SDPS 2019

Taichung, Taiwan

July 28 - August 1, 2019

FINAL PROGRAM

DEDICATION

Dr. Raymond T. Yeh, SDPS Life Member and the Founding President

CONVERGENCE SOLUTIONS

Convergence is a transdisciplinary approach to solving problems. It is an effort to break through artificial domain barriers. Convergence is a foundational principle of SDPS.

CONFERENCE THEME

Changing the World via Innovative Design and Applications of Automation and Artificial Intelligence

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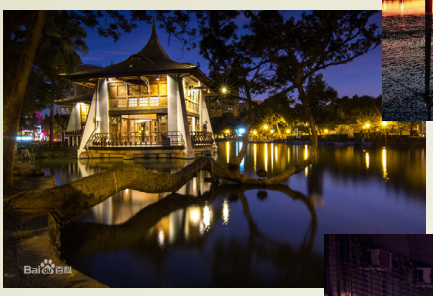
YongLin Healthcare Foundation, Taiwan

Taichung Veterans General Hospital, Taiwan



SOCIETY FOR DESIGN AND PROCESS SCIENCE
S D P S ™

SOFTWARE ENGINEERING SOCIETY
S E S ™

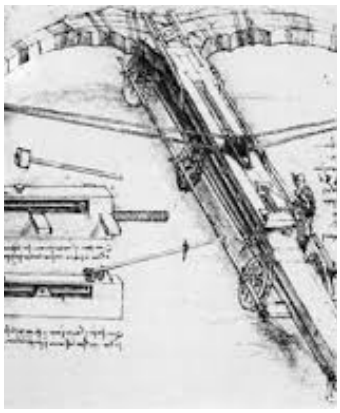
SPECIAL CELEBRATION

CELEBRATING THE GENIUS OF LEONARDO DA VINCI, 500TH ANNIVERSARY

This year marks the 500th anniversary of the death of Leonardo da Vinci (1452-1519). Da Vinci was an Italian polymath of the Renaissance whose interests included engineering, science, mathematics, architecture, astronomy, geology, botany, anatomy, cartography, history, literature, music, painting, and sculpture. Leonardo was born the bastard son of a peasant woman and a wealthy notary. He was, however, treated as legitimate by his father who raised and educated young Leonardo. Famous mostly for his paintings and illustrations, Da Vinci's "Mona Lisa", "Last Supper", and "Vitruvian Man" and cultural icons. In the engineering domain, Da Vinci's designs included the following: a flying machine, an armored fighting vehicle, an adding machine, an automated bobbin winder, a system of movable barricades, hydraulic pumps, musical instruments, reversible crank mechanisms, a steam cannon, a single-span bridge, a parachute, a giant crossbow, and a device for testing the tensile strength of wire. Most of his designs outstripped the existing ability to construct them. Da Vinci was the consummate "renaissance man", but perhaps he should also be known as a "transdisciplinary man".

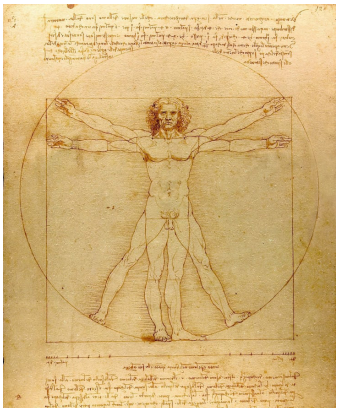
Continuous celebration of Leonardo da Vinci 500 years' anniversary can be linked at https://www.leonardodavincic-elebration.org/

Drawing- Self-portrait of Leonardo da Vinci

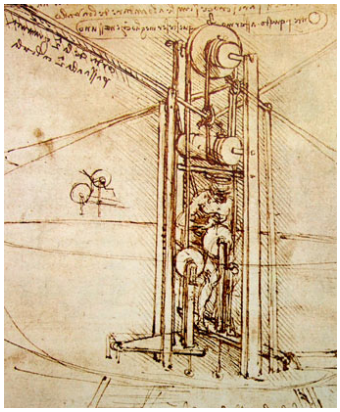


Engineering- Leonardo da Vinci

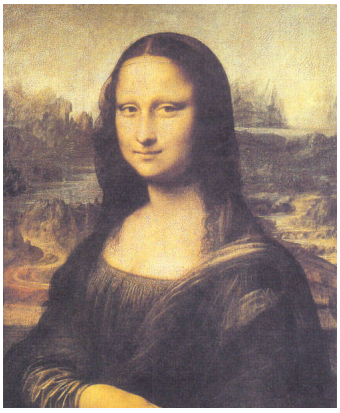
Anatomy- Study of human shoulder



Anatomy- Leonardo's Vitruvian Man



Engineering- Leonardo da Vinci



Painting-Mona Lisa

"All our knowledge has its origins in our perceptions."

LEONARDO DA VINCI

"Learning is the only thing the mind never exhausts, never fears, and never regrets."

LEONARDO DA VINCI

"Art is never finished, only abandoned."

LEONARDO DA VINCI

OPENING KEYNOTE SPEAKER

RAYMOND T. YEH, Ph.D.
Co-Founder, SDPS and SES
SDPS Fellow
IEEE Centennial Medal Laureate
SES Transformative
Achievement Laureate

CONVERGENCE OF THE THIRD KIND AND ITS IMPACT ON COMPUTATIONAL THINKING

Murat M. Tanik and Raymond T. Yeh

1. First-Principle Convergence of the first kind (Newton) : Conceptual and computational connection of motion in heavens and earth. Critical abstraction and by products: point-particle (point notion is from geometry; particle notion is from observations). By product is universal instantaneous gravitational attraction. Obvious (common sense) notions of three dimensional space and a single universal clock persist.

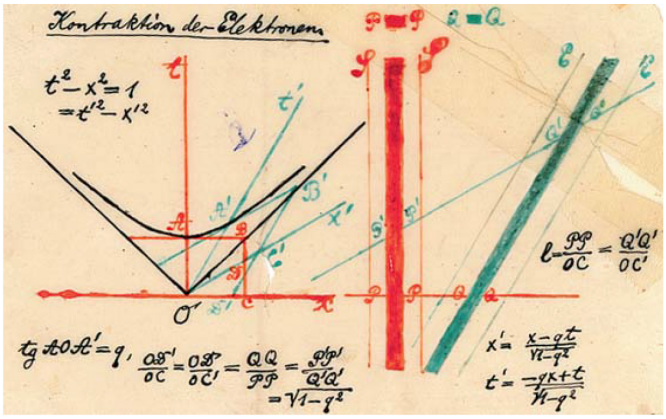
2. First-Principle Convergence of the second kind (Maxwell): Conceptual and computational connection of electricity and magnetism Critical abstraction and by products: waves on field —— by product is space+time notion appears first time and speed of light being constant is derived. Attractions takes time not instantaneous. Obvious (common sense) notions of three dimensional space and a single universal clock persist. The desire to connect to the mechanical world of Newton produces the notion of a mechanical medium ether.

3. First-Principle Convergence of the first and second kind clarified and the way to convergence of the third kind is shown (Einstein): Critical abstractions by products: principles of relativity; a clock at each point in space; energy quantization (tied to frequency). By products are relativistic version of Newton and Maxwell. Development of probabilistic quantum theory as an extension of statistical mechanics (derived from combinatorial considerations) and energy quantization of Plank. Uncertainty principle introduced as consequence of observers impact on measurements. Space+time notion of Maxwell persists despite entangled space-time notion of Minkowsky and relativistic considerations. Obvious (common sense) notions of three dimensional space persists but universal clock is replaced with relativistic versions. Tremendous by products. 100 years passes. Humanity accomplished a lot in the meantime.

4. First Principle Convergence of the third kind (unintentional and accidental cooking for 40-50 years): Notions of space and time are shown to be inseparably intertwined and with discrete increments of plank length. Critical abstraction and by products: space-time clocks on space-time field forming communication (computing) systems. Notion of field persists but becomes a space-time field rather than field of space with clocks or vibrating particles on it. Many of the quantum principles persists. First and Second laws of thermodynamics persists and integrated. Plank constant, Heisenberg uncertainty principle etc. The model seems to bridge the chasm between General theory and quantum theory as Einstein had shown the way. Probabilistic nature of quantum theory persists but now it can be connected to combinatorics and partition function formalism through Feynman's QED. Communication channel of Shannon comes into picture. It is shown that channel formalism is related to QED. Conceptual and computational connection of space and time as one inseparable computational Entity (space-time) not space+time of Maxwell and its extension of Einstein. By product is mass is created from accelerated (rotational) space-time. Other by products are designing atomic size computers. Providing communication based theoretical foundation for life processes. Providing a theoretical foundation for computational thinking and its special case neural networks. To explain this deep convergence of inseparably entangled space-time under one abstract concept of communication we have to explain conceptual transitions starting from Newton.

- In Newton we have empty three dimensional space with some "point-particles" on it. The whole space has one clock which defines time. They instantaneously connect or communicate according to Newton's laws.
- Maxwell maintains Newton's three dimensional space with its one clock. He adds the notion of each point-particle being a vibrating entity filling the space. The interaction between these vibrating entities are not instantaneous but takes time using the notion of field. Left side of his equations represents 3-D space distortions and right side shows time changes. As such both sides combined provides a space+time analysis first time in history. Orthogonal Electric field and Magnetic field vibrations defines electro-magnetic field and converges these two disparate concepts. A nice by product defines maximum speed achievable as a constant speed of light.
- Einstein wants to combine Newton's theory with Maxwell starting with Maxwell.

References
Michael Lipscomb – Convergence – SDPS 2019
Alexander – Innovation and convergence – SDPS 2017



The transparency which Minkowski used at his lecture in Cologne on September 21, 1908. It shows Fig. 1 in his paper (this volume). Source: Cover of *The Mathematical Intelligencer*, Volume 31, Number 2 (2009).

Plenary Session I

Chaired by Dr. Adam Golden , Professor of Medicine, University of Central Florida

Monday, July 29, 2019

Comprehensive Care for Frail Elderly- From Specialized Geriatric Units to Hospital-Wide Intervention

PING-WING LUI, M.D., Ph.D.

Deputy superintendent of Taichung Veterans General Hospital

Dr. Lui was graduated from National Defense Medical Center of Taiwan in 1980. He received his master degree in Institute of Hospital and Healthcare Administration and Ph.D. in 1989 from the Institute of Clinical Medicine, National Yang-Ming University, Taiwan. He finished his subspecialty training in the Department of Anesthesiology, Taipei Veterans General Hospital, and he is also a successful leader as the superintendent in several regional Veterans hospitals in the community. His major interests in research include opiate pharmacology, immunological effects in anesthesia, pain management and patient safety. He is currently the deputy superintendent of Taichung Veterans General Hospital.

Design and Innovation in Healing Environments

BARBARA HUELAT, FASID, AAHID, EDAC

Principal, Davis Partnership

Barbara Huelat is an indisputable leader, legend and national icon in the field of healthcare interior design. Her life's work has been to successfully prove that design can impact human outcomes. She is probably the world's most sought-after speaker and expert on healthcare interior design and her knowledge, presence, and experience are breathtaking. Barbara is to healthcare interior design what Socrates is to philosophy and like Socrates in his time, she is considered a most prolific and productive producer of thought, theory and practice in the world today. Whether it is certification for interior designers, Planetree, Evidence-Based Design or the new "Experiential" based design, Barbara has always been in front of the parade; anticipating, directing and leading people to a new level of consciousness. Barbara was the second President and a founding member of the American Academy of Healthcare Interior Designers (AAHID) and she was one of the first to achieve Evidence-Based Design Certification (EDAC). She was present at the literal birth of Planetree in San Diego over 20 years ago and was performing "patient-centered design" long before anyone ever coined the phrase. Over the years, she has completed over 500 projects, collected a myriad of awards, and been published worldwide including two nationally acclaimed books currently in circulation Healing Designs, What's the Proof? and Healing Environments for Mind, Body and Spirit.

