2013 MIT China Conference
The New Urbanism in China

Innovation and Technologies that will Change the Way Cities Develop and Grow

October 30-31, 2013 | Beijing, China

Unprecedented urbanization is dramatically transforming the Chinese landscape. Confronting the full spectrum of challenges posed by rapid growth and resource depletion will require collaboration among public, private, and academic constituents coordinated locally and across the globe.

The 2013 MIT China Conference presents an opportunity to engage world thought leaders from MIT and industry over cutting-edge research, innovative technologies, and best practices in urbanism to help lead the world towards realizing smart, sustainable, livable cities of the future.

The MIT Industrial Liaison Program’s inaugural China Conference marks the beginning of a new, ongoing dialogue about issues of the utmost importance for one of today’s largest and fastest growing economies. This year’s focus on urbanism will bring together invited ILP members in China and surrounding regions with local government leaders and select academic and industry groups from around the world, including MIT affiliates and alumni, professionals, and policy makers in charge of urban development.
Accelerating urban expansion demands resilient urban design; cities must be simultaneously livable and adaptable. Networks of compact integrated neighborhoods connected by mobility-on-demand pathways offer a vision for cities where residences, offices, shops, and parks are always within a 20-minute walk; where affordable, convenient, shared-use light electric vehicles replace private cars; where congestion and local sources of air pollution are essentially eliminated; and where powerful new applications improve life for each resident, all while allowing for continued development and growth.

Geology provides the essential context for planning and designing cities. Frequently seen as a solution to problems of urban congestion, the underground environment offers space for transportation, utilities and other critical infrastructures; however, many cities have a haphazard legacy in their development of underground space and use of resources (water, materials, geothermal etc.). The engineering challenges associated with underground urban construction illustrate the importance of sensor networks for monitoring the performance of aging infrastructure systems.

Water supply is a growing challenge worldwide. Water scarcity affects both the developed and the developing world, and it affects regions that are considered dry as well as regions that are not. Water research at MIT covers all aspects of water supply and methods of purification, with a focus on novel desalination research, membrane technologies, thermal and solar technologies, water distribution, wetlands, challenges specific to the developing world, and issues related to the water-energy nexus.

Innovations in electrochemical technologies are paving two complementary pathways towards a more sustainable future. Large-format Liquid Metal Batteries (LMBs) reduce price volatility and increase reliability, especially in urban settings, while eliminating the intermittency of carbon-free, renewable electric power. Metals production by Molten Oxide Electrolysis (MOE) dramatically reduces the carbon intensity of the extraction of a wide range of metals and alloys. Together, these technologies have the potential to improve product quality while reducing capital costs and carbon emissions.

China surpassed the US as the world’s largest automobile market in 2009, leading to visible environmental crises and congestion, but the nationwide increase conceals crucial differences between cities. Both Beijing and Shanghai had about 2 million motor vehicles in 2004; by 2010, Beijing had 4.8 million while Shanghai only had 3.1 million. Subtlees in their boldly designed experiments in automobile management, like Shanghai’s license auction and Beijing’s license lottery, point to crucial policy-making issues that influence effectiveness, equity, and public acceptance.
3:20  Networking Break

3:50  ILP Member Panel Discussion: Urbanization in China

Karl F. Koster  |  Wei Guo  |  Tianwen Liu  |  Xiahong Wu  |  Jin Xu

Top ILP member company executives join MIT Industrial Liaison Program Executive Director Karl Koster to discuss the challenges posed by rapid urbanization in China and explore potential opportunities, strategies, and technologies that will shape the future of Chinese cities.


The Energy Proforma© is an openly accessible online tool that enables urban designers, developers, regulators and researchers to assess the relative energy consumption among proposed neighborhood designs. Based on empirical analysis of over 4,500 households in 23 neighborhoods in Jinan, China, this energy assessment tool can inform design guidelines for low carbon neighborhood forms to be implemented within the Chinese land use control and regulatory planning system to improve residential energy performance measurably.

5:35  Networking Reception
Day 2  October 31

8:00  Registration and Continental Breakfast

8:30  Opening Day 2 Welcome and Introduction  |  Karl F. Koster

9:20  The Importance of Production Eco-systems to Innovation  |  Martin Schmidt

10:05  Internet of Things: Building the City Central Nervous System for High-Definition Decision Making  
John Williams

  The Internet of Things allows accurate tracking of items and people. Integrating this high-resolution data into a City Nervous System can dramatically improve city-level outcomes. The structure and dynamics of the interactions among city residents shapes quality of life, emergent economic productivity, environmental impact and security. Combining Big Data “reality mining” for sensing human behavior and infrastructure systems with network modeling of physical and social systems will enable a true city nervous system’ that supports both government decision-making as well as individual and group social influence feedback loops that can dramatically improve city life.

