

Transdisciplinary-Transnational-Transcultural International Conference



TheATLAS³

International Conference

Xi'an Jiaotong
Liverpool University
Suzhou, China
May 29 - June 2, 2016

HONORING

Dr. XI Youmin

Executive President
Jiaotong-Liverpool University

WELCOME TO ATLAS 15th
ANNIVERSARY CELEBRATION

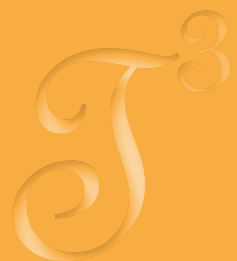


TheATLAS

Research
Education
Commitment



From China and around the world to XJTLU



International Conference

Xi'an Jiaotong
Liverpool University
Suzhou, China
May 29 - June 2, 2016

Conference Theme
Education
Technological Singularity
Technological Innovation

2016 TheATLAS T³ International Conference will be held at Xi'an Jiaotong-Liverpool University (XJTLU). Xi'an Jiaotong-Liverpool University is a pioneering international university based in the World Heritage city of Suzhou on China's east coast. XJTLU takes a unique approach to international education that combines, encourages and develops the teachings of its two founding institutions, Xi'an Jiaotong University, China and the University of Liverpool, UK.

An old Chinese proverb praising the beauty and prosperity of Suzhou says, "In heaven there is paradise, on earth there are Hangzhou and Suzhou." It has long been a heaven for scholars, artists, and skilled craftsmen, and it still is today.

The beautifully landscaped city of Suzhou is located in the center of the Yangtze Delta region, and is renowned for its classic gardens, traditional waterside architecture, and traditional operas. Suzhou was a prosperous ancient state capital, built in 514 BC by He Lv, the King of Wu State. It grew in favor with China's dynasties — a summer retreat of emperors, and a well-placed trade center.

FOCUS OF THE CONFERENCE

The T³ International Conference program will consist of invited and selected papers emphasizing transdisciplinary, transnational and transcultural global problems. Plenary sessions and keynote panels will be presented by prominent speakers.

Educational programs face many difficulties because of the rapid change of technology in today's environment. During the last decade, the number of complex problems facing engineers has exploded, and the technical knowledge and understanding in science and engineering required to address and mitigate these problems is rapidly evolving. The world is becoming increasingly interconnected as new opportunities and highly complex problems connect the world in ways we are only beginning to understand. When we do not solve these problems correctly and in a timely manner, they rapidly become crises. Problems, such as energy shortages, pollution, transportation, the environment, natural disasters, safety, health, hunger and the global water crisis, threaten the very existence of the world as we know it today. None of these complex problems can be understood from the sole perspective of a traditional discipline.

During this conference, multicultural researchers, practitioners, and educators will share their experiences and thoughts concerning the impact diverse cultural backgrounds have on education. More specifically:

- global higher education revolution --- how world university systems can collaborate more efficiently,
- transnationalization through information technology and

exportation of education as a commodity,

- the potential for educational programs based on the transdisciplinary (TD) methodology and methods.
- transdisciplinary research approaches for complex global issues.
- How to teach students innovation and collaboration skills, educating them broadly and preparing them for an increasingly transdisciplinary, collaborative, and global job market.
- Transdisciplinary education and preparation for the length of our life.
- new methodology in engineering education that is focused on teaching students transdisciplinary skills thereby allowing them to become creative and innovative engineers.
- Challenges to shift from disciplinary thinking to transdisciplinary thinking.

The main theme of this conference is to understand the complex issues related to education and technological innovations. Two important workshops will be developed:

1. International workshop on education & training models for the Fourth Industrial Revolution, and
2. 3D printing in product design & development.

SPONSORED BY

- Xi'an Jiaotong University, China and the University of Liverpool, UK
- The Academy of Transdisciplinary Learning & Advanced Studies (TheATLAS)
- Academy of Transdisciplinary Studies (ATS), Mechanical Engineering Dept., Texas Tech University
- International Center for Transdisciplinary Research & Studies (CIRET), France

CONFERENCE COMMITTEE

Conference Chairman

James Smith	Derrick Tate
Texas Tech University	Xi'an Jiaotong
Lubbock, Texas, USA	Liverpool Univ., China

Program Chairman

Atila Ertas	Bingjian Liu
Texas Tech University	Xi'an Jiaotong
Texas, USA	Liverpool Univ., China

Program Vice-Chairmen

Heather Greenhalgh-Spencer
Texas Tech University
Lubbock, Texas, USA

GEORGE AND RONYA KOZMETSKY MEMORIAL LECTURES

In 2011, The George & Ronya Kozmetsky (**G&R K**) Memorial lectures at The Academy of Transdisciplinary Learning and Advanced Studies (TheATLAS) have been established to honor the memory of their shared passion for innovation, service, and global prosperity.

GEORGE AND RONYA KOZMETSKY MEMORIAL MEDAL AWARD

The George and Ronya Kozmetsky Memorial Medal Award was established in 2011 as a special honor to the distinguished lecturer of the **G&R K** Memorial lecture.



George & Ronya Kozmetsky were partners in life, who shared a passion for service to society through innovation and inspiring young men and women to face the future with confidence and to embrace leadership positions in business and society. As an example of their partnership, they co-authored a popular book "Making It Together: A Survival Manual for the Executive Family." They also served

on advisory boards at schools throughout the country, spoke to student groups, worked for curricular innovation, sponsored leadership conferences, and supported innovative faculty research through the family's RGK Foundation.

Dr. Kozmetsky was a co-founder and former Executive Vice President of Teledyne, Inc.—the first major technology conglomerate in the US with more than 100 companies. At The University of Texas at Austin, where Dr. Kozmetsky was dean for sixteen years, he pioneered in educational technology and education about technology, revolutionizing the curriculum and the manner in which it was taught. His vision, his energized drive, his ability to call on the resources of major corporations throughout America, his concept of educating students by incorporating computers and technology in the classroom, and his far-reaching motivational leadership enabled him to lift the College and Graduate School of Business into the top rank in the nation. More than twenty thousand students graduated under his deanship. He also participated in the founding of the Graduate School of Industrial Admin-

istration at Carnegie Mellon University, and was a founding board member of the ATLAS.

In 1977, Dr. George Kozmetsky (1917-2003) founded the IC² Institute at The University of Texas at Austin and began his long march of helping to make Austin the 4th technopolis in the US (the other three being Boston, Silicon Valley, and North Carolina's research triangle) in half the time, i.e. about 15 years.

With his special capability to "connect the dots", he was the key architect to facilitate a coordinated state, city, and academia drive in achieving this dream which was realized in the early 1990's. Along the way, he created the Austin Technology Incubator at The University of Texas at Austin, which combines economic development and business education; and the Texas Capital Network, which promotes innovative financing for new ventures. His contributions have resulted in employment for tens of thousands of Americans and billions of dollars of exports. He has been intimately involved in facilitating technology transfer from the public, federal, and university sector, into private enterprise. Dr. Kozmetsky has counseled, nurtured, and developed more than a hundred companies; he has helped to launch them, served on their boards, assisted in identifying key personnel and niche markets, and on occasion helped finance them. His accomplishments helped to bolster our nation's competitive position in world markets. Dr. Kozmetsky was awarded the National Medal of Technology in 1993 as an acknowledgement of his exceptional contributions in technology and education.

Mrs. Ronya Kozmetsky spent her life as a champion of children, women's issues and opportunities. She was instrumental in the establishment and success of several organizations – both non-profit and for profit – including SafePlace women's shelter and the First Women's Bank of California, a pioneering institution to provide women banking services including access to credit to enable them to start their own business. Additionally, she is a Co-Founder of Leadership Texas, Leadership California, and Leadership America – a network of accomplished women, dedicated to advancing the leadership role women play in impacting business, social issues and public policy. Ronya was also involved in many organizations including: the Center for Child Protection, The Austin Project, Covenant House, the Austin Symphony and Symphony Square, and the CEDEN Family Resource Center. She was a Visiting Committee Member at the School of Social Work at the University of Washington, Advisory Committee Member of the Women's Resource Center in Waco, Member of the Governor's Task Force for Equal Opportunity in Employment for Women and Minorities, and on the Board of Directors of the Texas Foundation for Higher Education. She also served on the City of Austin Child Care Council and the Texas State Treasurer's Asset Management Advisory Committee.

KWOH-TING LI MEMORIAL LECTURES

In 2012, The Kwoh-Ting Li (KTL) Memorial lectures at The Academy of Transdisciplinary Learning and Advanced Studies (TheATLAS) have been established to honor the memory of Kwoh-Ting Li.

KWOH-TING LI MEMORIAL MEDAL AWARD

The Kwoh-Ting Li Memorial Medal Award was established in 2012 as a special honor to the distinguished lecturer of the **Kwoh-Ting Li** Memorial lecture.



K.T. Li was a Chinese economist and politician best known as the "Father of Taiwan's Economic Miracle" for his work in transforming Taiwan's economy from an agrarian-based system into one of the world's leading producers of information and telecommunications technology. He had founded Hsinchu Science Park. In recognition of Li's contributions to the

industrialization of his country, he was awarded the Ramon Magsaysay Award by the Ramon Magsaysay Award Foundation of the Philippines in August 1968 for government service. The Award was generally considered an Asian equivalent of the Nobel Prize. In July 1969, Li was offered the post of Minister of Finance in a cabinet reshuffle, which he accepted with some reluctance because of his greater interest in industrial development. Nonetheless, Li carried out his duties as Finance Minister with remarkable success and dedication. Upon assuming his new post, Li immediately organized a small team with legal advisors and started to search for ways to modernize the fiscal system. He developed several innovations which improved the nation's fiscal system tremendously.

His written works number more than 1,000 items, some of which have appeared in English. In 1976 Mei-Ya Publishing Company in Taipei came out with the first edition of his collected papers under the title The Experience of Dynamic Economic Growth on Taiwan (1959-1975) by Mei-Ya Publishers. A second publication of collected papers The Economic Transformation of Taiwan (1976-1988), has published by Shephard-Walwyn Ltd. of the United Kingdom later in October 1988. After retirement in 1990, he received the First Cynthia and George Mitchell International Award in Biotechnology in Houston, Texas, USA. Li holds distinguished Honorary Citizen of the State of Arizona, USA (1987) and Distinguished Honorary Citizen of the State of Texas, USA (1990). He is an honorary member of the ATLAS and the recipient of the The ATLAS-Academy Gold Medal of Honor award.

