

The ATLAS - 2012

Transdisciplinary-Transnational-Transcultural

3rd Biennial Meeting



ASIA UNIVERSITY
TAICHUNG, TAIWAN
June 4-9, 2012



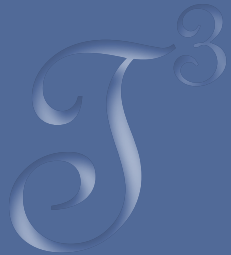
HONORING

Dr. Chang-Hai Tsai

& Professor C.V. Ramamoorthy



TheATLAS



Biennial Meeting

ASIA UNIVERSITY

Taichung-Taiwan
June 4-9, 2012

THEME

The Impact of
Transdisciplinarity on
Multi-national
Education & Research
Programs

2012 TheATLAS T³ Biennial Meeting will be held at Asia University (AU). Asia University is a newly established and well regarded private university located in Taichung County, Taiwan. It is recognized in Taiwan for its renowned research and teaching excellence in Health Care, computer science, and management. Asia University was founded at the beginning of the 21st century. Due to its carefully-planned development, incessant progress, and innovative breakthroughs, the young university has become well-recognized in numerous aspects in Taiwan and the other part of the world.

FOCUS OF ANNUAL MEETING

The biennial meeting 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. The main theme of this bi-annual meeting is to understand the complex issues related to development of global sustainable society in all possible opportunities, both physical and social: from clean or renewable energy use, vibrant local economies, and sustainable agriculture, to community involvement in decision-making, biodiversity, and mixed-use urban planning as well as where people enjoy living and working together, now and in the future!

In particular, the impact of Transdisciplinarity on:

21st century higher education -- are we preparing the students for the rapid changes in a knowledge society?

Leadership -- how to deal with the deficit in leadership today?

Organization & Management -- how to let go of the mechanistic view of organization, deeply influenced by the Newtonian thinking of the 17th century, and move into a more organic, living organization as we discovered in the 20th century science?

Engineering -- how will transdisciplinarity impacts this field as design thinking permeates its entire process now?

Cybercrime -- how to combat this new phenomenal of increasing urgency in the 21st century?

Healthcare -- how to deal with aging and wellbeing as we redefine the concept of "senior citizen"?

Ethics -- What is the key role of ethics in high-tech and higher education

SPONSORED BY

The Academy of Transdisciplinary Learning & Advanced Studies (TheATLAS)

Asia University, Taichung, Taiwan

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Academy of Transdisciplinary Studies (ATS), Texas Tech University

China Medical University, Taiwan

International Center for Transdisciplinary Research & Studies (CIRET), France

George Kozmetsky Endowment (GKE)

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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.



HONORING & DR. CHANG-HAI TSAI DR. C.V. RAMAMOORTHY

It has been 12 years since the establishment of TheATLAS, which was formerly known as "The Academy of Transdisciplinary Learning and Advanced Studies" as a non-profit organization serving transdisciplinary In the spirits of **Dr. Herbert Simon** and **Dr. George Kozmetsky**.

Founded in 2000, TheATLAS is a non-profit organization providing services to universities around the world. TheATLAS provides the following critical services:

- Transdisciplinary education and research,
- Support social, environmental, economical and ethical sustainable development throughout the world,
- To promote global information exchange through innovative publishing, and
- To promote "an open laboratory" for the "global mind": a place where great minds gather to collaborate and facilitate transformations in solving complex global problems while creating a place where eminent researchers gather to develop new transdisciplinary approaches.

TheATLAS founding board member **Dr. George Kozmetsky** was one of the key figures, along with **Dr. Ramamoorthy** and **Dr. Raymond Yeh** for the establishment of TheATLAS non-profit organization. Their generous support and contributions strengthen TheATLAS role in promoting the vision of TheATLAS to be a catalyst for change, enabling the discovery of new approaches in education and research, that lead to alternative solutions for the increasingly complex problems that face civilization.



Biennial Meeting Theme

The Impact of Transdisciplinarity on Multi-national Education & Research Programs

OPENING RECEPTION

5:30-7:00 pm, Monday, June 4

Splendor Hotel



Dr. Jeffrey J. P. Tsai
President
Asia University
Taichung, Taiwan

Jeffrey J.P. Tsai received a Ph.D. degree in Computer Science from the Northwestern University, Evanston, Illinois. He is the President of Asia University, Taiwan. He was a Professor of Computer Science and the Director of the Distributed Real-Time Intelligent Systems Laboratory at the University of Illinois, Chicago, an Adjunct Professor at Tulane University, a Visiting Professor at Stanford University, a Senior Research Fellow of IC2 at the University of Texas at Austin, and a Visiting Scholar at the University of California at Berkeley.

His current research interests include bioinformatics, ubiquitous computing, services computing, intrusion detection, knowledge-based software engineering, formal modeling and verification, distributed real-time systems, and intelligent agents. His research has been supported by NSF, NSC, DARPA, USAF Rome Laboratory, Department of Defense, Army Research Laboratory, Motorola, Fujitsu, and Gtech.

Tsai authored Knowledge-Based Software Development for Real-Time Distributed Systems (World Scientific, 1993), Distributed Real-Time Systems (Wiley, 1996), Compositional Verification of Concurrent and Real-Time Systems (Springer, 2002), Security Modeling and Analysis of Mobile Agent Systems (Imperial College Press, 2006), Intrusion Detection: A Machine Learning Approach (Imperial College Press, 2010), and coedited Monitoring and Debugging of Distributed Real-Time Systems (IEEE Computer Society Press, 1995), Machine Learning Applications in Software Engineering (WSP, 2005), Ubiquitous Intelligence and Computing (Springer, 2006), Machine Learning in Cyber Trust: Security, Privacy, Reliability (Springer, 2009). From 2000 to 2003, he chaired the IEEE/CS Technical Committee on Multimedia Computing and served on the steering committee of the IEEE Transactions on Multimedia. From 1994 to 1999, he was an Associate Editor of the IEEE Transactions on Knowledge and Data Engineering and he is currently an Associate Editor of the IEEE Transactions on Services Computing. Tsai served as the Conference Co-Chair of the 16th IEEE International Symposium on Software Reliability Engineering, the 9th IEEE International Symposium on Multimedia, the 1st IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing, and the 3rd IFIP International Conference on Ubiquitous Intelligence and Computing.

He is currently the CoEditor-in-Chief of the International Journal on Artificial Intelligence Tools and Book Series on Health Informatics. Tsai has served on the IEEE Distinguished Speaker program, DARPA ISAT working group, and on the review panels for NSF and NIH. He received an Engineering Foundation Research Award from the IEEE and the Engineering Foundation Society, a University Scholar Award from the University of Illinois Foundation, an IEEE Technical Achievement Award and an IEEE Meritorious Service Award from the IEEE Computer Society. He is a Fellow of the AAAS, the IEEE, and the SDPS.



Dr. Benjamin Wah
Provost
The Chinese University of
Hong Kong

Professor Benjamin Wan-sang Wah is the provost and Wei Lun Professor of Computer Science and Engineering, the Chinese University of Hong Kong. In 1985-2009, he was the Franklin W. Woeltge Endowed Professor of Electrical and Computer Engineering at the University of Illinois at Urbana-Champaign, USA. In 2008-2009, he also served as Director of the Advanced Digital Sciences Center in Singapore, a US\$50 million research center established by the University of Illinois in Singapore in collaboration with the Singapore government's Agency for Science, Technology and Research. In 1998-1999, Wah was Professor of Computer Science and Engineering at The Chinese University of Hong Kong (CUHK), and in that year received an Exemplary Teaching Award. From 1999 to 2003, he served as Adjunct Professor in the Department of Computer Science and Engineering at CUHK.

Dr. Wah received his BS and MS in Electrical Engineering and Computer Science from Columbia University, USA, then furthered his studies at the University of California, Berkeley, obtaining MS in Computer Science and a PhD in Engineering. Dr. Wah began his teaching career at Purdue University and later joined the University of Illinois in 1985. Wah is an expert in non-linear programming, multimedia signal processing and artificial intelligence. He has published numerous research articles in well-known professional journals. He is the author of two books, and Editor-in-Chief of Wiley's Encyclopedia of Computer Science and Engineering, and has contributed to many edited books and book chapters. He has served on many journal editorial boards. Professor Wah has received numerous honors and awards for his distinguished academic and professional achievements, including the IEEE Computer Society Tsutomu Kanai Award, the IEEE Computer Society W. Wallace McDowell Award, the IEEE Computer Society Richard E. Merwin Distinguished Service Award, the Pan Wen Yuan Foundation Outstanding Research Award, the Web Intelligence Consortium Outstanding Contribution Award and the IEEE Third Millennium Medal. He has been elected Fellow of the American Association for the Advancement of Science, Fellow of IEEE, and Fellow of the Association for Computing Machinery. He also holds many Endowed Professorships and Honorary Professorships in leading universities in the United States of America and in Asia. Professor Wah

TUESDAY, June 5, 2012

CONFERENCE OPENING ADDRESS

Dr. Benjamin Wah

9:30 am- 10:00 am, Tuesday, June 5
Room: A101

was President-Elect and President of IEEE Computer Society during the years 2000–2001. He has been a member of the Research Grants Council of Hong Kong since July 2005 and Chairman of its Engineering Panel since 2006

PLENARY SESSION - I

George and Ronya Kozmetsky Memorial Lecture

Dr. Al Sacco Jr.