10:50  Break

11:20  Enabling Next Generation Wireless Networks: Interference Management, Spectrum Sharing, Indoor Localization, and Beyond  |  Dina Katabi

  Practical systems offer efficient solutions to the challenges facing wireless communications in dense urban areas. MegaMIMO enables independent devices to act as one humongous MIMO transmitter, delivering 10x higher data rates for WiFi and cellular networks by transmitting as many concurrent streams as the total number of antennas on all devices. Spectrum sharing and cognitive communication leverages the sparse Fourier Transform to sense and decode GHz of sparse spectrum in real-time at low power. New advances in indoor localization achieve centimeter scale accuracy, enabling smart environments and context-aware applications through ubiquitous RFID tracking.

12:05  Global, Regional, Local: Energy Challenges for China and Responses at Scale  |  Robert Armstrong

  From 2000 to 2010, China’s energy use grew 130 percent, and it continues to grow along with China’s urban centers. Fueling rapid urban expansion will require a refined and integrated energy program for the country, one which confronts present challenges at multiple scales, considering economic and climate impact, regional transportation networks and smart grids, intermittency and storage of renewables, and the role of individual firms, households and citizens in realizing the greatest efficiency gains for the whole country and for the world.

1:05  ILP Member Panel Discussion: New Energy for New Urbanism  
Robert Armstrong  |  Jun Du  |  Zhon

  Top ILP member company executives join Director of the MIT Energy Initiative and Chevron Professor of Chemical Engineering Bob Armstrong to discuss the energy imperatives of the new urban environment and the potential of the latest developments in research, technology, and strategy, including next generation energy materials, smart grids, and novel policy approaches, to keep ahead of growing demand.

1:50  Closing Remarks

2:00  Adjournment
Speakers

Claude Canizares
Bruno Rossi Professor in Experimental Physics | Vice President
Associate Director for MIT, Chandra X-Ray Observatory Center | MIT Office of the Provost

International Partnerships in Innovation  Day 1, 9:20

Professor Canizares is Vice President and the Bruno Rossi Professor of Physics at MIT. He has responsibility for MIT's major international partnerships and oversees the MIT Lincoln Laboratory.

Professor Canizares earned his BA, MA and Ph.D. in physics from Harvard University. He came to MIT as a postdoctoral fellow in 1971 and joined the faculty in 1974. He has served as Director of the Center for Space Research (1990-2001), Associate Provost (2001-2006), and most recently as Vice President for Research & Associate Provost (2006-2013). Professor Canizares is a principal investigator on NASA's Chandra X-ray Observatory. He has also worked on several other space astronomy missions and is author or co-author of more than 230 scientific papers.

Professor Canizares’ service outside MIT includes the Department of Commerce’s National Advisory Council on Innovation and Entrepreneurship and the Emerging Technology and Research Advisory Committee and the National Research Council’s (NRC) Committee on Science, Technology and the Law. He served as chair of the NRC’s Space Studies Board and was a member of the NASA Advisory Council and the Air Force Scientific Advisory Board, among others. He is also a member of the L-3 Communications, Inc. Board of Directors. Professor Canizares is a member of the National Academy of Sciences and the International Academy of Astronautics and is a fellow of the American Academy of Arts & Sciences, the American Physical Society, and the American Association for the Advancement of Science. He has also received several awards including decoration for Meritorious Civilian Service to the United States Air Force, and two NASA Public Service Medals.

Martin Schmidt
Associate Provost | Professor of Electrical Engineering
Director, MEMS@MIT Center | MIT Department of Electrical Engineering and Computer Science

The Importance of Production Eco-systems to Innovation  Day 2, 9:20

Martin A. Schmidt received his BS degree from the Rensselaer Polytechnic Institute in 1981 and his SM and PhD degrees from the Massachusetts Institute of Technology in 1983 and 1988 respectively. Since 1988 he has been a faculty member in the Electrical Engineering and Computer Science Department at MIT. From 1999 to 2006 he served as the Director of the Microsystems Technology Laboratories (MTL) at MIT. MTL is an interdepartmental laboratory that provides shared research infrastructure for all campus activity in micro and nanotechnology, and supports the research of approximately 500 students and staff. In July of 2008 he assumed his current position as Associate Provost at MIT. In his role as Associate Provost, he manages the Institute’s space and the renovation/renewal budgets. He also co-led the Institute’s Task Force on Budget in response to the 2008 financial crisis. Currently, he is the faculty lead for the Advanced Manufacturing Partnership (AMP), a recently announced White House initiative.

His teaching and research is in the areas of micro and nanofabrication of sensors, actuators, and electronic devices, microelectromechanical systems (MEMS), design of micromechanical sensors and actuators, and micro/nanofabrication technology. He is the co-author of more than 80 archival journal publications and 120 peer-reviewed conference proceedings. He is also an inventor on more than 30 issued US Patents. More than 25 students have completed their Ph.D. degrees under his supervision.