MONDAY MAY 30, 2016

**WELCOME
SPEECH**

Dr. XI Youmin

8:30 am- 9:00 am, Monday, May 30



Dr. XI Youmin
*Executive President
Jiaotong-Liverpool University
Xi'an Jiaotong
Liverpool University
Suzhou, China*

Professor XI Youmin was appointed Executive President of Xi'an Jiaotong-Liverpool University, Pro-Vice-Chancellor of University of Liverpool in August 2008. As a visiting professor, he has conducted joint research projects and discourses in universities in Canada, Singapore, Hong Kong, and Taiwan. His research and teaching areas cover strategic management and policy analysis, decision-making and decision support system, leadership and organization behaviour, etc. He put forward a theory: Harmony Theory in 1987 and extended it to HeXie Management Theory. Professor Xi has successfully supervised over 100 Master and PhD students and gained many important research funds from the National Natural Science Foundation of China (NSFC) and central and local governments as well as industrial sector. As author or co-author, he has published more than 300 academic papers and 20 books. He has received over ten prizes at provincial or ministerial or national levels and was awarded National Young and Middle Age Experts with Distinguished Contributions, Prize of Science and Technology for Chinese Youth as well as Prize for Chinese Young Scientists. Professor Xi completed an ME in system engineering in 1984 and in 1987 he was the first awarded PhD degree in the field of management engineering in mainland China. Currently, he is the PI of two key NSFC research projects, indigenous leadership study and Chinese indigenous management theory study and also leads a team to study "students and learning centred education" supported by The Ford Foundation.

**CONFERENCE
OPENING ADDRESS**

Dr. M. Katherine Banks

9:00 am- 9:30 am, Monday, May 30



Dr. M. Katherine Banks
*Vice Chancellor and
Dean of Engineering
Texas A&M University
Member of the National
Academy of Engineering*

As vice chancellor, Banks oversees coordination and collaboration among the engineering, academic and research programs at seven universities throughout the A&M System, as well as three state agencies: the Texas A&M Engineering Experiment Station (TEES), the Texas A&M Engineering Extension Service (TEEX) and the Texas A&M Transportation Institute (TTI). Banks also is TEES director, overseeing research administration of more than 4,400 projects and \$157M million in sponsored research awards.

As dean of the Look College and holder of the Harold J. Haynes Dean's Chair in Engineering, Banks leads one of the largest engineering schools in the country, with more than 13,000 students and nearly 400 faculty. Recently, Dr. Banks initiated the 25 by 25 program, which will increase the engineering enrollment at Texas A&M to 25,000 by 2025.

Banks was previously the Bowen Engineering Head for the School of Civil Engineering at Purdue University and the Jack and Kay Hockema Professor at Purdue. She received her B.S.E. from the University of Florida, M.S.E. from the University of North Carolina, and Ph.D. in civil and environmental engineering from Duke University.

Banks is a member of the National Academy of Engineering and Fellow of the American Society of Civil Engineers. She has received numerous awards including the ASCE Petersen Outstanding Woman of the Year Award, ASCE Rudolph Hering Medal, Purdue Faculty Scholar Award, Sloan Foundation Mentoring Fellowship and the American Association of University Women Fellowship.

**CONFERENCE
KEYNOTE ADDRESS**

Dr. Da Hsuan Feng

9:30 am - 10:00 am, Monday, May 30



Dr. Da Hsuan Feng
*Director of the Global Affairs
and Special Assistant to
Rector at the University of
Macau, China*

**Kwoh-Ting Li Memorial
Lecture on Education**

Professor Feng Da Hsuan is the Director of the Global Affairs Office and Special Assistant to Rector at the University of Macau. He is a fellow of the American Physical Society and an expert in nuclear and nuclear astrophysics, quantum optics, and mathematical physics, with a wide range of experiences and outstanding achievements as a scholar, researcher, and leader of university comprehensive development.

From 1995-1998, Feng assumed the position as technical advisor to the Vice Chairperson of the United States Congressional Armed Services Committee, the honorable Curt Weldon. He was responsible for affairs in central Europe and Asia. Feng's other activities include: Special advisor to Korean American Science and Technology Network, a member of the Computer Science/Engineering Evaluation Task Force of the University of South Carolina, a member of the US Department of Education Field Initiated Studies Technology Panel, and a member of the National Defense Industrial Association Science and Engineering Technology Executive Committee.

Professor Feng was M. Russell Wehr Chair Professor of Physics at Drexel University, Director of the Division of Theoretical Physics of the United States National Science Foundation, Vice President for research and economic development at the University of Texas at Dallas, Vice President of the Fortune 500 Science Applications International Corporation (SAIC), and Senior Vice President of Tsing Hua University and Cheng Kung University in Taiwan.

KEYNOTE PANEL - I

Ethics and Technology

Moderator: Dr. Henry Ching-Lin Chang

10:30 am- 12:00 pm, Monday, May 30

Many ethical implications of emerging technologies from health care to government, from business to leadership, intersect with technology and the many pressing ethical issues it raises that we must deal with now.



Dr. Henry Ching-Lin Chang

Professor

*Department of Physics,
Tamkang University*

Professor Henry Chang received his B.S. in Physics from Soochow University (Taiwan) in 1979 and Ph. D., from New York University (Polytechnic School of Engineering) in 1988. He is currently Professor and former Chairman of Physics department at the Tamkang university in Taiwan. He is also an elected Member, of the Sigma Xi Scientific Research Society and the Physical Society of R.O.C.

KEYNOTE PANEL - I DISTINGUISHED SPEAKERS



Dr. Basarab Nicolescu

*Member of the
Romanian Academy,
President, International
Center for Transdisciplinary
Research and Studies (CIRET)
France*

Technological Singularity

Theoretical physicist at the Centre National de la Recherche Scientifique (CNRS), Paris, France. Professor at the Babes-

Bolyai University, Cluj-Napoca, Romania. Member of the Romanian Academy. Professor Extraordinary at the School of Public Leadership, Stellenbosch University, South Africa. Founding member of ISSR. President-Founder of the International Center for Transdisciplinary Research and Studies (CI-RET), a non-profit organization (165 members from 26 countries), which has a web site at : <http://ciret-transdisciplinarity.org/index.php>. Founder and Director of the Transdisciplinarity Series, Rocher Editions, Monaco, of the Romanians in Paris Series, Oxus Editions, Paris and of the Science and Religion Series, Curtea Veche, Bucharest (in collaboration with Magda Stavinschi). A specialist in the theory of elementary particles, Basarab Nicolescu is the author of 130 articles in leading international scientific journals, has made numerous contributions to science anthologies and participated in several dozen French radio and foreign multimedia documentaries on science. Basarab Nicolescu is a major advocate of the transdisciplinary reconciliation between Science and the Humanities. He published many articles on the role of science in the contemporary culture in journals in USA, France, Romania, Italy, United Kingdom, Brazil, Argentina and Japan. His books include : *From Modernity to Cosmodernity - Science, Culture, and Spirituality*, State University of New York (SUNY) Press, New York, 2014, *Manifesto of Transdisciplinarity*, State University of New York (SUNY) Press, New York, 2002; *Nous, la particule et le monde*, Rocher, Monaco, 2002 (2nd edition) ; *Science, Meaning and Evolution - The Cosmology of Jacob Boehme*, Parabola Books, New York, 1991. He edited *Transdisciplinarity -Theory and Practice*, Hampton Press, Cresskill, New Jersey, 2008. A complete biobibliography of Dr. Basarab Nicolescu can be found on the page: <http://basarab-nicolescu.fr/>.



Dr. Juan M. Sanchez

*Temple Foundation
Endowed Professor
The University of
Texas at Austin, TX*

Ethics And Technology

Dr. Juan M. Sanchez is the past Vice President for Research at The University of Texas at Austin and holder of the Temple Foundation Endowed Professorship #4 in the Department of Mechanical Engineering.

He obtained his B.S. in Physics at the University of Cordoba, Argentina, 1971; M.S. in Materials Science, 1974; and Ph.D. in Materials Science, 1977 at the University of California, Los

Angeles. Dr. Sanchez is the author and co-author of over 140 technical publications on a wide range of topics in materials science and engineering. His current research interests are in the electronic, thermodynamic and structural properties of materials including intermetallic compounds, magnetic and non-magnetic alloys, thin films and magnetic multilayers. Primary interest is the development and application of first principles computational methods for the construction of phase diagrams of multicomponent material systems. Other research interests include the development of laser-controlled selective chemical vapor deposition processes for metals, alloys and ceramics.

Dr. Sanchez serves on the Council of Federal Relations of the Association of American Universities; the Board of Trustee of the Southwestern Universities Research Association; the National Scientific and Policy Advisory Council for the Hogg Foundation for Mental Health; the International Advisory Board of the University of Nuevo Leon, Mexico; and the External Evaluation Committee of the Instituto Potosino de Investigacion Cientifica y Tecnologica, Mexico. Dr. Sanchez is a past member of the Board of Visitors of the US Army War College; the Committee on Science, Engineering, and Public Policy of the American Association for the Advancement of Science; and the Board of Directors of the Oak Ridge Associated Universities.



Dr. Darryl James

*Vice Provost for
Institutional Effectiveness
Texas Tech University*

Technological Consciousness

Dr. Darryl James currently serves as Vice Provost for Institutional Effectiveness with responsibility to oversee institutional effectiveness for the university. He acts as the institutional liaison with SACSCOC, supervises the institutional effectiveness team made up of the Office of Planning and Assessment and Institutional Research. He also supports the institutions compliance with THECB, SACSCOC and discipline-based accreditor academic standards. He supports the development of new graduate programs.

Dr. James' area of expertise is thermal-fluid sciences. His research includes both computational and experimental work in thermal-fluids. Among his research topics are thermal-fluid engineered systems such as solar thermochemical heat en-

gine development and analysis, heat transfer characteristics of pulsed, combined-pulsed, and dynamic radial jet nozzles, dynamic behavior of gas surface adsorption on thin polymer films deposited on surface acoustic wave devices, physical simulation of tornado-like vortices, thermal necrosis in spinal revision surgery, experimental determination of mass transport due to buoyant forces in horizontal enclosures, selective entrainment of immiscible fluids, and preferential ion transport in nanochannels. He is director of VorTECH, the US's largest tornado simulator.

CONFERENCE LUNCHEON SPEAKER

Dr. Raymond T. Yeh

12:00 pm - 1:30 pm, Monday, May 30



Dr. Raymond T. Yeh
*TheATLAS
Honorary Board member*

Potential Impact of Industrial Revolution 4.0 on Education and Culture

Raymond Yeh taught at several universities for more than 20 years and helped two Computer Science departments to top ten national rankings as chairman of department. He was also the CDC distinguished chair Professor at the University of Minnesota. He holds honorary professorship at five universities. Dr. Yeh is the founding editor-in-chief of IEEE Transactions on Software Engineering and was on the editorial board of various journals. He also founded the Technical Committee on Software Engineering and International Conference on Software Engineering (ICSE) within the IEEE Computer Society.