Panel Discussion

Chaired by: Shih Yi Lin

SHIH-YI LIN, M.D., Ph.D.

Director of Center for Geriatrics and Gerontology, Taichung Veterans General Hospital

Dr. Lin graduated from National Yang Ming School of Medicine, Taipei, Taiwan and received his Ph.D. in Medicine, Institute of Clinical Medicine, School of Medicine, National Yang Ming University. He had been the Chief of Endocrinology and Metabolism section, Department of Medicine, Taichung Veterans General Hospital, Taichung, Taiwan, and currently is the Director of Center for Geriatrics and Gerontology, Taichung Veterans General Hospital, Taichung, Taiwan. Dr. Lin's major specialities include internal medicine, diabetes, endocrinology, and geriatric medicine.

Plenary Session II

Chaired by Dr. Chen-Fu Chien, National Tsinghua University

Monday, July 29, 2019

Artificial Intelligence for Intelligent Manufacturing System

CHEN-FU CHIEN, Ph.D.

Tsinghua Chair Professor

Department of Industrial Engineering & Engineering Management, National Tsing Hua University

Dr. Chen-Fu Chien is Tsinghua Chair Professor, in the Department of Industrial Engineering & Engineering Management, National Tsing Hua University (NTHU) in Taiwan. Professor Chien is the Convener for Industrial Engineering and Management Program, Ministry of Science & Technology (MOST), Taiwan. He is the Director of Artificial Intelligence for Intelligent Manufacturing Systems (AIMS) Research Center that is one of four national AI centers sponsored by MOST, Taiwan. He has been Principal Investigator for the Semiconductor Technologies Empowerment Partners (STEP) Consortium and the Director for the NTHU-TSMC Center for Manufacturing Excellence in NTHU. He received B.S. with double majors in Industrial Engineering and Electrical Engineering with the Phi Tau Phi Honor from NTHU in 1990. He received M.S. and Ph.D. of Decision Sciences and Operations Research with two minors in Statistics and Business at the University of Wisconsin-Madison, in 1994 and 1996, respectively. His research mainly concerns the development of digital decision, big data analytics, and optimization methodologies and better analytical solutions for high-tech companies confronting with multi-objective decision problems involved in strategy, manufacturing, and technology that are characterized by uncertainty with massive data and a need for tradeoff among various objectives and justification for the decisions. He is Area Editor for Flexible Services and Manufacturing Journal, Associate Editor for IEEE Transactions on Automation Science and Engineering and Journal Intelligent Manufacturing. He is on the Advisory Board of OR Spectrum and editorial board for Computers and Industrial Engineering.

Explainable Artificial Intelligence For Diagnostic Imaging

DEXTER HADLEY, M.D., Ph.D., MSEG

Dr. Hadley's expertise is in translating big data into precision medicine and digital health. He serves as an assistant professor at The University of California, San Francisco in the Institute for Computational Health Sciences, and is an affiliated member of the Center for Digital Health Innovation at UCSF and the UCSF Helen Diller Family Comprehensive Cancer Center. His background is in genomics and computational biology with training in clinical pathology. His research generates, annotates, and ultimately reasons over large multi-modal data stores to identify novel biomarkers and potential therapeutics for disease. His laboratory is funded by the NIH Big Data to Knowledge initiative to develops state-of-the-art data

Gerontechnology- From Research to Daily Applications: Development of an AoT Bedroom for Elder Care

YEH-LIANG HSU, Ph.D.

Director, Gerontechnology Research Centre, Yuan Ze University, Taiwan

Professor Yeh-Liang Hsu received his Bachelor Degree from the National Taiwan University and was conferred PhD by Stanford University in 1992. He is Professor of Mechanical Engineering and Director of Gerontechnology Research Centre at Yuan Ze University; CEO of Seda G-Tech Co., Ltd.; Editor-in-Chief for Gerontechnology and Journal of Gerontechnology and Service Management; Sinophone Chapter President and IT Director of International Society for Gerontechnology (ISG), as well as Co-Director for Italian Design Summer School of the University of Bologna. Professor Hsu is a renowned academic in Gerontechnology and has been the Dean of Academic Affairs and Secretary General at Yuan Ze University.

driven models of clinical intelligence that drive clinical applications to more precisely screen, diagnose, and manage disease. In general, the end point of his work is rapid proofs of evidence-based clinical trials for improving patient outcomes and reduced morbidity and mortality across the disease. The Title of his presentation is "From Bits to Bedside™: Translating Big Data into Precision Medicine with Artificial Intelligence"

Plenary Session III

Chaired by Dr. Wynn HueyWen Yien, CEO of the Yong-Lin Healthcare Foundation, Taiwan

Tuesday, July 30, 2019

Delivering Inclusive Smart Health Care by Innovative and Comprehensive e-Health System-Share Successful Case in Changhua Christian Healthcare

SHOU-JEN KUO, Ph.D.
Collaborative Superintendent
Changhua Christian Hospital

Dr. Kuo Shou-Jen is a professional surgical doctor and now is the Co-Superintendent of Changhua Christian Hospital (CCH). He is used the Vice Chairman of Taiwan Hospital Association (2011-2017) and the Chairman of Taiwan Nongovernmental Hospitals and Clinics Association (2015-2017). He is also the Commissioner of Medical Review, Medical Quality Policy Advisory and Budget Review Committee and so on of the Ministry of Health Welfare of Taiwan.
Dr. Kuo graduated from Kaohsiung Medical University and finished specialty fellowship training in Tokyo, Melbourne and Chicago. He actively participated leadership training in Birmingham, UK and Boston, USA as well.

Intelligent Healthcare Applications in Telemedicine and AI

CHIH-JEN TSENG, M.D.
Professor, Chung-Shan Medical University Hospital

Dr. Tseng is a gynecological oncologist of Chung-Shan Medical University Hospital in Taiwan. He has published 82 SCI papers focused on women cancer. He was awarded as the best paper prize of the association of Obstetrics and Gynecology of Taiwan in 1997 and 1998, Dr. Tseng was also awarded as the first prize of Taiwan national medicine quality in 2000, 2001, and 2002. His has the second specializes in the electronic health information system, including electronic medical records, telemedicine, and big data. Since 2002, he has established a paperless electronic medical system for Chang Gung Memorial Hospital in Taiwan and participate EMR in the department of health in Taiwan. He also established a paperless electronic medical record system for Taiwan Chung-Shan Medical University Hospital. In 2006, Dr. Tseng won the national first prize for electrical medical system, issued by the department of Health of Taiwan. Because Dr. Tseng integrated both on the efficiency of medical clinical care and information system construction, he pioneered the concept of patient-oriented and applying into a new humanized electronic medical information system. Based on the new system, he won the Taiwan Holistic Health Care First Prize in 2018.

Design and Evaluation of Artificial Intelligence Research in Primary Care Management

THOMAS T.H. WAN, Ph.D., MHS
Professor,
Department of Health Management and Informatics,
University of Central Florida.

Complete Profile listed as Workshop Chair of Workshop "DESIGN OF INTEGRATIVE VALUE-BASED COMMUNITY PROGRAMS FOR ELDER CARE "

The Effect of a Health Information Exchange Program under the National Health Insurance Scheme in Taiwan

SHOU-HSIA CHENG, Ph.D.
Professor and Associate Dean
College of Public Health, the National Taiwan University

Dr. Cheng received his Ph.D. in Health Policy and Resource Management at Yale University. He has served in numerous administrative positions at the College of Public Health, National Taiwan University. From 2009 to 2010, he was Director General of the National Health Insurance in Taiwan. Dr. Cheng has made substantial contributions to health policy and management research. He received the Public Health Medal Award, Superior Performance Award, and Superior Teacher Award from the University. He is a recipient of the Investigator Award from the National Health Research Institutes, Taiwan. His research is centered in health services research, health economics, and health policy.

Plenary Session IV

Chaired by Dr. Chin-Yin Huang,
Tunghai University, Taiwan
Tuesday, July 30, 2019

Innovations in Integrated Healthcare

CHIN-YIN HUANG, Ph.D.
Chair, Department of Industrial Engineering and Enterprise Information, Tunghai University

Chin-Yin Huang is Professor and Department Chairman of Industrial Engineering and Enterprise Information at Tunghai University, Taiwan. He had a Ph.D. degree from Purdue University, USA. His research interests include Healthcare Management, Clinical Data Analysis, Manufacturing Process Optimization, and Industry 4.0. Prof. Huang is currently Vice President of International Foundation for Production Research. He also serves as the Chairman in the Asia Pacific Region. He is a Board Member of Asia Pacific Industrial Engineering and Management Society. In addition, he is the Director of International Affairs of IIE in Taiwan. He is former Dean of General Affairs, Tunghai University. His publications appear in Epilepsy Research, Pediatrics & Neonatology, Peer, Journal of the Chinese Medical Association, The Scientific World Journal, International Journal of Production Research, International Journal of Production Economics, Computers in Industry, Computers and Industrial Engineering, Robotics and Computer-Integrated Manufacturing, Production Engineering, Engineering Computations, etc.

Hospital-Community Collaborative and Innovative Model for Home Care

PI-SHAN HSU, Ph.D.
Director, Department of Family Medicine, Director, Department of Community Health, Taichung Hospital, Ministry of Health and Welfare

Dr. Hsu graduated from College of Medicine of Chung-Shan Medical University, Taichung, Taiwan and got Master degree from Business Administration of Tunghai University, Taiwan. She is now the Director of Department of Family Medicine and Community Health, Taichung Hospital, Ministry of Health and Welfare. Her major interests in Family Medicine, Geriatric Medicine, Community Medicine, Long Term Care, and Hospice Care.

Smart Healthcare

PA-CHUN WANG, M.D., MSC, MBA
Professor, School of Medicine, Fu Jen Catholic University, Taiwan

Dr. Pa-Chun Wang is currently the chief executive officer of the Joint Commission of Taiwan, and a full professor at the Fu Jen Catholic University School of Medicine, Taipei, Taiwan. Dr. Wang holds MD degree from the China Medical University, Master of Science degree in Health Policy and Management from the Harvard School of Public Health, and EMBA from the National Taiwan University. He finished his otolaryngology fellowship at the Massachusetts Eye and Ear Infirmary, Harvard Medical School. Dr. Wang served as board directors in several professional organizations, including Taiwan Otolaryngology Society, Taiwan College of Hospital Executives, and Taiwan Association of Healthcare Quality. Dr. Wang serves as the Chairman of the Taiwan Society of Simulation in Healthcare. Dr.Wang is a member of the National Association of Healthcare Quality, International Otopathology Society and the Collegium Oto-Rhino-Laryngologicum Amicitiae Sacrum. He is an active member in the accreditation council of IsQua. The speech will cover the use of IT in healthcare, with special focus on its application in quality and safety management.

FEATURED KEYNOTES

WYNN HUEY-WEN YIEN, Ph.D.
CEO, YongLin Healthcare Foundation

Dr. Wynn Huey-Wen Yien received his Ph.D. in Medicine from National Yang Ming University, Taipei, Taiwan and his EMBA from National Taiwan University, Taipei, Taiwan. He conducted post-doctoral research in Presbyterian Medical Center-Columbia, New York and was a visiting scholar in New England Medical Center, Boston. His specialty includes critical care medicine and anesthesiology. Dr. Yien was the chief of surgical ICU in Taipei Veterans General Hospital as well as the deputy superintendent in Zhong Xing Branch of Taipei City Hospital. Currently, he is the CEO in YongLin Healthcare Foundation and the vice president in Taiwan Society of Critical Care Medicine. He, as the project leader of National Taiwan University Cancer Center for more than ten years, is well experience in hospital design.