10:00 am - 10:30 am, Tuesday, June 5
Room: A101



Dr. Al Sacco Jr.

*Dean
Edward E. Whitacre Jr.
College of Engineering
Texas Tech University*

Al Sacco Jr. is Dean of the Edward E. Whitacre Jr. College of Engineering at Texas Tech University in Lubbock Texas. Before coming to Texas Tech, he was the George A. Snell Distinguished Professor of Engineering and the director of

the Center for Advanced Microgravity Materials Processing at Northeastern University.

He flew as the payload specialist on the Space Shuttle Columbia on shuttle mission STS-73 in 1995. The 16-day mission aboard Columbia focused on materials science, biotechnology, combustion science and fluid mechanics contained within the pressurized Spacelab module.

Born in Boston, Mass., Sacco completed a bachelor's degree in chemical engineering from Northeastern University in Boston in 1973, and a doctorate in chemical engineering from the Massachusetts Institute of Technology in 1977. He then joined the faculty of the Worcester Polytechnic Institute, becoming a full professor and serving as the chair of the chemical engineering department from 1989 until 1997, when he joined the faculty at Northeastern. He has consulted for numerous companies in the fields of catalysis, solid/gas contacting, zeolite synthesis and applications, and equipment design for space applications.

Sacco has more than 192 publications (including book chapters) in the areas of carbon filament initiation and growth, transition metal and acid catalyst and their deactivation, and zeolite synthesis, and he has been the principal investigator on more than \$24 million in research grants. Using his space flight experience, Sacco has given more than 300 presentations to approximately 27,000 K-12 teachers and their students as a means to motivate students to consider careers in science and engineering. He is a fellow of the American Institute of Chemical Engineers and in 2004 was elected to the International Academy of Astronautics.

KEYNOTE PANEL - I

IN HONOR OF

PROFESSOR C. V. RAMAMOORTHY

*21st century Software
Engineering*

Moderator: Dr. Raymond T. Yeh

11:00 am - 12:30 pm, Tuesday June 5
Room: A101

KEYNOTE PANEL - I KEYNOTE ADDRESS

Professor C. V. Ramamoorthy

University of California, Berkeley, CA



Professor C.V. Ramamoorthy
*University of California
Berkeley, CA*

Dr. Ramamoorthy's distinguished career tracks back to the 1960s. In 1961, while working as a scientist for Honeywell, Ramamoorthy developed the entire microcode to handle instruction sequencing and control for the H290, Honeywell's first transistorized system. The H290 was a general-purpose, stored-program digital computer designed for process monitoring and control. In the late 1960s, Ramamoorthy joined the University of Texas, Austin, as a professor of electrical engineering and computer science, later becoming chair of the computer science department. At UC Berkeley, where he joined the faculty in 1972, Ramamoorthy is an emeritus professor of Electrical Engineering and computer science. Most recently, his research investigations have focused on service industries, functions, features, and control and the relationships between software and service engineering. IEEE Society has honored Ramamoorthy's achievements with the Taylor L. Booth Education Award in 1989, the Richard E. Merwin Distinguished Service Award in 1993, Golden Core recognition in 1966, and Tsutomu Kanai Award in 2000. He also received the IEEE Centennial Medal and the IEEE Third Millennium Medal. He has been an IEEE Fellow since 1978 and is a Fellow of the Society for Design and Process Science, from which he received the R.T. Yeh Distinguished Achievement Award in 1997. A longtime Computer Society volunteer, Ramamoorthy was founding editor in chief of IEEE Transactions on Knowledge and Data Engineering and served as editor in chief of IEEE Transactions on Software Engineering. He holds two undergraduate degrees in Physics from India. He obtained two graduate degrees in Mechanical Engineering from University of California at Berkeley, and two graduate degrees in Applied Mathematics and Computer Sciences from Harvard.

KEYNOTE PANEL - I DISTINGUISHED SPEAKERS



Dr. W.T. Chen
*National Professor of Taiwan
at NTHU
Director of the Taiwan's National
Research Institute*

W.T. Chen was the former president of the National Tsing Hua University in Taiwan. Currently he is the Head of the Taiwan's National Research Institute. He has been with the National Tsing Hua University since 1976 and is currently a Chair Professor of the Department of Computer Science. He has served as Department Chairman, Dean of College of Electrical Engineering & Computer Science, and Director of Science & Technology Advisory Office, Ministry of Education. He has consulted in various levels of Taiwan Government and served as a member of many planning and technical review boards. For 15 years, Professor Chen has served as Co-Chairman and Chairman of the Technical Evaluation Board of the Ministry of Economic Affairs for Promoting High-Tech Products and Technologies, which is recognized as most pivotal in promoting industrial technologies in Taiwan. Professor Chen pioneered the design of computer networks and parallel systems in early 1980s. He is currently leading a project for design and applications of advanced information networks. He has received numerous awards for his achievements in computer networking and parallel processing, including Outstanding Research Awards of the National Science Council, National Chair of the Ministry of Education, and Technical Achievement Award of the IEEE Computer Society. Professor Chen was the General Chair of the 2000 IEEE International Conference on Distributed Computing Systems and the Founding General Chair of the IEEE International Conference on Parallel and Distributed Systems. He is an IEEE Fellow.



Dr. Benjamin Wah
*Provost
The Chinese University of
Hong Kong*

(See opening address for short bio)



(See Plenary Session VII for short bio)

Dr. Bhavani Thuraisingham
*Louis A. Beecherl, Jr. I,
Distinguished Professor
Director of the Cyber
Security Research Center
The University of Texas at Dallas*



(See Plenary Session IX for short bio)

Dr. Phillip C. Y. Sheu
*Professor
EECS and Biomedical Eng.
University of California, Irvine*

PLENARY SESSION - II

Dr. Kinji Mori

1:30 pm - 2:00 pm, Tuesday, June 5
Room: A101



Dr. Kinji Mori
*Professor
Department of Management of
Technology
Tokyo Institute of Technology
Tokyo, Japan*

Dr. Kinji Mori is a professor, Department of Computer Science since 1997 after he worked at Hitachi as Researcher and Chief Researcher for 23 years and also a professor of Department of Management of Technology, Tokyo Institute of Technology since 2005. He contributed to found Department of Management of Technology, Tokyo Institute of Technology, Japan in 2005.

Dr. Mori is a Fellow of two professional societies - IEEE (Institute of Electrical and Electronics Engineers) and IEICE (Institute of Electronics, Information and Communication Engineers, Japan). His contributions were also recognized by the many highly prestigious awards conferred upon him. One of the most prestigious awards he received includes the Special Distinguished Ichimura Award for contribution to the Science, Engineering, and Industry with the cash award of 10,000,000 Japanese Yen (=US\$100,000), conferred by the Honorable Prince Mikasanomiya. He donated this cash award to the IEEE Computer Society to found the IEEE annual Kanai Award for outstanding contributions in the area of distributed computing systems. He also received Japan Patent Awards, and the Research Achievement Award in Japan and so on.

Dr. Mori's outstanding achievements and extraordinary research impacts also include more than 350 patents registered internationally; foundation of several IEEE sponsored international conferences e.g., International Symposium on Autonomous Decentralized Systems (ISADS) founded in 1993; and over 500 papers in archived journals, books, and international conferences. Dr. Mori made fundamental contributions to the field of reliable and maintainable distributed computer systems. In 1977, he proposed a completely new system concept named Autonomous Decentralized Systems (ADS), and on the basis of ADS concept, consistently contributes to ADS architecture construction, technologies invention, product designing, business planning, implementation, de-facto standardization and foundation of international conferences. The ADS concept-oriented technologies and innovative applications have been expanded in the field of not only control systems but also information systems. For example, Japanese Shinkansen Bullet Train (High Speed Railway) control and information System, Autonomous Decentralized Transport Operation Control System(ATOS) for Tokyo metropolitan railway system, IC-Card system(Suica) not only for fare collection by railways, busses and the other transportation in all over Japan but also for e-commerce, Steel Production Process Control System for Kawasaki Steel Co., which are among the largest industrial systems in the world, and many other control and information systems, were developed by applying the ADS architecture and technologies. They have been operated well and show the effectiveness of the ADS technologies. The sales volume of the ADS is now over US\$5 billion. Since the proposition of the ADS in 1977, the ADS technologies and applications have been expanding in the world.

PLENARY SESSION - III

Professor Basarab Nicolescu

2:00 pm - 2:30 pm, Tuesday, June 5

Room: A101



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

THE NEED FOR TRANSDISCIPLINARITY IN HIGHER EDUCATION IN A GLOBALIZED WORLD

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. Founding member of ISSR. President-Founder of the International Center for Transdisciplinary Research and Studies (CIRET), a non-profit organization (165 members from 26 countries), which has a web site at : <http://basarab.nicolescu.perso.sfr.fr/ciret/index.htm>. 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 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 : *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 recently 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.perso.sfr.fr/Basarab/index.html>

PLENARY SESSION - IV

Joint Plenary Talk

*Dr. Patricia Rosenfield and
Dr. Frank Kessel*

2:30 pm - 3:00 pm, Tuesday, June 5

Room: A101



Dr. Patricia Rosenfield
*Carnegie Scholar in Residence
Rockefeller Archives Center*

THE PROMISE(S) AND POSSIBLE PERILS OF TRANSDISCIPLINARY RESEARCH: BACK TO THE FUTURE (2.0)?