Dr. Yeh co-founded two successful software companies and two professional societies. He has been a consultant to many nations including United Nations, United States, China, Japan, Singapore, Sweden, Taiwan, and works with executives of many leading edge global companies as well as founders of start-up companies. He has published 10 technical books and coauthored two business books. Dr. Yeh is an IEEE Centennial Medal laureate, and a recipient of the Pio-

neer in Information Technology Award from the government of Taiwan, among others. He is a fellow of Institute of Electrical and Electronic Engineers (IEEE), the Society for Design and Process Science (SDPS), and a senior research fellow at IC2 Institute at the University of Texas at Austin. Dr. Yeh had been a long term volunteer at the City of Ten Thousand Buddhas, a Buddhist monastery located in northern California since 2003.

PLENARY TALK-1

Dr. Mark A. Sheridan

1:30 pm- 2:00 pm, Monday, May 30



Dr. Mark A. Sheridan
*Vice Provost for
Graduate Affairs and
Dean of the Graduate School
Professor of Biology
Texas Tech University*

Dr. Mark Sheridan joined Texas Tech University (TTU) as Vice Provost for Graduate Affairs and Dean of the Graduate School on March 15, 2014. In this role he provides overall leadership to the Graduate School as well as supervision of interdisciplinary graduate programs and coordination of graduate and postdoctoral education with the research and other academic activities of TTU. Prior to joining TTU he served as Associate Dean of the College of Graduate and Interdisciplinary Studies at North Dakota State University (NDSU).

Dr. Sheridan's research in the areas of comparative physiology/endocrinology (regulation of growth, development, and metabolism of animals and disruption of such processes by environmental contaminants) is nationally and internationally recognized. He has received over \$26 million in grants for direct research support and research infrastructure enhancement from several funding agencies, including NIH, NSF, and USDA. He has presented and published the results of this work widely, with more than 40 invited/plenary lectures and over 130 publications. He has served as a visiting professor at several universities around the world, including Brazil, China, Japan, Sweden, and Taiwan. He also serves as editor/associate editor for four international journals in his discipline: Comparative Biochemistry and Physiology, Frontiers in Endocrinology, General and Comparative Endocrinology, and International Journal of Endocrinology.

Dr. Sheridan has served in numerous leadership capacities and is recognized for his teaching and research activities. He is the immediate past chair of the Division of Comparative Endocrinology in the Society for Integrative and Comparative Biology (SICB) and a current council member for the International Federation of Comparative Endocrinology. He was a Fellow of the Brazil Programa de Intercâmbio Internacional em Pesquisa e Pós-Graduação and the Japan Society for the Promotion of Science. He has served as a grant panelist for numerous research agencies, including DoEd, NSF, USDA, and was on the Committee of Visitors for NSF's Directorate for Biology and a member of the National Academy of Sciences/National Research Council, US National Committee for the International Union of Biological Sciences. As a faculty member at NDSU he received citations for excellence in teaching and research, held two endowed professorships, and received the universities highest honor, the Faculty Lectureship.

GEORGE AND RONYA KOZMETSKY MEMORIAL LECTURES

Dr. Patricia Easton

2:00 pm- 2:30 pm, Monday, May 30



Dr. Patricia Easton
*Co-Director, Transdisciplinary
Studies Program
Vice President of Student and
Enrollment Services
Claremont Graduate University
California*

Lessons Learned in Transdisciplinary Graduate Education: Claremont Graduate University's Decade-long Experiment

Dr. Patricia Easton is Professor of Philosophy, Vice President of Student and Enrollment Services, and Co-Director of the Transdisciplinary Studies Program at Claremont Graduate University in California, USA. She specializes in the history of modern philosophy, particularly the philosophy of Rene Descartes and the Cartesians of the seventeenth century. Her interests include the philosophy of mind, the history of science particularly medicine, and the development of methods and academic disciplines.

WORKSHOP - I

3D Printing in Product Design & Development

2:30 pm- 5:30 pm, Monday, May 30

What Role will 3D Printing Play in the Fourth Industrial Revolution?

Moderator: Dr. Derrick Tate

"Today, we are at the beginning of a Fourth Industrial Revolution. Developments in genetics, artificial intelligence, robotics, nanotechnology, 3D printing and biotechnology, to name just a few, are all building on and amplifying one another. This will lay the foundation for a revolution more comprehensive and all-encompassing than anything we have ever seen. Smart systems—homes, factories, farms, grids or cities—will help tackle problems ranging from supply chain management to climate change. The rise of the sharing economy will allow people to monetize everything from their empty house to their car," (World Economic Forum, Global Challenges Insight Report, 2016)

Workshop Description

Growth in China is re-defining patterns of consumption, production, and cultural appropriation domestically and globally. China-based companies are shifting to a designed-in-China strategy and international companies are seeking to design for the Chinese market. In this context, there is a great need for expertise in advanced manufacturing and 3D printing and for knowledge transfer between universities and industry.

This workshop will address means to move companies in China beyond the Twentieth Century paradigms of "mass production" and "mass customization" into a new paradigm of "mass innovation." This mass innovation shift will expand and diffuse design, engineering, and product development activity through connecting inventors, entrepreneurs, and enterprises with the engineering and design tools and services needed to realize, test, and validate novel design concepts.

The workshop targets growing trends in the development and use of advanced manufacturing and 3D printing in major industries. Topics include the fundamental limitations—such as layer-by-layer fabrication, weak material properties, low functional strength, etc.—and the development of new processes

and functional materials.

This workshop provides an overview of several topics of interest such as bio-printing; food printing; antique restoration; integration between CAD construction and CAE analysis; application of special materials, like soft tissues, shape-memory materials; and design and optimization for sustainable energy power conversion using 3D printing technologies.

WORKSHOP-I KEYNOTE PANEL

DISTINGUISHED SPEAKERS



Dr. Derrick Tate
Founding Head of
Industrial Design Department
Xi'an Jiaotong
Liverpool University
Suzhou, China

Impact of 3D Printing Technology on Education

Dr. Derrick Tate is an Associate Professor and Founding Head of the Department of Industrial Design at Xi'an Jiaotong-Liverpool University. He aims to impact society through bringing design thinking to areas of strategic importance: assessing the innovative potential of design ideas, developing sustainable approaches for building systems, transportation, and manufacturing; and broadening participation in innovation. Dr. Tate has carried out his research activities at the two ends of the research spectrum where they will have the greatest impact: fundamental research that provides a science base for the future of entrepreneurial engineering design as well as the application of design theories and tools to technology innovation. His recent projects include working with West Texas entrepreneurs on the development of innovative and sustainable designs and a US-Tanzania Workshop: Advancing the Structural Use of Earth-based Bricks, funded by NSF. He received a B.S. in Mechanical Engineering degree from Rice University. His S.M and Ph.D. degrees in Mechanical Engineering are from MIT in the areas of manufacturing and design, respectively.



Dr. Ellen Yi-Luen Do
Professor
Georgia Institute of Technology
& Co-Director,
Keio-NUS CUTE Center
Interactive and Digital Media
Institute National University of
Singapore

Enchanted Ready-to-Wear: Transforming Fashion with 3D Printing

Dr. Ellen Yi-Luen Do is a professor in the School of Industrial Design and the School of Interactive Computing, in the College of Architecture, and the College of Computing, at Georgia Institute of Technology. Before joining Georgia Tech, Ellen was on the faculty in the computational design program at Carnegie Mellon University, where she co-directed the Computational Design Laboratory CoDe Lab (Sep 04-Dec 05), and an affiliate faculty at the Human Computer Interaction Institute - HCII and the Institute for Complex Engineered Systems - ICES at Carnegie Mellon University. Before CMU, she was a faculty at University of Washington (99-04) where she co-directed the Design Machine Group - DMG, served as faculty director for the MS program in Design Computing and taught for the Honors Program. Prior to UW, Ellen worked at University of Colorado at Boulder (94-99) as a researcher and instructor for the Sundance Lab for Computing in Design and Planning. She joined Georgia Tech's faculty in January 2006.

Ellen received a Bachelor degree of architecture (Honors) from National Cheng-Kung University - NCKU in Taiwan, with a minor in Urban Planning, a Master of Design Studies from the Harvard Graduate School of Design - GSD, and a Ph.D. in design computing from Georgia Tech, with a minor in cognitive science & computer science. Currently Prof. Do is on leave from Georgia Tech to serve as the co-director of the Keio-NUS CUTE Center (Connective Ubiquitous Technology for Embodiments) at the National University of Singapore.

COFFEE BREAKS

Every day 10:00 am - 10:30 am
and
3:00 pm - 3:30 pm



Dr. J.Y.H. Fuh
Professor
Department of Mechanical
Engineering,
National University of
Singapore (NUS)
Singapore

Additive Manufacturing Technologies: Current and Future Perspectives on Product Design and Development

Dr. J.Y.H. Fuh received his Ph.D. degree in mechanical engineering from the University of California at Los Angeles (UCLA) in 1992, MS degree in manufacturing engineering from UCLA in 1985, MBA degree from the National Taiwan University in 1982 and BS degree in mechanical engineering from the National Chiao Tung University, Taiwan in 1980. He is currently a Professor at the Department of Mechanical Engineering, National University of Singapore (NUS). He worked in the aerospace, disk drive and CAD/CAM industry in California, USA for five years before joined NUS in 1993. His research interests include collaborative design and manufacture and micro/bio rapid prototyping. He is a Fellow of ASME and SME, a certified manufacturing engineer (CMfgE) from CASA/SME and a registered Professional Engineer (PE) in manufacturing engineering from California. He serves as the Associate Editor in IEEE Transaction on Automation Science and Engineering (2004-2007) and Computers in Industry (since 2004), the Guest Editor in Computer-Aided Design (2003), International Journal of Agile Manufacturing (2004), Computers in Industry (2006) and Robotics & CIM (2008), and the Editorial Board Member in another four international journals. He has published more than 180 journal papers (with more than 1,800 cross citations listed in Scopus), 140 conference papers, authored three monographs, six book chapters, and owns six patents. He supervised more than 82 postgraduate students including 33 PhD, 44 MEng and 5 MSc research students.