MR. CHI-YUAN HUANG
CEO of First China capital (FCC) Partners Inc.

Mr. Huang is one of the most reputable bankers in the Greater China investment banking industry. After receiving MBA from Stanford University in 1987, Mr. Huang had worked in a number of international investment banks in Taiwan and China, including Jardine Fleming (Taiwan) Securities, Credit Lyonnais Securities Asia, and Polaris Financial Group. He had also served as the Vice Chairman of WI Harper, a Silicon Valley based venture capital firm, during 1998-2000. Furthermore, he was the Founding Chairman of Taiwan M&A & Private Equity Council, an influential association in the M&A industry. In 2010, Mr. Huang set up FCC Partners, focusing on cross-board M&A in Asia and has concluded many landmark transactions.

YING-CHYI CHOU, Ph.D.
Director of Center for Healing Environment Administration and Research
Tunghai University

Dr. Ying-Chyi Chou is a professor in Department of Business Administration, Tunghai University, Taiwan. She received a PhD in Business and Management from National Chiao Tung University, Taiwan. She was a visiting scholar at Rhode Island University, 2014 and at Florida State University, 2008. She has received the International Collaboration Research Award in Service Science presented by the Service Science Society of Taiwan and The Sayling Wen Cultural & Educational Foundation in 2014, and the Lu Feng Zhang Memorial Award for contribution in management practice by the Chinese Management Association in 2015. Dr. Chou served as the Vice Dean for the Office of Academic Affairs and the Chair of Department of Business Administration at Tunghai University. Currently, Dr. Chou is a director of center for Healing Environment Administration and Research, Tunghai University. Dr. Chou's research focuses on Human Resource Management, Decision Science, Healing/Friendly Environment, Performance Management, and Service Management.

CHIH-CHENG HSU, M.D., MPH, Ph.D.
Senior Investigator and Deputy Director
Division of Population Health Sciences
National Health Research Institutes, Taiwan

Dr. Chih-Cheng Hsu's research is centered in frailty and sarcopenia, diabetic care modeling, risk factors of diabetic nephropathy, epidemiology and prevention of chronic kidney diseases, as well as policy of tobacco control. His research goal is to promote quality of life for the elderly, better understand epidemiological patterns of chronic kidney diseases and develop a domestic model for diabetic care. Currently, the main emphasis of Dr. Hsu's research is on chronic kidney diseases in the elderly, geriatric syndrome, and prevention of diabetic nephropathy.

FEATURED KEYNOTES

CHARLES SHASKY, Ph.D.
Principal, Biotechnomics, USA

Charles Shasky received his Ph.D. in Health Services Organization and Research from Virginia Commonwealth University in 2008, his MBA also from VCU in 1985, and his B.Sci.Pharm. from North Dakota State University in 1977. Most recently, Dr. Shasky led the Innovative Analytics Project. In that capacity he was responsible for creating and overseeing data, analytics and reporting for the Centers for Medicare and Medicaid Innovation (CMMI) Grant Number 1C1CMS331338. The contribution of the project for health care policy and reimbursement in the United States was the complete integration of data from hospital, physician practices, pharmacy practices, and other healthcare providers combined with targeted value based performance measures tied to the medical home concept of care organization, delivery, and reimbursement. Dr. Shasky was Head, Aetna Pharmacoeconomic Comparative Effectiveness Research. I Additional research program development involved establishing comparative metrics for program value, efficiency, and effectiveness when analyzing drug, surgical and clinical therapy of insured populations.

He is also a visiting professor for the VCU/Kaohsiung Medical University's Graduate Institute for the Executive Healthcare Administration program. He lectures on the topics of healthcare research and design methods, pay for performance, physician performance, clinical practice guidelines, telehealth, informatics, quality and efficiency, developing program quality, epidemiology of patient quality and patient safety.

Dr. Shasky is formerly a Program Director for AdvanceMed a CSC Company. He is also a former Senior Research Associate and Program Manager for the Williamson Institute for Health Studies housed at Virginia Commonwealth University, Medical College of Virginia, Department of Health Administration under the leadership of Dr. Thomas T.H. Wan.

HSING PAUL LUH, Ph.D.
Department of Mathematical Sciences, National Chengchi University

Dr. Luh received his Ph.D. in Operations Research at North Carolina State University in 1992. He is distinguished professor at Mathematical Sciences in National Chengchi University (NCCU), Taipei. He was President of Operations Research Society of Taiwan from 2005 to 2007. He is also a member of several professional associations, including Institute for Operations Research and the Management Science in USA, Taiwan Chapter of International Society for Pharmacoeconomics and Outcomes Research, and Chinese Probability and Statistics Association in Taiwan. His research interests include developing and analysis of assorted models in Optimization, Simulation and Forecasting.

I-KUAN YANG, Ph.D.
Dean of College of Engineering, Tunghai University, Taiwan

Dr. I-Kuan Yang received his Ph.D. from the University of Delaware. He is the Dean of the College of Engineering, Tunghai University, Taiwan. Dr. Yang is also a senior professor in the Department of Chemical and Materials Engineering in Tunghai University. He took the position as a professor and concentrated his researches on polymer rheology, polymer physics and polymer processing after leaving a position in charge of factory producing ink and coatings for plastics. In his career as a professor, Dr. Yang won awards of the best industry academic collaborative research. Dr. Yang currently is also a member of the Council of Director of the Society of Plastic Engineering, Taiwan Section.

FEATURED KEYNOTES

CATHERINE BAYLE, M.D.

Dr. Catherine Bayle is a geriatric physician in Assistance Publique – Hôpitaux de Paris (APHP). She graduated from General Medicine PARIS DESCARTES University (Paris) with her medical doctor degree in 1998. She has devoted to geriatric care since she graduated. She got recognition of College of Physicians by the Council in 2014. She organized an External Geriatric Mobile Team, which is a pilot team in the City of Paris and provides geriatric expertise in EHPAD (the doctor responsible for the Paris South East team at nursing homes). It was a pilot experimentation since 2008, and became a national development program in France since 2018. She is a coordinating doctor of the EHPAD Péan (Medical Nursing Home), whom is responsible for the geriatric network in the community. She coordinates different actors in the care system of the city and the hospital, and is responsible for the medical project in EHPAD Péan. Her research interests currently include plasma amyloid in Alzheimer process, the correlation with important biomarkers, and the effectiveness of external mobile care team for geriatric care.

From Our First Conference

"Many of you have recognized the feasibility that now is the time to start a new professional society to foster, to identify and to extend a core of science that deals with design and processes across a broad spectrum of human, technological and economic endeavors."

GEORGE KOZMETSKY
Keynote Address, First SDPS Conference
December 1995, Austin, Texas

SDPS IDEAS

THE 100 YEAR PROJECT: BUILD A SUBSTANTIAL NEW PROFESSIONAL SOCIETY

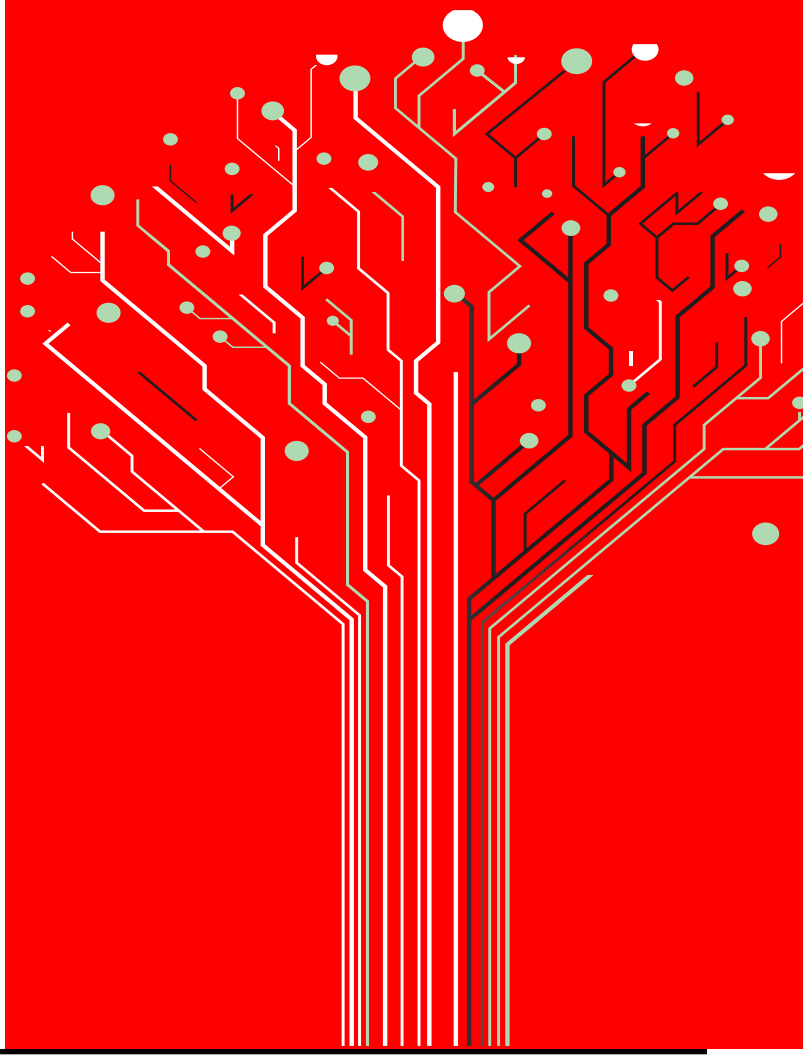
American Society of Mechanical Engineers
1880

Institute of Electrical and Electronic Engineers
1884

Society of Automotive Engineers
1905

Society for Design and Process Science
1995

Substantial New Professional Societies in Engineering and the Sciences are are very difficult to form: It can take 100+ years. SDPS is in its formative years.



DESCRIPTION

In this workshop, we discuss the importance of healthcare data integrity from the perspectives of evaluation and impact. Specifically, we discuss the Data Completeness and Analysis Package (DCAP) as an essential framework to understand data completeness in the context of medical information. Using this framework, we can examine current trends in data completeness and analyze both underlying drivers and potential impacts on healthcare delivery and outcomes. This workshop also focuses on the wide applicability of this type of analysis and areas of further exploration through a collaborative session leveraging the international experience of the conference. Additionally, the workshop will also involve discussion on data predictability by Dr. Thomas T.H. Wan.

CO-CHAIRS

Thomas T.H. Wan (University of Central Florida)
Yinghui Shi (Central China Normal University)
Kyoung-Yun Kim (Wayne State University)

PRESENTER

Yong Zeng
Yinghui Shi
Varadraj P. Gurupur,
Ayan Nasir
Leon Jololian
Kyoung-Yun Kim

ATTENDANTS

Jie Meng (Chongqing University of Science and Technology)
Zhinan Zhang (Shanghai Jiaotong University)
Cliff Zintgraff (University of Texas)

THOMAS T.H. WAN, Ph.D., MHS

Professor, Department of Health Management and Informatics and Public Affairs Doctoral Program, College of Community Innovation and Education, University of Central Florida.

Complete Profile listed as Workshop Chair of Workshop "DESIGN OF INTEGRATIVE VALUE-BASED COMMUNITY PROGRAMS FOR ELDER CARE "

VARADRAJ GURUPUR, Ph.D.

