media Technology
Aalborg University

Research Focus
• Architecture, health and wellbeing
• Social sustainability
• User experiences and emotions
• Architectural atmosphere in healthcare

PANEL 4: Design for HEALTH / PANEL 5: INCLUSIVITY

LARS BRORSON FICH

Architect and Associate Professor
Sustainable Architecture (SARC)
Section Architecture and Urban Design
Department of Architecture, Design and Media Technology
Aalborg University

Research Focus
• Architecture, health and well being
• Atmosphere
• Cognitive science

PANEL 4: Design for HEALTH / PANEL 5: INCLUSIVITY
DITTE BENDIX LANNG

Architect and Associate Professor
Urban design – transformation and mobilities
Section of Architecture and Urban design
Department of Architecture, Design and Media Technology
Aalborg University

Research Focus
• Transformative capacity of urban design
• Democratizing futures
• Mobilities design - social and ecological issues of the agencies of infrastructure

PhD Researchers
Søren Risdal Borg
Future urban industrial landscapes: Mapping ecological transition potentials

ANNE KATHRINE FRANDSEN

Architect and Senior Researcher
Division of Building Technology and Management (BTM)
Construction Management and Innovation Research Group (CMII)
Aalborg University

Research Focus
• Healing architecture
• Universal design
• Accessibility
• Indoor environments
• Interdisciplinary building design

PANEL 5: INCLUSIVITY/
PANEL 3: RESILIENT COMMUNITIES

Søren Risdal Borg
Future urban industrial landscapes: Mapping ecological transition potentials
MICHAEL LAURING

Architect and Associate Professor

Sustainable Architecture (SARC)
Section Architecture and Urban Design
Department of Architecture, Design and Media Technology
Aalborg University

PANEL 1: CLIMATE ADAPTATION/
PANEL 5: INCLUSIVITY

Research Focus

- The housing complex as a field for social and environmental sustainability
LISBETH M. OTTOSEN
Engineer, Associate Professor, and Head of Section
Materials & Durability Group
DTU BYG -Department of Civil Engineering
Technical University of Denmark (DTU)

Research Focus
• New construction materials
• Bio-based materials
• Recycled aggregates for concrete
• Sustainability as a business mode
• Invented the method of electrodialytic, extracting metal from ash

PhD Researchers
Julian Christ
Optimized constructions using semi-automated designing and minimum resource
2018-2021

Louise Green Pedersen
Recycling Concrete Aggregates in New Concrete
2019-2022

Nina Marie Sigvardsen
Utilization of Wood Ash in Mortar and Concrete
2017-2021

Ronling Li
Engineer and Assistant Professor
Indoor Environment Group
DTU BYG -Department of Civil Engineering
Technical University of Denmark (DTU)

Research Focus
• Smart cities
• Energy system modelling
• Data mining and machine learning
• Building physics and services

PhD Researchers
Morten Herget Christensen
Predicting and mobilizing energy flexibility in intelligent buildings
2016-2020

Katarzyna Marta Luc
Implementation of flexible operational schemes for buildings in a district with smart energy systems
2015-2019

Panel 2: Rethinking Resources
SDG 12 - Responsible Consumption, SDG 9 - Innovation and Infrastructure

Panel 3: Resilient Communities
SDG 11 - Sustainable Cities and Communities
LOTTE BJERREGAARD JENSEN

Architect and Associate Professor

Design & Process Group
BYG -Department of Civil Engineering
Technical University of Denmark (DTU)

Research Focus

- Importance of visual in sustainable design
- Social sustainability in the built environment
- Urban infrastructure analysis
- Implementing technical scientific knowledge in architectural design decisions

PhD Researchers

Nanna Brøgger Larsen
Anchoring, quantifying and implementing sustainability in the Danish building industry
2018-2022

Rune Andersen
Informing architectural design processes in a circular economy
2019-2022
UNIVERSITY OF
SOUTHERN DENMARK

Senior Researchers : 6
PhDs: 2
MIKKEL K. Kragh
Civil Engineer, Professor, and Head of Unit
SDU Civil and Architectural Engineering
Department of Technology and Innovation
University of Southern Denmark (SDU)

Research Focus
• Digitalization
• Façade design and engineering
• High performance facades
• Circular economy

PhD Researchers
Luca Breseghello
Advancing Concrete Construction through Additive Manufacturing Technologies
2019-2022

NICOLA TOLLIN
Architect, Engineer, and Professor MSO
SDU Civil and Architectural Engineering
Department of Technology and Innovation
University of Southern Denmark (SDU)

Research Focus
• Urban resilience
• Sustainable urban development
• Climate change adaptation
• Sustainability transitions

PhD Researchers
Katarzyna Alicja Wieszczeczynska
Urban Resilience

Panel 1: CLIMATE ADAPTATION
Panel 2: RETHINKING RESOURCES
Panel 3: RESILIENT COMMUNITIES
ROBERTO NABONI
Engineer and Assistant Professor
SDU Civil and Architectural Engineering
Department of Technology and Innovation
University of Southern Denmark (SDU)