As of November 2011, Patricia Rosenfield is pursuing a program to develop a framework for global philanthropy around shared values at the Rockefeller Archives Center in Sleepy Hollow, New York. As chair of the Future Generations Board of Trustees, she is guiding a restructuring of the institution to become an incubator of social change innovations drawing on its global base of country programs and alumni from its graduate school. Moreover, as part of Carnegie Corporation's Centennial activities, Rosenfield has completed a history of the Corporation's one hundred years of grantmaking overseas and on international affairs in the United States. The expected publication date is mid-2012. She is also serving as Centennial Advisor to Carnegie Corporation.

Rosenfield stepped down in October 2011 as the Program Director for the Carnegie Scholars Program, which she helped launch in 2000. The program initially supported individual scholarship in the Corporation's fields of interest. Beginning in October 2004, the Scholars Program focused on support of scholars working on issues related to Islam and Muslim societies and communities. Rosenfield led the Corporation's program on strengthening human resources in developing countries from 1990-1998 and the program on international development from 1998-2000. From 1999-2007, concurrently with chairing the Scholars Program, she served as special advisor to the vice president and director for strategic planning and program coordination.

Prior to joining Carnegie in 1987, Rosenfield developed and managed the social and economic research component of the UNDP/World Bank/World Health Organization Special Program for Research and Training in Tropical Diseases and was the program economist. From 1979 to 1986, she worked with the Edna McConnell Clark Foundation as a member and chair of the Foundation's Tropical Disease Advisory Committee. Earlier she worked on problems of environment and development at Resources for the Future, an environmental economics research institute based in Washington, D.C. Rosenfield holds an A.B., cum laude from Bryn Mawr College and a Ph.D. from Johns Hopkins University's Department of Geography and Environmental Engineering. She was chosen as a Rockefeller Foundation Environmental Affairs Fellow in 1975 and worked, in part, with the foundation's schistosomiasis project in Saint Lucia. She received an honorary doctorate in social science from Mahidol University in Bangkok, Thailand in 1998.

Rosenfield is an active member of the Council on Foreign Relations and the Century Association. She serves on the International Advisory Committee of the Wagner School of Public Policy of New York University, where she had been an adjunct professor from 2000 to 2003. She currently serves as a member of the board of the Harry Frank Guggenheim Foundation, Global Fund for Children, Future Generations, and World Scout Foundation USA. Over the period 1990-2010, she has been a member of the Johns Hopkins University Alumni Council for the Whiting School of Engineering, the International Committee of the Council on Foundations and the Council- European Foundation Centre's Joint Working group on Principles of Accountability for International Grantmaking, the Committee of Reference on Corporate Social Responsibility for Friends Ivory Sime, Inc., the School Committee of Friends Seminary, the National Advisory Committee to the Presidential Search Committee for Spelman College, the Conference Committee of the New York Academy of Sciences and the Steering Committee of the Markle Foundation's Global Digital Opportunity Initiative. She chaired the Bio-Behavioral-Social Perspectives on Health Working Group, an interdisciplinary health project for the Social Science Research Council and the National Institutes of Health Office of Behavioral and Social Sciences from 1999-2002. Rosenfield has written extensively on health, economics and interdisciplinary research approaches and has served as an advisory editor for Social Science and Medicine. In May 2003, Oxford University Press published *Expanding the Boundaries of Health and Social Sciences*, co-edited by Rosenfield, Frank Kessel and Norman Anderson (a revised second edition, re-titled *Interdisciplinary Research*, was published in winter, 2008). An article on "The Ethics of international Grantmaking", co-authored by Rosenfield, Courtenay Sprague and

Heather McKay was published in the winter 2004 special issue on "Leadership, Values and Ethics" of the Journal of Leadership and Organizational Studies. Computer Society Technical Committee on Semantic Computing, founder of the IEEE International Conference on Semantic Computing and the IEEE International Conference on Internet Operating Systems, founding editor-in-chief of the International Journal of Semantic Computing, and a main author of the book *Semantic Computing* (eds. P. Sheu, H. Yu, C.V. Ramamoorthy, A. Joshi and L.A. Zadeh, Wiley & IEEE Press, 2010).



Dr. Frank Kessel
*Professor, Individual, Family and
 Community Education, and
 Senior Fellow in the Robert Wood
 Johnson Foundation Center for
 Health Policy at the University of
 New Mexico*

Frank Kessel is a Professor in the College of Education at the University of New Mexico (UNM), where he is also a Senior Fellow and member of the leadership team in the Robert Wood Johnson Foundation Center for Health Policy. Prior to joining UNM in the fall of 2005, Kessel completed a 12-year spell as Program Director for the Culture, Health and Human Development Program at the Social Science Research Council (SSRC) in New York. Also responsible for SSRC initiatives at the intersection of the social, psychological and bio-medical sciences, he has consulted with Canadian groups engaged in inter-disciplinary research on health, advised the National Cancer Institute on its "Science of Team Science" initiative, and contributed to several national and international conferences and publications in the area of Inter/Trans-Disciplinarity. Also, building on his work with the SSRC's Program on the Arts, Kessel guided the School of American Ballet through a process that laid the ground for significant institutional innovation.

With a primary interest in human development and ancillary issues in the philosophy and history of psychology and the social sciences, as well as matters at the intersection of psychology with education and the humanities, Kessel has held academic positions at the University of Houston, the University of Alberta, and the University of Cape Town. He has also been involved in international early education efforts, first as Research Director of the Early Learning Centre in Cape Town and then as Scientific Associate at the Bernard van Leer Foundation in The Hague. His further connection to the philanthropy sector came as Senior Program Associate at the William T. Grant Foundation in New York.

A major thread in most of these endeavors is Kessel's commitment to facilitating creative conversations across conventional disciplinary and sub-disciplinary lines. This has been reflected in the numerous conferences and symposia he has organized and the range of volumes he has edited, but perhaps most completely in Kessel's programmatic work at the SSRC, where he helped bring to fruition the collective work of a variety of inter-disciplinary, sometimes international, groups of scholars. In a related vein, he has consistently been concerned with the reciprocal engagement of research and scholarship with broader social issues.

Kessel is an elected Fellow of both the American Psychological Association and the Association for Psychological Science and a member of several other professional organizations. He received his Ph.D. from the University of Minnesota and his M.A. at the University of Cape Town.

KEYNOTE PANEL - II
21st Century Entrepreneurship
 Moderator: Bob Block
 3:30 pm - 5:00 pm, Tuesday, June 5
 Room: A101

KEYNOTE PANEL - II
KEYNOTE ADDRESS
Bob Block



Bob Block
*Founder and Managing
 Partner of LiTricity*

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.

KEYNOTE PANEL - II
DISTINGUISHED SPEAKERS



Dr. Juan M. Sanchez
*Vice President for Research
 The University of
 Texas at Austin, TX*

Dr. Juan M. Sanchez is the 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 As-

sociation of American Universities; on the Board of Directors as Council Vice Chair for the Oak Ridge Associated Universities, and the Texas Nanotechnology Initiative. He also serves as a Representative to the Government-University-Industry Research Roundtable of the National Academies, as Trustee for the Southeastern Universities Research Association, Inc, a past member of the Board of Visitors of the US Army War College, Member of the International Consulting Board, the National Scientific and Policy Advisory Council for the Hogg Foundation for Mental Health, and Member of the AusTech Alliance of the Greater Austin Chamber of Commerce.



Jerry Dong
President and CEO of
Shanghai Hi-touch Culture
& Arts Co., Ltd.

Jerry Dong is the President & CEO of Shanghai Hi-touch Culture & Arts Co., Ltd. Mr. Dong was formerly the general manager of Landmark Entertainment Group, China Division. During the past 15 years, Mr. Dong has been dedicated to the communication and development of entertainment and cultural business between China and America. With an excellent Sino-US united international team that has the background of Hollywood themed entertainment production and collaborates the Chinese current situation and cultural background, Hi-touch is a professional company that specializes in the creation, production, operation and capital fund raising for themed entertainment venues, urban cultural developments and entertainment venues.

After living in America for several years, Mr. Dong returned to Shanghai China in 2003 and set up a themed entertainment creation and production team in Shanghai. He and his team have successfully applied the western/Hollywood creative process and techniques to a variety of Chinese cultural and practical situation in China and Asia, creating for Asian clients (including South Korea) marvelous cultural themed entertainment works, including 3D fly through for all the projects.

Over the years, Mr. Dong has not only been influenced by the Hollywood movie and entertainment themed art, but also has established extensive interpersonal relations and partners in the field of cultural creation, production and operation. Mr. Dong is also experienced and efficient in the financing and planning of themed entertainment estate property projects.

CONFERENCE DINNER

Story of a Vocational High School

7:00 pm - 9:30 pm, Tuesday June 5

Room: Splendor II, 13F
Splendor Hotel

DINNER SPEAKERS



Dr. Raymond T. Yeh
TheATLAS
Honorary Board member

Dr. Raymond Yeh is a senior research fellow at *IC2 Institute* at the University of Texas at Austin, and a Chair Professor at Asia University (Taiwan). He taught at several universities for 20 years and helped two Computer Science departments to achieve top ten national rankings. Dr. Yeh held the CDC Endowed Chair Professor at the University of Minnesota in 1983, and has been an honorary professor at several universities. He has published ten technical books and coauthored two business books.