He is a recipient of the National Science Foundation Presidential Young Investigator Award and an Honorary Doctorate from the Technical University of Denmark. He was elected as a Fellow of the IEEE in 2004 for contributions to design and fabrication of microelectromechanical systems. He has received the Ruth and Joel Spira Teaching Award and theEta Kappa Nu Teaching Award at MIT. In addition to his academic pursuits, he is active in consulting with industry in the commercialization of technology. He is a co-founder of five companies which are commercializing MEMS-enabled products.
Robert Armstrong

Director, MIT Energy Initiative (MITEI)
Chevron Professor of Chemical Engineering | MIT Department of Chemical Engineering

Global, Regional, Local: Energy Challenges for China and Responses at Scale Day 2, 12:05
ILP Member Panel Discussion: New Energy for New Urbanism Day 2, 12:50

Professor Robert C. Armstrong is the Director of the MIT Energy Initiative and Chevron Professor of Chemical Engineering at the Massachusetts Institute of Technology (MIT). He was previously Department Head of Chemical Engineering at MIT and served as co-chair of MIT's Energy Research Council and as the Founding Deputy Director of the MIT Energy Initiative. He completed his undergraduate studies at the Georgia Institute of Technology with highest honors in 1970, with the Bachelor of Chemical Engineering Degree. He then received the Doctor of Philosophy in 1973 from the University of Wisconsin, Madison, in Chemical Engineering.

Professor Armstrong has received a number of awards, including the AIChE Warren K. Lewis Award, AIChE Professional Progress Award, the Bingham Medal from the Society of Rheology, the University of Wisconsin-Madison Distinguished Service Citation, and election to the Georgia Tech Academy of Distinguished Engineering Alumni. His two-volume book, “Dynamics of Polymer Liquids” has been named a Citation Classic. He is a member of the National Academy of Engineering.

Professor Armstrong has published and lectured extensively in the areas of energy, polymer fluid mechanics, and the rheology of complex materials.

Dina Katabi

Professor of Computer Science and Engineering
Director, Center for Wireless Networks and Mobile Computing (Wireless@MIT)
MIT Department of Electrical Engineering and Computer Science

Enabling Next Generation Wireless Networks: Interference Management, Spectrum Sharing, Indoor Localization, and Beyond Day 2, 11:20

Dina Katabi is a Professor in the Department of Electrical Engineering and Computer Science, a member of the Computer Science and Artificial Intelligence Laboratory (CSAIL) and the director of MIT’s new wireless research center, Wireless@MIT. Katabi's work focuses on wireless networks, mobile applications, network security, and distributed resource management. She received her PhD and MS from MIT in 2003 and 1999, and her Bachelor of Science from Damascus University in 1995. She has received best paper awards from ACM SIGCOMM and Usenix NSDI. She has been awarded the ACM Grace Murray Hopper Award in 2013, a Faculty Research Innovation Fellowship in 2011, the IEEE William R. Bennett prize in 2009, a Sloan Fellowship in 2006, the NBX Career Development chair in 2006, and an NSF CAREER award in 2005. Katabi's doctoral dissertation won an ACM Honorable Mention award and a Sprowls award for academic excellence. Also her work on the sparse Fourier Transform was selected by the Technology Review as one of the top 10 Most Important Emerging Technologies.

Kent Larson

Principal Research Scientist
Director, Changing Places | MIT Media Laboratory

Resilient Cities: Design for Growth Day 1, 9:50

Kent Larson directs the Changing Places research group and the City Science Initiative at the MIT Media Laboratory. His recent work has focused on four areas:

Responsive Housing. Strategies to create high-performance, technology-enabled personalized, places of living that respond to an aging population and new ways of living and working. In this approach, buildings are disentangled into four independently configured layers: high performance chassis, integrated infill, agile technology, and responsive façade modules. These concepts are being deployed in the CityHome: a compact, transformable apartment for urban dwellers that functions as if a much larger space.

Urban Mobility-on-Demand. Concepts for shared-use light electric vehicles and intelligent fleet management to provide high-levels of service through sensor networks, dynamic incentives, and intelligent charging. The group worked with automotive suppliers in Spain to develop a
commercial version of the MIT CityCar called Hiriko: a folding two-passenger vehicle with robot wheels and drive-by-wire control for urban mobility and highly efficient parking.

Living Labs. Computational tools to understand human behavior in natural environments, including the necessary sensing, interfaces, data collection methods, and visualization capabilities. They have developed prototypical applications that respond to human behavior, with an emphasis on proactive health, energy conservation, and the support of new ways of living and working. This work includes the exploration of data collection and analysis tools to understand the fine-grained attributes of a healthy, high-functioning community or city, and strategies to use this information to inform the design of new communities.

City Science. Design and technology-driven solutions that address the challenges of current and future cities. The City Science Initiative’s research spans a variety of fields including urban mobility and vehicle design, modular and transformable housing, resilient energy networks, and urban design.

Larson practiced architecture for 15 years in New York City, with work published in Architectural Record, Progressive Architecture, Global Architecture, the New York Times, A+U, and Architectural Digest. His book, Louis I. Kahn: Unbuilt Masterworks was selected as one of the Ten Best Books in Architecture, 2000 by the New York Times Review of Books. Related work was selected by Time magazine as a “Best Design of the Year” project.