Research Focus
- 3d printing in new materials
- New material research
- Design for adaptation to environmental conditions
- Robotics and wood construction

MORTEN BIRKVED
Engineer and Professor MSO
SDU Life Cycle Engineering
Institute of chemical engineering, Biotechnology and Environmental Technology
University of Southern Denmark (SDU)

Research Focus
- Life cycles assessment
- Circular building components
- Environmental impact of buildings
GANG LIU

Engineer and Professor
SDU Life Cycle Engineering
Institute of Chemical Engineering, Biotechnology
and Environmental Technology
University of Southern Denmark (SDU)

Research Focus
- Material/substance flow analysis
- Sustainable resource and waste management
- Urban metabolism and infrastructure stocks
- Climate change mitigation (material-energy-emission nexus)
- Industrial ecology

BO NØRREGAARD JØRGENSEN

Professor and Head of Section
Head of the Centre for Energy Informatics
SDU Center for Energy Informatics
University of Southern Denmark (SDU)

Research Focus
- Smart buildings
- Energy flexibility
- Reduction of CO2 emissions in the built environment
- Smart energy solutions

PANEL 2: RETHINKING RESOURCES
PANEL 1: CLIMATE ADAPTATION
PANEL 3: RESILIENT COMMUNITIES
METTE GLAVIND
Engineer and Executive Vice President
Division for Building and Construction Danish Technological Institute

Research Focus
- Sustainable concrete
- Concrete 3d printing

NIELS MORSING
Engineer and Director
Division for Building and Construction Danish Technological Institute

Research Focus
- Multi-story timber construction
- Sustainable construction education
- Timber material composition
- Timber protection
ANNE CHRISTINE HASTRUP

Microbiologist and Mycology Specialist

Head of BioMaterials Research Group
Danish Technological Institute

Research Focus

• Fungal decay mechanisms and wood decomposition
• Bio-based materials
• Bio-composites
• Resource usage optimization
• Mechanical treatment of plant fibers for insulation

GRITH BECH-NIELSEN

Architect and Center Manager for Masonry

Center Manager of the Masonry Section
Danish Technological Institute

Research Focus

• Restoration and renovation of existing building stock
• Improvements in masonry building quality
ABELONE KØSTER

Engineer and Section Manager

Section Manager of Masonry
Danish Technological Institute

Research Focus

- Circular economy
- Design for disassembly
- Recycling of materials
- Sustainable production of brick using microwaves

ANKE OBERENDER

Environmental Engineer and Section Leader

Section Leader of Buildings and Environment
Danish Technological Institute

Research Focus

- Circular resource economies
- Recycling of construction waste
- Sustainable resource usage
- Economic benefits of recycling materials
KATRINE HAUGE SMITH

Environmental Engineer and Senior Consultant

Senior Consultant for Construction and Demolition Waste and Hazardous Substances Danish Technological Institute

Research Focus

- Selective demolition
- Resource mapping
- Optimizing demolition process
- Hazardous substances
- Quality in recycling remains

OLE GRANN ANDERSSON

Engineer and Senior Specialist

Senior Specialist in Concrete Danish Technological Institute

Research Focus

- Circular asphalt production methods
- Optimization of asphalt additives
- Introduction of recycled asphalt to new asphalt creation
- Increasing the recycling rate of asphalt
LARS NYHOLM THRANE

Engineer and Team Leader

Team leader in the Concrete Section
Danish Technological Institute

PANEL 2: RETHINKING RESOURCES
SDG 12 - RESPONSIBLE CONSUMPTION, SDG 9 - INNOVATION AND INFRASTRUCTURE

Research Focus

- Green concrete production methods
- Optimized recycling methods for concrete
- Permeable coatings for concrete
THOMAS BUDDE CHRISTIANSEN

Socio-Economist, Associate Professor, and Head of CIRCLES

Center for Interdisciplinary Research and Education in Circular Economy and Sustainability
Roskilde University

Research Focus

- Circular economy and sustainable manufacturing
- Renewable energy and biomass
- Planning policies and regulations

PANEL 2: RETHINKING RESOURCES/
PANEL 6: PARTNERSHIPS OF CHANGE

PhD Researchers

Emmy Laura Perez Fjalland
Circular economy in Region Zealand
2018-2020

Martin Visby Buchard
Demonstrating systemic urban development for circular and regenerative cities
2019-2023
AARHUS UNIVERSITY

Senior Researchers : 1
PhDs: 1
PANEL 3: RESILIENT COMMUNITIES

SDG 11 - sustainable cities and communities

Research Focus

- Digital transformations of cities
- Development of the Internet of Things in cities
- Augmented reality
- G20 Global Smart Cities

PhD Researchers

Lasse Steenbock Vestergaard
OrganiCity: Co-creating smart cities of the future