As the founding editor-in-chief of the *IEEE Transactions on Software Engineering*, and founder of the *IEEE International Conference on Software Engineering (ICSE)*, he helped to develop *Software Engineering* to be a formal academic discipline.

He co-founded two successful software companies and had been a management consultant to many nations, and worked with executives of many leading edge global companies as well as with founders of many start-up enterprises.

He is a fellow of Institute of Electrical and Electronic Engineers (IEEE), the Society for Design and Process Science (SDPS) and was an honorary research fellow of Fujitsu's International Institute. Dr. Yeh is a recipient of the Pioneer in Information Technology Award from the government of Taiwan, IEEE Centennial Medal, and the ATLAS Gold Medal, among others.

WEDNESDAY, June 6, 2012

PLENARY SESSION - V

Da Hsuan Feng

9:00 am - 9:30 am, Wednesday, June 6
Room: A101



Dr. Da Hsuan Feng
Vice President of
Global Strategy, Development,
and Evaluation
National Tsing Hua University
Taiwan

CHALLENGES OF HIGHER EDUCATION: GLOBAL PERSPECTIVE

He became the M. Russell Wehr Chair Professor of Physics of Drexel University. During his tenure at Drexel University, he also held appointments as Director of Theoretical Physics of the United States National Science Foundation, visiting professor of Niels Bohr Institute of the University of Copenhagen and United Kingdom Daresbury Laboratory. Feng was a consultant for three National Laboratories in the United States, Los Alamos, Oak Ridge and Brookhaven and UK's Daresbury Laboratory.

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. From 1998-2000, he became the Vice President of Science Applications International Corporation (SAIC.) His portfolio included affairs in the four States in northeast United States: New Jersey, Maryland, Pennsylvania and Delaware. SAIC is a Fortune 500 international corporation. 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.

From 2001-2007, Feng assumed the position as Vice President for Research and Economic Development of the University of Texas at Dallas (UTD.) During his tenure at UTD, research expenditure increased three-fold, from \$14 million in 2001 to nearly \$50 million in 2006. Likewise, the intellectual strengths of UTD also significantly enhanced. He personally recruited two Nobel laureates (the late-Alan G. MacDiarmid, chemistry laureate in 2000 and Russell Hulse, physics laureate in 1993), the former European Space Agency director and the entire nanotechnology team from Honeywell R&D division in Morristown, New Jersey. He also secured a \$1 Million endowed James Von Ehr chair of science and technology which was held by the late-Alan MacDiarmid.

He also initiated a consortium of seven universities in Texas known as the Strategic Partnership for Research in Nanotechnology (SPRING) and followed through with a \$41.5 million earmark funded, located \$1.5 million and \$1 million earmark funds respectively for Sickle Cell and Texas border disease tracking studies, funded a “nano-at-the-border” program to accelerate the research infrastructures of two Texas border universities. He also cultivated industrial collaborative relations, such as the Oracle Spatial Data Center.

In 2007, Feng was one of the founding members of the powerful Advisory Board of the Britton Chance Center for Biomedical Photonics of China’s Huazhong University of Science and Technology in Wuhan, Hubei Province. In 2009, in recognition of his contribution to the development of science and technology of the province of Hubei, Feng was awarded the Chime-Bell Award.

In 1996, for (his) outstanding contributions to the understanding of nuclear structure physics, particularly for the applications of the coherent states to physics and nuclear physics,” Feng received the accolade Fellow of the American Physical Society. Feng has published over 180 refereed papers in nuclear physics, nuclear astrophysics, quantum optics and mathematical physics. He was the editor of twenty books on conference proceedings, and presented numerous invited talks in International Conferences. Feng has directed six doc-

CONFERENCE DINNER
TUESDAY, June 5, 2012
7:00 pm - 9:30 pm

CONFERENCE LUNCHEON
Wednesday, June 6, 2012
12:30 pm - 1:30 pm

PLENARY SESSION - VI

Juan M. Sanchez

9:30 am - 10:00 am, Wednesday, June 6
Room: A101



Dr. Juan M. Sanchez
*Vice President for Research
The University of
Texas at Austin, TX*

(See Keynote Panel II for short bio)

PLENARY SESSION - VII

Dr. Bhavani Thuraisingham

10:00 am - 10:30 am, Wednesday, June 6
Room: A101



Dr. Bhavani Thuraisingham
*Louis A. Beecherl, Jr. I,
Distinguished Professor
Director of the Cyber
Security Research Center
The University of Texas at Dallas*

Dr. Bhavani Thuraisingham is the Louis A. Beecherl, Jr. I Distinguished Professor and Director of the Cyber Security Research Center (CSRC) at The University of Texas at Dallas. She is an elected Fellow of IEEE, the AAAS, the British Computer Society, the SPDS (Society for Design and Process Science) and the Society of Information Reuse and Integration (subcommittee of IEEE Systems, Man and Cybernetics Society). The recipient of numerous awards, she has over 30 years experience in industry, MITRE, NSF and Academia. Her work has resulted in 100+ journal articles, 200+ conference papers, three US patents and 12 books. Under her leadership, CSRC has generated \$16 million in research and education funding from AFOSR, NSF, IARPA, NGA, NASA, ONR, NIH, Raytheon, Tektronix and others.

KEYNOTE PANEL - III

IN HONOR OF

DR. CHANG-HAI TSAI

21st century Higher Education

Moderator: Dr. Jeffery J. P. Tsai

11:00 am - 12:30 pm, Wednesday June 6
Room: A101

KEYNOTE PANEL - III
KEYNOTE ADDRESS

Dr. Chang-Hai Tsai



Dr. Chang-Hai Tsai
*Chairman of the Board
China Medical University
Taichung, Taiwan*

Dr. Tsai received his doctor of medicine from Teikyo University, Japan. He has been involved in research, teaching, and the practice medicine at China Medical University in Taichung, Taiwan. While his research has been well regarded, he became famous during the 2003-2004 SARS epidemics as the Commander of Mid-Taiwan SARS Control and Medical Resources Integration Commanding Center for his outstanding achievement in the prevention of SARS spreading for which he has received a special high honor award from the Executive Yuan of the Taiwan government.

Dr. Tsai is currently the Chairman of the board of the China Medical University which has the 3rd largest hospital under its management. Under his leadership, both the university and the hospital are expanding rapidly both in academic research and teaching as well as working with global partners such as building the largest cancer research center with M. D. Anderson Hospital in Taiwan.

Dr. Tsai has always had a passion for education. He is the founder and chairman of the Asia University in Taichung, Taiwan. Although it is barely six years old, it has achieved some spectacular landmarks in the higher education system of Taiwan.

For his work both as a physician, an educator, and social entrepreneur, Dr. Tsai received many awards. He is also an advisor to national policy in the President's office.

KEYNOTE PANEL - III DISTINGUISHED SPEAKERS



Dr. Chung Y. Hsu
CEO
*China Medical University
Healthcare System
Taichung, Taiwan*

Dr. Chung Y. Hsu is the CEO of the China Medical University Healthcare System, and Chair Professor at China Medical University. He received his M.D. from National Taiwan University and Ph.D. in Neuropharmacology from University of Virginia in the United States. Dr. Hsu's academic and professional appointments in the United States (1971 – 2002) include Elliott H. Stein Professor and Director, The Stroke Center, Washington University, School of Medicine and Barnes-Jewish Hospital, St. Louis, USA and President, the National Neurotrauma Society, USA.

Dr. Hsu received a number of academic achievement awards in the US, including NIH-NINDS Javits Neuroscience Investigator Award; NIH-NINDS Teacher-Investigator Development Award; Vivian L. Smith Foundation Distinguished Research Award; Taiwanese-American Foundation Award, 1997. He was the chair of 12 NIH special committees or review teams and 2 American Heart Association review committees and Washington University PI in 32 multi-center or multinational clinical trials in stroke.

In Taiwan, Dr. Hsu's key appointments include President of Taipei Medical University (2002 – 2008), President of Taiwan Neuroscience Society, President of Taiwan Stroke Society. He was the PI of the Department of Health Clinical Trial and Research Center of Excellence for Stroke and Traumatic Head Injury at Taipei Medical University (2006 – 2010) and is the PI of the Department of Health Clinical Trial and Research Center of Excellence for Stroke at China Medical University. He is a Member of the Board of Directors of the National Health Research Institute, Taiwan. and Institute for Biotechnology and Medicine Industry (IBMI). Dr. Hsu has been serving as the Chair of the Review Committee for the IBMI Symbol of National Quality Awards for hospitals and clinics.

He also served as the Chair of the Review Committee for the Taipei Biotechnology Awards in 2006 and 2009. Dr. Hsu established the Taiwan Stroke Registry which is currently the second largest stroke registry database in the world and a study that assessed 30,599 stroke admissions in 38 hospitals island wide between 2006 and 2008. Dr. Hsu has published more than 290 research articles including those that appeared in Science, JAMA and other top journals and served as editor or co-editor of 5 monographs on stroke and related neurovascular disorders.