Assistant Professor
University of Central Florida

Dr. Varadraj Gurupur is currently employed as an Assistant Professor with the Department of Health Management and Informatics at the University of Central Florida. He was previously employed with the School of Medicine, University of Alabama at Birmingham (UAB), Birmingham, Alabama as a Data Manager for their Alzheimer's Disease Research Center, and later as an Information Systems Specialist. During his tenure as the Data Manager he perceived that many areas of dementia treatment could be improved using software tools that can not only automate manual testing but also increase the accuracy of the results. His main area of research is improving information systems for health and biomedical informatics. Dr. Gurupur has developed innovative prototypes that present new methodologies that can be used in the development of these information systems. He also has more than 100 publications and has published in reputable journals in his field. In the year 2017 Dr. Gurupur received the prestigious American Health Information Management Association (AHIMA) Triumph Award for research. Coming from an electrical and computer engineering background he happens to be a senior member of the Institute of Electrical and Electronics Engineers (IEEE). Dr. Gurupur has received external research funding for most of his research projects while working at UCF and is actively involved in securing intellectual property rights in the form of copyrights and patents.

"The indelible stamp of evolution is clear in the idiosyncratic manner in which humanity's sensory channels narrow our unaided perception of reality"

EDWARD O. WILSON,
Social Conquest of Earth, p. 288.

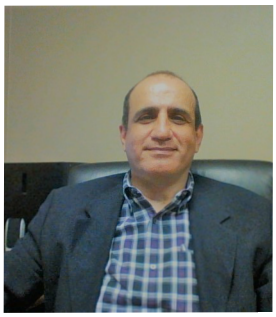
SPECIAL WORKSHOPS

Innovative Design and Data Science Research

Sunday, July 28, 2019, 14: 10-15:30, Tempus Hotel, Taichung

AYAN NASIR
Graduate Researcher
University of Central Florida

Ayan Nasir is a graduate researcher in the Decision Support Systems and Informatics Lab. Working under the guidance of Dr. Varadraj Gurupur, he has been working on several projects since 2014. These projects include first authorships in two publications regarding the Data Completeness Analysis Package (DCAP) analyzing EMR deficiencies, their underlying sources, and associated effects. He is currently working on research regarding provider consolidation at the national level, analyzing the effects of Accountability Care Organizations (ACO), and the drivers and effects of the value of free clinic services. Ayan Nasir graduated from Columbia University with a degree in Financial Engineering in the accelerated graduate track along with a minor in Economics. Before coming to the UCF College of Medicine, he worked internationally in finance at Morgan Stanley in New York and London and also worked on quality improvement projects at South Lake Medical Center. He works with multiple free clinics including Shephard's Hope and KNIGHTS Clinic, serving on leadership boards for KNIGHTS Clinic and SSRFC. He served as the president for the Business of Medicine Interest Group and the Medical Informatics Interest Group.



LEON JOLOLIAN, Ph.D.
Associate Chair, ECE department
University of Alabama at Birmingham

Dr. Leon Jololian is the director of the Systems Integration Center (CIS), at the University of Alabama at Birmingham. Prior to his current position, he was the Dean of the College of Technological Innovation (2007-2014), at Zayed University, in the UAE. He held faculty positions at William Paterson University, the University of Alabama at Birmingham, and New Jersey City University. He has also held the positions of Director of Computing at New Jersey Institute of Technology and Vice President for Research and Development at Thor Technologies in New York. Dr. Jololian's research interests include software component architecture, object-oriented technology, and mobile app technology. Dr. Jololan earned his Ph.D. (2000) in Computer Science from New Jersey Institute of Technology. Dr. Leon Jololian, recently accepted to serve as the Associate Chair for the Electrical and Computer Engineering department at University of Alabama at Birmingham.

PARTICIPANTS

Alshehri, Hussain Ali I; Alharthi, Abdulrahman M; Alhefdi, Mohammad Hassan; Moghaddasi, Vahid

Lipscomb, Tanik Collaborate on Communications Dynamics

ECE Chair Murat Tanik Marks 20 Years at UAB

SPECIAL WORKSHOPS

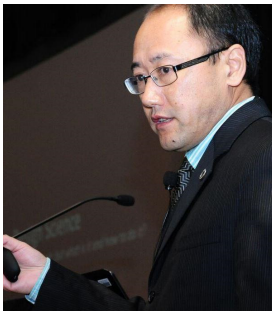
Innovative Design and Data Science Research

Sunday, July 28, 2019, 14: 10-15:30, Tempus Hotel, Taichung

DESCRIPTION

Design is dramatically affecting every aspect of people's lives. The SDPS 2019 Design Science Research (DSR) Symposium will be held from July 28-31, 2019 in Taiwan. In this research symposium, the focus will be on design for education. The SDPS 2019 DSR Symposium will gather researchers from different disciplines who are specialized or interested in related topics on collecting, processing, developing, analyzing and applying data-driven design, learning and services. This symposium will cover theories, methodology, techniques, practices and future work in the interdisciplinary fields including design science, science education, educational technology, artificial intelligence, design engineering, computer science, learning science, and cognitive science. The aim of this symposium is to set up a platform for researchers from different communities to share valuable ideas, expertise and experience, to find opportunities for collaboration, and to contribute their findings to improve the future work for both academic and industry in design for education. The symposium's themes include design and services in educational reform, educational theory, educational environment, educational resources, educational evaluation & assessment, educational training, and design education. The symposium encourages innovative findings related to educational product design, teaching and learning design, teacher professional development, educational service provision improvement, which include, but are not limited to:

- Product design for education;
- Research paradigm design for education;
- Learning analytics for instructional design;
- Instructional system design for teaching & learning;
- Assessment tools for educational evaluation & assessment;
- Approaches for curriculum design; and
- Approaches for education & training mode design.



YONG ZENG, Ph.D.
Professor, NSERC Chair in Aerospace Design Engineering (NCADE)
Concordia University

Complete Profile listed as Workshop Speaker of Workshop "TOWARDS A FRAMEWORK FOR TACKLING TRANSDISCIPLINARY (TD) PROBLEMS"

KYOUNG-YUN KIM, Ph.D.
Wayne State University
Professor, Design and Manufacturing Engineering
Site Director of NSF Center for e-Design

Dr. Kyoung-Yun Kim is a full professor in the Department of Industrial and Systems Engineering at Wayne State University USA, where he directs the Computational Intelligence and Design Informatics (CInDI) Laboratory. Dr. Kim's research focuses on Design Science; Design Informatics; Semantic Assembly Design; Welding and Joining; and Smart Manufacturing. Dr. Kim has received over $10M in funding from various federal agencies including NSF, DMDII, VA-CASE, DOD, DOE, NIDRR, and industries. Dr. Kim is an innovator in engineering design education and implemented manufacturing educational innovation curricula with support from the NSF and DOD grants. As the lead PI, he is realizing an innovative cyberlearning platform for environmentally responsible product design based on the constructionist theory in learning with NSF IUSE grant (CooL:SLiCE). Currently, Dr. Kim is the site director for the NSF I/UCRC Center for e-Design and directs Smart Manufacturing Demonstration Center (SMDC).

SDPS 2017

From Left to Right: Steven L. Fernandes, Ting Zhang, Fan Xiong, Tanveer Patel, Donna J. Slovensky, Michael Lipscomb

WORKSHOP A

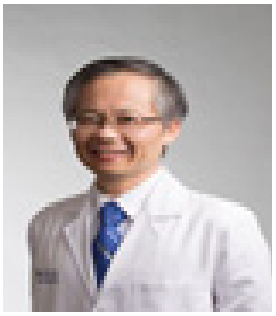
The Development of Multi-disciplinary Care System and Application of Informatics Technology in Management of Chronic Diseases

Monday, July 29, 2019, 13:30-14:25

WORKSHOP CHAIR
Shang-Jyh Hwang
INVITED SPEAKER
Chih-Chen Hsu
Hsing Paul Luh
Ming-Zu Wu

DESCRIPTION

As the increase of global burden on chronic diseases, caring for chronic disease through traditional model not only jeopardizes the integrity of disease treatment but also hampers the efficiency and effectiveness of disease management, especially when aging and co-morbidities and complications further complicate the disease courses. Applying new informatics technology in clinical practice is the major focus of medicine. Under the NHI in Taiwan the healthcare delivery system is actively in developing and promoting IT applications to management of chronic diseases. This workshop's aim is to introduce the multi-disciplinary care model and effective IT tools for improving clinical practices and outcomes.



CHIH-CHENG HSU, M.D., MPH, Ph.D.

Status of Multi-Disciplinary Care System for Chronic Diseases (DM or CKD) in Taiwan, by Chih-Chen Hsu, M.D., Ph.D., Deputy Director of Institute of Population Health Science, National Health Research Institute, Miaoli, Taiwan.

HSING PAUL LUH, Ph.D.
Department of Mathematical Sciences, National Chengchi University

See Profile listed as Keynote Speaker

SHANG-JYH HWANG, M.D.
Professor of Medicine, Nephrology, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan.

he Development of an Information System for Conducting the Integrated Cardiac-Kidney- Diabetes-Neuro Care Program, by Shang-Jyh Hwang, M.D., Professor of Medicine, Nephrology, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan.

MING-ZU WU, M.D., Ph.D.

The Applications of Information System for Clinical Care of Patients of Acute and Chronic Kidney Diseases, Ming-Zu Wu , M.D., Ph.D., Director of Department of Medicine, Nephrology, Taichung Veteran General Hospital, Taichung, Taiwan ROC.

WORKSHOP B

Towards A framework for Tackling Transdisciplinary (TD) problems
Monday, July 29, 2019, 13:30-14:25

DESCRIPTION

With rapid advances in technologies and increasing rate of disruptions to our society and the world, almost all problems are becoming TD in nature. This session intends to provide a glimpse of some general approaches to effectively tackling TD problems.

SPEAKERS AND TITLES

1. Dr. Shu Liao (Head Librarian and Associate Professor of Social Science, Asia U, Taiwan): "Co-creating knowledge via TD approach";
2. Dr. Murat Tanik (Wallace R. Bunn Chair of Telecommunication, U of Alabama):"A Mathematical approach to TD problems";
3. Dr. Yong Zeng, Professor of Computer Science, Concordia University (Canada):" A Question Driven approach to TD problems";
4. Dr. Raymond T. Yeh (City of Ten Thousand Buddhas): " The Art of Leverage: An effective tool for tackling tough social and organizational problems".

MURAT M. TANIK, Ph.D.
Electrical and Computer Engineering
Wallace R. Bunn Endowed Chair for Telecommunications
University of Alabama at Birmingham
Senior Board Member, SDPS

Murat M. Tanik is the Wallace R. Bunn Endowed Chair for Telecommunications and the chairman of Department of Electrical and Computer Engineering in UAB. Dr Tanik's research interests include the mathematical foundations of quantum electronics, information theoretical foundations for software, and applications of these areas to engineering, medical, and biological problems. He is widely published in professional journals and has mentored numerous graduate students.

YONG ZENG, Ph.D.
Professor,
Canada Research Chair in Design Science,
Concordia University, Montreal

Dr. Yong Zeng is a full professor in the Concordia Institute for Information Systems Engineering at Concordia University. He was a Canada Research Chair (Tier II) in design science from 2004 to 2014. He received his PhD from Department of Mechanical and Manufacturing Engineering at the University of Calgary in 2001. Zeng's research aims to understand and improve creative design activities, which crosses engineering design, artistic creation, computer science, management science, linguistics, neurocognitive science, mathematical science, and epistemology. He has proposed a new design theory called Environment Based Design. His research includes the science of design, a methodology for innovative and creative design, neurocognitive model of design creativity, computer-aided conceptual design, and the interplay between linguistics and design creativity. He collaborates and consults with the aerospace industry, medical device design companies, construction companies, recruitment industry, and municipalities.