WELCOME RECEPTION

7:00-8:30 pm, Sunday, May 29, 2016

**Suzhou Jinling Guanyuan
 International Hotel**

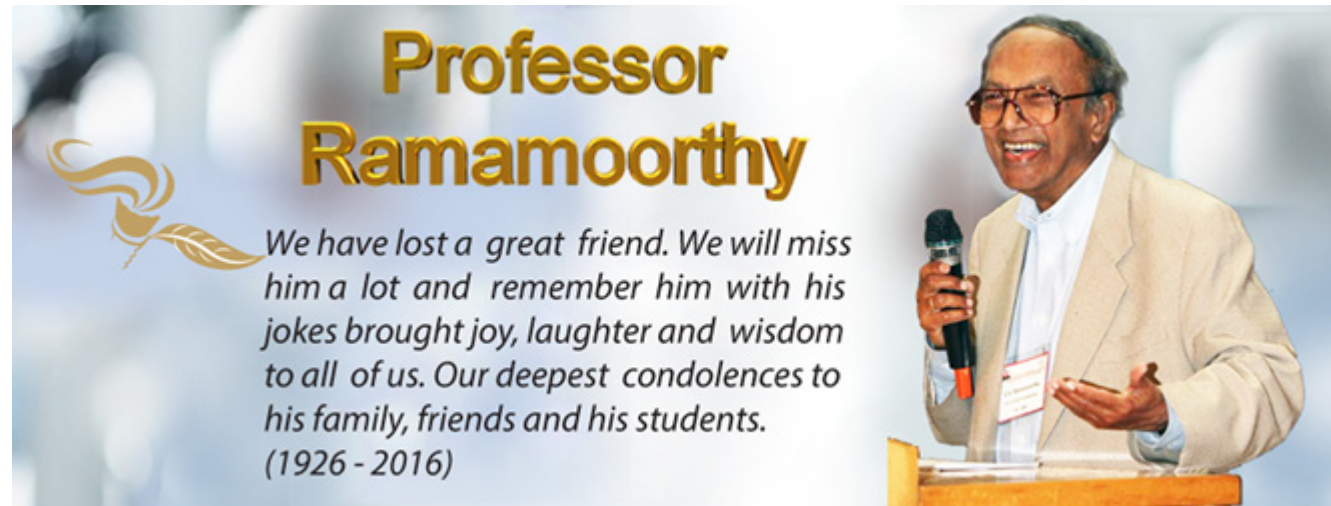
CONFERENCE DINNER DEDICATED TO THE MEMORY OF

Professor C. V. Ramamoorthy

6:30 pm - 9:00 pm, Monday, May 30, 2016

Suzhou Jinling Guanyuan International Hotel

Presenter: Dr. Atila Ertas



It is with great regret and sorrow that we announce the passing of our friend and mentor Professor C. V. Ramamoorthy on March 9, 2016 peacefully in San Diego. He was a great man, brilliant engineer, teacher and a pioneer in building Transdisciplinary Science & Engineering concept through ATLAS.

Chittoor V. Ramamoorthy was an outstanding scholar and a superb mentor for all his students and numerous other colleagues. He was a native of Burma where he was born in 1926 and subsequently received his undergraduate and graduate degrees in India and the U.S., respectively. In particular, he received six earned degrees, including an undergraduate degree in physics and also an undergraduate degree in textile technology from the University of Madras in India. Subsequently, he received two graduate degrees in Mechanical Engineering from the University of California at Berkeley and later two graduate degrees from Harvard in Applied Mathematics and Electrical Engineering and Computer Science, including his Ph.D. Degree in 1964. While at Harvard, he also worked with Honeywell's Computer Division in Waltham, MA, from 1956 to 1967, where he was later a Senior Staff Scientist. He designed read/write heads for tape drives, worked on the first Honeywell digital inertial guidance system, and later was amongst the three engineers under Dr. Eachus who was the American collaborator of Alan Turing on the design of the Enigma that broke the German secret

code. He then joined the University of Texas, Austin, as a Professor in Electrical Engineering and Computer Science. He also served as the Chair of the UT Austin Computer Science Department and then in 1972 he joined UC Berkeley as a Professor of Electrical Engineering and Computer Science. Professor Ramamoorthy has supervised 73 Ph.D. students and he has greatly mentored each of his students. This is reflected in the fact that his students include a Vice Chancellor, 3 University Presidents, and several Deans, Department Chairs, Chair Professors, CEO's, and also a President of the IEEE Computer Society.

Professor Ramamoorthy's research accomplishments span several important areas of Computer Science, including synthesis of parallel programs, optimal organization and scheduling of parallel programs, recovery and roll-back techniques for enhancing the dependability of distributed systems, automated simulation and testing of safety-critical systems, and other innovative research projects. His research contributions have had significant impact on enhancing the dependability

of safety-critical distributed real-time embedded systems. For example, in the late 1960's, professor Ramamoorthy and his students developed an automated test generation and evaluation system which discovered several programming errors in the U.S. Army's Safeguard Missile Defense System. Updated versions of these tools were used in 1971 at NASA's Space Shuttle Structural Test Facility in Huntsville, AL, to rigorously test the Space Shuttle System. Earlier, he was responsible for the development of the entire microcode for instruction sequencing and control of the first transistorized system of Honeywell, the H-290 in 1961. The H-290 was a general purpose, stored-program digital computer designed for process monitoring and control. Later, he did research on functions, features, and control in the service industries and he showed the close and enduring relationships between software engineering and service engineering. Over the years, Professor Ramamoorthy published numerous papers in prestigious journals and conferences and also wrote several books based on his research. He also obtained patents in computer architecture, software engineering, computer testing and diagnosis, and databases.

Based on his outstanding educational and research accomplishments, Professor Ramamoorthy has received multiple prestigious awards, including the IEEE Golden Core recognition award in 1966, IEEE Computer Society Honor Roll Award in 1974, IEEE Computer Society Special Education Award in 1978, IEEE Centennial Medal Award in 1984, IEEE Taylor L. Booth Education Award in 1989, IEEE Computer Society Meritorious Service Award in 1991, IEEE Richard E. Merwin Distinguished Service Award in 1993, Distinguished Scholar Award from the Society for Design & Process Science in 1995, IEEE Third Millennium Medal, IEEE Tsutomu Kanai Award in 2000, Control Data Distinguished Professorship at the University of Minnesota, Grace Hopper Chair at the U.S. Naval Postgraduate School in Monterey, CA, Senior Research Fellow at the ICC Institute of UT Austin, Academy Gold Medal of Honor Award from the Academy of Transdisciplinary Learning and Advanced Studies (The ATLAS) in 2002 and other such prestigious awards and recognitions. In addition to education and research, Professor Ramamoorthy has contributed enormously to the professional society. He was a Life Fellow of the IEEE, honorary member and a fellow of ATLAS and Fellow of the Society of Design and Process Science. He also served as the first elected V.P. of the IEEE Computer Society and was its first V.P. of Education as well as the Education Chair of the American Federation of Information Processing Societies (AFIPS). He also served as the Editor in Chief of the IEEE Transactions on Software Engineering and was the founding Editor in Chief of the IEEE Transactions on Knowledge and Data Engineering. Professor Ramamoorthy was also the Editor in Chief of the International Journal of Software Engineering and Artificial Intelligence and the founding Co-Editor in Chief of the International Journal of Systems Integration and the Journal of

the Society of Design and Process Science. He was also involved in numerous conferences including serving as the Co-General Chair of the 2nd International Conference on Software Engineering (ICSE) in 1976. He also served on many advisory committees, including those of the U.S. Army, Air Force, and Navy, Los Alamos Labs, Lockheed Research, and IBM.

TUESDAY May 31, 2016

PLENARY TALK-2

Dr. Paul Gibbs

8:30 am- 9:00 am, Tuesday, May 31



Dr. Paul Gibbs
*Director of
Education Research
University of Middlesex
London, UK*

Transdisciplinary Thinking: A Pedagogy for Complexity

Professor Paul Gibbs is Director of Education Research at the University of Middlesex. His first degree in Psychology was awarded by the University of Wales, his Masters in Education (Education and Trust) is from Cambridge University, and his three doctoral awards were received from Southampton University (Ph.D.) and Middlesex University (Doctor of Professional Studies (Transdisciplinary Studies) and D.Litt. (Higher Education)). He is a professor of the University, founder of the Centre for Education Research and Scholarship and an Honorary Research Fellow at the Open University in Hong Kong and the University of Cyprus. He is an educator and researcher having taught notions of transdisciplinarity alongside social realism and Heideggerian hermeneutics, and has over 30 successful transdisciplinary professional doctorate students. He has published 20 books on topics ranging from the marketing of higher education to vocationalism and higher education, and has published more than 80 academic articles. His particular approach to transdisciplinarity that informs his work is through the works of Heidegger, neo-Confucian thought and the insights of Basarab Nicolescu. He is currently completing two books: one on Transdisciplinary Higher Education and one on Happiness. He is also Series Editor of SpringerBriefs on Key Thinkers in Education and Debating Higher Education: Philosophical

Perspectives for Springer Academic Press and Series Editor of Praxis in Education with Bloomsbury Press. He remains active in transdisciplinary educational research leading a cross-cultural research group studying happiness and trust in higher education, funded by Charles Lam.

PLENARY TALK-3

Dr. Juan M. Sanchez

9:00 am- 9:30 am, Tuesday May 31



Dr. Juan M. Sanchez
*Temple Foundation
Endowed Professor
The University of
Texas at Austin, TX*

Transdisciplinarity in Higher Education: Accomplishments and Remaining Challenges

PLENARY TALK-4

Dr. Orhan Guvenen

9:30 am- 10:00 am, Tuesday, May 31



Dr. Orhan Guvenen
*Director of Institute of World
Systems, Economies and
Strategic Research
Member of European Academy
of Sciences and Arts*

Transdisciplinary Science Methodology as a Necessary Condition in Research and Education

Professor Orhan Güvenen is an expert in the fields of Strategic Decision Systems, Information Systems, Econometrics and International Economy. He holds a B.Sc. in Econometrics from İstanbul Üniversitesi, and his M.Sc., in Econometrics,

from the Université Paris-Sorbonne (Paris IV), France. He was awarded his Ph.D. in Econometrics and International Economy, also from La Sorbonne, in 1975. From 1979-1988, Prof. Güvenen was Research Director and Professor of Applied Econometrics at the Université Paris, during which time he also worked with the Organisation for Economic Co-operation and Development (OECD), Paris.

Prof. Güvenen joined Bilkent University in 1988, as Professor of Strategic Decision Systems, Econometrics and International Economics, and as founding director of the Institute of World Systems, Economics and Strategic Research (DSEE). He has been Chair of the Department of Accounting Information Systems since August 2000, and is also a member of the executive board of the UNAM National Nanotechnology Research Center, as well as chairman of the Advisory Committee on Strategy, Economy and Industry at Bilkent. From 1997 – 2009, he worked closely with the Prime Ministry of Turkey and held various administrative roles for UNESCO. He is currently the president of the Applied Econometrics Association. Prof. Güvenen has published numerous books and papers internationally and in Turkey, and holds many awards and honors. As well as being a native Turkish speaker, he also speaks fluent English, French and Italian.