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**John Lienhard**

Samuel C. Collins Professor of Mechanical Engineering  
Director, KFUPM Center for Clean Water and Clean Energy  
Director, Rohsenow Kendall Heat Transfer Laboratory  
MIT Department of Mechanical Engineering

**Clean Water Technology Research at MIT**  
Day 1, 11:50

John H. Lienhard V is the Collins Professor of Mechanical Engineering at MIT. During more than 25 years on the MIT faculty, Lienhard's research and educational efforts have focused on heat transfer, desalination, thermodynamics, fluid mechanics, and instrumentation. He has also filled a number of administrative roles at MIT. Lienhard received his bachelors and masters degrees in thermal engineering at UCLA from the Chemical, Nuclear, and Thermal Engineering Department, where he worked on thermal instabilities in solar collectors and evaporating meniscus measurements for desalination systems.

He joined MIT immediately after completing his PhD in the Applied Mechanics and Engineering Science Department at UC San Diego, where he did experimental work on thermally stratified turbulent flows. Since coming to MIT, Lienhard has worked on liquid jet impingement, buoyant instabilities, high heat flux engineering, electronics thermal management, glass fiber formation, and thermally-driven desalination processes. His research in desalination includes humidification-dehumidification desalination, membrane distillation desalination, solar driven desalination, thermodynamic and energy efficiency analysis of desalination cycles, and energy-water nexus issues.

He is a recipient of the 1988 National Science Foundation Presidential Young Investigator Award, the 1992 SAE Teetor Award, and a 1997 R&D 100 Award, and the 2012 ASME Technical Communities Globalization Medal. He has been the Director of the Rohsenow Kendall Heat Transfer Laboratory since 1997, and he is a Fellow of the American Society of Mechanical Engineers. He serves on the editorial boards of several international journals, including the International Journal of Thermal Sciences, Desalination and Water Treatment, Desalination, Experimental Heat Transfer, and Frontiers in Heat and Mass Transfer.

Lienhard is the co-author of textbooks on heat transfer and on measurement and instrumentation. His heat transfer book has been available online at no charge since 2002, and more than 300,000 copies have been downloaded. His measurements book has sold more than 100,000 copies. He has created new courses on desalination, on thermal modeling, and on compressible fluid mechanics. He has also received several awards at MIT for his teaching.

At MIT, Lienhard has served as Associate Head of the ME department, Undergraduate Officer, Head of the Fluids, Energy & Transport Division of ME, and as chair or member of innumerable committees. Professor Lienhard is currently the Director of the Center for Clean Water and Clean Energy at MIT and KFUPM, and he visits the Arabian Gulf often.
Andrew Whittle
Edmund K. Turner Professor of Civil and Environmental Engineering
MIT Department of Civil and Environmental Engineering
Underground Engineering: Hidden Dimensions in Sustainable Urban Development
Day 1, 10:35

Professor Whittle earned the B.Sc. (Eng.) from the Imperial College of Science and Technology, London, in 1981 and the Sc.D. from MIT in 1987. While in graduate school, he was the MIT John F. Kennedy Scholar from 1982 to 1984. He was a postdoctoral research associate at the Institute in 1987-88. He joined the MIT Faculty in 1988, was tenured in 1995, and promoted to full professor in 2000. From 2009 – 2013 he served as Head of the Department of Civil and Environmental Engineering.

Much of Whittle’s research deals with modeling soil behavior and predicting the performance of foundations and underground construction projects. His research has been widely used in the design of foundation systems for deepwater oil production facilities in the Gulf of Mexico. He has worked extensively on problems of soil-structure interaction for urban excavation and tunneling projects, including Boston’s Central Artery-Third Harbor Tunnel and MBTA South Piers transit projects, as well as Tren Urbano, a subway system which began service in San Juan, Puerto Rico, in 2004. In 2008 Whittle established the Center for Environmental Sensing and Modeling (CENSAM), an interdisciplinary research program through the Singapore MIT Alliance for Research and Technology (SMART). Through this program he has led research efforts to develop wireless sensor networks for monitoring water distribution systems and is currently the Chief Scientific Advisor for WaterWire, his company’s water monitoring system.

Whittle is Co-Editor of the International Journal of Numerical and Analytical Methods in Geomechanics (since 1999) and previously served on the editorial boards for the ASCE Journal of Geotechnical and Geoenvironmental Engineering (1993-2009) and the Canadian Geotechnical Journal (2000-2006). He is an active consultant who has worked on more than 40 major offshore and offshore construction projects. He has recently served on the editorial boards of the AGSO Journal of Geology and Geophysics (since 1999) and Environmental Geology (since 1999). He has also served on the North American Water and Wastewater Technology Council, the U.S. National Committee for the International Centre for Numerical Methods in Engineering (ICNME), and the National Research Council of Canada. He served as a member of the Big Dig Review Committee and currently serves on the editorial board for the AGSO Journal of Geology and Geophysics. 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John Williams

