KTH participants

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Name, title | Titleof presentation | Photo | CV |
| 1 | Professor/vice president  Ramon Wyss, KTH | Challenge driven education for energy system transformations  Keynote | ramon-diRamon Wyss, vicerektor på KTH. | Ramon Wyss is a professor in theoretical nuclear physics at KTH the Royal Institute of Technology. Ramon Wyss also serves as an honorary guest professor at Peking University and has published more than 300 articles in refereed journals within nuclear physics with a H-factor of >50 and in recognition of his research received the ’**Edlundskaprize’** of the Royal Swedish Academy of Science.  Ramon Wyss served as vice president of KTH in charge of international education at KTH from 2002 and has been engaged in the leadership of different European university networks. He has been instrumental for setting up the Knowledge and Innovation Community (KIC) InnoEnergy consortium, as well as contributed to the formation of the EIT Health KIC. He has served on several review panels, developed university relations all over the world and received the Magnolia Silver Medal 2015 from the city of Shanghai. In his present role as vice president of international affairs he has special responsibility for strategic contacts at the EU Level. Ramon Wyss has developed a strategic platform for cooperation with sub Saharan Africa for challenge driven education. |
| 2 | Professor Mark Howells, KTH | African Energy Renaissance – An immense investment, technology and sustainable development prospect  Keynote | https://www.kth.se/polopoly_fs/1.307573%21/image/IMG_7128.JPG | Mark Howells directs the division and holds the chair of Energy Systems Analysis ([www.dESA.kth.se](http://www.dESA.kth.se)) at the Royal Institute of Technology in Sweden. He is an Honorary Affiliate Prof at the University of Technology in Sydney and Editor in Chief of Energy Strategy Reviews. KTH-dESA spearheads the development of some of the world's premier open source energy, resource and spacial electrification planning tools ([www.optimus.org](http://www.optimus.org)). Mark has published in Nature Journals; coordinates the European Commission's think tank for Energy (insightenergy.org); is regularly used by the United Nations as a science-policy expert; and is a key contributor to UNDESA's 'Modelling Tools for Sustainable Development Policies'. His division contributes to efforts for NASA, IRENA, ABB the World Bank and others. Prior to joining KTH-dESA he has an award winning career with the International Atomic Energy Agency. Mark's graduate and post-graduate studies were undertaken at the University of Cape Town, South Africa. Within that time he was also an international research affiliate at Stanford's Program on Energy and Sustainable Development: spokesperson for the World Energy Council's student program; lead RSA's Integrated Energy Planning (IEP) process as well as other national initiatives.  Mark Howells - Director and Professor: division of Energy Systems Analysis  Royal Institute of Technology, Sweden (KTH-dESA)  Hon Affil. Prof. UTS, Australia  Ed. in Chief: Energy Strategy Reviews  [www.desa.kth.se](http://www.desa.kth.se)  [www.osemosys.org](http://www.osemosys.org)  [www.insightenergy.org](http://www.insightenergy.org) |
| 3 | Professor SemidaSilveira, KTH | TBD  Keynote  (on traffic solutions or waste recycling) | Semida De Campos Silveira | SemidaSilveira is Professor in Energy Systems Planning at KTH. Previously, she acted as visiting professor in Energy and Environmental Technology building the ECS group at the Dept of Energy Technology. She has a PhD in Regional Planning from KTH, with focus on development and sustainability. Previously, Prof. Silveira worked as sustainability expert at the Swedish Energy Agency, and as energy and climate program manager at the Stockholm Environment Institute. Her most recent activities include bioenergy and climate change policy work, energy access, promotion of Swedish knowledge and technologies, and international business cooperation with corporate responsibility. Prof. Silveira won the Jaboti Literature Prize 2001 in Brazil in the category physical sciences, technology and informatics for her book *Electricity for Sustainable Development*, published in Portuguese. She is also the author of various articles and books including an anthology of the Swedish energy development, *Building sustainable energy systems – Swedish experiences*, and the book *Bioenergy – realizing the potential*. She has done research at MIT, IIASA and University of Tübingen, and advises in various committees and companies. She has developed and managed projects in collaboration with academics, development banks, policy makers and the private sector in both industrialized and developing countrie |
