



WORLD SYMPOSIUM ON SUSTAINABLE DEVELOPMENT AT UNIVERSITIES

(WSSD-U-2016)

**14-16
SEPTEMBER
2016**



DESIGNING TOMORROW'S CAMPUS:

Resiliency, Vulnerability
and Adaptation

PROGRAM

**MASSACHUSETTS
INSTITUTE OF
TECHNOLOGY (MIT)**
Cambridge, MA USA

**SAMBERG
CONFERENCE CENTER**
Chang Building, E52

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BACKGROUND

The **2012 UN Conference on Sustainable Development** (UNCSD), also known as “Rio+20”, was a historical event. Held in Rio de Janeiro, Brazil in June 2012, this landmark gathering agreed on various sets of actions to make the world a better and more sustainable place to live in. In particular, the document “The Future We Want”, outlined many of the measures countries across the world should pursue and implement, in order to translate the principles of sustainable development into practice.

As a parallel event to UNCSD, the “**1st World Symposium on Sustainable Development at Universities**” (WSSD-U-2012) was held in Rio de Janeiro on 5-6 June 2012. It was then followed up by the “**2nd World Symposium on Sustainable Development at Universities**” (WSSD-U-2014), which was held in Manchester, UK in September 2014. The event led to three ground-breaking publications on the theory and practice of sustainable development and showed the need for a continuation of the dialogue among sustainability academics and practitioners, so as to address the issues, matters and problems at hand.

It is against this background that the “**3rd World Symposium on Sustainable Development at Universities**” (WSSD-U-2016) is organized by the Office of Sustainability of the Massachusetts Institute of Technology (MIT), Manchester Metropolitan University (UK) and the Research and Transfer Centre “Applications of Life Sciences” of the Hamburg University of Applied Sciences (Germany), in cooperation with the United Nations University initiative “Regional Centres of Expertise on Education for Sustainable Development” (RCE).

The theme of the **WSSD-U-2016** is: “Designing Tomorrow’s Campus: Resiliency, Vulnerability, and Adaptation”,

AIMS

Consistent with the goals of the WSSD-U series, the aims are as follows:

- I. provide universities all around the world with an opportunity to display and present their works (i.e. curriculum innovation, research, activities, practical projects) as they relate to education for sustainable development at university level;
- II. foster the exchange of information, ideas and experiences acquired in the execution of projects, from successful initiatives and good practice;
- III. discuss methodological approaches and projects which aim to integrate the topic of sustainable development in the curriculum of universities;
- IV. network the participants and provide a platform so they can explore possibilities for cooperation.

Last but not least, a further aim of the event is to document and disseminate the wealth of experiences available today. To this purpose, a set of books has been published, with all accepted papers. These are part of the **award-winning** “World Sustainability Series”, published by Springer, one of the world’s top five scientific publishers. The books are fully peer-reviewed and officially count as publication outputs for promotion and tenure purposes.

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PROFILE OF PARTICIPANTS

Delegates attending the **WSSD-U-2016** come from a cross-sectoral range of areas. They are:

- **members of university administrations;**
- **teaching staff**
- **research staff;**
- **student groups;**
- **campus facilities and operations staff;**
- **project officers and consultants;**
- **other people interested in the field.**

It is believed that this wide range of participants helps to outline the need for integrated approaches towards sustainable development and, hence contribute to the implementation of the UN Sustainable Development Goals.

STRUCTURE OF THE EVENT

The “**3rd World Symposium on Sustainable Development at Universities**” (WSSD-U-2016) is organized in two main strands:

STRAND 1: THE DISPLAYS

Participating universities and organizations are putting up displays describing their works and projects and that distribute the relevant information to the participants. The displays are the backbone of the event and will allow close, one-to-one contacts between the participants and the exhibitors.

STRAND 2: THE PRESENTATIONS

A set of presentations, divided into five tracks, is organized, dealing with issues of strategic value in reviewing the state of the art of education for sustainability today. These are:

- 1. Innovations in Curriculum and Research**
- 2. Collaborative Community Partnerships and Engagement**
- 3. Sustainable Systems: Design, Build, Operate**
- 4. Comprehensive approaches to Sustainable Development: Integration of curriculum, research and operations**
- 5. Student participation and Engagement in Sustainability Issues**

Each Presentation will be for 15 minutes with 5 minutes of Q&A time for a total of 20 minutes

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LOCATION AND SCHEDULE

The “3rd World Symposium on Sustainable Development at Universities” (WSSD-U-2016) is held at the Samberg Conference Center, located on the sixth and seventh floors of the Chang Building (E52) 50 Memorial Drive, Cambridge, MA, 02139. The schedule is as follows:

