The ATLAS - 2012

Transdisciplinary-Transnational-Transcultural

T³ Biennial Meeting

ASIA UNIVERSITY
TAICHUNG, TAIWAN
June 4-9, 2012

HONORING

Dr. Chang-Hai Tsai & Professor C.V. Ramamoorthy
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:

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

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The Academy of Transdisciplinary Learning & Advanced Studies (TheATLAS)
Asia University, Taichung, Taiwan

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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.
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 Administration 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 academy 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.

It has been 12 years since the establishment of The ATLAS, which was formerly known as “The Academy of Transdisciplinary Learning and Advanced Studies” as a non-profit organization serving transdisciplinary thinkers in the spirit 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”:

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.
Tsai authored Knowledge-Based Software Development for 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.


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. 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.


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TUESDAY, June 5, 2012

CONFERENCE OPENING ADDRESS

Dr. Benjamin Wah
9:00 am-9:30 am, Tuesday, June 5
Room: A101

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 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.
Professor Ovid Tzeng was the former Minister of Education in Taiwan, and former Vice President of Academia Sinica, the National Research Academy of Taiwan. He is a respected scientist recognized for his work in memory, psycholinguistics, and cognitive neuroscience. He has gained particular recognition for his extensive analysis of reading behaviors across different writing systems, and he is a leading pioneer in the field of cognitive neuroscientific studies of Chinese language. In 1994, he was elected as a fellow academician of Academia Sinica.

While working at Academia Sinica, Professor Tzeng devoted himself to the research of cognitive neuroscientific studies of memory and language. During his tenure as the Vice President, he launched numerous programs to promote the interaction between Academia Sinica and International Council of Science Union (ICSU). He also represented Academia Sinica in the Human Network of National Academy. In February 2004 he was elected as a Fellow of the Association for Psychological Science and in 2006 he was elected to the Committee of Freedom and Responsibility in the Conduct of Science (CFRS).

His professional experiences include: Minister, Council for Cultural Affairs, Executive Yuan, Minister Without Portfolio, Executive Yuan, Chancellor, University System of Taiwan, Vice President, Academia Sinica, Minister of Education, Ministry of Education, TAIWAN/ROC, Vice President, President, National Yang-Ming University, Director of the Institute of Psychology, Director of the Center for Cognitive, Dean of the College of Social Sciences, National Chung Cheng University, Visiting Fellow, Haskins Laboratories, Visiting Associate Professor, University of Berkeley, Professor, Psychology, University of California, Riverside.

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.
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**

**Professor C.V. Ramamoorthy**

*University of California*

*Berkeley, CA*

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**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. Phillip C. Y. Sheu**

*Professor EECS and Biomedical Eng. University of California, Irvine*

(See Plenary Session IX for short bio)

**Dr. Benjamin Wah**

*Provost The Chinese University of Hong Kong*

(See opening address for short bio)

**PLENARY SESSION - II**

**Dr. Kinji Mori**

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

Dr. Kinji Mori is a professor, Department of Management of Technology, Tokyo Institute of Technology, 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.
P L E N A R Y  S E S S I O N  -  I I I
Professor Basarab Nicolescu
2:00 pm - 2:30 pm, Tuesday, June 5
Room: A101

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 Transdisciplinary Research 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. He recently edited Transdisciplinarité -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

P L E N A R Y  S E S S I O N  -  I V
Joint Plenary Talk
Dr. Patricia Rosenfield and Dr. Frank Kessel
2:30 pm - 3:00 pm, Tuesday, June 5
Room: A101

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 first decade, Rosenfield has completed 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.


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.

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

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

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

Bob 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.

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 Association 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 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.

Dr. Raymond Yeh taught at several universities for more than 20 years and helped two Computer Science departments to top ten national rankings as chairman of department. He was also the CDC distinguished chair Professor at the University of Minnesota. He holds honorary professorship at five universities.

Dr. Yeh is the founding editor-in-chief of IEEE Transactions on Software Engineering and was on the editorial board of various journals. He also founded the Technical Committee on Software Engineering and International Conference on Software Engineering (ICSE) within the IEEE Computer Society.

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

Dr. Yeh is an IEEE Centennial Medal laureate, and a recipient of the Pioneer in Information Technology Award from the government of Taiwan, among others. He is a fellow of Institute of Electrical and Electronic Engineers (IEEE), the Society for Design and Process Science (SDPS), and a senior research fellow at IC2 Institute at the University of Texas at Austin.

**CONFERECE DINNER**

**Design for Change**

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

Jerry Dong

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

Dr. Juan M. Sanchez

Vice President for Research

The University of Texas at Austin, TX

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Da Hsuan Feng

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

Da Hsuan Feng 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 doctoral students, six postdoctoral fellows and numerous undergraduate students. He had also organized more than thirty international conferences.