Dr. Jong-Tsun Huang
President
*China Medical University
Taichung, Taiwan*

Dr. Jong-Tsun Huang is the President of the China Medical University in Taichung, Taiwan. He received his BS, MS and Ph.D. in 1969, 1972 and 1976, respectively, from the National Taiwan University. He served as the president of the Chinese Psychological Association in 1992-1994, Research Fellow, Academia Sinica in 1984-1994, Professor, Department of Psychology, National Taiwan University in 1983-2000 and Visiting Scholar at Harvard University, Carnegie-Mellon University, and UCLA in 1982-1983. He is also serving as the President of Foundation for Advancement of Private Schools since 2005.

His research interests are human perception, cognitive science and Educational Studies. His other professional experiences include: member of American Psychological Association, member of ARVO, NYAS, and AAAS, Executive Board Member, Taiwan Psychological Association, Executive Board Member, Taiwan Acoustical Association, President, Taipei Society, President, Y. T. Lee Foundation for Science Education, consultant, Aviation Medical Center, Civil Aeronautical Administration, Committee member for Environmental Impact Assessment, Environmental Protection Agency, member for Council on Education Reform in the Cabinet, Advisory Board Member, Neurobiology and Cognitive Science Center, National Taiwan University, Advisory Board Member on Humanities and Social Sciences, National Science Council, Executive Board Member, Academic Review Committee of Ministry of Education.

CONFERENCE LUNCHEON SPEAKER

Dr. Sarah Gehlert

12:30 pm - 1:30 pm, Wednesday June 6



Dr. Sarah Gehlert
*E. Desmond Lee Professor
of Racial and Ethnic Diversity
Washington University in
St. Louis, USA*

Sarah Gehlert, Ph.D. is the E. Desmond Lee Professor of Racial and Ethnic Diversity at the Brown School and in the Department of Surgery of the School of Medicine. She is a scholar in Washington University's Institute of Public Health and serves on its Faculty Advisory Committee. Dr. Gehlert is the Co-Program Leader of the Prevention and Control Program of the Alvin J. Site man Cancer Center, Co-Director of the Transdisciplinary Center on Energetics and Cancer (TREC), and Training Program Director of the Program for the Elimination of Cancer Disparities (PECaD). Dr. Gehlert serves on the Executive Committee of the university's Institute for Clinical and Translational Science (a CTSA) and the Co-Chair of the Center for Community-Engaged Research.

Dr. Gehlert joined the Brown School in 2009 from the University of Chicago where she was the Helen Ross Professor in the School of Social Service Administration (SSA), the Institute for Mind and Biology, and the Department of Comparative Human development. While at the School of Social Service Administration, Dr. Gehlert served as the Deputy Dean for Research. She was the Associate Director of the University of Chicago's NIH-funded Institute for Translational Medicine (a CTSA) and co-chaired its Community Translation Science Cluster. She was also the Principal Investigator and Director of the university's NIH-funded Center for Interdisciplinary Health Disparities Research. She directed the university's Maternal and Child Health training Program from 1992-1998 and was Principal Investigator on an NIMH-funded community-based study of rural and urban women's health and mental health from 1997-2001. She was Co-Principal Investigator and Core Leader of the Health Disparities and Communities Core of the CDC-funded Chicago Center of Excellence in Health Promotion Economic from 2004-2007.

Dr. Gehlert's publications focus on social influences on health, especially the health of vulnerable populations. She currently is working on the influences of neighborhood and community violence and unsafe housing on psychosocial functioning among African-American women newly diagnosed with breast cancer, with an eye toward how these factors "get under the skin" to affect gene expression and tumorigenesis. She has a special interest in the biology of women's behavior.

Dr. Gehlert is a member of the Board of Scientific Counselors of the National Human Genome Research Institute at NIH, which is a federal appointment. She is Co-Chair of the Population Health Advisory Committee of the Office of Behavioral and Social Science Research at NIH. She is a chartered member of NIH's Community-Level Health Promotion Scientific Review Panel and a member of the scientific review panel for Oncology Social Work at the American Cancer Society.

Dr. Gehlert is a Fellow in the American Association of Social Work and Social Welfare. She is Past President of the Society for Social Work and Research and serves on the editorial boards of *Health & Social Work*, *Social Work Research*, *Social Service Review*, *Research in Social Work Practice*, and *Oxford Bibliographies Online (Social Work)*.

PLENARY SESSION - VIII

Dr. W. T. Chen

1:30 pm - 2:00 pm, Wednesday, June 6
Room: A101



Dr. W.T. Chen
*National Professor of Taiwan
at NTHU
Director of the Taiwan's National
Research Institute*

(See Keynote Panel I for short bio)

KEYNOTE PANEL - IV

Educating for Transdisciplinary Futures

Moderator: Dr. James Smith
2:00 pm - 3:30 pm, Wednesday, June 6
Room: A101

Panel objective

Education is key to the success of transdisciplinary (TD) research. However, models and best practices are not widely known. The panel will explore current approaches in transdisciplinary education and training. Julie Thompson Klein will present an overview of the variety of forms, structures, and processes, as well as key components, competencies, and challenges. Christian Pohl will present lessons from the Swiss context and field of sustainability field, with emphasis on Ph.D.-level preparation for "how to do it in practice." Eunsook Hyun will focus on how universities are attempting to transform their curriculum, research, and teaching toward a transdisciplinary approach, with examples. Alan Barhorst will focus on lessons from Engineering education.

- Julie Thompson Klein is Professor of Humanities in the English Department and Faculty Fellow for Interdisciplinary Development in the Division of Research at Wayne State University (USA).
- Christian Pohl is Co-Director of Transdisciplinarity-net (td-net) and teaches at the ETH-Zurich.
- Eunsook Hyun is Associate Provost, Professor of Curriculum Studies, and Director of the Office of International & Transnational Affairs at the University of Massachusetts (USA).
- Alan Barhorst is Professor of Mechanical Engineering at Texas Tech University (USA).



Dr. Julie Thompson Klein
*Professor, Humanities
Wayne State University*

Dr. Julie Thompson Klein is Professor of Humanities at Wayne State University in Detroit, Michigan (U.S.A.). Hold-

er of a Ph.D. in English from the University of Oregon, Dr. Klein is past president of the Association for Integrative Studies (AIS) and former editor of the AIS journal, *Issues in Integrative Studies*. Her books include *Interdisciplinarity: History, Theory, and Practice* (1990), *Interdisciplinary Studies Today* (co-edited, 1994), *Crossing Boundaries: Knowledge, Disciplinarity, and Interdisciplinarity* (1996), *Transdisciplinarity: Joint Problem Solving among Science, Technology, and Society* (co-edited, 2001), *Interdisciplinary Education in K-12 and College* (edited, 2002), the monograph *Mapping Interdisciplinary Studies* (1999), and *Humanities, Culture, and Interdisciplinarity: The Changing American Academy* (2005). She is also author of the forthcoming book *Creating Interdisciplinary Campus Cultures*, Associate Editor of the forthcoming Oxford Handbook on Interdisciplinarity, and author of numerous book chapters and journal articles.

Klein has received both national and international awards and invitations. She was elected to the Wayne State University Academy of Scholars and is a recipient of the President's Award for Excellence in Teaching, the Graduate Mentor Award, the Board of Governor's Distinguished Faculty Award, and the Board of Governors Distinguished Faculty Fellowship. She also won the final prize in the Eesteren-Fluck & Van Lohuizen Foundation's international competition for new research models, for her essay "Applying Interdisciplinary Models to Design, Planning, and Policy Making," and received the Kenneth Boulding Award for outstanding scholarship on interdisciplinarity. In addition, she has represented the United States at an OECD-sponsored international symposium on interdisciplinarity in Sweden and at UNESCO-sponsored symposia on transdisciplinarity in Portugal and in France. In 1997-98, she was Senior Fellow at the Association of American Colleges and Universities (AACU), and in Fall 2008 she was an invited Visiting Fellow in the Institute for the Humanities at the University of Michigan. Klein consults widely throughout North America. In addition to helping numerous colleges and universities develop interdisciplinary programs, she was a member of AACU's first national Task Force on Interdisciplinary Studies, served as a consultant for AACU's Asheville Institute on General Education, and was a member of AACU's national task force on Integrative Learning. From 1997-2000, Klein was a Member of the national Academic Assembly Council of The College Board, and from 1999-2000 served as a Member of the Association for Integrative Studies Task Force on Accreditation. In addition, she advised the National Institutes of Health, the National Academies of Science, and the National Science Foundation on interdisciplinary research and education.



Dr. Christian Pohl
*Co-Director
 Transdisciplinary-net of the
 Swiss-Academies of Art and
 Science, Switzerland*

Dr. Christian Pohl is co-director of the transdisciplinarity-net of the Swiss-Academies of Art and Science and senior researcher and lecturer at the Department of Environmental Sciences at ETH Zurich. He was trained in environmental sciences and wrote a doctoral thesis on how to handle uncertainties in environmental assessments by using fuzzy sets. As a postdoc he moved to the field of science and technology studies, where he analyzed the collaboration of natural and social scientist in Swiss and Swedish policy-driven environmental research. In 2003 he became co-director of td-net for transdisciplinary research of the Swiss Academies of Arts and Sciences (<http://www.transdisciplinarity.ch/e>). Td-net's aim is to strengthen research that addresses real-world issues and for that purpose bridges academic as well as non-academic expert knowledge. During the last years Christian Pohl's work at td-net focused on the methodological particularities of transdisciplinary knowledge production. Out of this work he published, amongst others, the Principles for Designing Transdisciplinary Research (2007) and co-edited the Handbook of Transdisciplinary Research (2008), both providing practical examples, theoretical basics and tools for collaborative knowledge production. Christian Pohl's main field of research and publication is the analysis and design of transdisciplinary research, specifically in the field of sustainability sciences, and with a particular interest in the collaboration between natural and social sciences and the science-policy interrelation (<http://www.envphil.ethz.ch/people/pohl/index>).