WEDNESDAY 14 SEPTEMBER 2016

1:00pm	Registration Opens and Posters (7th Floor)
2:30pm	Tour of MIT Campus (<i>If you are interested in joining please email sustainableMIT@mit.edu by Sept 1</i>)
4:00pm	Opening Remarks and Welcome (7th Floor) Conference Chairs: <i>Walter Leal</i> , Manchester Metropolitan University UK and HAW Hamburg, Germany <i>Julie Newman</i> , Director of Sustainability, MIT
4:15–5:30pm	Keynote Panel (7th Floor) ARE SUSTAINABILITY POLICIES GOOD INDICATORS OF COMMITMENT OF HIGHER EDUCATION INSTITUTIONS? Moderator: <i>Walter Leal</i> , Manchester Metropolitan University UK and HAW Hamburg, Germany Panel Members: <i>Nicholas Ashford</i> , Professor of Technology and Policy, MIT <i>Prof Wu Jiang</i> , Tongji University, Global Universities Partnership of Education for Sustainability co-chair <i>Chris Shiel</i> , Professor of Life and Environmental Science, Bournemouth University
5:30pm	Welcome Reception Light Refreshments (7th Floor)

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8:30am	Light refreshments: Coffee/tea (7th Floor Foyer)
9:00-9:15am	Opening Remarks (7th Floor) <i>Israel Ruiz</i> , Executive Vice President & Treasurer, MIT
9:15-10:30am	Keynote Panel (7th Floor) <i>PARTNERS IN RESILIENCE: HIGHER EDUCATION'S ROLE IN METRO-BOSTON CLIMATE ADAPTATION PLANNING</i> Moderator: <i>Amy Longsworth</i> , Director, Boston Green Ribbon Commission Panel Members: <i>Dennis Carlberg</i> , AIA, Sustainability Director, Boston University <i>Kerry Emanuel</i> , Cecil and Ida Green Professor of Atmospheric Science, Department of Earth, Atmospheric and Planetary Sciences, MIT <i>Paul Kirshen</i> , Professor, School for the Environment; Academic Director, Sustainable Solutions Lab at University of Massachusetts Boston <i>Robert Manning</i> , Director Engineering & Utilities, Harvard University
10:30-11:00am	Break (7th Floor Foyer)
11:00am-1:00pm	Parallel Tracks (6th Floor)
TRACK 2	COLLABORATIVE COMMUNITY PARTNERSHIPS AND ENGAGEMENT (DINING ROOM 6) Chair: <i>Zöe Robinson</i> , UK <ul style="list-style-type: none">■ Measuring Progress Over Time: The Sustainability Cultural Indicators Program at the University of Michigan <i>John Callewaert and Robert Marans</i>, University of Michigan, USA■ Building the Platform: Supporting a Sustainability Agenda and University-Community Relationships <i>B.D. Wortham-Galvin</i>, Portland State University, USA■ Evaluation of a transdisciplinary research project for a sustainable development <i>Andrea Heilmann</i>, Hochschule Harz, Germany■ Prerequisites for the sustainability of municipalities in Rio Grande do Sul? Brazil: a project to foster Sustainable Development <i>Luciana Londero Brandli, Amanda Lange Salvia, Marcos Antonio Leite Frandoloso, Walter Leal Filho</i>, Passo Fundo University, Brazil■ Community Microgrids and the Power of Power <i>Curt D. Gervich, Aaron Baltich-Schechter and Christian Madu</i>, SUNY Plattsburgh USA and University of Nigeria■ Space for Interdisciplinary Collaboration: One Mode of Achieving Social Sustainability at Universities <i>Kristina Careva and Bojan Baletic</i>, University of Zagreb, Croatia

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TRACK 3

SUSTAINABLE SYSTEMS: DESIGN, BUILD, OPERATE (DINING ROOM 5)

Chair: Nelson Amaro, Guatemala

- **A Peer-to-Peer Approach to Evaluation and Continual Improvement of Sustainability Management Systems at Higher Education Institutions**
Markus Will, Anke Zenker-Hoffmann, Jana Brauweiler, Bernd Delakowitz, Stefanie Herbig, Andreas Bulçu, and Eric Schön, University of Applied Sciences Zittau/Görlitz, Germany
- **Campuses as sustainable urban engines - A morphological approach to campus social sustainability**
Luísa Cannas da Silva, Instituto Superior Técnico - University of Lisbon
- **Networking the sustainable campus awards: Engaging with the higher education institutions in developing countries**
Habib M. Alshuwaikhat, Ismaila R. Abubakar, Yusuf A. Aina, Bilal Saghir, King Fahad University of Petroleum & Minerals, Saudi Arabia
- **So tell me what you want, what you really really want - Including the user perspective before implementing measures of sustainability**
Thomas Baeumer and Stefan Zimmermann, HFT Stuttgart (Stuttgart University of Applied Sciences), Germany
- **Sustainable Academic Libraries: A Campus Partnership at Michigan State University**
Eric D. Tans, Michigan State University Libraries, USA
- **Promotion of sustainable development at Universities: The adoption of Green Campus Strategies at the University of Southern Santa Catarina, Brazil**
João Marcelo Pereira Ribeiro, Samuel Borges Barbosa, Jacir Leonir Casagrande, Simone Sehnem, Issa Ibrahim Berchin, Camilla Gomes da Silva, Ana Clara Medeiros da Silveira, Gabriel Zimmer, Rafael Ávila Faraco, José Baltazar Salgueirinho Osório de Andrade Guerra, University of Southern Santa Catarina (Unisul), Brazil