Professor of Information Engineering, Civil and Environmental Engineering and Engineering Systems
Director, MIT Geospatial Data Center  |  Director, MIT Auto-ID Laboratory  |  Director, MIT Intelligent Engineering Systems Laboratory  |  MIT Department of Civil and Environmental Engineering

Internet of Things: Building the City Central Nervous System for High-Definition Decision Making
Day 2, 10:05

Dr. Williams holds a B.A. in physics from Oxford University, a M.S. in physics from UCLA and a Ph.D. in numerical methods from Swansea University. His area of specialty is large scale computer simulation applied to both physical and information systems. He has authored two books and over 120 publications. He teaches graduate courses on Applied Cyber Security and Modern Software Development. Presently Dr. Williams is Director of MIT’s Geospatial Data Center that addresses the problem of Big Data analytics and visualization. Related to his work on Internet of Things he was named, alongside Bill Gates and Larry Ellison, as one of the 50 most powerful people in Computer Networks.

Dr. Williams’ analysis software system is licensed by Sandia National Laboratories and petroleum companies, such as Shell and his E-Education software is licensed by over 400 institutions in the US, Europe and Japan. He has developed a large scale simulator for predicting the behavior of both present and future global computer networks in terms of performance and resilience under attack. The simulator has been used to model the US pharmaceutical supply chain (anti-counterfeiting), the Smart Grid and for fraud detection in large organizations in government and industry.

Recent papers on software for the tablet computing have won best paper prizes in conferences and generated press reports in US News and World Report, CNN, and the Boston Globe. He and colleagues recently tested a MOOC platform for teaching software to around 2000 students in India, Indonesia, Africa and S. America.

Dr. Williams is on the editorial advisory board for the International Journal for Computer-Aided Engineering and Software and an active member of ASCE, where he is a member of the Committee for Granular Materials. Dr. Williams consults to companies in the U.S., U.K., Ireland, and Japan and has spent much time in Japan collaborating with the University of Osaka, Aoyama University, and Keio University, on the use of educational technology. This year he co-authored a report to the UK government on the Future of Manufacturing.

Jinhua Zhao

Assistant Professor  |  MIT Department of Urban Studies + Planning

Subtleties in Bold Design: China’s Experiments in Managing Automobiles  Day 1, 2:35

Jinhua Zhao is an assistant professor in the Department of Urban Studies and Planning at MIT. He holds Master of Science, Master of City Planning and Ph.D. degrees from MIT and a Bachelor’s degree from Tongji University. He studies transportation policy and behavior, as well as China’s urbanization and urban mobility. He’s been working with Chicago, London, Shanghai, Beijing, Singapore and Boston to improve their urban transportation systems and policies. His current project examines the interaction between policy making by the governments and behavioral response from the public in the context of China’s urban development. Dr. Zhao teaches a new course at MIT—“Urbanizing China”. China urbanized 350 million people in the past 30 years and is poised to do it again in the next three decades. This subject poses three questions: 1) to what extent is China’s urbanization out of sync? — causing tensions and discontinuities between people and land, between economy and environment, between urban financing and urban form, and between locals and migrants; 2) What might differentiate the next 30 years from the past, both in terms of the evolving nature of the challenges and the variegated responses in urban governance, both formal (e.g. planning and policies) and informal, across China’s 600+ cities? 3) What can China’s experience offer for cities in other rapidly urbanizing countries? One overarching theme is the intricate interaction between state and market in China’s context, yielding a variety of state-market experiments in different cities in response to local problems, each involving a multi-layered projection onto urban space.
**Bhaskar Pant**  
Executive Director | MIT Professional Education

Bhaskar Pant is the Executive Director of MIT Professional Education, the arm of MIT that offers technical professionals globally, including those that work at ILP companies, an array of certificate courses, featuring the best of MIT academic expertise. In the last five years, more than 1500 professionals annually from over sixty countries, including China, have attended MIT professional courses at MIT's campus in Cambridge, Massachusetts. More recently, MIT Professional Education has introduced intensive 2-3 day programs in Latin America and Europe, with plans to introduce such programs also in India and China.

Prior to joining MIT, Mr. Pant served as Managing Director, Asia Pacific, for the Educational Testing Service (ETS), based in Singapore. He was responsible for setting up local subsidiaries for the world's foremost academic testing company, while in Asia. He oversaw the opening of a subsidiary in China and the introduction of the TOEIC test, the English proficiency test for working professionals, in China.

Previously, Mr. Pant worked as senior executive for the World Learning Graduate Institute in Vermont, running their global corporate education arm. Prior to that, he held senior management positions at media and media technology companies, such as Turner Broadcasting/CNN and Sony Corporation, in the United States and in Asia.

Born in southern Africa, Mr. Pant has an undergraduate degree in electrical engineering from the University of Rochester and a graduate degree in communications and management from Indiana University in Bloomington.