RAYMOND T. YEH, Ph.D.
Co-Founder, SDPS and SES
SDPS Fellow
IEEE Centennial Medal Laureate
SES Transformative Achievement Laureate

Dr. Raymond T. Yeh received his Ph.D in mathematics in 1966 from University of Illinois at Campaign-Urbana. He was chair of Computer Science department at the University of Texas at Austin and University of Maryland at College Park. He was the Control Data Corporation Distinguished Professor at the university of Minnesota and held honorary professorships at six universities. Yeh was the founding editor-in-chief of IEEE Transactions on Software Engineering and Founder of International Conference on Software Engineering (ICSE). He is a co-founder of the Society for Design and Process Science (SDPS). Yeh is a fellow of the Institute of Electrical and Electronic Engineers (IEEE), the Society for Design and Process Science (SDPS), and a senior research fellow at IC^2 Institute at the University of Texas at Austin. He was a consultant to several nations and global enterprises. He published 9 technical books, 2 business books and more than 120 scientific articles. He and his wife now live in a Buddhist community in northern California as long term volunteers.

WORKSHOP C

DESIGN OF INTEGRATIVE VALUE-BASED COMMUNITY PROGRAMS FOR ELDER CARE

Monday, July 29, 2019, 14:30-15:25

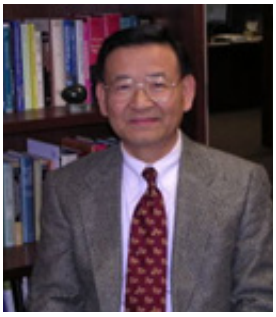
WORKSHOP CHAIR
Thomas T.H. Wan

KEYNOTE SPEAKER
Adam Golden

PANELISTS
Ya-Mei Chen
Shih-Yi Lin
Jun Paek
Romy Lasserre

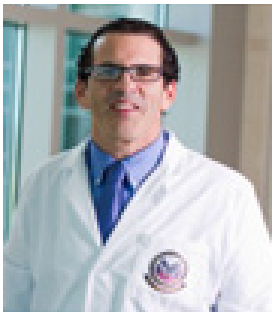
DESCRIPTION

The need and demand for effective and efficient delivery systems such as community-based services, non-institutionalized facilities and long-term care facilities are accentuated by demographical transition and cost containment imperatives. The opportunities for exploring and implementing viable alternative services offer new avenues for collaboration among scholars, health practitioners, community planners, and entrepreneurs to be engaged in producing alternative solutions for client and customer satisfaction and improvement of the quality of life. This Workshop is centered in the design and evaluation of alternative services and community-based care programs with a value-based payment and approach, using scientific care management and information technology.



THOMAS T.H. WAN, Ph.D., MHS
Professor,
Department of Health Management and Informatics and Public Affairs Doctoral Program, College of Community Innovation and Education,
University of Central Florida

Dr. Wan has conducted numerous community-based long term care research. In 1976, he was one of the principal investigators who evaluated the first clinical trial study on the effects and costs of geriatric day care and home health services in the United States. He has published 14 books and 200+ articles in health and aging. His works have been well-cited, including Stressful Life Events, Social Support and Gerontological Health, Promoting the Wellbeing for the Elderly, Analysis and Evaluation of Healthcare Systems, Improving the Quality of Care in Nursing Homes, and Population Health Management for Poly Chronic Conditions. He advocates the use of value-based payments in promoting the efficiency and quality of health care.



ADAM GOLDEN, Ph.D.
Professor of Internal Medicine
College of MedicineUniversity of Central Florida

Dr. Adam Golden is an outstanding geriatrician and gerontologist who has effectively served the Veterans population in Orlando, Florida. Dr. Golden is a Diplomate of the American Board of Internal Medicine with board certifications in Internal Medicine, Geriatric Medicine, and Hospice and Palliative Medicine. He has served as the President for the Florida Geriatrics Society. Dr. Golden is an active researcher with an interest in population health and the development of home- and community-based based models of care for frail older adults. He strongly advocates the importance in delivering patient centric care and affordable care to achieve better wellbeing. He has been at the College of Medicine, UCF since 2009. He has collaborated with Dr. Wan in completing the NIH grant to evaluate the impact of Affordable Care Act on rural health in 8 southwestern states in the U.S. He has conducted innovative projects on dementia and aging. He is a national leader who advocates for the search of alternatives to institutionalization. He has published extensively in medical and health services research journals.

YA-MEI CHEN, Ph.D.
Assistant Professor,
Institute of Health Policy and Management,
National Taiwan University

Dr. Chen received her graduate degrees (MS, MPH, and Ph.D.) from the University of Washington. Her expertise includes long-term care policy and development, particularly related to LTC 2.0. She serves as Deputy Director, Institute of Health Policy and Management, National Taiwan University.

WORKSHOP C

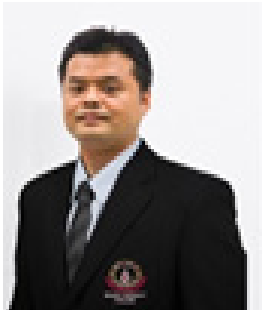
DESIGN OF INTEGRATIVE VALUE-BASED COMMUNITY PROGRAMS FOR ELDER CARE

Monday, July 29, 2019, 14:30-15:25

SHIH-YI LIN, M.D., Ph.D.

Director of Center for Geriatrics and Gerontology, Taichung Veterans General Hospital

See Profile listed as Keynote Speaker



JUN PAEK, Ph.D.

Dr. Jun Paek is a methodologist who has expertise in long-term care research, functional assessment of the elderly, and data analytics. He coordinates several collaborative research projects related to aging and disability.

ROMY LASSERRE

Director of ACPPA Péan elderly care nursing-home

Romy LASSERRE is a specialist in health care field, especially in elderly care. She is the managing director of ACPPA Péan elderly care nursing-home. She coordinates all the activities pertaining to the affairs of elderly care system, such as recruiting and training medical and paramedical AMP staff, institution environment design, negotiating with the local authorities on setting up new elderly care center and pricing-setting. She is the member of the NATIONAL CONFERENCE FOR HEALTH (CNS), co-organizing the national program "HELPER IN A NURSING HOME : WHAT IS MY PLACE". She shares her practical experience with the public by meeting and lecturing on topics such as "How can we help care-givers ?", "Draw me a regional day for local care-givers", and "the various offers for people losing their autonomy".

WORKSHOP D

Empowering Biomedical Research with Semantic Technologies and Predictive Analytics

Monday, July 29, 2019, 14:30-15:25

DESCRIPTION

In this workshop we would like to demonstrate the current trends in Biomedicine and the role software technologies may play in semantic enhancement of data and computational models, which together touch numerous problems in Biomedicine and possibly in Bioscience in general. This is an interdisciplinary area of research which merges Biomedicine with software technologies, for the main purpose of exploiting the power of semantic reasoning and strengthening the knowledge from the biomedical field for various purposes. By collecting, interpreting and manipulating the known semantics in Biomedicine, semantically managing their possible relationships, and exploiting the power of semantic overlapping in reasoning, we could address numerous problems. They range from defining medical diagnosis, predicting treatments, addressing chronic conditions and prevention of diseases to drug repositioning, drug-side effect predictions, drug-to-drug reactions, adverse drug reactions and drug recommendation discoveries. By manipulating Biomedical semantics we can personalise treatments and exercise precisions in medicine. They could be achieved because we can semantically connect diseases, available treatments and drugs, with patent's personal predispositions in either preventing or addressing medical conditions. This bring us very close to existing solutions which, for example, semantically match patients with various treatment and clinical trials. Furthermore, by looking at semantics stored in chemo-informatics, medicinal chemistry, chemical structures, knowledge from molecular and cell biology, it is very likely that we will be able to enrich significantly drug discovery science, by manipulating semantics of terms and processes across these fields.

However, we are also aware that modern Biomedicine has been influenced by computational processing and Big Data, Learning and Predictive technologies, which pushed the boundaries of their computational models. We started collecting and processing an excessive amount of data and use it for a variety of situation in Biomedicine, particularly if we expect that the data will successfully help us to predict, if not give answers to numerous questions we may have. Learning technologies and very popular deep neural network algorithms, have already been used in drug discoveries and drug interactions, but it is very difficult to judge how far these technologies will take us towards addressing known problems in Biomedicine. If we add to this debate the role Computational Biology might have, with

its involvement of data-analytical and mathematical modelling, to explain the behaviour of biological environments, then we need to rethink the future pathway of biomedical semantics and its synergy with software technologies.
In this workshop we will demonstrate and juxtapose examples of both: using Semantic Software Technologies for a selection of known problems of Biomedicine, and applying predictive analytics in the same field. We will offer our vision on how to harness the power of data, semantic and predictive technologies within the same problem solving environments, and offer new software paradigms, which exploit Biomedical semantics for resolving various research problems.

RADMILA JURIC, Ph.D.
Lecturer, University of South East Norway

Dr. Radmila Juric is a lecturer at University of South East Norway and has long term interest in applying software technologies in medicine and healthcare delivery. She has led research on the role of semantic technologies in extracting and manipulating the meaning of data through semantic reasoning and applying it across numerous domains. Her current research interest is in the synergy of semantic software technologies, with learning and predictive algorithms, enhanced with human involvements, for creating new modes of computational intelligence, which would come a step closer to human-like reasoning.

EIMAN ALMAMI, Ph.D.

Dr Eiman Almami has been working on applying semantic technologies as a vehicle for problem solving in software engineering. In her PhD she focused on the role of reasoning upon SWRL enabled OWL ontologies for creating personalized learning spaces for students with differences in learning. The novelty of her computational model, has been applied in numerous other examples, which needed semantic decision making and reasoning. Dr E. Almmai's current interest is to exploit similar computational models in Biomedical Semantics and drug discoveries in particular. Dr E. Almami is currently employed as a lecturer at The Fahad Academy in London, UK and collaborating as a researcher at Universities in the UK and Norway.

ELISABETTA RONCHIERI, Ph.D.
researcher and software engineer at INFN CNAF in Bologna (Italy)

Dr. Elisabetta Ronchieri is a researcher and software engineer at INFN CNAF in Bologna (Italy), focusing on software engineering problems, such as software quality, software metrics tradeoffs and software reliability. Currently, Dr Ronchieri works on the deployment of learning and predictive technologies, associated with computational algorithms, which may create innovative software engineering solution in the range of domains, including healthcare. She has worked as a visiting lecturer for the University of Ferrara. Currently, Dr Ronchieri is involved with secondary schools in Bologna, in order to disseminate the data analysis methodology, adopted by the Extreme Energy Events (EEE) project, created by the INFN scientists. Dr Ronchieri is also a research collaborator with Universities in Norway and Bologna.

IBTESAM ALMAMI, Ph.D.
Assistant professor, Biotechnology at Qassim University, Biology Department, College of Science and Arts, Al-Qassim, Saudi Arabia

Dr. Ibtesam Almami, is an Assistant professor in Biotechnology at Qassim University, Biology Department, College of Science and Arts, Al-Qassim, Saudi Arabia. Dr. I. Almami's main research interests are in Molecular Biotechnology, Genomics and Proteomics, Pharmaceutical therapies and Diagnostic tests. She is particularly interested in knowledge development and manipulation for addressing problems in molecular biotechnology that targets genes and proteins important to living organisms. She has been collaborating with research universities in Saudi Arabia and the UK.