TRACK 4A

COMPREHENSIVE APPROACHES TO SUSTAINABLE DEVELOPMENT: INTEGRATION OF CURRICULUM, RESEARCH AND OPERATIONS (DINING ROOM 3)

Chair: Marf Mifsud, Malta

- **What Do We Imagine the Campuses of Tomorrow Will Be Like? Universities' Transition Toward Sustainability in the Light of the Transition Initiative**
M^{re} Angeles Murga-Menoyo, Unesco Chair of Environmental Education and Sustainable Development. University of Distance Educación (UNED), Spain

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- **Education for Sustainable Development in China: A Case Study of Tongji University**
Wu Jiang and Li Fengting, Tongji University, China
- **Higher Education and Sustainable Development: An Exploratory Study of Indian Management Institutions**
Neetu Yadav and Vanita Yadav, Birla Institute of Technology and Science Pilani, Rajasthan, India
- **ShowHow: A flexible, structured approach to commit university stakeholders to sustainable development**
Leendert Verhoef, Luuk Graamans, Dean Gioutsos and Chris Hellinga, TU Delft - The Green Office, The Netherlands
- **Weaving the filigree: Paradoxes, opposites and diversity for participatory, emergent arts and design curricula on sustainable development**
David Haley, Manchester Metropolitan University, United Kingdom
- **Creating a sustainable campus from the bottom up**
Peter Walker and Sandy Mendler, Chatham University, Mithun Architects, USA

TRACK 4B

COMPREHENSIVE APPROACHES TO SUSTAINABLE DEVELOPMENT: INTEGRATION OF CURRICULUM, RESEARCH AND OPERATIONS (DINING ROOM 4)

Chair: Alison Greig, UK

- **Addressing food waste through university and community partnerships**
Helen Puntha, Nottingham Trent University, UK
- **The Campus as a Living Laboratory, Macalester College Case Study**
Suzanne Savanick Hansen, Macalester College, USA
- **Environmental Education in Higher Education Institutions: an analysis of the strategies of the University of Southern Santa Catarina to promote Environmental Education**
Jéssica Garcia, Issa Ibrahim Berchin, Gabriel Alfredo Alves Zimmer, Maria Eduarda Medeiros da Silveira, Wellyngton da Silva Amorim, Samara da Silva Neiva and José Baltazar Salgueirinho Osório de Andrade Guerra, University of Southern Santa Catarina (Unisul), Brazil
- **Is there a Place for Resilience within Sustainable University Transition Management?**
Giulia Sonetti, Lorenzo Chelleri and Patrizia Lombardi, Politecnico di Torino, Italy
- **“More Than Scaling Up”: A Critical and Practical Inquiry Into Operationalizing Sustainability Competencies**
Harold Glasser and Stephen Sterling, Western Michigan University and Plymouth University, United Kingdom

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- **Resilience Thinking in Higher Education: Institutional Resilience as a Sustainability Goal**
P. Brian Fisher, College of Charleston, USA

TRACK 5

STUDENT PARTICIPATION AND ENGAGEMENT IN SUSTAINABILITY ISSUES (DINING ROOM 2)

Chair: John E. Petersen, USA

- **Evolution of an interactive online magazine for students, academics and expert practitioners, to engage students from multiple disciplines in Education for Sustainable Development (ESD)**
Kay Emblen-Perry, Sian Evans, Katy Boom, Wendy Corbett and Lorraine Weaver, University of Worcester, UK
- **Utilising work-integrated learning to enhance student participation and engagement in sustainability issues in open and distance learning**
Graeme A. Wilson and Rudi W. Pretorius, University of South Africa (Unisa) - South Africa
- **Energy consumption in student hostels of Universiti Sains Malaysia: Energy audit and energy efficiency awareness**
Theam Foo NG, Universiti Sains Malaysia, Malaysia
- **Student leadership in sustainable development in a private university in the UAE - a case study**
Kathy O'Sullivan, South University of Science and Technology of China
- **Creating Change for Sustainability in Universities in Australia, One System at a Time**
Julie Davis and Jo-Anne Ferreira, Queensland University of Technology and Southern Cross University, Australia

1:00-2:00pm

Lunch (7th Floor)

2:00-3:30pm

Parallel Tracks (6th Floor)

TRACK 1

INNOVATIONS IN CURRICULUM AND RESEARCH (DINING ROOM 4)

Chair: Andrea Heilmann, Germany

- **Crafting pedagogical pathways that disrupt and transform anthropocentric mindsets of higher education students**
Tanja Tillmanns and Charlotte Holland, Dublin City University, Ireland
- **Learning Outside the Box: overcoming the constraints of a modular system to allow holistic sustainability learning**
Alison Greig, Anglia Ruskin University, UK
- **"A degree in sustainability? What's the point?" The past, present and future of named sustainability degrees**
Zoe Robinson, Keele University, UK
- **Rethinking Thinking about Sustainable Development Curriculum**
Christopher A. Haines, Natural Sustainability, USA