PLENARY TALK-5 Dr. Ata Akin

10:30 am- 11:00 am, Tuesday, May 31



Dr. Ata Akin
*Dean
Medical Engineering
Acibadem University
Istanbul, Turkey*

Transdisciplinary Curriculum Development for Medical Engineering

Dr. Ata Akin received his Ph.D. on Biomedical Engineering from Drexel University in 1998, his MS on Biomedical Engineering and BS on Electronics and Telecommunication Engineering both from Istanbul Technical University in 1995 and 1993, respectively. He joined the School of Biomedical Engineering in Drexel University as a Research Assistant Professor in 1999 and worked there till 2002. He received grants from NIH-SBIR, ONR and DARPA on the use of functional

near-infrared spectroscopy (fNIRS) system for noninvasive tissue perfusion monitoring. He joined the Institute of Biomedical Engineering faculty in 2002 as an Assistant professor, and was promoted to Associate Professor in 2008. He founded the Neuro-Optical Imaging Laboratory during the same time. In 2013 he moved to Istanbul Bilgi University as the Dean of Faculty of Engineering and Natural Sciences. In 2015 he joined the Department of Medical Engineering at Acibadem University and serves as the Dean of Faculty of Engineering. Dr. Akin's research interests are in the fields of neuroimaging and systems biology. In the field of functional neuroimaging, he designs and develops customized fNIRS systems to monitor the brain and muscle oxygenation activity during health and disease. In the field of systems biology, he develops algorithms in extracting and classifying the signals and images obtained from the body, mathematical models of neurobiological systems, metabolic diseases, cancer biology and muscle metabolism.

PLENARY TALK-6 Dr. Atila Ertas

11:00 am- 11:30 am, Tuesday, May 31



Dr. Atila Ertas
*Professor and Director of
Academy of Transdisciplinary
Studies.
Department of Mechanical
Engineering
Texas Tech University*

Trans-Sector Integration in Transdisciplinary Education: Convergence

Dr. Atila Ertas, Professor of Mechanical Engineering, received his masters and Ph.D. from Texas A&M University. He is a Senior Research Fellow of the IC² Institute at the University of Texas Austin, a Fellow of American Society of Mechanical Engineers (ASME), a Fellow of Society of Design and Process Science (SDPS), and a Fellow and honorary member of The Academy of Transdisciplinary Learning & Advanced Studies (TheATLAS). He is also an honorary member of International Center for Transdisciplinary Research (CIRET), France. Dr. Ertas has earned both national and international reputation in engineering design. Dr. Ertas is the

author of a number of books, and technical papers that cover many engineering technical fields. Dr. Ertas' contributions to teaching and research have been recognized by numerous honors and awards. He has been PI or Co-PI on over 40 funded research projects. Under his supervision 194 MS and Ph.D. graduate students have received degrees.

PLENARY TALK-7 Dr. Wickson Fern

11:30 am- 12:00 am, Tuesday, May 31



Dr. Wickson Fern
*Scientist and Co-ordinator of
the Society, Ecology and Ethics
Department (SEED) at GenØk
Centre for Biosafety in Tromsø,
Norway*

The Value of Transdisciplinary Collaboration & Education for Addressing Ethical Aspects of Emerging Technologies

Dr. Fern Wickson is a senior scientist and program coordinator of the Society, Ecology and Ethics Department (SEED) at GenØk Centre for Biosafety in Tromsø, Norway. Originally trained in both ecology and political science, Fern undertook an interdisciplinary PhD across the Arts and Science faculties at the University of Wollongong in Australia. Her research interests include: the theory and practice of transdisciplinary research, the concept and enactment of responsible innovation, ecophilosophy and environmental ethics, and the governance of new and emerging technologies. She currently has research projects on developing systems-based approaches to sustainable and ethical agricultures, integrating different models biodiversity conservation, advancing responsible forms of science and innovation, and improving the environmental governance of bio- and nano-technologies. As part of her work at GenØk, Fern has also been involved in several capacity building courses held around the world on holistic approaches to biosafety assessment and is regularly sought after to give guest lectures and plenary talks on issues such as ethical aspects of science and technology and the management of risks and uncertainties in decision-making on

innovation. She is an expert member of the Norwegian Biotechnology Advisory Board and a past President of the international Society for the Study of New and Emerging Technologies (S.Net). She has also served on the board of the European Network of Scientists for Social and Environmental Responsibility (ENSSER) and was recently appointed to a working group of the Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES) examining the diverse conceptualization of values in nature. Dr Wickson is deeply committed to the importance of inter- and transdisciplinary research and not only regularly publishes her work for both social and natural science audiences, but also creates popular science articles, blog posts and short films to communicate with wider audiences. More information about her work can be found on her website (<http://genok.no/ansatt/fern-wickson/>), her research project blog (www.agriculturesproject.org) and through her Twitter account (@FernWickson).

PLENARY SESSION - I Transdisciplinary Eduaction

1:30 pm- 3:00 pm, Tuesday, May 31

PLENARY TALK- I-1 Dr. Heather Greenhalgh-Spencer

1:30 pm- 2:00 pm, Tuesday, May 31



Dr. H. Greenhalgh-Spencer
*College of Education
Texas Tech University*

Transdisciplinary Engineering Education Pilot Study: Implementation & Evaluation

Research Team: Atila Ertas, Hather Geenhalgh-Spencer,
Turgut Batuhan Baturalp, Utku Gulbulak and Kelli Ferias

Dr. Heather Greenhalgh-Spencer is an assistant professor in the Department of Curriculum and Instruction at Texas Tech University. Her research emerges at the intersection of Educational Technology, Diversity and Equity Issues, and

Global Studies. She is particularly interested in the ways that embodiment, materiality, and global forces shape the ways we think about, use, and learn with digital technologies. She also explores diversity and equity issues and the STEM pipeline. Dr. Greenhalgh-Spencer has published in multiple international journals of education. She teaches courses on e-learning, diversity ideologies and policies, and educational philosophy.

PLENARY TALK- I-2 Bob Stroud

2:00 pm- 2:30 pm, Tuesday, May 31



Bob Stroud
*Senior Engineering Fellow
Raytheon
Dallas, Texas*

Is Transdisciplinary Education Engaging the 21st Century Engineering Student?

Mr. Stroud graduated with a Bachelor of Science in Electrical Engineering from Texas A&M in College Station, Texas, in 1978 and accepted a job with E-Systems in Garland, Texas. While at E-Systems, he obtained a Master of Science in Electrical Engineering from Southern Methodist University (SMU) in Dallas in 1981. E-Systems was acquired by Raytheon in the 1990s and he remained with the new company following the acquisition. He worked on increasingly complex systems over his time with Raytheon and is now a Senior Engineering Fellow. As part of his duties, he teaches courses in Principles of Systems Engineering (PoSE), the Department of Defense Architecture Framework (DoDAF), and the Systems Engineering Technical Development Program (SETdp). His responsibilities likewise became more diverse and at the present time he is supporting the acquisition of new business by the company.

PLENARY TALK- I-3 Dr. Sukanta Ganguly

2:30 pm- 3:00 pm, Tuesday, May 31

Room: ??



Dr. Sukanta Ganguly
*Chief Technology Officer &
Head of Products
Orbiion Inc.
San Jose, CA*

Semantic WEB, Internet of Things and Big Data: Pathways in Transdisciplinary Education

Dr. Ganguly is an entrepreneur and a technocrat with 23 years of industry experience building and shipping great technology and products around the world. Dr. Ganguly has worked in three different continents and seven different countries. He is well published with over 14 papers, four patents and co-authored three books in distributed systems. He started his career developing network protocol stacks within Operating Systems and developing Distributed File Systems and Network Security platforms. Midway in his career his concentration was refocused towards large distributed data systems and the application of information gathering based on the data items across multiple application domains like data access pattern recognition in real time, predicting potential riskiness to information exposure, predictive analytics and modeling's forming conclusive responses that is actionable by the organization. Most of the data analytics and predictive modeling were operating within a loosely distributed environment where consistency is not necessarily immediate, yet accuracies needs were quite high. Over the last eight years Dr. Ganguly worked on building a fraud analytics platform for a very large environment operating tens of terabytes of data storage, performing predictive analytics to forecast real-time fraud detection, performing in-flow verification to eradicate false positives within the system. Dr. Ganguly in last venture build an Internet Of Things platform with a sensor having interfaces over Wifi (802.11 a/b/g), Low Energy Bluetooth 4.1, 100 Gigabit Ethernet (802.3). Dr. Ganguly is currently working with a business where he has been building Machine Learning system with data mining for relevant content detection and analyzing them for business application.

WORKSHOP - I The Role of Education in the Fourth Industrial Revolution

3:30 pm- 5:30 pm, Tuesday, May 31, 2016

Transforming Educational Landscape in the Fourth Industrial Revolution

Organizers: Dr. E. E. Anderson, Dr. A. Ertas, Dr. R. T. Yeh

Moderator: Dr. Edward E. Anderson

Workshop Description

Traditional education has been around many decades and contributed significantly to the current levels of industrial evolution and technological advancement. However, to educate future generation with the appropriate set of skills and knowledge, an important question has to be asked concerning how higher education institutes would be influenced by the Fourth Industrial Revolution and how the method of education will be transformed. Fourth Industrial Revolution that will profoundly change the way we think, work and live in the coming decades. The aim of this workshop is to explore how to create a real paradigm shift in education to cope and master the Fourth Industrial Revolution.

WORKSHOP KEYNOTE SPEAKER Dr. Edward E. Anderson



Dr. Edward E. Anderson
*Ray Butler Distinguished
Educator Chair
Department of Mechanical
Engineering
Texas Tech University*

Engineering Education: a Discipline in Transition

Early in his career, Dr. Anderson was the first to experimentally verify conduction-radiation interaction in high-tempera-

ture solids. During the 1970's energy crisis, he conducted research on volume solar energy collectors, energy storage, and unique Fresnel solar concentrators. This research resulted in a solar thermal energy conversion book. Subsequently, he served as an Assistant Dean of Engineering, Director of an Engineering Research Center, Departmental Chairman, and Director of a university-wide teaching and learning center. While an administrator, he continued his solar energy and laser-induced fluid interactions research. The latter of which resulted in a laser-driven nano-fluid (ink) droplet generator. During this time, he also authored a textbook dedicated to engineering thermodynamics. After leaving administration, he directed his research attention to learning patterns used by students as they solve problems. This research was embedded in one of the first interactive engineering e-books and continues to be incorporated into various electronic courseware packages developed by him under NSF and industrial support. He is an ASME Fellow, has received a number of awards for teaching and innovations in educational software, and currently holds the Ray Butler Distinguished Educator Chair.