WORKSHOP E

ASSISTED/ARTIFICIAL INTELLIGENCE (AI) APPROACHES TO TARGETING ELDERLY PATIENTS WITH CHRONIC CONDITIONS FOR HEALTH IMPROVEMENT INTERVENTIONS BY MEDICAL PROFESSIONALS

Tuesday, July 30, 2019, 13:30-14:25

WORKSHOP CHAIR

Charles Shasky

DESCRIPTION

The purpose of this workshop is to inform current designs and applications in healthcare for elder care. A framework for guiding the future development is presented. The challenges in design and application of integrated data for medical professionals are presented by Dr. Shasky. The population-based applications of data management science are demonstrated. The transformation of data and information into new knowledge will be demonstrated from a population health management perspective. Examples will be presented by each speaker to shed the light of potential contributions to future R&D activities among collaborative scientists and researchers.

CHARLES SHASKY, Ph.D.
Principal, Biotechnomics

See Profile listed as Keynote Speaker

"We do not know how long science will continue on this reductive path. We may come to a point where further progress is impossible within the resources of our species."

STEVEN WEINBERG
To Explain the World, p. 267

AI IN SCIENCE AND HEALTH

Herbert A. Simon articulated the role of artificial intelligence in natural sciences in most general terms in his "The Sciences of the Artificial" book. This and related workshops explore the wonder he is talking about. The book opens up like:

"About three centuries after Newton we are thoroughly familiar with the concept of natural science most unequivocally with physical and biological science. A natural science is a body of knowledge about some class of things objects or phenomena in the world: about the characteristics and properties that they have; about how they behave and interact with each other.

The central task of a natural science is to make the wonderful commonplace: to show that complexity, correctly viewed, is only a mask for simplicity; to find pattern hidden in apparent chaos. The early Dutch physicist Simon Stevin, showed by an elegant drawing (figure 1) that the law of the inclined plane follows in "self-evident fashion" from the impossibility of perpetual motion, for experience and reason tell us that the chain of balls in the figure would rotate neither to right nor to left but would remain at rest.

This is the task of natural science: to show that the wonderful is not incomprehensible, to show how it can be comprehended but not to destroy wonder. "

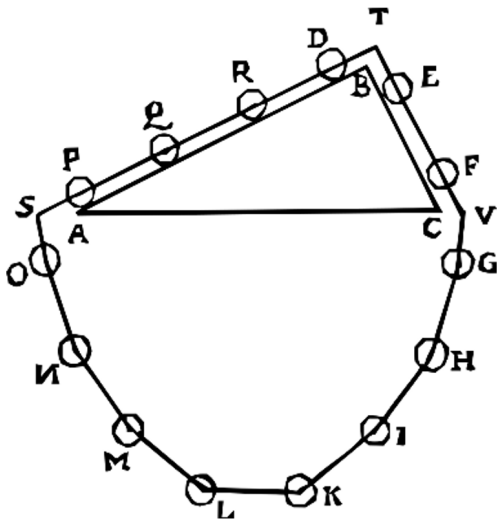


Figure 1

"Science and the humanities share the same origin and brain processes of creativity. They can be drawn closer together and widely joined in substance through a more thorough application of five disciplines-paleontology, anthropology, psychology, evolutionary biology, and neurobiology-bound together by the evolutionary process in heredity and culture."

EDWARD O. WILSON,
The Origins of Creativity, p. 81

WORKSHOP F

Designing Artificial Intelligence Applications: The Good, The Ugly and the Reality
Tuesday, July 30, 2019, 13:30-14:25

DESCRIPTION

The word "Artificial Intelligence" was coined in 1956 by John Mc Carthy during a workshop gathering scientists from different disciplines including language simulation, complexity theory intended to lay down a foundation for developing a machine that can imitate learning process or Intelligence. Today an Artificial intelligence (AI) is defined as a domain of computer science that emphasizes the creation of intelligent machines that work and react like humans. From robotics to ChatBot, Artificial Intelligence is taking up and is shaping ways to approach new business segments. But What is AI ? What is the Value for Business and Society ? Why Super Intelligence is raising fears? Is AI up to its promises? This workshop aims to address this cellanging questions and to investigate how AI and Machine Learning are shaping the way we live, work, learn and entertain ourselves. We will look into several AI based applications ranging from from voice personal assistants like Siri (Apple) or Alexa (Amazon), self-driving car to powerful Predictive capabilities systems used in the domain of Agriculture, healthcare, Energy monitoring, ect. The idea of the workshop is to explore concepts, new opportunities and challenges in defining innovative AI based applications. This workshop intends to gather academic and business people in order to develop a collaborative research and joint-funding among SDPS members and session paper presenters to promote research and development in Artificial Intelligence and its applications in agriculture, manufacturing, oil and gas, and healthcare. The outcome of the discussion will lead to the development of edited book or journal.

AURELIE AURILLA ARNTZEN BECHINA, Ph.D.

Professor
University of Southeastern Norway, Kongsberg

Dr. Aurilla Aurelie Bechina Arntzen is Professor at University of Southeastern Norway. She is the co-founder of the research group " Advanced Cognitive systems and Data Science" ACSADS ,Kongsberg, Norway. She is Co-Founder of the Norwegian Network on Artificial Intelligence and Robotics, KIRN, Oslo, Norway . She is the co-founder of the Institute for Knowledge and Innovation (IKI-SEA) South East Asia, Bangkok, Thailand. She received her Ph.D. in Automation, from INSA (Institute National des Sciences Appliquées) of Strasbourg, France in 1997. She has several years combined teaching and research IT experience from several well-known International institutions. Her academic interests are broad ranging from real-time systems development to the conception of knowledge systems. In her consultant role, she has been working with customers in Project management, training, Business process improvement, and information and knowledge management systems. She has participated and co-lead several European projects. She served as an expert evaluator for the European commission and the Norwegian research council. She is author and co-author of several technical and scientific publications.

PATRICK THEN, Ph.D.

Professor
Director for the Centre for Digital Futures Swinburne Sarawak

Patrick is a strong advocate of R&D and commercialization of innovations in Big Data, Data Mining and Internet of Things.He has established industry collaboration at national and international levels. He has been leading multiple industry-funded projects in research and development in collaboration with prominent ICT partners such as Sarawak Information Systems Sdn Bhd (SAINS), IDS (Malaysia) Sdn Bhd in Sarawak, and organizations around the world. Patrick has established partnership between Swinburne and international commercial partners such as Fusionex International Ltd, UK, D&J Human Care, South Korea, and Easy Global Market, France. Patrick has won, and has been managing and leading projects worth millions funded by industry and government agencies at national and international level. He works closely with international researchers, which include Texas A&M University-Commerce, University of Alabama at Birmingham, University College of Southeast Norway, Université de Pau et des Pays de l'Adour, National University Hospital Singaporeand Universitas Sanata Dharma University. He is a member of the Institute of Electrical and Electronics Engineers USA and the Australian Computer Society.

WORKSHOP G

Health Information Technology Applications in Stroke Care or Care for Other Chronic Conditions
Tuesday, July 30, 2019, 14:30-15:25

WORKSHOP CHAIR

Daniel C. L. Hsu

DESCRIPTION

Health information and care management technology has been widely adopted in the world. This workshop is designed to showcase innovative applications of HIT in promoting integrated care for chronic conditions such as stroke, heart disease, COPD, behavioral health, etc. Four experts constitute a panel as follows:

1. Dr. Daniel C.L. Hsu is a professor of Information management at Chang Gung University. He will give a keynote presentation on stroke care and HIT innovation.
2. Iradly Roche, MSW. Senior Instructor, School of Social Work, University of Central Florida. Professor Roche will introduce the role of behavioral health professionals in an integrated healthcare providing free medical and behavioral health services to medically underserved individuals, particularly immigrant farmworkers.
3. Su-I Hou, Ph.D., C.P.H., M.C.H.E.S., R.N., her topic is "Technology adoption among older adults participating in three aging-in-community programs: Characteristics of early adopters,"

DANIEL C. L. HSU, Ph.D.
Department of Information System Management at the Chang Gung University (CGU), Taiwan

Dr. Daniel C.L. Hsu was Visiting Scholar of Electronic Engineering and Computer Sciences Department of University of Central Florida. Currently, he is Director of Chinese Cryptology & Information Security Association and Chair of Membership Committee, Chair of Program of CGU RFID Applications in Logistics Supply Chain Management, Chair of Program of CGU Information Security with Medical Applications. He is a well-known scientist and researcher who has established a strong collaborative relationship with the health sector in Taiwan. His expertise is centered in health information security and medical applications.

IRADLY ROCHE, MSW
Senior Instructor, School of Social Work,
University of Central Florida

SU-I HOU, Dr. P. H., C.P.H., M.C.H.E.S., R.N
Professor & PAF-PhD Health Track Coordinator, University of Central Florida

" Thermodynamics, relativity, and quantum theory are the three pillars upon which the entire structure of theoretical physics is built. They are not branches of physics (like acoustics, optics, etc.) but general frameworks encompassing every aspect of physics."

In Complexity, Entropy, and the Physics of Information,
WOJCIECK H. ZUREK (ED.),
Perseus Books, 1990, p. 345.

"Scientists have discovered many peculiar things, and many beautiful things. But perhaps the most beautiful and the most peculiar thing that they have discovered is the pattern of science itself."

STEVEN WEINBERG,
Dreams of a Final Theory. P. 19, Pantheon, 1992.

WORKSHOP H

Healing Environment Design and Research: The Evidence-Based Design for Caring the Elderly with Disability and Dementia.

Tuesday, July 30, 2019, 14:30-15:25

DESCRIPTION

The increasing number of elders with functional disabilities or dementia presents several healthcare challenges. The emphasis on healing environmental (HE) design has shifted from "functional delivery" to "psychological support". Healing environment is defined as a holistic environment, which is composed of physical, psychological and interpersonal environment. HE can have a positive effect on elderly with specific acute or chronic diseases. The collaboration between academic and healthcare professionals enables the development of innovative HE design, leading to the use of evidence-based approaches. This research symposium aims to present varying HE designs for improving elder care.

WORKSHOP CHAIR

Ying Chyi Chou

CO-CHAIR

Chih-Yun Wu

YING CHYI CHOU, Ph.D.

See Profile listed as Keynote Speaker

CONTENTS: TEN MINUTES PER SPEAKER

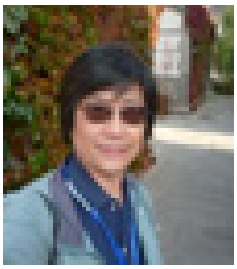
1. "Healing Environments and Design", by Barbara Huelat, Principal, Davis Partnership.
2. "An Evaluation of HE Applications to Elder Care", by Hwa-San Kwan, Professor and Chairperson, Department of Landscape Architecture, Tunghai University, Taichung, Taiwan.
3. "The Landscape Architecture in HE Design", by Chun-Wei Tsou, Assistant Professor, Department of Landscape Architecture, Tunghai University, Taichung, Taiwan.
4. "The Study of Personal Activity Intelligence Wearable Devices Applied in Evaluated Exercise Intensity of Elderly", by Min-Huan Wu Associate Professor, Physical Education Office/ Sports Recreation and Health Management Continuing Studies/ Senior Life and Innovation Technology Center/ Life Science Research Center.
5. "_The of BROCA Hospital in Elder Care", Catherine Bayle, MD, Praticien Hospitalier, BROCA Hospital Paris, Assistance Publique – Hôpitaux de Paris (APHP).