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TRACK 2

COLLABORATIVE COMMUNITY PARTNERSHIPS AND ENGAGEMENT (DINING ROOM 3)

Chair: Luciana Londero Brandli, Brazil

- **How university sustainable development research can impact the local community: the links between ESD and dietary choices?**
Loraine Spiteri and Mark Mifsud, University of Malta, Malta
- **Student Capital: Green Capital - relational thinking and engaged education for sustainability in HE**
Christine Willmore, University of Bristol, UK
- **Sustainable Commuting for Students, Faculty, and Staff - A Multi-Campus Initiative**
Melissa Voss Lapsa, Teresa Nichols, Karen Sikes, Mark Hairr, Oak Ridge National Laboratory, CSRA, University of Tennessee, USA
- **The Research - Climate Nexus: The Difficult Questions Facing Progressive Institutions Today**
Steven Baumgartner, Sarah Brylinsky, Stephanie Corbett, Shana Weber, BuroHappold Engineering, Cornell, Case Western Reserve University, Princeton University, USA

TRACK 3

SUSTAINABLE SYSTEMS: DESIGN, BUILD, OPERATE (DINING ROOM 6)

Chair: Bernd Delakowitz, Germany

- **Food (In)Security: Food (In)Security within a University Community: Stories from Students, Staff and Faculty at a Sustainable Institution**
Annie Booth, University of Northern British Columbia, Canada
- **Controlling Risks Through Flexibility and Urban Integration: The Regeneration of Otaniemi Campus in Finland**
Antti Ahlava, Aalto University, Finland
- **Designing Sustainable Consumption and Production Systems in Higher Education Institutions: The Case of Solid Waste Management**
Danesto Bacdayan Anacio, University of the Philippines, Los Banos, Philippines
- **Developing a Community of Practice: A Case Study of the Trans-disciplinary Project in a Higher Education Institute in Taiwan**
Dr. Hsiao-chien Lee, Jia-shiu Guan, Dr. Wen-hong Liu (corresponding author), National Kaohsiung Marine University, Taiwan, (R.O.C.)

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TRACK 4

COMPREHENSIVE APPROACHES TO SUSTAINABLE DEVELOPMENT: INTEGRATION OF CURRICULUM, RESEARCH AND OPERATIONS (DINING ROOM 5)

Chair: Sascha Zinn, Germany

- **A holistic approach for integration of sustainable development in education, research, collaboration and operations**
Göran Finnveden, KTH Royal Institute of Technology, Sweden
- **The Role of University Centers in Environmental and Sustainability Education in Envisioning Futures**
Peter Blaze Corcoran, Joseph P. Weakland and Brandon Hollingshead, Florida Gulf Coast University and Georgia Institute of Technology, USA
- **Achieving resiliency through sustainable literacy**
Vijaya Deshmukh, National Institute of Design, India
- **The Effects of Higher Education in Economics, Law and Political Science on Perceptions of Responsibility and Sustainability**
Niklas Harring, Cecilia Lundholm and Tomas Torbjörnsson, University of Gothenburg and Stockholm University, Sweden

TRACK 5

STUDENT PARTICIPATION AND ENGAGEMENT IN SUSTAINABILITY ISSUES (DINING ROOM 2)

Chair: Kay Emblen-Perry, UK

- **Sustainable Campus in a historical town: the “Ca’ Foscari University of Venice” case study**
Fabio Pranovi, Ca’ Foscari University of Venice, Italy
- **ecoGIS–A Solution for Interactive Facility Management to support the European Eco-Management and Audit Scheme (EMAS)**
Rainer Kettemann, Anete Fridrihsone, and Volker Coors, HFT Stuttgart (Stuttgart University of Applied Sciences), Germany
- **Saving Lives: Using Student Problem- and Project-Based Learning to Reduce Bird-Window Collisions on Campus**
Katherine Switala Elmhurst, Temple University, USA
- **Sustainability Initiative as a Platform for Integration of Sustainability into Management Curriculum**
Jason Jay, Bethany Patten, Sloan Sustainability Initiative, MIT, USA

3:30-4:00pm

Break (6th Floor Foyer)

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4:00-5:15pm

Parallel Tracks (6th Floor)

TRACK 2

COLLABORATIVE COMMUNITY PARTNERSHIPS AND ENGAGEMENT (DINING ROOM 3)

Chair: Christine Willmore, UK

- **Environmental Dashboards: Fostering Pro-Environmental and Pro-community Thought and Action Through Feedback**
John E. Petersen, Daniel Rosenberg-Daneri, Cindy Frantz, Md Rumi Shammin, Oberlin College, USA
- **Evaluating Sustainability Initiatives on University Campuses: A Case Study from the University of Michigan's Sustainability Cultural Indicators Program**
Robert Marans and John Callewaert, University of Michigan, USA
- **Partnering with Urban Universities: The Cambridge Compact for a Sustainable Future**
Susanne Rasmussen, City of Cambridge, MA, USA