ATLAS SPECIAL EVENT RECEPTION

**Celebrating
Dr. Edward E. Anderson's
50 Years of Teaching and His
Contributions to Education**
7:00 pm - 9:00 pm

**Suzhou Jinling Guanyuan
International Hotel**
Don't miss this special event !
Lots of fun and surprises !

Dr. Edward E. Anderson will be honored for 50 years of dedication to education. Dr. Anderson's dedication and commitment to education have been non-stop for over 50 years. His distinguished achievement will be recognized by the Academy for Transdisciplinary Learning & Advanced Studies (ATLAS) and the conference participants on Tuesday, May 31 at the Suzhou Jinling Guanyuan International Hotel.

WEDNESDAY June 1, 2016

DIALOGUE ON THE CONVERGENCE OF SCIENCE & BUDDHISM

What is Reality?

8:30 pm- 10:00 am, Wednesday, June 1

Description:

This dialogue is intended to be a deeper inquiry about the convergence of science and spirituality. In selecting the topic of "what is reality?", the intention is to engage the audience into the inquiry of what lies beyond the accepted notion of reality—much like the shock of classical scientists first encountered the quantum phenomenon or that a Buddhist cultivator experienced, for the first time, the oneness of all during a deep meditation. To prepare the audience for the occasion, each speaker will give a 15 min introduction of "what is reality?" from the point of view of science and that of Buddhism, before the dialogue begins.

Co-Facilitators: Dr. Raymond T. Yeh and
Jean Nettleton



Dr. Raymond T. Yeh
*TheATLAS
Honorary Board member*



Jean Nettleton
Wilmington, Delaware

Jean Nettleton works in the banking industry with a career spanning 30 years, in which she has held various roles in-

cluding Organizational Development, designing and facilitating training programs, performance consulting, and project and people management. She currently lives in Wilmington, Delaware (USA).

Distinguished Participants

DM Heng Chuan

Heng Chuan is an ordained Buddhist monk under the venerable master Hsuan Hua at the City of Ten Thousand Buddhas (CTTB) in the United States for 25 years.



Dr. Basarab Nicolescu
*Member of the
Romanian Academy,
President, International
Center for Transdisciplinary
Research and Studies (CIRET)
France*



Dr. Henry Ching-Lin Chang
*Professor
Department of Physics,
Tamkang University*

Commentator of the Session

Professor Henry Chang received his B.S. in Physics from Soochow University (Taiwan) in 1979 and Ph. D., from New York University (Polytechnic School of Engineering) in 1988. He is currently Professor and former Chairman of Physics department at the Tamkang university in Taiwan. He is also an elected Member, of the Sigma Xi Scientific Research Society and the Physical Society of R.O.C.

PLENARY SESSION - II 30 Years of Software Engineering in China

10:30 am- 12:00 pm, Wednesday, June 1

Description:

In 1984, the Chinese Commission on Science & Technology (now Ministry of Science & Technology) decided to upgrade the SE capability in China and created a program involving 13 universities. The program consisted of a central technical planning/development group from various universities as well as training programs housed in Beijing U and Fudan U in Shanghai. The Central group is charged with developing a SE Environment, among other tasks, as a foundation for future software industry in China. The three speakers of this session were the core members of the technical planning group. They will review some aspects the state of software industry in China after 30 years.

PLENARY TALK- II-1 Dr. Bosheng Zhou

10:30 am- 11:00 am, Wednesday, June 1



Dr. Bosheng Zhou
*Founder & Honorary Dean
Beijing University of Aeronautics and
Astrophysics*

Dr. Bosheng Zhou is the founder and honorary Dean of Software Engineering Institute of Beijing University of Aeronautics and Astrophysics (BUAA). He was the Chief scientist and project manager of China's first national software project on Integrated Software Engineering Environment, which pioneered China's software industry. He was also the first Chief CMMI instructor in China. He is Chairman and founder of Cyber Keji Park Inc. in USA and Beijing Cyber Science and Technology Inc. in China—a partnership with Software Engineering Institute of Carnegie Mellon University (CMU/SEI) to provide the process improvement services in China. Prof. Zhou has received numerous awards including First Class Awards in Science and Technology in China as well as Distinguished Contribution Award from Beijing Science and Technology Committee. He has published more than 100 papers

and translated more than 20 books on a variety of topics in software engineering and management.

PLENARY TALK- II-2 Dr. Dehua Ju

11:00 am- 11:30 am, Wednesday, June 1



Dr. Dehua Ju
*Software Engineering and
Business School
East China University of
Science & Technology*

Dr. Dehua Ju, Professor in Software Engineering and Business School at East China University of Science & Technology and Research Scientist of Software Institute at Chinese Academy of Science. He earned the State Science & Technology Achievements Award 1992, the first prize of Shanghai S&T Achievements Award, the State Distinguished Expert Award, and the Government Special Subsidy from the State Council. He served as the (Industrial) Advisory Board member of IEEE Software for ten years (1996-2006). As a chair of organization Committee, he successfully hosted the ICSE 2006 and also the 5th World Congress on Software Quality (5WCSQ 2011) at Shanghai. He is the Emeritus VP of China System & SPI Association. As a Champion, he was assigned as the Chief Advisory of The Shanghai Forum on Software Trade (Former Global IT Outsourcing Summi) at Shanghai – A key annual event on Outsourcing in China since 2003.

PLENARY TALK- II-3 Dr. Guozhong Dai

11:30 am- 12:00 pm, Wednesday, June 1



Dr. Guozhong Dai
*Chief researcher
Intelligence Engineering
Laboratory,
Institute of Software,
Chinese Academy of Sciences.*

Professor Guozhong Dai is Chief researcher and Ph.D. supervisor of Intelligence Engineering Laboratory, Institute of Software, Chinese Academy of Sciences. He graduated from University of Science and Technology of China and was a visiting professor of Department of Computer Science in University of Maryland (1982-1985). Prof. Dai is the honorary Chairman of ACM SIGCHI CHINA Chapter, director of the China Computer Federation Technical Committee on Human Computer Interaction. He was an expert in the CIMS group of National High-tech R&D Program (863 Program), an expert consultant of National Program on Key Basic Research Project (973 Program), and the leading expert of CIMS project of Beijing Scientific Committee. Prof. Guozhong Dai has led and participated in many key projects sponsored by National Natural Science Foundation of China, 863 and 973 Program. His major research interests are software engineering and human-computer interaction. He has published and co-authored two books and more than one hundred papers in the domestic and international academic journals and conferences. He was awarded the prize of National Science and Technology Progress three times, won Science and Technology Progress Awards of CAS and other Ministries. He also received the Contribution Award from Chinagraph and Lifetime Achievement Award from Joint Conference on Harmonious Human Machine Environment.

PLENARY TALK-8 Bob Block

1:30 pm- 2:00 pm, Wednesday, June 1



Bob Block
*Founder and the First Chairman
of the United States Sports
Academy and
Founder and Managing
Partner of LiTricity*

The Many Ways of Thinking: Transdisciplinary Skill

Block is a Founder and a Managing Partner of LiTricity, a shareholder and Board member of USCL and the Co-Chair of the Advanced Technology Policy Committee of the National Energy Marketers Association. Mr. Block has extensive experience in the computer software, communication, energy and

entertainment industries including pioneering roles in commercial and pay television and cellular telephone operating companies. He has also contributed significantly to the creation and development of entertainment and communication technologies used worldwide. Block is widely known for his pioneering work in communications, information and management technologies. He is the inventor and patent owner of more than 150 issued US and International patents, including patents relating to: Enterprise Management Systems, Information Labeling, Signal Control, Terrestrial and Satellite Distribution Systems, Real-Time Subscriber Billing Systems, Pay-Per-View, Parental Control and English Language Education. Block has multiple patent applications pending, including patents relating to interoperability of non-compatible radios, power metering and solar energy systems. Block's inventions are licensed to most of the major consumer electronics manufacturers and have influenced entertainment, sports, and information and education services worldwide.

PLENARY TALK-9 Con Kenney

2:00 pm- 2:30 pm, Wednesday, June 1



Con Kenney
*Organization Development and
Knowledge Management
Graduate Program
George Mason University*

Technology Design, Organizations, and Cultures: Frameworks for Understanding, Experimentation, and Action

Con Kenney is currently serving as Adjunct Professor in the Organization Development and Knowledge Management Graduate Program at the George Mason University School of Public Policy, Government, and International Affairs and recently retired as Senior Research Fellow at the National Defense University iCollege. His teaching and research interests include: enterprise architecture, portfolio management, systems and software architecture, IT economics, process improvement, and organizational change leadership. He also acts as member of the advisory board of the Enterprise Architecture Book of Knowledge (EABOK) Consortium.

From 2003 to 2009 he was the Chief Enterprise Architect at the Federal Aviation Administration where he helped deliver a comprehensive architecture for the agency. He worked closely with the FAA's lines of business to strengthen IT governance and to create programs that add value and comply with the FAA's enterprise architecture. Before joining the FAA, Mr. Kenney was the Chief Technology Officer of Zerotime Labs, an early stage company incubator and software vendor. He defined the product direction and made technology decisions for the company, which offered high-end simulation tools for modeling cash flows and implementing business processes.

Prior to joining Zerotime Labs, he was Senior Director for Reengineering and Technology Integration in Fannie Mae's Operations Division. He led strategic planning, product development, and organizational development projects. Earlier, as Senior Director for Advanced Technology, he defined Fannie Mae's technology strategy and IT architecture.

Before joining Fannie Mae, Mr. Kenney founded the Strategic Client Practice at Sybase, the relational data base management systems vendor. This practice delivered business and technology strategy and IT architecture services to Fortune 100 clients including JP Morgan, Martin Marietta, and State Street Bank. At the management consulting firm of Booz, Allen & Hamilton, he led business and technology strategy and implementation assignments for financial services clients and civilian Federal agencies. He holds a bachelor's degree in economics from the Wharton School of Finance at the University of Pennsylvania and a master's degree in interdisciplinary studies from George Mason University.

PLENARY TALK-10 Sam Denard

2:30 pm- 3:00 pm, Wednesday, June 1



Sam Denard
*Hewlett-Packard
Enterprise Security organization
Houston, Texas*

The Technology Infrastructure Project: A Data and Expectation Transfer Service

Sam Denard is a mechanical engineer who currently works in Hewlett-Packard's Enterprise Security organization where he performs dynamic and static security analyses of customer software. Before this, he spent most of his working life as an independent consultant developing complex software for a wide variety of customers and industries. And before that, he worked for NASA and General Electric. He was also an assistant professor in the Texas Southern University computer science department. He is a graduate of Stanford University and MIT.