BARBARA HUELAT

Barbara Huelat is a specialist in healthcare interior design field. She help define a new discipline, a new way of thinking, a new science and in so doing has pushed the plane of human evolution forward

HWA-SAN KWAN

Professor of Department of Architecture, Tunghai University. His specialties range from architectural design, especially on care environments for the elderly, sustainable community, and the indigenous peoples' architectures



CHUN-WEI TSOU

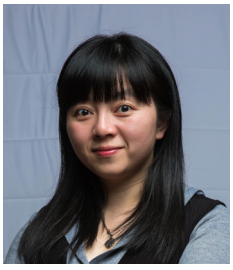
Assistant Professor of Department of Landscape Architecture, Tunghai University, Taiwan. His research are horticultural therapy, healing factors of elderly living space on planting design

MIN-HUAN WU

Associate Professor, Physical Education Office/ Sports Recreation and Health Management Continuing Studies/ Senior Life and Innovation Technology Center/ Life Science Research Center, Tunghai University

CATHERINE BAYLE

See Profile listed as Keynote Speaker



CHIH-YUN WU, Ph.D.

Associate Professor,
Department of Business Administration,
Tunghai University

MACHINE LEARNING AND INTERNET OF THINGS – PERSPECTIVES AND

WORKSHOP CHAIR
Shrirang Ambaji Kulkarni

DESCRIPTION
Internet of Things popularly known as IoT has been one of the marvellous technological advancements of the recent years. The beauty of IoT is that it a miniature on-board computing device. It can have extended senses through sensors, can process images, collate data and do many useful computing activities. On the other hand with the advancement of computing devices machine learning algorithms are looking more feasible to do many interesting activities like classification and predictions in many domains where only human actors played vital roles. However for fast results and speedier transmissions, machine learning algorithms need descent computing power, storage capacities and efficient network capabilities. Thus the present discussion involves a question that can we push the machine learning capabilities to the edge at the IoT's door step efficiently. Also are the current IoT technologies capable to withstand the large influx of data. The newer challenges of discourse has moved towards adversarial machine learning algorithms and their impact on IoT in the security domains.

SHRIRANG KULKARNI, Ph.D.

Dr. Shrirang Ambaji Kulkarni has a rich experience of 18 years as a faculty, researcher and author. He graduated in Computer Network Engineering from National Institute of Engineering Mysore, India in the year 2004. He was awarded Ph.D. in the field of Computer and Information Science from Visvesvaraya Technological University India in the year 2012. He is currently working as Associate. Professor in the Department of Computer Science and Engineering, National Institute of Engineering, Mysore, India. He is an active researcher and has published articles in reputed Journals and Conference Proceedings. His book authored on Python is very popular among student community. He is a government recognized mentor for schools for providing training on IoT, Python and Innovation. His current research interests are wireless networks, IoT, machine learning and medical healthcare informatics.

DEEPFAKE: AN ADVANCED IMAGE PROCESSING TECHNOLOGY

DESCRIPTION
Advanced technology, machine learning and artificial intelligence has made easy to swap the faces in videos that are difficult to identify. The advanced way of faking images and videos are called DeepFakes. These real like videos are used to create political ill impressions, fake scenarios.

DeepFakes create negative impressions in the social network. It is a serious problem which is very difficult to identify. To expose the fraud, effective identification of DeepFake is very much in need. So far the detection method is relying on inconsistences in the video like unnatural eye blinking or mismatch in the color, etc. To reveal the real face hidden in the deep fake video, neural network also can be used. The development of efficient tools that can automatically detect these videos with swapped faces is of a paramount importance. In this workshop DeepFake related papers will be reviewed and the available solutions till date will be explained.

ANANTH PRABHU, Ph.D.

Ananth Prabhu, is an author, software engineer, motivational speaker, TV host and educator. BE in CS, MBA in IS, MTech in CS, Diploma in Cyber Laws, PhD in Computer Engineering. He is happens to be a Professor with the Department of Computer Science and Engineering at Sahyadri College of Engineering & Management and Director of Vikas Edu Solutions. He has authored two very popular motivational books for Students and Teachers- Little Black Book. His new book- I Own the Monks Ferrari is about the journey from material to spiritual world. He loves Music, Singing, Playing various Musical Instruments, Trained Tabla Player. Additionally, he is a co-founder of Campus Interview Training Solution, which helps in training Final year Engineering students to make them industry ready. He has delivered more than 500 technical and management workshops. He is also the guest faculty of Cyber Crime and Cyber Law at the Karnataka Police Academy, Mysore since 2012.

HIGHER EDUCATION IN AGE OF AI AND MACHINE

MODERATOR
Reid Oetjen, Ph.D.
PANELISTS
Leon Jololian, Ph.D.
Shrirang Kulkarni, Ph.D.
Mehmet Aksit, Ph.D.
S. Felix Wu, Ph.D.

REID OETJEN, Ph.D.
Associate Professor, Chair of the Department of Health Management and Informatics, University of Central Florida

Dr. Reid Oetjen is an Associate Professor and is the Chair of the Department of Health Management and Informatics at the University of Central Florida. In addition to his leadership responsibilities, Reid is active in several national professional organizations, including the Association of University Programs in Health Administration and the American College of Healthcare Executives. Dr. Oetjen has numerous peer-reviewed publications and regularly presents his research at academic and practitioner conferences. His research foci are on the long-term care quality, developing tools for healthcare practitioners, and the scholarship of teaching and learning. In addition to his academic experience, Dr. Oetjen served as an Assistant Administrator for a national Skilled Nursing Facility chain and spent 10 years as an operations manager for a major international airline.

LEON JOLOLIAN, Ph.D.
Associate Chair, ECE department
University of Alabama at Birmingham

Complete Profile listed as Keynote Speaker of Workshop "ADVANCES IN DATA SCIENCE: ANALYZING ISSUES WITH DATA COMPLETENESS AND DATA PREDICT-

SHRIRANG KULKARNI, Ph.D.

Complete Profile listed as Workshop Chair of Workshop "MACHINE LEARNING AND INTERNET OF THINGS – PERSPECTIVES AND CHALLENGES "

SDPS MEMORIES

Edgar Michel was the keynote speaker in Taichung in 2008.

EDGAR MITCHELL
Naval aviator, test pilot

Edgar Mitchell (September 17, 1930 – February 4, 2016) was a United States Navy officer and aviator, test pilot, aeronautical engineer, ufologist and NASA astronaut. As the Lunar Module Pilot of Apollo 14, he spent nine hours working on the lunar surface in the Fra Mauro Highlands region, making him the sixth person to walk on the Moon. The legacy of his post-NASA scientific work is carried on through the Institute of Noetic Sciences.
He was a member of the American Institute of Aeronautics and Astronautics; the Society of Experimental Test Pilots; Sigma Xi; Sigma Gamma Tau, New York Academy of Sciences; The Explorers Club; World Futures Society; International Platform Association; and he was also an honorary member of the Radio and Television Correspondents' Association

HIGHER EDUCATION IN AGE OF AI AND MACHINE LEARNING

MEHMET AKSIT, Ph.D.
University of Twente,
Netherlands

Dr. Aksit and the members his group have contributed to various topics in software engineering, such as programming languages, software design, application frameworks, software quality attributes and university-industry cooperation. As for programming languages, the group has developed one of the first aspect-oriented languages called Composition-Filters. Also, a language that can explicitly represent emergent behavior has been developed. The group has introduced the synthesis based software design methods and fuzzy-probabilistic techniques for modeling uncertainty in software design processes. Various methods and techniques have been defined to enhance certain quality attributes of software such as adaptability, evolvability, documentability, availability, traceability, relevancy, energy reducibility and schedulability. Accordingly, multi-criteria trade-off techniques have been introduced to optimize software architectures. Since 2011, the group has been developing new company maturity models and processes so that companies can be conscious about the capabilities and competences they need. In 2017, Dr. Aksit has received the SDPS Priscilla and Raymond T. Yeh Award for Lifetime Achievements in Software Research, Technology Innovation or Engineering Education. Currently, Dr. Aksit is establishing a research center on Smart Cities under the auspices of the TOBB-ET University in Ankara, Turkey.

S. FELIX WU, Ph.D.
Dean of cloud innovation school
at Tunghai University

Professor S. Felix Wu's research focuses on social computing, information search and analytics, cyber security, Internet architecture and protocols. The nature of his research is very "experimental", meaning that he builds prototype systems and performs experiments to validate and evaluate new architectural concepts for the security of our Internet. He resumes the deanship for establishing an innovative school for crowd-based learning and research at Tunghai University. Professor S. Felix Wu got his undergraduate degree in computer science from Tunghai University, Taichung in 1985, and received MS degree also in computer science from Columbia University in 1989. He completed his Ph.D. from Columbia University in 1995. His dissertation is entitled "Epsilon-Consistent Real-Time Monitoring for Rapidly Changing Data." He was a faculty member in the Computer Science Department at Columbia University from 1994 to 1995, and NC State University from 1995 to 2000 before joining UC Davis.

"Mechanics is the paradise of mathematical science, because by means of it one comes to the fruits of mathematics."

LEONARDO DA VINCI
"The Notebooks of Leonardo Da Vinci"

SDPS MEMORIES

SDPS 2016, Orlando, FL

SDPS 2016, Orlando, FL

INTEGRATED APPROACHES TO HEALTH MANAGEMENT AND INFORMATICS RESEARCH

HAO YUN KAO, Ph.D.
Associate Professor and Chair
Department of Healthcare Administration and Medical Informatics
Kaohsiung Medical University, Taiwan

DESCRIPTION

Healthcare systems worldwide face major challenges due to the soaring demand for better services and more information. The emergence of information communication technologies (ICT) has strongly influenced healthcare sector, with new applications changing the management of healthcare. The new ICT applications have the potential to help service providers to deal with challenges such as the need to improve quality, keep up with increasing demands for health services, and to reduce the cost of medical services. Further areas of interest research how to create and innovate new service for improving health care provision. Therefore, this research symposium attempts to explore concepts and practices where participants in the health network are linked to each other through new inspiration..

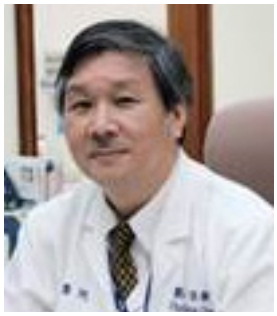
TENTATIVE TITLES OF 5 CONTRIBUTIONS

1. "Medications Alert System Decreased the Hospital Outpatients Duplicate Medications: A Longitudinal Hospital Cohort Study." Yu-Chun Kuo, Shou-Hsia Cheng, and Herng-Chia Chiu
2. "Effectiveness and Cost Utility of Multidiscipline Post-Acute Care for Stroke Patients: A Prospective Cohort Study in Taiwan." Yu-Jo Yeh, Yu-Ching Chen, Jung-Der Wang, and Hon-Yi Shi
3. "Exploration of Computerized Clinical Pathway Nursing Assessment with Standardized Terminology." Petty Lin and Der-Ming Liou
4. "The Impact of the Number of Convolution Layer and Filters by Using A Mixed Model for Convolutional Neural Networks." Chia-Mei Hsia and Shih-Feng Weng
5. "Explore the National Cancer Control Programs with Preventive Hospitalization for Colorectal Cancer." Yu-Chieh Chang and Hao-Yun Kao

ACKNOWLEDGEMENT

UAB; UAB university hospital

ARTIFICIAL INTELLEGENCE DESIGN AND APPLICATIONS IN MEDICINE



CHAO-SUNG CHANG M.D., Ph.D.
Professor, College of Medicine for International Student
Department of Hematology/ Oncology, E-Da Cancer Hospital, I-Shou University, Kaohsiung, Taiwan

Dr. Chao-Sung Chang is an outstanding oncologist of department of Hematology & Oncology. Dr. Chang holds M.D. and M.M.S degree from Kaohsiung Medical University, and Ph.D. from National Sun Yat-sen University. He was a clinician-researcher in Mayo Clinic's. His major interests in research are hematology and osteoporosis. He believes in the philosophy of the bible "I can do all this through him who gives me strength. (Philippians 4:13 NIV)" to design a care system for cancer patients in southern Taiwan. He had been the superintendent for Fengshan Hospital, Pingtung Christian Hospital, and E-Da Cancer Hospital. He is currently the executive deputy director of E-Da Healthcare Group (EDHG), which comprised of E-Da Hospital, E-DA Cancer Hospital and E-DA Dachang Hospital.