TRACK 3

SUSTAINABLE SYSTEMS: DESIGN, BUILD, OPERATE (DINING ROOM 6)

Chair: Graeme Wilson, South Africa

- **Building Climate Change Resilience in East African University Campuses**
Denise Galvin, Walter Leal, Cristina Beans and Roberto Escarré, Universidad de Alicante, Spain
- **Definition and Frameworks on a Life-Cycle Negative Growth Rate for Energy and Carbon in an Academic Campus**
Somayeh Tabatabaee and Benjamin Weil, University of Massachusetts Amherst, USA
- **A Brazilian University Facing Challenge of Education for Sustainable Development**
Deisi Viviani Becker, Simone Alves Pacheco de Campos, Tânia Nunes da Silva, Federal University of Rio Grande do Sul, Brazil

TRACK 4A

COMPREHENSIVE APPROACHES TO SUSTAINABLE DEVELOPMENT: INTEGRATION OF CURRICULUM, RESEARCH AND OPERATIONS (DINING ROOM 4)

Chair: Rainer Kettemann, Germany

- **A decade of Earth in the mix: Emergent scholarly research converging sustainability education and ecopsychology in higher education**
Amanda Leetch, Prescott College, USA

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- **Sustainability skills: The case of a Portuguese university**
Thiago Antonio Beuron, Lucas Veiga Ávila, Luciana Londero Brandli, Filipe Jorge Ribeiro de Almeida, Lúcia Rejane da Rosa Gama Madruga, Eduardo Jorge Gonçalves Barata, Federal University of Santa Maria, Brazil
- **Bridges between Sustainability, Health, and Wellness**
Amanda Graham and Maryanne Kirkbride, MIT, USA

TRACK 4B

COMPREHENSIVE APPROACHES TO SUSTAINABLE DEVELOPMENT: INTEGRATION OF CURRICULUM, RESEARCH AND OPERATIONS (DINING ROOM 5)

Chair: Habib M. Alshuwaikhat, Saudi Arabia

- **Conceptualizations of sustainability in Portuguese higher education: roles, barriers and challenges toward sustainability**
Aleixo, A.M., Leal, S., Azeiteiro U.M., Universidade Aberta, Portugal
- **Becoming Sustainable in Our Own Way: Sustainability at the Flagship Massachusetts Public University**
Ludmilla Pavlova-Gillham and Dennis Swinford, University of Massachusetts and Massachusetts Institute of Technology, USA
- **Implementing sustainable development in the Nordic higher education institutions**
Meeri Karvinen, Ms. Ullika Lundgren, Ms. Helena Mälkki and Ms. Jaana Sorvari, Aalto University, Finland

TRACK 5

STUDENT PARTICIPATION AND ENGAGEMENT IN SUSTAINABILITY ISSUES (DINING ROOM 2)

Chair: José Baltazar Salgueirinho Osório de Andrade Guerra, Brazil

- **Green campus as an integral part of sustainable university: students' perceptions**
Egle Katiliute and Jurgis Staniskis, Kaunas University of Technology, Lithuania
- **Student Participation and Engagement in Sustainable Human Development: A Value Education Approach**
Shobha Sundaresan and Sushama Bavle, Maharani Lakshmi Ammanni College for Women, India
- **Linking Space and Nature Syntaxes: the Influence of a Natural View through observed behaviour at Arcosanti, Arizona, USA**
Karen Elizabeth Munro, University of Strathclyde, Glasgow, Scotland

6:00pm

Dinner (7th Floor)

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FRIDAY	16 SEPTEMBER 2016
8:30-9:00am	Light refreshments: Coffee/tea (7th Floor)
9:00-9:15am	Opening remarks (7th Floor) A CASE STUDY OF MIT PLAN FOR CLIMATE ACTION Tom Kiley, Senior Advisor to the VP Research, MIT
9:15-10:30am	Keynote Panel (7th Floor) THE ROLE OF THE SUSTAINABLE DEVELOPMENT GOALS IN ADVANCING SUSTAINABILITY IN HIGHER EDUCATION Moderator: <i>Peter Blaze Corcoran and Brandon Hollingshead, Center for Environmental and Sustainability Education, Florida Gulf Coast University</i> Panel members: <i>John E. Fernandez, Professor of Architecture and Director of the MIT Environmental Solutions Initiative, MIT</i> <i>Monika MacDevette, Deputy Director of Environmental Policy Implementation, United Nations Environment Programme, Nairobi, Kenya</i> <i>Akpezi Ogbuigwe, Director, International Collaboration Center; Rivers State University of Science and Technology, Port Harcourt, Nigeria</i> <i>Stephen Sterling, Professor of Sustainability Education, Plymouth University, England</i>
10:30-11:00am	Break (7th Floor Foyer)
11:00am-1:00pm	Parallel Tracks (6th Floor)
TRACK 1	INNOVATIONS IN CURRICULUM AND RESEARCH (DINING ROOM 6) Chair: John Callewaert, USA <ul style="list-style-type: none">■ Identifying relevant vs received sustainability education at Industrial Engineering and Management programs in Sweden <i>Niccolas Albiz, Royal Institute of Technology (KTH), Sweden</i>■ Implementing sustainability in the classroom at Université Laval <i>Daniel Forget, Université Laval, Canada</i>■ Sustainability Education: A Wisdom Model <i>Lorraine Lander, State University of New York Empire State College, USA</i>■ Sustainable Development at Universities as Viewed through the Lens of the PROMISE Framework for Sustainability <i>Camelia Dumitriu, University of Quebec at Montreal, Canada</i>■ Sustainability Education: Towards Total Sustainable Management Teaching <i>Stefan Boron and Keith Murray, Heriot Watt University, UHI-Lews Castle College, UK</i>■ Using the MIT Campus as a Testbed for Education and Research in Sustainability <i>Leon Glicksman, Architecture, MIT</i>