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**Christopher Zegras**  
Associate Professor of Transportation and Urban Planning  
Lead, Transportation Systems, (MIT-Portugal Program) | MIT Department of Urban Studies and Planning

**Clean Energy Urban Design in China: The Energy Proforma® in Practice and Policy**  
Day 1, 4:50

Professor Zegras is an Associate Professor of Transportation and Urban Planning in the Dept. of Urban Studies and Planning, where he teaches graduate-level courses in land use-transportation planning, quantitative methods, and transportation finance. He has also co-taught urban design and planning studios in Beijing and Santiago de Chile.

His research focuses on improving our understanding of the dynamic relationships among human behavior and the built, social, and natural environments; applying quantitative and qualitative methods for strategic, integrated metropolitan planning; and designing policy and institutional strategies for implementing change. Cutting across these research threads, he examines the potentials for advanced communication and computation technologies as new tools for understanding behavior and validating models.

Before entering academia Zegras worked with the International Institute for Energy Conservation in Washington, DC and Santiago de Chile and for MIT's Laboratory for Energy and the Environment. He received his BA from Tufts University, a Master in City Planning and a Master of Science in Transportation from MIT and a PhD in Urban and Regional Planning, also from MIT.

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**Karl F. Koster**  
Executive Director | MIT Office of Corporate Relations/Industrial Liaison Program

**Welcome and Introduction**  
Day 1, 9:00 & Day 2, 8:30  
**ILP Member Panel Discussion: Urbanization in China**  
Day 1, 3:50

Karl F. Koster is the Executive Director of the MIT Office of Corporate Relations. The Office of Corporate Relations at MIT includes the Industrial Liaison Program, which celebrated 60 years of service to the Institute and its corporate partners in 2008.

In that capacity, he and his staff work with the senior administrative and faculty leadership of MIT in developing and implementing strategies for enhancing corporate involvement with the Institute. Mr. Koster has been involved with faculty leaders in identifying and designing a number of major international programs for MIT. Many of these programs focus on institutional development and are characterized by the establishment of strong, international, programmatic linkages between universities, industry, and governments.

Mr. Koster graduated from Brown University with a B.A. in geology and economics in 1974, and received a M.S. from the MIT Sloan School of Management in 1980. At the Sloan School he concentrated in international business management and the management of technological innovation. Prior to returning to MIT, Mr. Koster worked as a management consultant for seven years in Europe, Latin America, and the United States on projects for private and public sector organizations.
Todd Glickman
Senior Associate Director | MIT Office of Corporate Relations Industrial Liaison Program

Mr. Glickman joined the Industrial Liaison Program in January 2000, serving as the MIT liaison for companies worldwide, and joined the senior management of the office in 2005.

Prior to joining ILP, Todd was Assistant Executive Director of the American Meteorological Society (AMS), the professional society for meteorologists, which is based in Boston. At AMS, Todd’s responsibilities included strategic planning for conferences, headquarters’ liaison with AMS member boards and committees, support to the AMS Council, and public relations. In addition, Todd was Managing Editor for the AMS Glossary of Meteorology (2nd edition).

From 1979 to 1994, Todd held a variety of positions with WSI Corporation of Billerica, MA, including Manager, New Product Development, Media Marketing Manager, and Manager of the Government Program Office. WSI was a pioneer in the development of real-time weather information, providing value-added information and workstations for clients in media, aviation, industry, academia, and government. Some of Todd’s projects included development of the weather data/information infrastructure for The Weather Channel; the introduction of digital satellite and radar imagery for television; planning and implementation of a network of weather briefing systems for the Federal Aviation Administration; and serving as liaison with the National Weather Service and professional organizations. In addition, Todd was instrumental in helping to develop the public-private partnership between the weather information industry and the Federal government.

Concurrently, Todd has a more than 30-year career as a radio meteorologist, and has been heard on dozens of stations nationwide. Today, he can be heard occasionally on all-news WCBS Newsradio-88 in New York City. He has chaired numerous meteorological conferences and symposia, and served on a number of boards and committees for the American Meteorological Society (AMS). He was awarded the AMS Seal of Approval for Radio Weathercasting in 1979, and was elected a Fellow of the AMS in 1997.

Todd’s interests include transportation systems of all types, and he is an officer and past-trustee of the Seashore Trolley Museum of Kennebunkport, Maine. At MIT, Todd is an officer and trustee of the Technology Broadcasting Corporation, which oversees the campus radio station WMBR-FM. He also volunteers as the academic advisor to a group of MIT freshman.

Zhongxue Gan
Vice Chairman of the Board and CTO | ENN Group

ILP Member Panel Discussion: New Energy for New Urbanism Day 2, 12:50

Gan Zhongxue is an expert at energy systems and intelligent control. He is an expert in the “Thousand Talents Program”, Vice President of the Association of Thousand Talents Program, Director of 863 Program “Development and Demonstration of Regional Ubiquitous Energy Network Technology,” and Technical Director of China-US Eco Partnership and Member of National Coal Council.

Earlier in his career, he worked as the Chief Scientist with the ABB Research Center in the U.S. He returned to China in 2006 and joined ENN Group. Now he serves as Vice Chairman of the Board and CTO of the ENN Group.