PLENARY SESSION - III Contributing to Human Health: Positive Societal Impact

Plenary Session Developer:
Dr. Louise Hecker

3:30 pm- 5:00 pm, Wednesday, June 1

PLENARY TALK- III-1 Dr. Louise Hecker

3:30 pm- 4:00 pm, Wednesday, June 1



Dr. Louise Hecker
*Assistant Professor of
Medicine, University of Arizona &
Research Investigator
Southern Arizona
VA Health Care Systems*

A Transdisciplinary Approach to Drug Discovery in Academia

Dr. Hecker's broad research background and training has been rooted in regenerative biology, with experience in development, tissue engineering, and mechanisms of injury-repair. Her research team previously identified a novel role for NADPH oxidase-4 (Nox4), an oxidant-generating enzyme, in mediating myofibroblast functions and scar tissue formation (fibrosis), published in *Nature Medicine*. Since this discovery, her research interests have expanded to include understanding the role of aging/senescence in lung injury-repair responses. Dr. Hecker's current research interests also encompass translational aspects, including drug discovery for

Nox4 and the development of preclinical animal models of acute lung injury and fibrosis.

PLENARY TALK- III-2 Dr. Esin O. Isik

4:00 pm- 4:30 pm, Wednesday, June 1



Dr. Esin O. Isik
*Assistant Professor
Bogazici University
Istanbul, Turkey*

Multinuclear Magnetic Resonance Spectroscopic Imaging of Human Brain Disorders

Dr. Esin Öztürk Işık, Ph.D. completed her Bachelor's studies in the Computer Engineering department of the Middle East Technical University in 1999. She received her Master's degree from UAB in 2002 in Biomedical Engineering. Thereafter, Dr. Öztürk Işık was admitted to the joint Bioengineering program between the University of California at Berkeley and the University of California at San Francisco. She joined the Margaret Hart Surbeck Laboratory of Advanced Imaging to work with Sarah J. Nelson, Ph.D. The goal of her thesis research was to implement several fast MRI and magnetic resonance spectroscopic imaging (MRSI) data acquisition and reconstruction techniques for faster and more accurate spectral quantification of brain tumors using the clinical 3T MR scanners. Dr. Öztürk Işık completed her Ph.D. studies in 2007 and continued her research as a postdoctoral fellow in the Radiology and Biomedical Imaging department at University of California at San Francisco. Her postdoctoral research studies included the implementation and optimization of higher resolution and sensitivity MRSI techniques on the whole body high field 7T MRI scanners. Dr. Öztürk Işık has been working as an assistant professor at the Biomedical Engineering Institute of the Bogaziçi University since Fall 2014. The main aim of her projects has been developing novel molecular magnetic resonance imaging techniques to allow for a better understanding of underlying biochemistry of diseases in order to improve patient health.

PLENARY TALK- III-3 Dr. Lin Yang

4:30 pm- 5:00 pm, Wednesday, June 1



Dr. Lin Yang
*Assistant Professor of
Epidemiology
Division of Epidemiology
Medical University of Vienna*

Energy Balance and Cancer, the Case for Transdisciplinary Health Research

Lin Yang received her PhD degree in Epidemiology from the University of Cambridge (UK) in 2012. Between 2013 and 2015, she undertook postdoctoral training at Washington University School of Medicine (St. Louis, USA) in the Transdisciplinary Research on Energetics and Cancer (TREC) center funded by National Cancer Institute, investigating the role of physical activity and obesity in cancer survivorship, in order to improve clinical practice.

Her training background includes kinesiology, statistics and epidemiology. She worked with population based cohort study in the UK (the European Prospective Investigation into Cancer-Norfolk study) and large data base in the US (National Health and Nutrition Examination Survey). She has been actively involved in one of the first large scale quasi-experiments in the UK, investigating the impact of major transport infrastructural intervention on health outcomes (Commuting and Health in Cambridge study). She also designed and conducted focus group qualitative study and a pilot randomized controlled trial study aiming to promote physical activity among African American prostate cancer survivors post radical prostatectomy in St. Louis, USA.

In January 2016, she joined the Department of Epidemiology at the Medical University of Vienna. Currently her research includes identifying the impact of physical activity on bone health in overweight/obese postmenopausal breast cancer survivors using bone turnover markers and bone mineral density scores; refining methods in patient-reported measure for prostate cancer survivors post-radical prostatectomy. Her overall research interest is to design interventions targeting energy balance with scaling up potential to reduce the disease burden in the population.

PLENARY TALK- III-4

Turgut B. Baturalp

5:00 pm- 5:30 pm, Wednesday, June 1



Turgut B. Baturalp
Doctoral Candidate
Mechanical Engineering Dept.
Texas Tech University

Mimicking Human Systemic Circulation for Development of Left Ventricular

Turgut Batuhan Baturalp, Atila Ertas and Utku Gulbulak

Turgut Batuhan Baturalp received his B.S. and M.S. degree in Mechanical Engineering from Yeditepe University, Turkey in 2009. Since September 2010, he is a Ph.D. student in the Department of Mechanical Engineering at Texas Tech University, Lubbock. His current research investigates design of a novel systemic mock human circulatory system for testing cardiovascular devices and training medical students. He has research interest and experience in health care design including anthropomorphic bipedal walking robots, artificial muscles, and mimicking & dynamic modeling of biological systems. He has extensive research experience in simulation, modeling and design of robotic, biomedical, transdisciplinary and biomechatronic systems.

CONFERENCE LUNCHEON

12:00 pm - 1:00 pm, Monday, May 30

Room: L011

The world of nature is increasingly dominated by our behavior. Humanity must take no more from nature than nature can provide. Future generations should not be affected by our present actions. Global and shared resources such as atmosphere, oceans and shared ecosystems must be protected by all of us. All nations stand to gain from global sustainability and are threatened if we fail to attain it. Developing and underdeveloped countries must be helped to develop sustainably and protect not only their environments but also ours.

**VANISHING
RESOURCES**

TECHNICAL PAPER PUBLICATION

Transdisciplinary JOURNAL OF ENGINEERING & SCIENCE

The Transdisciplinary Journal of Engineering & Science is dedicated to honor **Professor John Warfield** by recognizing responsibilities for a culture of peace and transdisciplinary knowledge.



**Professor Warfield
(1925-2009)**

Professor Warfield (1925-2009) received the Bachelor of Arts in 1948, Bachelor of Science in Electrical Engineering in 1948, and Master of Science in Electrical Engineering in 1949 from the University of Missouri, Columbia, Missouri. He received the Doctor of Philosophy degree from Purdue University, West Lafayette, Indiana in 1952. John Warfield is widely recognized as the father of systems science. He has been an educator, a research scientist in complex systems and organizational dynamics, and a leader in integrating an extensive body of research into an organized hierarchy of systems sciences. Dr. Warfield and his colleagues analyzed complexity and human cognition for over forty years and developed the founding relationships for the still-emerging systems science discipline that underpins significant portions of modern systems engineering. His rich body of work embodies analytical methods

and frameworks, behavioral science and philosophies that formalize our understanding of complexity in our world. He holds IEEE Centennial Medal. In 2006 John N. Warfield was awarded the Joseph G. Wohl Award for Career Achievement and in 2007 he received INCOSE Pioneer Award and was also awarded the IEEE Third Millennium Medal.



All technical papers will be reviewed by the Program Technical Committee. All accepted papers will be published in the conference proceedings. Competitively selected papers will be first published in the Transdisciplinary Journal of Engineering & Science by ISSN number: 1949-0569, then every year will be included in a book published by TheATLAS with an ISBN number. For more information see www.theatlas.org

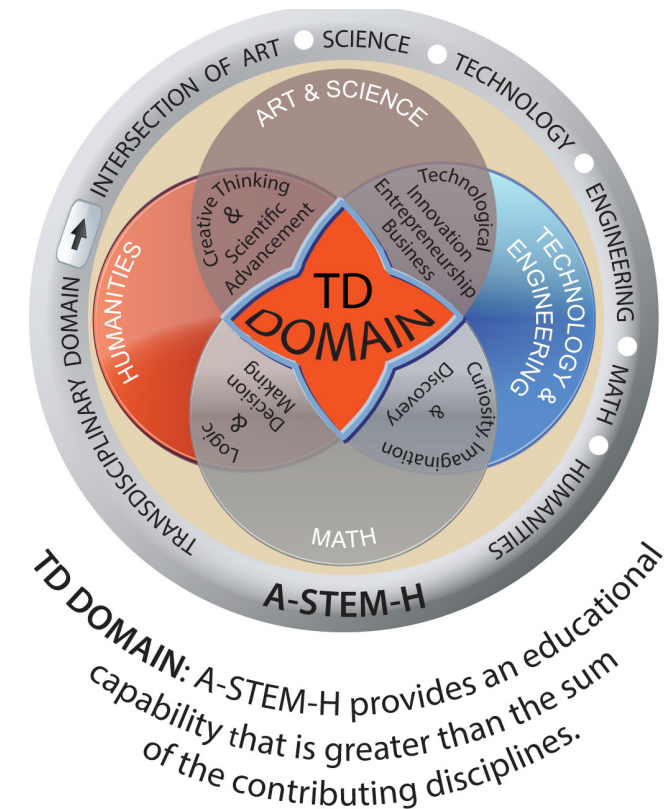
JOURNAL AIMS & SCOPE

Transdisciplinary Journal of Engineering & Science (TJES) is a transdisciplinary international journal which bridges the gap between science, engineering, art, culture, spirituality and society. It is a peer-reviewed annually published online journal covering research on transcultural, transreligious, transpolitic, and transnational global unstructured problems such as health, disasters, poverty, water and food crises, environmental crises, violence, terrorism, humanitarian assistance and needs, well-being, transportation, security, international development, global economy (knowledge economy), sustainable development, energy issues, social policy and globalization, green engineering and science, art and design, complexity, research on contemporary issues, demographic changes, theology, and international ethics.

Researchers are also encouraged to submit manuscripts related to:

- Development of integrated analysis, synthesis, and design from a wide range of knowledge.
- Development of unified transdisciplinary modeling framework—developing computer based modeling systems that permit cooperation and collaboration among diverse groups that are globally dispersed in order to drive complex research efforts to an innovative solution.
- Designing and development of communication infrastructure and shared resources to facilitate computational and transdisciplinary thinking within existing organizations.
- Transdisciplinary education.

Accepted papers will be first published by ISSN number then every year will be included in a book published by TheATLAS with an ISBN number.



Source: Atila Ertas, "Transdisciplinary Process & Sustainable Development," Module-2, Atlas Publications, 2014.