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TRACK 3

SUSTAINABLE SYSTEMS: DESIGN, BUILD, OPERATE (DINING ROOM 5)

Chair: Meeri Karvinen, Finland

- **Smart Campus: Building-User Learning Interaction for Energy Efficiency, the Lisbon case study**
Ricardo Manuel Anacleto Gomes, Instituto Superior Técnico, Lisbon, Portugal
- **University of São Paulo: Sustainability Master plan for Policies, Plans, Goals and Actions**
Roberta Consentino Kronka Mülfarth, University of Sao Paulo, Brazil
- **Carrots and Sticks: Triggering Stakeholder Engagement with a Bonus System for Energy Conservation**
Andreas Wanke, Freie Universität Berlin, Germany
- **Sustainable energy campus: A challenge on smart facilities and operations**
Paulo Ferrão and Mário de Matos, Técnico - Lisboa, Portugal
- **University of North Carolina at Chapel Hill Sustainability Plan - Embedding Sustainability into the DNA of the Campus**
Cynthia Shea, Carol Hee, Amelia Aboff and Steven Baumgartner, UNC Chapel Hill, North Carolina, USA
- **Urban Energy Systems - Towards more Sustainable City and Campus Design**
Christoph Reinhart, Department of Architecture, MIT, USA

TRACK 4A

COMPREHENSIVE APPROACHES TO SUSTAINABLE DEVELOPMENT: INTEGRATION OF CURRICULUM, RESEARCH AND OPERATIONS (DINING ROOM 3)

Chair: Chris Shiel, UK

- **Munich University of Applied Sciences towards a “whole institution approach” – illustrations along x-disciplinary**
Sascha Zinn, Munich University of Applied Science, Germany
- **Sustainability at universities: Degrees of institutionalization for sustainability at German higher education institutions – a categorization pattern**
Kathrin Rath and Claudia T. Schmitt, Hamburg University of Applied Sciences and Universität Hamburg, Germany
- **The Will and the Skill in Education for Sustainability**
Dilys Williams, London College of Fashion, University of the Arts London, UK
- **Sustainability, Dignity and Higher Education**
James R. May, Widener University, USA

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FRIDAY

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- **(Be)coming and (Re)membering Sustainability: An Innovative Living Learning Systems Model for Higher Education**
Joy Kcenia O'Neil, University of Wisconsin - Stevens Point, USA
- **Towards Sustainability through Higher Education: Sustainable Development incorporation into Portuguese Higher Education Institutions**
Aleixo, A.M., Azeiteiro, U.M., Leal, S., Universidade Aberta, Portugal

TRACK 4B

COMPREHENSIVE APPROACHES TO SUSTAINABLE DEVELOPMENT: INTEGRATION OF CURRICULUM, RESEARCH AND OPERATIONS (DINING ROOM 4)

Chair: Peter Walker, USA

- **Campus Living Lab Knowledgebase: A Tool for Designing the Future**
Bojan Baletic, Rene Lisac and Roberto Vdovic, University of Zagreb, Croatia
- **Promoting a University Culture of Sustainability: The Role of Conscious Consumption**
Madhavi Venkatesan, Bridgewater State University, USA
- **Divestment and Investment: Strategic Financial Decisions in Higher Education to Promote Societal Change Toward Sustainability**
Jennie C Stephens, Elizabeth Palchak and Bonnie Reese, Northeastern University, Boston USA
- **The Sustainability Journey of USM: Solution Oriented Campus Ecosphere for Vitalising Higher Education Action on GAP**
Omar Osman, Kamarulazizi Ibrahim, Kanayathu Chacko Koshy, Noor Adelyna Mohammed Akib, Ahmad Firdaus Ahmad Shabudin, Universiti Sains Malaysia, Malaysia
- **Lessons learned for decision-makers during a five-year research period on sustainability problems at the Galileo University in Guatemala**
Nelson Amaro, Sustainable Development Institute, Galileo University, Guatemala
- **A Real-world Lab Approach to the Carbon Neutral Campus Transition: A Case Study**
Lisa Botero, Ursula Eicker, Jan Cremers, Nansi Palla, Christiane Schoch and Michael Bossert, HFT Stuttgart (Stuttgart University of Applied Sciences), Germany