Juan M. Sanchez

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

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

Jeffery J. P. Tsai

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

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

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

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. from 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.
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 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 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.


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. Christian Pohl is co-director of the transdisciplinary-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/pohlic/index).

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 currently leading the University’s development of academic and re-search programs with transdisciplinary, transnational, and transcultural (TTT) foci; directing International Visiting Scholar Academy (IVSA) program focusing on transdiscipli-nary teaching, research, and curriculum transformation in higher education; increasing the availability of study-abroad programs for both students and faculty; streamlining adminis-trative processes for international students; and collaborating with campus members and international partners to enrich TTT elements of teaching, curriculum, research and engage-ments. 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 cur-riculum, developmentally and culturally appropriate practice (DCAP), early childhood education, teacher education, criti-cal pedagogy, gender studies, bilingual education, theory of teacher reflectivity and multiple/multiethnich 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 Currri-culum, 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 Complicat-ed Cultural Artifact. Research in Higher Education Journal (2011).

Dr. Alan Barhorst is Professor of Mechanical Engineering at Texas Tech University and participates in the Transdisci-plinary PhD program there. Dr. Barhorst has served interna-tionally 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.


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 Moleculaire 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 Gerald 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 segmental 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).
DRUCE 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 Manufacturing at the University of Tokyo in 2007. He has also been the Distinguished Service Award, the highest award granted by the National Science Foundation.

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 development of the transdisciplinary model for education and research. His pioneering efforts in transdisciplinary 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 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. 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.

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

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

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

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

Dr. Atila Ertas
Professor
Mechanical Engineering
Department
Texas Tech University

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 DragonBridge 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 - V
DISTINGUISHED SPEAKERS

Dr. Raymond T. Yeh
TheATLAS
Honorary Board member
Chang San-cheng, who will join the new cabinet as a minister without portfolio, has close ties with the ICT industry and is well versed in the innovative power of international software services. He has laid the blueprint for the future development of Taiwan’s cloud computing and software services.

Dr. San-Cheng (Simon) Chang received his PhD degree in civil engineering from Cornell University. Simon has been a professor in Civil Engineering at National Taiwan University, Director of Planning & Evaluation at National Science Council, Vice President at Acer e-Business group, and more recently Regional Director of Hardware Operations at Google. Since 2000, Simon has engaged in the building of data center and value-add services at Acer for over 10-years. In 2010, and a doctorate in Computer and Information Science from Columbia University (NYC, 1982).

The Ohio State University in 1983 and 1986, respectively. He graduated from Engineering Science Department of National Cheng-Kung University in Taiwan.

In regard to Internet-related management, Mr. Wu was the deputy director of NCHC (1990—1998), where he was responsible for TANET backbone operation to serve all the universities, research institutions in Taiwan. He is the co-founder of Asia Pacific Supercomputer Center Consortium (HPC Asia) to lead the experience sharing over all the Asia Pacific Supercomputer Centers.

He started Internet-related works since he worked for Cray Research, Inc. (1984—1990), and a vice-president of Yam Digital, Inc. When he was a vice-president of Acer, he lead the Internet service business for Acer (2000—2004). He actively involved in ICANN activities (GAC, ALS, ccNSO, ASO) since 1999 until now. He also actively participated UN/WSIS (2004—2005), and UN/IGF (2006—2009). He is the CEO of NIIEPA (Taipei, 2004—now) – a non-profit organization working on the research and consultant services in Internet policy and Information security for government, research institutions, universities, and industry. Mr. Wu holds a mathematics BSc degree from Tunghai University (Tai-chung, 1975), a MSc degree in Mathematics from University of Cincinnati (Cincinnati, 1980), and MSc degree in Computer Science from Columbia University (NYC, 1982).

Mr. Kuo-Wei Wu has a technical, management and policy experience in Internet. He is one of the pioneers of HPC Asia, TANET, TWNIC, APTLD, and CDNC. In term of board membership, he is currently a board member or executive council of TWNIC (2000 — now), APIA (2008—now), TWIA (2008—2013) and COSA (1995—2012). He was a board member or executive council of PIR (2008—2010), APNIC (1999—2010). He has experience in supervision, financial, and governance.