ENN was named as the international science and technology cooperation base in 2009 and the state key laboratory of coal-based low carbon energy in 2010. It was awarded for its excellent performance in implementing national sci-tech program in 2011 and named as the high-level overseas Chinese innovation and entrepreneurship base in 2012. In 2010, Dr. Gan was awarded the State International Science and Technology Cooperation Prize.

ENN’s proprietary technology of “ubiquitous energy network” is demonstrated in the projects in Nevada and North Carolina, which marks a striking transformation for a private company from exporting products to technologies. It was listed on the Eco-Partnership which contributes to the goals of the U.S.-China Ten Year Framework for Cooperation on Energy and Environment and later included in the U.S.-China Joint Statement released after China’s former President Hu Jintao’s visit to U.S.
Jun Du
General Research Institute for Non-ferrous Metals | Vice general engineer
Director for GRINM, Advanced Electronic Materials Institute

ILP Member Panel Discussion: New Energy for New Urbanism  Day 2, 12:50

Professor Jun Du is the vice general engineer of GRINM and the director of Advanced Electronic Materials Institute at GRINM. Professor Jun Du acquired his BA from Northeastern University of China in 1982 and MA and Ph.D in material science and engineering from South University of Paris, France, in 1989 and 1992 respectively. Professor Du is mainly engaged in the research and development field of microelectronics material, dielectric/glass composite for energy storage, nanoscale functional materials, and vacuum package technique. His work was once honored by National science and technology progress award. Besides, he was awarded the special government allowances of the state council in 1997, outstanding returned overseas Chinese in 1998, and the 1st central enterprises outstanding returned overseas Chinese in 2008.

Wei Guo
Chairman and Executive Director | Digital China

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Mr. GUO Wei is the Chairman and Executive Director of the Group and is responsible for the strategic development and management of the Group. Mr. Guo had been the Vice Chairman, the President and the Chief Executive Officer of the Group since February 2001 and was appointed as the Chairman of the Board of the Company in December 2007. He is also a director of certain subsidiaries and associates of the Company. Mr. Guo obtained a Master’s Degree from the Graduate School of the Chinese Academy of Science (formerly known as Graduate School of the University of Science and Technology of China) in 1988. He joined the Legend group in 1988 and was once an Executive Director and Senior Vice President. Mr. Guo was awarded such major prizes included China’s Top Ten Outstanding Youths (2002), Practical and Outstanding Youth of Achievement (2002) by the China Association for Science and Technology, China’s Top Ten Outstanding Youths in Technology Innovation (1998), Future Economic Leader of China (2003), and the First Annual China Young Entrepreneurs Creative Management Golden Honour (2005). He was also selected as the 50 Most Powerful Businesspeople in China by Fortune Magazine (Chinese version) in 2011 and 2012.

Mr. Guo is currently a Non-executive Director of HC International, Inc. (a company listed on the Growth Enterprise Market of The Stock Exchange of Hong Kong Limited). Mr. Guo is also a Director of SJL Inc. (a company listed on The Jasdaq Securities Exchange Inc.) and an Independent Director of Shanghai Pudong Development Bank Co., Ltd. (a company listed on The Shanghai Stock Exchange). In addition, he is a Director of Kosuiaki Investments Limited which is a substantial shareholder of the Company within the meaning of Part XV of the Securities and Futures Ordinance. Besides, Mr. Guo is currently a Standing Committee Member of the 12th National Committee of the Chinese People’s Political Consultative Conference, a member of the 4th Advisory Committee for State Informatization and the Chairman of both Beijing Informatization Association and 6th Council of China Non-Governmental Science Technology Entrepreneurs Association. He has over 25 years of experience in business strategy development and business management.
Mr. Tianwen Liu (TW Liu) is the founder, Chairman and CEO of iSoftStone Holdings Ltd. (NYSE: ISS), a leading China-based provider of consulting & solutions, IT services and business process outsourcing to clients both domestically in China and worldwide.

Mr. Liu has over 20 years experience in technical and management roles in the IT industry. Since founding iSoftStone in 2001, Mr. Liu has become a leading voice for China's IT outsourcing industry and the globalization of Chinese enterprises, and has been recognized by domestic and international publications as such. Mr. Liu received the “Award of People of the Year with Remarkable Contributions to Outsourcing in China” for three consecutive years (2010 - 2012) by Ministry of Commerce of the People’s Republic of China, as well as awarded “Top Leaders of the Past 10 Years in China IT Services Industry” in 2012.

Prior to iSoftStone, Mr. Liu co-founded AsiaEC.com in 1999 and led efforts to build the company from inception to become China’s largest on-line office supply and services provider (until it was acquired by Office Depot in 2006). He also served in multinational companies such as Bechtel and Siemens.

Mr. Liu is a Sloan Fellow and holds an MBA degree from the Massachusetts Institute of Technology, as well as a Masters degree in Electrical Engineering from the University of Massachusetts.