Dr. Eunsook Hyun
*Professor of Curriculum Studies,
 Associate Provost, and Director
 of International and Transnational
 Affairs, University of
 Massachusetts Boston*

Prof. Eunsook Hyun, Ph.D., is Professor, Associate Provost and Director of International and Transnational Affairs at the University of Massachusetts, Boston, USA. She is cur-

rently leading the University's development of academic and research programs with transdisciplinary, transnational, and transcultural (TTT) foci; directing International Visiting Scholar Academy (IVSA) program focusing on transdisciplinary teaching, research, and curriculum transformation in higher education; increasing the availability of study-abroad programs for both students and faculty; streamlining administrative processes for international students; and collaborating with campus members and international partners to enrich TTT elements of teaching, curriculum, research and engagements. She holds a Ph.D in Curriculum & Instruction focusing on Curriculum Studies from the Penn State University, Pennsylvania, USA. Prof. Hyun is an established scholar and experienced administrator in higher education. Through her scholarships, Prof. Hyun has widely published in many areas, including curriculum theorizing; higher education curriculum, developmentally and culturally appropriate practice (DCAP), early childhood education, teacher education, critical pedagogy, gender studies, bilingual education, theory of teacher reflectivity and multiple/multiethnic perspective-taking, inquiry-oriented reflective supervision, technology and young children, environmental education, academic deans' involvement/accountability in college students' academic success, internationalization of higher education institutions; and minority faculty recruitment and retention. Since 2002, Prof. Hyun is a selected member of the Professors of Curriculum, which is one of the highest honors in curriculum studies. Her books include Teachable moments: Re-conceptualizing curricula understandings- Studies in the Postmodern Theory of Education (2006), Making sense of developmentally and culturally appropriate practice (DCAP) in early childhood education (1998), Transformative Teaching and Curriculum Practice in Higher Education: Transdisciplinary Approach (in progress), etc. One of her recent articles is Transdisciplinary Higher Education Curriculum Transformation: A Complicated Cultural Artifact. Research in Higher Education Journal (2011).



Dr. Alan Barhorst
*Professor
 Mechanical Engineering
 Department
 Texas Tech University*

Dr. Alan Barhorst is Professor of Mechanical Engineering at Texas Tech University and participates in the Transdisciplinary PhD program there. Dr. Barhorst has served internationally as Mechanical Engineering Program Coordinator

for Texas A&M University at Qatar (Doha). Dr. Barhorst has had the opportunity to develop an Engineering degree program centered on Mechanical Engineering but incorporating significant liberal arts curricula for a private liberal arts university in Texas that is exploring expansion of its offerings into engineering. Dr. Barhorst's research interest span traditional Mechanical Engineering fields as well as bridging the disciplines in biology, paleontology, nano-science, and medicine. Dr. Barhorst has industrial experience in aerospace and petroleum industries.

THURSDAY, June 7 2012

PLENARY SESSION - IX
Dr. Phillip C. Y. Sheu
 9:00 am - 9:30 am, Thursday, June 7
 Room: A101



Dr. Phillip C. Y. Sheu
*Professor
 EECS and Biomedical Eng.
 University of California, Irvine*

**SEMANTIC COMPUTING FOR
 INTER-DISCIPLINARY ACTIVITIES.**

Dr. Phillip C.Y. Sheu is currently a professor of EECS and Biomedical Engineering at the University of California, Irvine. He received his Ph.D. and M. S. degrees from the University of California at Berkeley in Electrical Engineering and Computer Science. He has published two books: (1) Intelligent Robotic Planning Systems and (2) Software Engineering and Environment—An Object Oriented Perspective, and more than 100 papers in data/knowledge engineering and semantic computing.

Dr. Sheu is a Fellow of IEEE and SDPS, founder of the Institute for Semantic Computing, founding chair of the IEEE Computer Society Technical Committee on Semantic Computing, founder of the IEEE International Conference on Semantic Computing and the IEEE International Conference on

Internet Operating Systems, founding editor-in-chief of the International Journal of Semantic Computing, and a main author of the book Semantic Computing (eds. P. Sheu, H. Yu, C.V. Ramamoorthy, A. Joshi and L.A. Zadeh, Wiley & IEEE Press, 2010).

PLENARY SESSION - X

Dr. Jeffery J. P. Tsai

9:30 am - 10:00 am, Thursday, June 7
Room: A101



Dr. Jeffery J. P. Tsai
*President
Asia University
Taichung, Taiwan*

(See Opening Reception for short bio)

PLENARY SESSION - XI

Dr. Hakan Orer

10:00 am - 10:30 am, Thursday, June 7
Room: A101



Hakan S. Orer, MD
*Professor
Hacettepe University
Medical School, Ankara Turkey*

Current Situation of Transdisciplinary Research in Turkey

Hakan S. Orer received an MD degree from Hacettepe University Medical School (Ankara, Turkey) in 1986. He then completed his PhD thesis in Raul Laguzzi's laboratory at INSERM U 288 Neurobiologie Moléculaire et Fonctionnelle

(Paris, France), as a recipient of French Government scholarship (1989-91) and received a PhD degree in pharmacology in 1992 from Hacettepe University. He spent two years (1993-95) as a post-doctoral researcher at Gerard L. Gebber's laboratory at Michigan State University (E. Lansing, Michigan) and joined the Department of Pharmacology at Hacettepe University Medical School as Assistant Professor. He later obtained Associate Professor title in 1998, and became a full professor in 2003 at the same department.

Hakan S. Orer served as the director (dean) of the graduate studies in allied health sciences from 2003 to 2012 at Hacettepe University where he was responsible for the administration of more than 130 graduate programs. He is currently the head of laboratory animal resources and transgenic core (first comprehensive core in Turkish Universities) at Hacettepe Medical School and the chairman of All University Animal Experiments Ethics Committee. He is also a member of the National Ethics Committee for Animal Experiments and The National Commission for Bioethics (UNESCO). He served as treasurer of Turkish Pharmacological Society between 2003-2009.

Hakan S. Orer's main research interests are the autonomic control of the blood pressure and the generation of sympathetic tone. He has been a long-term collaborator of Susan M. Barman and Gerard L. Gebber of the Michigan State University. Using electrophysiological techniques, brain stem microinjections and signal analysis paradigms he has contributed in several studies to elucidate the role of rostral ventrolateral medulla and lateral tegmental field in the control of baroreceptor reflexes and the generation of sympathetic rhythms. Other fields of interest include rational pharmacotherapy education, bioethics, bioinformatics and transgenic mice models. Hakan S. Orer is recipient of Sandoz (Novartis) Science Award (1987) and Turkish Scientific and Technique Research Council Junior Scientist Award (1998).

KEYNOTE PANEL - V

Multi-National Research and Educational Programs

Moderator: Dr. James Smith

11:00 am - 12:30 pm, Thursday, June 7
Room: A101

Panel objective

Multinational, coordinated, cooperative, transdisciplinary international research projects will be discussed. In such a situ-

ation, the existence of scientific networks is the cornerstone of efficiency and project success. The objective of this panel is to understand the factors that encourage international collaborative research projects in a cross-cultural context and the influence of scientific networks in particular.

KEYNOTE PANEL - V KEYNOTE ADDRESS

Dr. Bruce Kramer

National Science Foundation (NSF)



Dr. Bruce M. Kramer
*National Science Foundation
Senior Advisor for Engineering
and coordinator of interdisciplinary
and cross-directorate activities in the
Division of Civil, Mechanical and
Manufacturing Innovation.*

NSF INTERNATIONAL ACTIVITIES

BRUCE M. KRAMER is a graduate of the Massachusetts Institute of Technology (S.B., S.M. 1972, Ph.D. 1979). Dr. Kramer co-founded and was Director of Engineering of Zoom Technologies, Inc. of Boston, Massachusetts, a NASDAQ company and leading producer of modems and wireless networking products marketed under the Zoom, Hayes, Practical Peripherals, and Global Village brands. He is the holder of three U.S. patents and has consulted to and conducted research projects on behalf of major industrial companies including General Electric, United Technologies, Boeing, Lockheed and Cincinnati Milacron. He served on the faculty of Mechanical Engineering at MIT from 1979 to 1985 and of George Washington University from 1985 to 1995. Since 1991, he has been at the National Science Foundation, as Program Director for Materials Processing and Manufacturing, Director of the Division of Design, Manufacture and Industrial Innovation, Director of the Division of Engineering Education and Centers, and coordinator of Nanoscale Science and Engineering Centers for the Directorate for Engineering. He is currently the Senior Advisor for Engineering and coordinator of interdisciplinary and cross-directorate programs in the Division of Civil, Mechanical and Manufacturing Innovation. Dr. Kramer studied Japanese manufacturing industries as a visiting researcher in the Department of Mechanical Engineering for Production at the University of Tokyo in 1989. During the 1998-99 academic year, he taught product development and manufacturing at the University of California, Berkeley as a

visiting scholar in the Department of Mechanical Engineering. Dr. Kramer was conferred the rank of Fellow of the School of Engineering at the University of Tokyo in 2007. He has also been awarded the F.W. Taylor Medal of the International Institution for Production Engineering Research, the Blackall Award of the American Society of Mechanical Engineers and the R.F. Bunshah Medal of the International Conference on Metallurgical Coatings, all in recognition of outstanding contributions to the manufacturing research literature. In 1996, he received the Distinguished Service Award, the highest honorary award granted by the National Science Foundation.