In 2012 the cabinet of Taiwan government was reformed, and Simon became of the first cabinet member ever to come from the IT industry. Simon is in charge of the science and technology policy as well as allocation of budget resources. In the future, Simon aims to promote the IT capabilities of various industrial sectors and thereby improve the competitiveness of the industry.
Dr. Hiroshi Yamaguchi received his B.S. degree in Instrumentation Engineering from Keio University and the Dr. Eng. degree in information Security from Chuo University in Japan. He originally joined NEC in 1963, in the Computer Software Development Department. While with NEC, he was a member of the team that designs the Operating systems and Database systems. He has served as the vice president in NEC Soft. He pioneered the design of information security systems and the collaboration with the universities in the USA. He was a head of the research and development group on the next generation electronic voting system funded by the NICT in Japan. He was serving as a Visiting Professor in the Bioinformatics Research Institute, Waseda University, Japan since 2004. Currently he is serving as a Full Professor in the Research and Development Initiative, Chuo University, Japan. His research interests focus upon the cryptographic protocol for preserving privacy, electronic voting scheme and cognitive science. He received the best paper award on information sharing on DOD 14th ICRTS. Currently he is engaging in the privacy preserving research project funded by the Ministry of Economy, Trade and Industry, Japan. He has been a keynote and plenary speaker at several international conferences, such as IEEE-ICTAI, HASE, IEEE-BIBE, and IEEE-ISM. He is a fellow of SDPS and serving as the President of the Software Engineering Society (SES) since 2002.

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); 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.

ucation. 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 halftime and continued her advisory services.

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)

INVERTED SESSION - I Room:A101
Transdisciplinary Education and Research

Chair: Dr. Atila Ertas
Texas Tech University, Lubbock, Texas
4:00 pm - 5:00 pm, Wednesday, June 6

Transdisciplinary MS and Ph.D Programs on Design, Process and Systems by JHARNA CHAUDHURI, Texas Tech University, Mechanical Engineering Department, Lubbock, Texas, USA.

Value of Virtualizing Sandplay Therapy by VIJAY RAMAMOORTHY, Texas Tech University, Mechanical Engineering Department, Lubbock, Texas, USA.

INVERTED SESSION - II Room:A101
Uncertainty in Biomechanics

Developer & Chair: Dr. Simon M. Hsiang
Texas Tech University, Lubbock, Texas
11:00 am - 12:30 pm, Friday, June 8

Effects of Load Distribution for Cart Pushing and Pulling Activities by Su-Huang Chen and Chiuhsiang Joe Lin, Department of Industrial Management, National Taiwan 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.

INVERTED SESSION - III Room:A101
Transdisciplinary Design Methodologies and Their Applications

Developers & Chairs: Dr. Yong Zeng
Concordia University, Montreal, Quebec, Canada
Dr. Derrick Tate
Texas Tech University, Lubbock, Texas
1:30 pm - 4:00 pm, Friday, June 8

Transdisciplinary Collaboration Framework for Education and Research by PRATAP CHILLAKANTI, Texas Tech University, Mechanical Engineering Department, Lubbock, Texas, USA.

Patient Handling Devices: Current and Future Designs by TURGUT BATUHAN BATURALP, Texas Tech University, Mechanical Engineering Department, Lubbock, Texas, USA.

Computational Approaches for Developing Engineering Ontologies from Patents by ZHEN LI and DERRICK TATE, Texas Tech University, Mechanical Engineering Department, Lubbock, Texas, USA.

Analysis of the development and promotion process of Fengtou Zingiber by using Environment Based Design (EBD) methodology by KAIQU MO HUBEI, University for Nationalities, Enshi, Hubei Province, PR China and XUAN SUN, Concordia Institute for Information Systems Engineering, Concordia University, Montreal, Canada.

An Experiment to Compare Axiomatic Design (AD), the Algorithm of Inventive Problem Solving (ARIZ), and Environment-Based Design (EBD) by Céline Conrardy, INSA Strasbourg, Concordia University, Canada, Texas Tech University, Lubbock, Texas.
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 Yong 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 Software 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 RECIPIENTS

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

Professor Ovid J. L. Tzeng
Former Minister of Education in Taiwan and Former Vice President of Academia Sinica, the National Research Academy of 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
On Thursday, June 7, ATLAS will host a reception 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 reception dinner hosted by ATLAS in honor of ATLAS Fellows.
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 John 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 foundational relationships for the still-emerging systems science discipline that underpins significant portions of modern systems engineering. His rich body of work embodies analytical methods and frameworks, behavioral science and philosophies that formalize our understanding of complexity in our world. He holds IEEE Centennial Medal. In 2006 John N. Warfield was awarded the Joseph G. Wohl Award for Career Achievement and in 2007 he received INCOSE Pioneer Award and was also awarded the IEEE Third Millennium Medal.

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

**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
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 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**

**The Splendor Taichung Hotel**

**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

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**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.

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**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
- If you have submitted a paper, conference proceedings will be available after the conference is over.
- TheATLAS conference tour

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**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)

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**VANISHING RESOURCES**

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.