| 4 | Professor Mamoun Muhammed, KTH | TBD | http://www.nanotecheg.com/images/consultant/4.png |  |
| 5 | Professor Klas Engwall, KTH | Trends in thermochemical conversion of waste and biomass | Klas Engvall | The research focuses on many aspects of improving fluidised bed gasification technology and upgrading of raw gas. For example, investigations of efficiency and fuel and bed flexibility using difficult fuels, such as, straw and different fractions of household and industrial waste. Other examples are intelligent and selective tar cracking using combinations of tar cracking catalysts, as well as process integration combining the tar cracking ability of metallic iron materials with particulate removal in sintered candle filters. The two last examples embrace many aspects of basic and applied scientifically interesting application of catalysis in thermochemical conversion systems. Another field of interest is development of novel technology for gas and particle separation to be applied in the gasification process and in the down stream upgrading. This involves research on both a fundamental and applied level. The prospects to apply developed techniques also in other processes where gas and particle separation is needed are large. This work is carried out in cooperation with the Mechanics department at KTH. |
| 6 | Professor Åsa Stenmark | Waste streams for chemical conversion technologies (provisional) |  |  |
| 7 | Professor Björn Palm, KTH | Solar Cooling, status and perspectives | C:\Users\bpalm\Pictures\Björn Palm_by_Ingar_Lindholm.jpg | *Professor Björn Palm is head of the Division of Applied Thermodynamics and Refrigeration, Department of Energy Technology at the Royal Institute of Technology, in Stockholm, Sweden. His main research interests are on heat transfer connected to refrigeration systems, i.e. evaporation and condensation in compact heat exchangers, enhancement of boiling heat transfer and boiling in minichannels. He is also active in the area of application of natural refrigerants, such as hydrocarbons, ammonia and carbon dioxide, in different types of refrigeration systems. He has also been working on cooling of electronics by two-phase thermosyphon loops. Professor Palm has authored or coauthored about 100 papers presented at international conferences and in scientific journals.* |
| 8 | Professor Göran Engdahl, KTH |  | Göran Engdahl, professor vid Elektroteknisk teori och konstruktion |  |
| 9 | Professor Alexis Pontvik, KTH | TBD | Alexis Pontvik (överst) och Tigran Haas. | *Alexis Pontvik Architect SAR/MSA, AIS, R.I.B.A, KA, Prof Urban design KTH/ABE Studied in Bern, Düsseldorf A. of Arts and at the Arch. Association, London; member of the RIBA and Royal Academy of Fine Arts, Stockholm. Worked in own private practice from 1981, since 1987 based in Stockholm. From 1986-2002 engaged in urban design projects as consultant to the Stockholm City Planning Administration. Pontvik has worked on capacity building-, master plan- and building projects for Sida (Swedish International Dev. Cooperation Agency) on the West Bank and Gaza 1994-2000 and in Tanzania 2003-2010 among other projects. Acted jury member on several architectural and urban competitions. Gained several prizes in various Swedish national competitions. Taught at Kingston University and Architectural Association, London early 80ies. Taught at the KTH, in 4/5 year with breaks 87-2005 and acted head of third year 2006-2011. Since 2006 Professor in Urban Design presently running a Master Studio with focus on international cooperation projects and developing the UrbanFormHub at UNI / UN Habitat as founding member and coordinator.* |