KEYNOTE PANEL - V DISTINGUISHED SPEAKERS



Dr. Raymond T. Yeh
TheATLAS
Honorary Board member



Dr. Jeffery J. P. Tsai
President
Asia University
Taichung, Taiwan



Atila Ertas
Professor
Mechanical Engineering
Department
Texas Tech University

Dr. A. Ertas, Professor of Mechanical Engineering, received his masters and Ph.D. from Texas A&M University. He had 12 years of industrial experience prior to pursuing graduate studies. Dr. A. Ertas has been the driving force behind the conception and the development of the transdisciplinary model for education and research. His pioneering efforts in trans-

disciplinary research and education have been recognized internationally by several awards. He is a Senior Research Fellow of the ICC Institute at the University of Texas Austin, a Fellow of ASME, and a Fellow of SDPS. Dr. Ertas has earned both national and international reputation in engineering design. Dr. Ertas published 4 books and edited more than 35 conference proceedings. Dr. Ertas' contributions to teaching and research have been recognized by numerous honors and awards. The honors and awards include: President's Excellence in Teaching; Pi Tau Sigma Best Professor Award; Pi Tau Sigma Outstanding Teaching Award; Halliburton Award in recognition of outstanding achievement and professionalism in education and research; College of Engineering Outstanding Researcher Award; George T. and Gladys Hanger Abell Faculty Award for overall excellence in teaching and research; and President's Academic Achievement Award. He also received the most prestigious SDPS George Kozmetsky Distinguished Achievement Award and Excellence in Leadership Award. Most recently, he was recognized as one of the distinguished former students of Texas A&M, Mechanical Engineering Department. He has published over 150 scientific papers that cover many engineering technical fields. He has been PI or Co-PI on over 50 funded research projects. Under his supervision more than 170 MS and Ph.D. graduate students have received degrees.

PLENARY SESSION - XIII Dr. Po Chi Wu

1:30 pm - 2:00 pm, Thursday, June 7
Room: A101



Dr. Po Chi Wu
Management Department,
School of Business &
Management
and
Mechanical Engineering
Department, HKUST, Hong Kong

LEADERSHIP AND SYSTEM DESIGN -- A TRANSDISCIPLINARY APPROACH TO ENTREPRENEURSHIP

Po Chi Wu, Ph.D., Adjunct Professor, Management Department, School of Business & Management and Department of Mechanical Engineering, School of Engineering, Hong Kong University of Science & Technology (HKUST)

As a venture capitalist and entrepreneur for more than 25 years, Dr. Wu has expressed his passion for innovation by investing in high-tech and life science companies in Silicon Valley, Taiwan and Southeast Asia. He has been Founder and President of Allegro Capital, Vice President and head of the west coast office for Advent International, and Executive Vice President of China Venture Management (subsidiary of China Development & Industrial Bank in Taipei, Taiwan). As an investor, he has been a director of private and public companies, and interim CEO. His early corporate experience includes having been Vice President for R&D of a small publicly held immunodiagnostics company. His involvement with China started 10 years ago, and led to co-founding Dragon-Bridge Capital in 2006, a merchant banking firm bridging Chinese and US technology companies. Through his teaching, at HKUST, the University of San Francisco, Peking University (Beijing), and at UC Berkeley, he has inspired and mentored many young entrepreneurs. He has a Ph.D. in Biochemistry & Molecular Biology from Princeton University and a B.A. in Mathematics & Music from the University of California at Berkeley.

KEYNOTE PANEL - VI

21 st Century Library :
A Transdisciplinary Platform

Moderator: Dr. Shu Liao

4:00 pm - 5:30 pm, Thursday, June 7
Room: A101

KEYNOTE PANEL - VI KEYNOTE ADDRESS

Prof. Ellen F. Liu



Prof. Ellen F. Liu
Retired professor, Graduate
Institute of Library and
Information Science,
National Chung Hsing University.

Ellen F. Liu is retired professor, Graduate Institute of Library and Information Science, National Chung Hsing University. She received her BA of English Literature from Tunghai University in Taiwan in 1963 and went to the U.S. for further education. In 1965 she received her MA of English Literature from Mount Holyoke College. In the same year she got married and continued her education and work, in between raising two children. She received a second MA of Anthropology from Southern Illinois University and a third MLS of Library and Information Science from Vanderbilt University.

With her education and work experience in the U.S., she returned to Taiwan in 1980 to teach and worked as the university librarian in both National Yang Ming Medical College and National Chung Hsing University for a total of 23 years. At the same time she served on various committees and as a member of board of directors, Library Association of the Republic of China. During her 15-year term at National Chung Hsing University, she undertook and accomplished two demanding tasks— founding of the Graduate Institute of Library and Information Science and building a new library after the earthquake of 1999. Her interests in teaching and research consist of collection development, user services, academic libraries, and library services for young adults. She has written and published 2 books and over thirty articles on these subjects. Since her retirement in Jan. 2006 she started to teach half-time and continued her advisory services.

KEYNOTE PANEL - VI DISTINGUISHED SPEAKERS



Dr. Shu Liao
*Department of Social Work
Asia University, Taiwan*

Dr. Shu Liao teaches at the Department of Social Work at Asia University in Taiwan. Her research interests include community service and learning as well as women empowerment. She co-founded the Service-Learning Division of Student Affairs, and Center for Advanced Research of Entrepreneurship (CARE)—a transdisciplinary research center in Asia University with Dr. Raymond Yeh and others. As the Librarian of the university, she envisions the library to be a transdisciplinary platform for the various departments at Asia University. She is a recipient of the social Justice Award in 2001, and a national

outstanding teacher award in service learning in 2008 among other recognitions.



Dr. Julie Thompson Klein
*Professor, Humanities
Wayne State University*

(See Keynote Panel IV for short bio)



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

(See Plenary Session III for short bio)

Opening Remarks

*Professor C. V. Ramamoorthy
and
Dr. Raymond T. Yeh*



Dr. Sumit Ghosh
*Chairman
Computer Science Department
The University of Texas at Tyler*

Dr. Sumit Ghosh was the recipient of the 2004 IEEE Computer Society's Technical Achievement Award. He was the Principal Investigator of a proposal on "Organic Semiconductor Modeling and Simulation," that was funded by US Senate and US House of Representatives under Special Appropriations through the US Army Research Lab. He received his B.Tech. degree from the Indian Institute of Technology at Kanpur (India), and his M.S. and Ph.D. degrees from Stanford University, CA. Sumit held the title of Thomas E. Hattrick Endowed Chaired Professor of Information Systems Engineering in the ECE Department at Stevens Institute of Technology in Hoboken, New Jersey; served as the associate chairman for research and graduate programs in the Computer Science and Engineering Department at Arizona State University; was on the faculty of Computer Engineering at Brown University, Providence, RI; served as Member of Technical Staff at Bell Labs Research (Area 11) in Holmdel, NJ; and worked as Member of the Technical Staff at Fairchild Advanced Research and Development Labs in Palo Alto, CA. He was the primary author of 5 reference books: Hardware Description Languages: Concepts and Principles (IEEE Press); Modeling and Asynchronous Distributed Simulation of Complex Systems (IEEE Press); Intelligent Transportation Systems: New Principles and Architectures (CRC Press); Principles of Secure Network Systems Design (Springer-Verlag); and Algorithm Design for Networked Information Technology Systems: Principles and Applications (Springer-Verlag). He co-edited the book titled, Guarding Your Business: A Management Approach to Security (Kluwer). He was co-editing a book titled, "Cybercrimes," with Elliot Turrini. He wrote 95+ transactions/journal papers and 100+ refereed conference papers. Sumit's research focused on fundamental and challenging yet practical, interdisciplinary problems that are of potential benefit to society.

FRIDAY, June 8, 2012

**SPECIAL SESSION ON
Software Engineering
IN MEMORY OF
DR. SUMIT GHOSH**
Session Chair: Dr. H. Yamaguchi

**9:00 am - 10:30 am, Friday, June 8
Room: A101**

His most recent interests were radically new types of computing engines, creativity and the physiological organization of the human brain, and a computing principles-based analytical foundation for the empirical disciplines of biology, business, chemistry, medicine, pharmacology, and law. Sumit's research were funded by US Army Research Office, US Ballistic Missile Defense Organization, National Science Foundation, Defense Advanced Research Projects Agency, US Army Research Lab, US Air Force Research Lab (Rome, NY), US Army Communications and Electronics Command (NJ), National Security Agency, Sandia National Labs, National Library of Medicine, MOTOROLA, INTEL, BELLCORE, NYNEX, MITRE, Electronics and Telecommunications Research Institute (Korea), IEEE Foundation, and US Congress. Dr. Sumit Ghosh, 53, passed away suddenly on July 25, 2011.