TRACK 5

STUDENT PARTICIPATION AND ENGAGEMENT IN SUSTAINABILITY ISSUES (DINING ROOM 2)

Chair: Jurgis Staniskis Kazimieras, Lithuania

- **Sustainability Champions: Role Models in Sustainability Graduate Education**
Michael C. Cavallaro, University of Saskatchewan, Canada

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FRIDAY

16 SEPTEMBER 2016

- **Increasing student participation and engagement in Sustainability projects in Universiti Sains Malaysia (USM) through Kampus Sejahtera and WSU101: Sustainability Course for Undergraduates**
Noor Adelyna Mohammed Akib, Suzyrman Sibly, Mohd. Sayuti Hassan, Radieah Mohd. Noor, Kanayathu Chacko Koshy, Kamarulazizi Ibrahim, Universiti Sains Malaysia, Malaysia
- **Working for Sustainability Transformation in an Academic Environment: the case of itdUPM**
Carlos Mataix, Sara Romero, Javier Mazorra, Jaime Moreno, Xose Ramil, Leda Scott, Javier Carrasco, Julio Lumbreras, Technical University of Madrid, Spain
- **The MIT Terrascope program: Engaging freshmen in key sustainability issues in a student-led environment**
Ari Epstein and David McGee, MIT USA

1:00-2:00pm

Lunch (7th Floor)

2:00-3:00pm

Parallel Tracks (6th Floor)

TRACK 3

SUSTAINABLE SYSTEMS: DESIGN, BUILD, OPERATE (DINING ROOM 2)

Chair: Ulisses Azeiteiro, Portugal

- **Campus Infrastructure and Sustainable Resource Management Practices: Mapping Campus DNA for Human Resiliency**
Gowri Betrabet Gulwadi and Kathleen Scholl, University of Northern Iowa, USA
- **Sustainable campus development with a strategic approach: Case study of a multi-campus tertiary institution in Hong Kong**
Simon Leung and Artie Ng, The Hong Kong Polytechnic University, Hong Kong, China
- **Pioneering in Sustainability Reporting in Higher Education: Experiences of a Belgian Business Faculty**
Talia Stough, Kim Ceulemans, and Wim Lambrechts, University of Leuven, University of Victoria, and University of Antwerp, Belgium, Canada, Netherlands

TRACK 4A

COMPREHENSIVE APPROACHES TO SUSTAINABLE DEVELOPMENT: INTEGRATION OF CURRICULUM, RESEARCH AND OPERATIONS (DINING ROOM 3)

Chair: Denise Galvin, Spain

- **Integration of Research, Teaching, and Practice in the Implementation of the Michigan State University Energy Transition Plan**
Wolfgang Bauer, Dan Bollman, Robert Ellerhorst, William Latta, Michigan State University, USA

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FRIDAY

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- **Transnational Dialogues for sustainability research in early childhood education: A model for building capacity for ESD in universities?**
Sherridan Emery, Julie Davis, Barbara Maria Sageidet, Nicky Hirst Diane Boyd, Jamison K. Browder, University of Tasmania, Queensland University of Technology, Australia, University of Stavanger, Norway, Liverpool John Moores University, UK, University of South Carolina, USA
- **Sustainable Cities, Sustainable Universities: Re-engineering the campus of today for the world of tomorrow**
Martin Lehmann, Ronnie D. Lipschutz, Dominique de Wit, Aalborg University, Denmark and University of California, USA

TRACK 4B

COMPREHENSIVE APPROACHES TO SUSTAINABLE DEVELOPMENT: INTEGRATION OF CURRICULUM, RESEARCH AND OPERATIONS (DINING ROOM 4)

Chair: Robert Marans, USA

- **A mixed-method exploration and analysis of innovations in campus sustainability**
Camille Washington-Ottombre, Smith College, USA
- **Sustainable Development Policies as Indicators and Pre-Conditions for Sustainability Efforts at Universities: fact or fiction?**
Walter Leal Filho, HAW Hamburg, Germany and Manchester Metropolitan University, UK and Chris Shiel, Bournemouth University, UK
- **Unipoli Green – Four Universities Working Together for Sustainability**
Eveliina Asikainen and Saana Raatikainen, University of Tampere, Finland

3:00-3:30pm

Break (6th Floor Foyer)

3:30-4:30pm

Keynote Panel (Dining Room 5 and 6)

THE ROLE OF NETWORKS: COLLECTIVELY COPING WITH RESILIENCY, VULNERABILITY, AND ADAPTATION

Moderator:

Iain Patton, Chief Officer, Environmental Association for Universities and Colleges, England

Panel members:

Leanne Denby, Director of Sustainability, Macquarie University, Australia

Zena Harris, Executive Director, International Sustainability Campus Network

Meghan Fay Zahniser, Executive Director, Association for the Advancement of Sustainability in Higher Education

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FRIDAY 16 SEPTEMBER 2016

4:30–5:00pm

Hand-over of the best papers awards & closing remarks

Walter Leal, Manchester Metropolitan University UK and HAW Hamburg, Germany

Julie Newman, Director of Sustainability, MIT

ORGANIZERS

- Massachusetts Institute of Technology (MIT), Office of Sustainability
- Manchester Metropolitan University
- Hamburg University of Applied Sciences Research and Transfer Centre “Applications of Life Sciences”, *RCE Hamburg and Region*

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- Baltic University Programme
- UN Educational, Scientific and Cultural Organisation (UNESCO)
- UN Environment Programme (UNEP)
- Australasian Campuses Towards Sustainability (ACTS)
- Environmental Association for Universities and Colleges (EAUC)

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POSTERS

- 1. Does “science” matter to sustainability in higher education? The role of millennial college students’ attitudes toward science in sustainable consumption**
Jiyun Kang, Texas State University, USA
- 2. Everybody’s Business: The role of a work-related sustainability and business curriculum for students of any discipline**
Zoe Robinson, Keele University, UK
- 3. The Role of Non-Academic Staff in Designing the Green University Campus**
Egle Katiliute, Kaunas University of Technology, Lithuania
- 4. Interdisciplinary teamwork on sustainable development – The top ten strategies based on experience of student initiated projects**
Mirjam Braßler and Miriam Block, Hamburg University, Germany
- 5. The Importance of Incentives and Grants for Green Buildings**
Erin A. Hopkins, Virginia Tech, USA
- 6. Awareness and attitudes towards sustainable development amongst higher education students in Penang, Malaysia**
Maurice I. Wee, Fatin Nabilla Ariffin, Theam Foo Ng, Ahmad Firdaus Ahmad Shabudin, Centre for Global Sustainability Studies (CGSS), Malaysia
- 7. The Contribution of Brazilian Post-graduate Scholarships Abroad to the Environmental Sustainability of Higher Education Institutions**
João Filipe Torres Soares, Laise Frison, Ulisses Miranda Azeiteiro, Luciana Londero Brandli, Passo Fundo, University, Brazil
- 8. A Framework for Organizational Change Management towards sustainability at Universities**
Anita Ulz and Rupert J. Baumgartner, University of Graz, Austria
- 9. What Students Learn at COP21 When They Lead The Way: A Student-Learning Approach to Bringing Global Events, Student Participation and College Sustainability Together in the Classroom**
Laura Draucker and Michelle Olsgard Stewart, Amherst College, MA, USA
- 10. UN Decade of Education for Sustainable Development: Perceptions of Portuguese’s Higher Education Institutions in the series**
Aleixo, A.M., Leal, S., Azeiteiro U.M., Universidade Aberta, Portugal
- 11. The evolution of a sustainable development course for tour guides at the Institute of Tourism Studies - A case study**
Mark Mifsud, University of Malta, Malta

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POSTERS

12. **A study of the environmental knowledge, attitudes and behaviour of MCAST students**
Mark Mifsud and Elaine Scicluna, University of Malta, Malta
13. **Evaluation of a participatory-action-research process in a socio-environmental education project of a public higher education institution (HEI) in the State of São Paulo - Brazil**
Taitiany Kárita Bonzanini, University of São Paulo, Brazil
14. **Learning for a Sustainable Future- Scholls@University for Sustainability + Climate Protection**
Karola Braun-Wanke, Freie Universität Berlin, Germany
15. **Framework validation for university sustainability culture**
Richard Adams Surrey, Stephen Martin and Katy Boom, University Business School, University of Worcester, UK
16. **Progress of Pondicherry Univeristy's Campus Sustainability in the Line of Talloires Declaration - a Pioneering Effort from India**
Nandhivarman Muthu, Pondicherry University, India
17. **Environmental education in university management: contributions to sustainability construction at the University of São Paulo, Brazil**
Fernanda da Rocha Brando, University of São Paulo, Brazil
18. **Creating a sustainable campus from the bottom up**
Peter Walker and Sandy Mandler, Chatham University, Mithun Architects, USA
19. **Evaluation of a participant process of action research an environmental education project of the servers in a public higher education institution (HEI) in the State of São Paulo - Brazil**
Taitiány K. Bonzanini, Patricia G. Moreira, Rosana Louro Silva, Fernanda Rocha Brando, University of São Paulo, Brazil
20. **Consumption, production... or perfection? Exploring approaches to carbon footprinting in higher education institutions**
Oliver J. Robinson, Adam Tewkesbury, Simon Kemp, Ian D. Williams, University of Southampton, UK
21. **The Sulitest: a Global Assessment of Sustainability Literacy in Higher Education**
Jean-Christophe Carteron and Aurélien Decamps, KEDGE Business School, France

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LOCAL MAPS OF CAMBRIDGE AND BOSTON