| 10 | Professor Yohannes Kiros, KTH | **Alternative catalysts for anodic and cathodic reactions in water electrolysis** | http://www.kth.se/polopoly_fs/1.142576%21/image/Yohannes2.jpg | Electrocatalytic materials incorporated into gas diffusion electrodes (GDEs) are of great importance for electrochemical energy conversion and storage in fuel cells, metal-air batteries and battery systems, electrolysis and other industrial processes. For example, oxygen reduction reaction (ORR), oxygen evolution reaction (OER), hydrogen oxidation reaction (HOR) and hydrogen evolution reaction (HER), either for the demanding reaction with its complex kinetics or for the facile reactions for the proper functioning of the performance/stability characteristics need very active materials for electrocatalysis to take place.  Furthermore, combination with supports for dispersion, promotion of high surface and porosity as well as conductivity together with the design aspects of the GDEs, especially for the low and medium-temperature fuel cells and other electrochemical applications can significantly enhance the outcome in the form of high current or power densities with lower overvoltages. The research approach is mainly multifaceted, viz. preparation of highly functional materials from the transition d-metals with additives and/or promoters as heterogeneous catalysts, integration of the same in a robust electrode configuration and physicochemical characterization of the electrocatalytic materials using various analytical tools. Examples of such nanomaterials that have found application in GDEs and for the above reactions are displayed in the figures above.  Furthermore, work on heterogeneous materials as alternative to homogeneous catalysts, presently used on wide-scale for biodiesel production from vegetable oils (edible and non-edible) is challenging in a three-phase system, where the presence of free-fatty acids has to be addressed. Different parameters including the type and structure of the catalyst that affect the yield of biodiesel have to be optimized in order to find application. |
| 11 | Professor Björn Laumert, KTH | The role and future potential of CSP in the MENA region  Keynote? | https://www.kth.se/social/upload/53060414f276541b4c50de29/Bjorn_pic_200.jpgC:\Users\bpalm\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\Bjorn_image.jpg | **Background**  After my own PhD graduation, I joined Volvo Aero Corporation where I was quickly involved in Volvo's R&D for ESA Ariane Space components comprising rocket engine nozzles and fuel pump turbines. I got the opportunity to lead the aerodynamic team for the Vulcain 2 Nozzle Extension in the recovery program of the Ariane 517 flight failure. After that I moved on to become the design leader of the upper stage Vinci engine turbines and later the turbines of the Ariane Future Launcher Preparatory Program main engine.  **At KTH**  In 2010 I received an offer from my former PhD supervisor Prof. Torsten Fransson to join his division and build a research group in the field of Concentrated Solar Power. Today, the group has grown to include 5 PhD students and a continuous flow of MSc thesis students beside me and Emeritus Prof. Torsten Strand. We have built up a state-of-the-art software toolbox for techno-economic analysis and optimization of power plants and grid integration strategies called DYESOPT and EDGESIM. Furthermore, we have built a 100kW solar laboratory facility for testing concentrating solar power components in relevant environments. In the laboratory, the light can be concentrated to high flux levels exceeding 5MW/m2, simulating the conditions in the focal spot of solar dish concentrating mirrors. This laboratory enables research and development of solar receivers, solar reactors, high temperature materials and concentrating photovoltaic elements. |
| 12 | Professor Cristian Bogdan, KTH |  | https://www.kth.se/polopoly_fs/1.181471%21/image/Bogdan_Cristian_small.jpg | CV Cristian Bogdan born in 1971, is a researcher at IPLab, NADA, KTH. Hiscurrent research interests are   * design methods for complex systems, * computer supported cooperative work (CSCW), * human-computer interaction (HCI) and interaction design, * interfaces for embedded systems * ubiquitous and physical computing * participatory design (PD), * techniques for modeling of user interfaces, * design and evaluation of interfaces for the Semantic Web, * social study and action research in amateur communities, * design for amateur and open source software development. |
| 13 | Professor Viktoria Martin | Methods of thermal energy storage for heating and cooling (provisional) |  |  |
| 14 | Ph.D. stud Nelson Sommerfeldt | A techno-economic comparison of PV installations in buildings for Sweden and Egypt |  |  |
| 15 | Ph.D. stud Jerry Luis Solis | Transesterification of rapeseed oil by solid oxide catalysts |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  | Confirmed, high ranking participants from Industry: |  |  |  |
|  | Robert Saers, ABB Corporate Research (Power Systems) |  |  | Power Systems Development team manager ABB Corporate Research |
|  | NN + MM from Ericsson |  |  |  |