Xianhong Wu, founder and chairman of Verakin Group, chairman of Chongqing Verakin Real Estate Co., Ltd (Top 100 Real Estate Developer in China), president of Chongqing Verakin High School(Top 100 Middle School in China). Mr. Wu holds a B.A in mathematics from Minzu University of China, a M.S. in economy from Peking University, a Ph.D in applied economy from Dongbei University of Finance and Economics, and now post-doctor in applied economy in Peking University (ongoing). Before Sep. 1998, Mr. Wu was a teacher teaching in Capital University of Economics and Business. In Sep. 1998, Mr. Wu decided to start doing business, so he quit his job and founded Verakin Group, focusing on education and real estate development. Since 1998, due to his remarkable work, Mr. Wu has been given awards and honors, such as the title of ‘Outstanding Contribution to Education’ , ‘Outstanding Entrepreneurs in West’, ‘Creative Talent ’, ‘Excellent Entrepreneur in Private Sector’ and so on. Mr. Wu is also visiting professor in Keuka College and Yunnan University of Finance & Economics. His publications include The policy Connotation of Inflation Targeting and Its Application, The Principle of Finance, Promote RMB's Globalization, Career Planning(series), and so on.

Jin Xu is the vice president of Shaanxi Industrial Investment Co., Ltd, he also found Shaanxi Guantian Xixian Capital Investment Co., Ltd in 2011 and take the responsibilities of general manager now. Both above investment companies operate well, have earned a series of economic profits and honor.

Jin Xu holds a B.A. in engineering mechanics from Peking University, a M.S. from Dongnan University and a Ph.D. in Shanghai Jiaotong University. He had been an assistant/associate professor at Antal Management School of Shanghai Jiaotong University. He also acts as Harvard Asia Program Fellow in 2008. His research directions are Industrial Economics, Regional Economic Management, and his research interest focuses on platform economics. He is one of the founders of Chinese platform economics research. He have studied deeply in this area and published a lot of papers and monographs.
Qiang Yang is the head of Huawei Noah's Ark Research Lab and a professor in the Department of Computer Science and Engineering, Hong Kong University of Science and Technology. His research interests are data mining and artificial intelligence including machine learning, planning and activity recognition. He is a fellow of AAAI, IEEE, IAPR and AAAS. He received his PhD from Computer Science Department of the University of Maryland, College Park in 1989. He had been an assistant/associate professor at the University of Waterloo between 1989 and 1995, and a professor and NSERC Industrial Research Chair at Simon Fraser University in Canada from 1995 to 2001. He was an invited speaker at IJCAI 2009, ACL 2009, ACML 2009 and ADMA 2008 and 2012, SDM 2012, WSDM 2013, etc. He was elected as a vice chair of ACM SIGART in July 2010. He is the founding Editor in Chief of the ACM Transactions on Intelligent Systems and Technology (ACM TIST), and is on the editorial board of IEEE Intelligent Systems and several other international journals such as IEEE, TKDE (2005-2009), and AI Magazine, etc. He has served as a PC co-chair and general co-chair of several international conferences, including ACM KDD 2010 and 2012, ACM RecSys 2013, ACM IUI 2010, etc. He serves as an IJCAI trustee and will be the PC chair for IJCAI 2015.

Liangzhong Yao is now the Vice President of China Electric Power Research Institute (CEPRI), working in the areas of renewable energy and smart grid technologies, EVs (Electric Vehicles) integration with grid, energy storage, HVDC and FACTS technologies. He joined the State Grid in 2011, and was the Vice President of State Grid Electric Power Research Institute (SGEPR) from 2011 to 2012.

Dr. Liangzhong Yao received his MSc degree in 1989 and PhD degree in 1993 all in electrical power system engineering from Tsinghua University, China. He was the post doctoral research associate in the institute of Nuclear Energy and Technology at Tsinghua University, China from 1993 to1995, and was the post doctoral research associate in the Manchester Centre for Electrical Energy at University of Manchester (former UMIST), UK from 1995 to 1999, and was the Senior Power System Analyst in the Network Consulting Department at ABB UK Ltd from 1999 to 2004, and was the Department Manager for Network Solutions, Renewables & Smart grids Technologies at ALSTOM Grid (former AREVA T&D) Research & Technology Centre, UK from 2004 to 2011.

Dr. Yao is the member of the working group on European Wind Energy Technology Platform (TPWind), the member of CIGRE WG C2.19 on “Planning and optimization methods for active distribution systems” and the member of CIGRE WG C2.21 on “Lessons learnt from recent emergencies and blackout incidents”. He is also the convenor for IEC PT62786-2 “Demand Side Energy Source Interconnection with the Grid”, the Secretary of IEC SC 8A “Grid Integration of Large-capacity Renewable Energy (RE) Generation”.

Dr Yao is the Chartered Engineer, the Fellow of IET, the senior member of IEEE, and the member of CIGRE. He is also the Guest Professor of the University of Bath in the UK, and the Guest Professor at both Shanghai Jiao Tong University and Sichuan University, China.

Dr. Yao has published over 160 journal and conference papers and coauthored 4 books. He has also held 4 patents.