SESSION - I

Transdisciplinary Education and Research

4:00 pm - 5:00 pm, Wednesday, June 6
Room: A101

INVITED SESSION - I

Cloud Computing and Services

*Co-Session Developer & Chair: Ian Liao
and Min-Shiang Hwang*

2:00 pm - 3:30 pm, Thursday, June 7
Room: A101

INVITED SESSION - III

Uncertainty in Biomechanics

Session Developer & Chair:

Dr. Simon M. Hsiang

Texas Tech University, Lubbock, Texas

11:00 am - 12:30 pm, Friday, June 8
Room: A101

INVITED SESSION - IV

Transdisciplinary Design Methodologies and their Applications

Session Developers & Chairs:

Dr. Yong Zeng, Concordia University,
Montreal, Quebec, Canada

Dr. Derrick Tate

Texas Tech University, Lubbock, Texas

1:30 pm - 3:30 pm, Friday, June 8
Room: A101

TOUR

The Sun Moon Lake
and
Chung Tai Chan Monastery
Saturday, June 9, 2012

COFFEE BREAKS

10:30 am-11:00 am, every day
3:00 pm- 3:30 pm, Tuesday
3:30 pm- 4:00 pm, Wednesday, Thursday
June 5 - June 8, 2012

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

2012 ACADEMY GOLD MEDAL OF HONOR 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. **This award will be presented during the conference dinner on Tuesday.**



Dr. Chang-Hai Tsai
Chairman of the Board
China Medical University, Taichung, Taiwan

2012 GEORGE KOZMETSKY INNOVATION & ENTREPRENEURSHIP AWARD RECIPIENT

In Recognition of leadership and achievement in innovation and entrepreneurship, with demonstrated entrepreneurial attributes that make them role models for emerging entrepreneurs. **This award will be presented during the conference dinner on Tuesday.**



Dr. Jeffrey J.P. Tsai
President, Asia University, Taichung, Taiwan

2012 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. **This award will be presented during the conference dinner on Tuesday.**



Dr. Al Sacco Jr.
Dean, Edward E. Whitacre Jr. College of Engineering
Texas Tech University, Lubbock, Texas

2012 TheATLAS FOUNDING FELLOWS

On Wednesday, June 6, ATLAS will host a dinner at the Splendor hotel to honor ATLAS founding fellows who have been promoting transdisciplinary discoveries for the benefit of all humanity. Award ceremony will be held at 7:00 pm during the dinner reception hosted by ATLAS in honor of ATLAS Fellows.



Dr. Sarah Gehlert
*E. Desmond Lee Professor
of Racial and Ethnic Diversity
Washington University in
St. Louis, USA*



Dr. Eunsook Hyun
*Professor of Curriculum Studies,
Associate Provost, and Director
of International and Transnational
Affairs, University of
Massachusetts Boston, USA*



Shu Liao
*Department of Social Work
Asia University, Taiwan*



Hakan S. Orer, MD
*Professor
Hacetepe University
Medical School, Ankara Turkey*



Dr. Basarab Nicolescu
*President, International Center for
Transdisciplinary Research and
Studies [(CIRET)-France]*



Dr. Daniel Stokols
*Chancellor's Professor
School of Social Ecology and
College of Health Sciences
University of California, Irvine
Irvine, CA, USA*

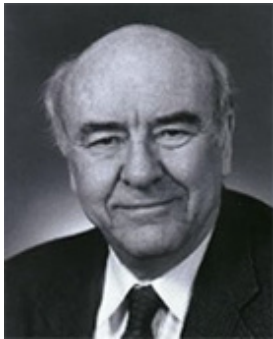


Mr. Xuedong Zhang
*Vice Secretary General of
the Chinese Academy of
Public Administration*

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) 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.



information see www.theatlas.org

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*President, International Center for
Transdisciplinary Research and
Studies [(CIRET)-France]*

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Dr. Cristina Nunez-Madrado
*Anthropologist
Veracruz University,
Xalapa, Mexico*

JOURNAL AIMS & SCOPE

The Transdisciplinary Journal of Engineering & Science (TJES), peer-reviewed, transdisciplinary periodical published by the The Academy of Transdisciplinary Learning & Advanced Studies (TheATLAS), invites the submission

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

of original manuscripts reporting multidisciplinary, interdisciplinary, and transdisciplinary engineering and science research. In addition to primary research articles, Transdisciplinary Journal of Engineering & Science also publishes papers in transdisciplinary education. The journal aims to be the voice of the worldwide Transdisciplinary community.

Research areas covered in the journal are:

- Development of shared conceptual framework that draws upon discipline specific concepts, theories, and methods (integrative methods, concepts and tools).
- Development of integrated analysis, synthesis, and design from a wide range of knowledge, involving both soft sciences and hard sciences and also art.
- Transdisciplinary cognitive integration, sustainability research.
- 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 the communication infrastructure and shared resources to facilitate computational and transdisciplinary thinking within existing organizations,
- System engineering and management.
- Research areas crossing diverse disciplines such as: Optimization, System Architectures, Digital Systems, Software design and development, Data Engineering, Computational Intelligence, Security Systems, Computer Systems, Network Systems Design, Biomimetic Systems Design, Medical applications and research results involved with sensors, mechatronics, and nanotechnology.
- Process and design methods and analysis used by diverse disciplines (such as image processing and analysis, statistical methods, probabilistic methods, etc.).
- Complex social issues and related problems, health,

Please submit your work for publication consideration in the Transdisciplinary Journal of Engineering & Science (TJES) through online submission site:
http://www.theatlas.org/index.php?option=com_content&view=article&id=82&Itemid=96

TOURS

SATURDAY, JUNE 9, 2012, 10:00 am - 5:00 pm

TheATLAS 2012 Conference Tours

CHUNG TAI CHAN MONASTERY



In 1987, Grand Master Wei Chueh built Lin Quan ("Spiritual Spring") Chan Monastery in response to his disciples' needs for a place of spiritual cultivation and refuge.

With an inimitable aura of calmness, a penetrating mind, and the ability to clearly elucidate the profound wisdom of the Buddha, the Grand Master was instrumental in revitalizing Chan (Chinese Zen) Buddhism in Taiwan. Soon Lin Quan Chan Monastery was too small to accommodate the

ever-increasing number of followers eager for the Grand Master's teaching.

Following the Grand Master's compassionate vow to provide a complete environment for all who wish to learn the Buddhist teachings, the design of Chung Tai Chan Monastery began in 1992.

After three years of planning and seven years of construction, this landmark building opened its doors on September 1, 2001, initiating a new era of Buddhism dissemination for Chung Tai.

SUN MOON LAKE



Sun Moon Lake is situated to the north of Yu Shan (Jade Mountain) and to the south of Nenggao Mountain, Nantou County in Taiwan Province. It is the biggest natural lake in Taiwan and is formed by the accumulated water in the broken basin between Yu Mountain and Ali Mountain streams. The surface of the lake is 760 meters above sea level, its perimeter is 35 kilometers, the depth of the water is 30 meters on average and the lake area is over 900 hectares. There is a small island inside Jihueh Pool which looks like a pearl on the surface of the water, hence the name "Pearl Islet". After the victory of Japanese war, it was renamed "Gueng Hua (brilliance) Islet" in celebration of recovering Taiwan. To the north-east of the islet, the water is in a shape as round as the sun, so it is called Sun Lake while the water in the south-west looks like the moon, so it is called Moon Lake. Hence the combined name Sun Moon Lake.

The beauty of Sun Moon Lake is rested upon the mountains circling the lake. Peaks rise one upon another and range upon range of hills, green and luxuriant, the broad water surface, mirror-like calm water, azure lake water, islet in the lake, hill in the water, the light of waves and shadow of mists and different morning and evening scenery all year round, poetic and picturesque.

HOTEL INFORMATION



TheATLAS 2012 Conference, June 4-9, 2012

The Splendor Taichung
(Room Reservation)

Reservation Direct Line +886 4 23246000;

Fax +886 4 23246100

Web Site :

<http://www.splendor-taichung.com.tw>

E-mail Address:

tchsplendor@gmail.com / xreservation.tc@thesplendor.com

thesplendor.com

ATLAS 2012 Special Room Rate

Deluxe Single(1 King Bed)
NT\$ 3,300net (With 1 Breakfast)

Deluxe Double(2 Single Beds)
NT\$ 3,600net (With 2 Breakfasts)

Executive Studios (1 Queen Bed)
NT\$ 2,000 (With 1 Breakfast)

Executive Twin (2 Single Beds)
NT\$ 2,400 (With 2 Breakfasts)

5% business tax and 10% service charge
included within the above price.

CONFERENCE REGISTRATION FEES AND POLICIES

Cancellations must be submitted in writing and received by TheATLAS before May 7, 2012. If the cancellation is made before May 7th, there will be a \$200 processing fee that will be charged. After May 7, no refunds can be made.

Conference registration fee (\$495) includes:

- TheATLAS Welcome Reception on Sunday
- Conference Dinner
- Lunch every day
- Coffee Breaks every day
- Conference proceedings
- TheATLAS conference tour

FOR MORE INFORMATION CONTACT:

Dr. Atila Ertas
Texas Tech University
Mechanical Engineering Department
Lubbock, Texas 79409-1021
Phone: (806) 742-3563
email: aertas@coe.ttu.edu

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.

WANISHING RESOURCES