ATLAS GOLD MEDAL OF HONOR AWARD RECIPIENTS AND ATLAS HONORARY MEMBERS RECOGNIZED SINCE 2000



Dr. Herbert A. Simon
Nobel Laureate
Carnegie Mellon University
Date of TheATLAS Board decision for
the Honor : January, 2001



Dr. George Kozmetsky
IC2 Institute, University of
Texas at Austin
Date of TheATLAS Board decision for
the Honor : January, 2001



Dr. Steadman Upham
President, Claremont Graduate
University, CA
Date of TheATLAS Board decision for
the Honor : January, 2001



Honorable K. T. Li
Changing Taiwan from an economy
reliant on light industry to
high technology
Date of TheATLAS Board decision for
the Honor : January, 2001



Dr. Michael Anthony Arbib
Fletcher Jones Professor of
Computer Science
University of Southern California
Date of TheATLAS Board decision for
the Honor : May, 2002



Dr. C.V. Ramamoorthy
Emeritus Professor
University of California, Berkeley
Date of TheATLAS Board decision for
the Honor : May, 2002



Dr. Raymond T. Yeh
IC2 Institute Senior Research Fellow,
University of Texas at Austin
Date of TheATLAS Board decision for
the Honor : November, 2003



Dr. Lu Yyong Xiang
Prof. Dr.-Ing. Mult.hon.Dr. Eng.
President, Chinese Academy of Sciences
Vice-Chairman of the Standing
Committee, NPC
Date of TheATLAS Board decision for
the Honor: June 2005



Professor Nam P. Suh
The Ralph E. & Eloise F. Cross Professor
Director, The Park Center for
Complex Systems
MIT, Cambridge, MA
Date of TheATLAS Board decision for
the Honor: June 2006



Dr. Herbert Weber
Director of the Fraunhofer Institute for Soft-
ware and Systems Engineering
Technical University of Berlin, Germany
Date of TheATLAS Board decision for
the Honor: June 2006



Dr. Günter Valet
Max-Planck-Institut für Biochemie,
Am Klopferspitz 18, D-82152
Martinsried, Germany
Date of TheATLAS Board decision for
the Honor: June 2006



Bruce R. Korf, MD., Ph.D.
Wayne H. and Sara Crews Finley Professor
Chairman, Department of Genetics University
of Alabama at Birmingham, AL
Date of TheATLAS Board decision for
the Honor : June, 2006



Professor Carl Adam Petri
Honorary Professor, Department of
Informatics, Hamburg University
Date of TheATLAS Board decision for
the Honor : April, 2007



Professor Dr. Oktay Sinanoglu
Nominated twice for Nobel Prize
Date of TheATLAS Board decision for
the Honor : April, 2007



Dr. Chun-Yen Chang
1999 Science & Engineering Award Laureate
Founding Director of National Nano-Device
Labs in Taiwan
Date of TheATLAS Board decision for the
Honor : April, 2007



Dr. Yuan T. Lee
Nobel Laureate
Date of TheATLAS Board decision for
the Honor : October, 2007



Dr. Edgar Mitchell
Sixth man walked on the Moon
Founder of the Institute of Noetic
Sciences
Date of TheATLAS Board decision for
the Honor : April, 2007



Dr. Ali Nayfeh
Distinguished Professor, Virginia Tech
Date of TheATLAS Board decision for the
Honor : April, 2007



Dr. Muhammad Yunus
Nobel Laureate
Date of TheATLAS Board decision for
the Honor : October, 2008



Lily Yeh
Founder, Artists without Borders
Date of TheATLAS Board decision for
the Honor : October, 2008



Red McCombs
McCombs Enterprises
Chairman & COO
Date of TheATLAS Board decision for
the Honor : March, 2010

ATLAS GOLD MEDAL OF HONOR AWARD RECIPIENTS AND ATLAS HONORARY MEMBERS RECOGNIZED SINCE 2000 (continued)



Prof. O. J. L. Tzeng
*Former Minister of Education in
Taiwan and Former Vice President
of Academia Sinica, the National
Research Academy of Taiwan*
Date of TheATLAS Board decision for
the Honor : February, 2012



Dr. Chang-Hai Tsai
*Chairman of the Board
China Medical University
Taichung, Taiwan*
Date of TheATLAS Board decision for
the Honor : February, 2012



Dr. Atila Ertas
*Professor and Director of
Academy of Transdisciplinary
Studies, Mechanical Engineerin
Department, Texas Tech University*
Date of TheATLAS Board decision for
the Honor : August, 2012



Barry Lam
*Chairman & CEO
Quanta Computer Inc.*
Date of TheATLAS Board decision
for the Honor : February, 2014



Dr. Basarab Nicolescu
*Member of the
Romanian Academy
President, International
Center for Transdisciplinary
Research and Studies
(CIRET), France*
Date of TheATLAS Board decision
for the Honor : February, 2014

2016 ATLAS AWARDS

ATLAS awards will be presented during the conference dinner on Monday, May 30, 2016

2016 ACADEMY GOLD MEDAL OF HONOR AWARD RECIPIENT

In recognition of distinguished contributions to the advancement of transdisciplinary foundational ideas and activities which have been instrumental in developing and implementing the concepts and philosophy of transdisciplinary education and research.

It's been 15 years since we have created the Academy of Transdisciplinary Learning & Advanced Studies (ATLAS) and its community. This year marks an important milestone for the ATLAS as it celebrates 15 years of success as one of the few non-profit organization dedicated to the advancement of transdisciplinary foundational ideas and activities. Academy Gold Medal and Honor Award is normally presented to one person each year. In honor of the special 15-year milestone, this year ATLAS Board decided to present more than one award to recognize and honor individuals who have made significant contributions and efforts in the advancement of education and training.



Dr. M. Katherine Banks
*Vice Chancellor and
Dean of Engineering
Texas A&M University*
*Member of the National
Academy of Engineering*

See Opening Address for bio.



Dr. Juan M. Sanchez
*Temple Foundation
Endowed Professor
The University of
Texas at Austin, TX*

See Keynote Panel-I for bio.

2016 GEORGE AND RONYA KOZMETSKY MEMORIAL MEDAL AWARD RECIPIENT

The George and Ronya Kozmetsky Memorial Medal Award was established in 2012 as a special honor to the distinguished lecturer of the G&RK Memorial lecture.



Dr. Patricia Easton
*Co-Director, Transdisciplinary Studies Program
Vice President of Student and Enrollment Services
Claremont Graduate University
California*

RAMAMOORTHY & YEH TRANSDISCIPLINARY DISTINGUISHED ACHIEVEMENT AWARD RECIPIENTS

This award is given in recognition of distinguished and meritorious achievement in transdisciplinary research as evidenced by use of transdisciplinary creative and innovative methods in solving complex problems and outstanding leadership in transdisciplinary education and its activities.



Dr. Orhan Guvenen
*Director of Institute of World Systems, Economies and Strategic Research,
Member of European Academy of Sciences and Arts*



Dr. Bosheng Zhou
*Founder & Honorary Dean
Beijing University of Aeronautics and Astrophysics*

ATLAS DISTINGUISHED EDUCATOR AWARD



Dr. Edward E. Anderson
*Ray Butler Distinguished Educator Chair
Dept. of Mechanical Engineering
Texas Tech University*

2016 KWOH-TING LI MEMORIAL MEDAL AWARD RECIPIENT

The Kwoh-Ting Li Memorial Medal Award was established in 2012 as a special honor to the distinguished lecturer of the Kwoh-Ting Li Memorial lecture.



Dr. Da Hsuan Feng
*Director of the Global Affairs
and Special Assistant to
Rector at the University of Macau
China*

BASARAB NICOLESCU TRANSDISCIPLINARY SCIENCE & ENGINEERING AWARD RECIPIENT

This award is given in recognition of outstanding achievement in transdisciplinary research or education as evidenced by use of transdisciplinary skills in solving unstructured societal problems and outstanding leadership in transdisciplinary education and its activities.



Dr. Paul Gibbs
*Director of
Education Research
University of Middlesex
London, UK*

2016 NEW ATLAS / VILLAGE FELLOWS
Fellow awards will be presented during the conference dinner on
Monday, May 30, 2016



Dr. Wickson Fern
*GenØk Centre for Biosafety
in Tromsø,
Norway*



Dr. Paul Gibbs
*University of
Middlesex
London, UK*



Dr. Darryl James
*Vice Provost for
Institutional
Effectiveness, TTU*



Dr. Orhan Guvenen
*Institute of World Systems, Economies
and Strategic Research*



Bob Stroud
*Raytheon
Dallas, Texas*



Dr. Bosheng Zhou
Beijing University of Aeronautics and Astrophysics

TheATLAS 2016 Conference Tours

Thursday, June 2, 2016

Pingjiang Road

Lying in the northeastern Suzhou ancient city, Pingjiang Road is a road that full of dignity and vigor. Having a history of more than 800 years, the road still stands well-preserved. Originally built during the Song Dynasty, it is a delicate stone road with 1606 meters long. It runs parallels to the Pingjiang River. Pingjiang Road stands in a unique setting along a variety of small canals, characteristic stores and typical houses of Suzhou style.



Tongli Ancient Town



Tongli Ancient Town is one of the six famous ancient towns to the south of the Yangtze River along with Zhouzhuang, Yongzhi, Xitang, Wuzhen, and Nanxun. Tongli is fa-

mous all over the world as a water town to the south of the Yangtze River. Its rivers, streets, bridges, civil residences, and gardens are integrated perfectly as one, earning it the name of "the Oriental Venice" due to its unique water town scenery.

Humble Administrator's Garden

The Humble Administrator's Garden (Zhuozheng Yuan) is considered the greatest of all southern Chinese gardens. The garden is 950 m2, it is the largest garden in Suzhou and is considered by some to be the finest garden in all of



southern China. In 1997, Zhuozheng Yuan, along with other classical gardens of Suzhou was proclaimed a UNESCO World Heritage Site.

Hanshan Temple

Traditionally, Hanshan Temple is believed to have been founded during the Tianjian era (502–519) of the reign of Emperor Wu of Liang, in the Southern and Northern Dynasties period. Hanshan Temple is a classic tourist attractions and heritage site of China. The influence and significance of Hanshan Temple in Chinese culture history is unsurpassed by any other Buddhist temple in China. In some way, it is a symbol of Chinese classic poem.



HOTEL INFORMATION

Suzhou Jinling Guanyuan International Hotel



TheATLAS 2016 Conference

May 29- June 2, 2016

Suzhou Jinling Guanyuan International Hotel (Room Reservation)

Reservation Phone: +86 512 6260 8888
NO.168, Cuiwei Street, Suzhou Industrial ,
215123 Suzhou, China

Web Site :

<http://www.jinlinghotels.com/English/index.html>

ATLAS 2016 Special Room Rate

Superior Room

with free wireless internet and breakfasts, 498 RMB

Deluxe Room with View

with free wireless internet and breakfasts, 550 RMB
Rooms will have a king bed or two single beds.

FOR MORE INFORMATION CONTACT:

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Texas Tech University
Mechanical Engineering Department
Lubbock, Texas 79409-1021
Phone: (806) 834-5788
email: aertas@coe.ttu.edu