CONTENTS: TEN MINUTES PER SPEAKER

1. "Medical Image Segmentation Based on Deep Learning." Yu-Jung Huang, Professor of Electronic Engineering Department of I-SHOU University
2. "Development of Wearable Physiological Signal Sensing System." Yu-Chieh Chen, Associate Researcher of Taiwan Instrument Research Institute (NARL)
3. "Medical Record Management on Level of Care with block chain Technique." Shao-I Chu, Associate Professor of Electronic Engineering Department of National Kaohsiung University of Science and Technology
4. "The Development and Application of Artificial Intelligence in E-DA Healthcare Group." Wei-Chen Lin, Associate Researcher of Medical Research Department of E-Da Hospital

Day 1: Sunday, July 28, 2019

Time	Agenda	Venue
10:00-14:00	Registration Open	3rd floor, Tempus Hotel, Taichung
16:30-20:00	Registration Open	Huizhong Building, 4F Assembly Hall, Taichung City Hall
13:00-14:00	**Doctoral Symposium A** Organizer: Dr. Varadraj P. Gurupur, University of Central Florida	Harvard Room, Tempus Hotel, Taichung
13:00-14:00	**Doctoral Symposium B** Organizer: Dr. Murat M. Tanik, University of Alabama at Birmingham	Oxford Room, Tempus Hotel, Taichung
14:10-15:30	**Special Workshops** Innovative Design and Data Science Research Co-Chair : Dr. Thomas Wan, Dr. Yinghui Shi, Dr. Kyoung-Yun Kim	Harvard Room, Tempus Hotel, Taichung
16:20	Depart to Taichung City Hall (Gather In 1st Floor Tempus Hotel Hall)	
17:00-17:10	**Music Performance** The Music department of Chamber Orchestra, Tunghai University	Huizhong Building, 4F Assembly Hall, Taichung City Hall
17:10-17:25	**Welcome Addresses** Mr. Ling Hu, Jung-Ta, Deputy Mayor of Taichung City Government S. Felix Wu, Ph.D, Dean of Cloud Innovation School at Tunghai University Prof. Murat M. Tanik, Senior Board Member of SDPS	
17:25-17:30	**Introduce the honorable guests**	
17:30-17:45	**Address** Speaker: Mr. Tseng, Tzu-Chan, Director of Health Bureau, Taichung City Government Topic: The introduction of long-term care services in Taichung City	
17:45-18:00	**Opening Keynote** Speaker: Prof. Murat M. Tanik, Senior Board Member of SDPS Topic: The introduction of SDPS conference	
18:00-18:10	Group photo	
18:10-20:00	Networking and Refreshment	
20:00	Back to Tempus Hotel, Taichung (Gather in 1st Floor Hall)	

Day 2: Monday, July 29, 2019

Time	Topic	Speaker	Venue
07:00-13:00	Reception and Registration		3rd floor, Tempus Hotel
08:00-08:10	**Plenary Session I** Chaired by Dr. Adam Golden, Professor of Medicine, University of Central Florida		**Cambridge Room**
08:10-08:40	Comprehensive Care for Frail Elderly- From Specialized Geriatric Units to Hospital-Wide Intervention	Dr. Ping-Wing Lui, Deputy superintendent of Taichung Veterans General Hospital, Taiwan	Cambridge Room
08:45-09:15	Design and Innovation in Healing Environments	Ms. Barbara Huelat, Principal of Healing Environment Design	Cambridge Room
09:20-10:10	Panel Discussion Chaired by: Shih Yi Lin	Dr. Shih-Yi Lin, Director of Center for Geriatrics and Gerontology, Taichung Veterans General Hospital	Cambridge Room
10:15-10:30	Coffee Break		
10:30-10:35	**Plenary Session II** Chaired by Dr. Chen-Fu Chien, National Tsinghua University		**Cambridge Room**
10:35-11:05	Intelligent Healthcare Applications in Telemedicine and AI	Dr. Chen-Fu Chien, Director of MOST AI Center at National Tsinghua University, Taiwan	Cambridge Room
11:05-11:35	Explainable Artificial Intelligence For Diagnostic Imaging	Dr. Dexter Hadley, Assistant Professor of Medicine, University of California, College of Medicine, San Francisco	Cambridge Room
11:40-12:15	Gerontechnology- From Research to Daily Applications: Development of an AoT Bedroom for Elder Care	Dr. Yeh-Liang Hsu, Director of Gerontechnology Research Center, Yuan Ze University, Taiwan	Cambridge Room

12:15-13:25	Lunch Break	
13:30-14:25	Workshop A: The Development of Multi-Disciplinary Care System and Application of Informatics Technology in Management of Chronic Diseases Chaired by Dr. Shang-Jyh Hwang, Professor, Kaohsiung Medical University	Oxford Room
13:30-14:25	Workshop B: Towards a Framework for Tackling Transdisciplinary Problems Co-Chaired by Dr. Murat M. Tanik	Harvard Room
14:30-15:25	Workshop C: Design of Value-Based Community Care Programs for Elder Care Chaired by Dr. Thomas T.H. Wan, University of Central Florida	Oxford Room
	Workshop D: Empowering Biomedical Research with Semantic Technologies and Predictive Analytics Chaired by Dr. Radmila Juric, University of South East Norway	Harvard Room
15:30-16:25	Symposium A: System Designs: A Perspective for AI and Data Science Chaired by Dr. Aurellie Aurilla Arntzen Bechina and Dr. Patrick Hang Hui Then	Oxford Room
	Symposium B: AI Design and Applications in Medicine Chaired by Dr. Chao-Sung Chang, I-Shou University and E-Da Healthcare Group	Harvard Room
16:30-17:30	Symposium C: Medical Image Research and Precision Medicine Chaired by Dr. Dexter Hadley, University of California San Francisco	Oxford Room
	Symposium D: Health Services Research I: Chaired by Dr. Hsueh Fen Chen, University of Arkansas for Medical Sciences	Harvard Room

Day 3: Tuesday, July 30, 2019

Time	Topic	Speaker	Venue
07:00-13:00	Reception and Registration	Tempus Hotel, Taichung	3rd floor, Tempus Hotel
Plenary Session III Chaired by Dr. Wynn HueyWen Yien, CEO of the Yong-Lin Healthcare Foundation, Taiwan.			
08:00-08:30	Delivering Inclusive Smart Health Care by Innovative and Comprehensive e-Health System-Share Successful Case in Changhua Christian Healthcare	Dr. Shou-Jen Kuo, Co-Superintendent of Changhua Christian Hospital, Taiwan	Cambridge Room
08:35-09:05	Intelligent Healthcare Applications in Telemedicine and AI	Dr. Chih-Jen Tseng, Vice Superintendent of Chung Shan Medical University Hospital	Cambridge Room
09:10-09:40	Design and Evaluation of Artificial Intelligence Research in Primary Care Management	Dr. Thomas T.H. Wan, Ph.D., MHS, Professor of Health Management & Informatics, University of Central Florida	Cambridge Room
09:45-10:15	The Effect of a Health Information Exchange Program under the National Health Insurance Scheme in Taiwan.	Dr. Shou-Hsia Cheng, Professor, College of Public Health, National Taiwan University, Taiwan	Cambridge Room
10:15-10:30	Coffee Break		
Plenary Session IV Chaired by Dr. Chi-Yin Huan, Tunghai University			
10:30-11:00	Innovations in Integrated Healthcare	Dr. Chin-Yin Huang, Chair, Department of Industrial Engineering and Enterprise Information, Tunghai University	Cambridge Room
11:05-11:35	Hospital-Community Collaborative and Innovative Model for Home Care	Dr. Pi-Shan Hsu, Director, Department of Family Medicine, and Community Health, Taichung Hospital, Ministry of Health and Welfare	Cambridge Room
11:40-12:15	Smart Healthcare	Dr. Pa-Chun Wang, Professor of Medicine, Fu Jen Catholic University, Taiwan	Cambridge Room
12:15-13:25	Lunch Break		
13:30-14:25	Workshop E: Assisted/Artificial Intelligence(AI) Approaches to Targeting Elderly Patients with Chronic Conditions For Health Improvement Interventions By Medical Professionals Chaired by Dr. Charles Shasky		Oxford Room
	Workshop F: Designing Artificial Intelligence Applications: The Good, the Ugly and the Reality Chaired by Dr. Aurelie Aurilla Arntzen Bechina, University of Southeastern Norway		Harvard Room
14:30-15:25	Workshop G: Health Information Technology Applications in Stroke Care or Care for Other Chronic Conditions Chaired by: Dr. Daniel C. L. Hsu, Chang Gung University		Oxford Room
	Workshop H: Healing Environment Design and Research: The Evidence-Based Design for Caring the Elderly with Disability and Dementia Chaired by Dr. Ying Chyi Chou		Harvard Room

15:30-16:25	Symposium E: Health Services Research II Chaired by Dr. Bill, B. L. Wang, Chief Operational Office, HB Health and Beauty International, Inc.	Oxford Room
	Symposium F: AI Research Chaired by Dr. V. Gurupur, University of Central Florida	Harvard Room
16:30-17:25	Symposium G: Automation and AI Applications Chaired by Dr. Murat M. Tanik	Oxford Room
	Symposium H: Integrated Approaches to Health Management and Informatics Research Chaired by Dr. Hao Yun Kao, Kaohsiung Medical University	Harvard Room

Day 4: Wednesday, July 31, 2019

Time	Agenda	Venue
08:30-12:00	Reception and Registration	3rd floor, Tempus Hotel
09:00-9:50	**Advanced Workshop on AI** 1. Semantic Matching Between Eligible Patients and Clinical Trials Using SWRL Enabled OWL Ontologies, by Radmila Juric 2. Machine Learning and Internet of Things: Perspectives and Challenges, by Shrirang Kulkarni 3. DeepFake: An Advanced Image Processing Technology, by Ananth Prabhu	Cambridge Room
10:00-11:30	**Closing Session** Host: Dr. Reid Oetjen, Chair of the Department of Health Management and Informatics, University of Central Florida	
11:30-12:30	**Lunch Break**	
12:30	Depart Taichung City Tour at Taichung Hub and National Taichung Theater (Gather In 1st Floor Tempus Hotel Hall) Tour Description: **Taichung Hub** will demonstrate the city development and future goals of Taichung Metropolitan area. **National Taichung Theater** is an opera house that was established to promote arts and culture, incubate creative and cultural brands, and make arts a part of people's everyday life.	
16:40	**Back to Tempus Hotel Taichung**	
17:30-18:00	**Keynote Speech** Speaker: Mr. Chi-yuan Huang, CEO of First China capital (FCC) Partners Inc. Topic: Investments in collaborative enterprise for R&D for AI from a global view	Tempus Hotel, Taichung
18:00-20:00	Banquet and Awards Reception	Dadun Building 3F-Plum/ Lotus/Orchid, Tempus Hotel

Day 5: Thursday, August 1, 2019

Time	Activity	
07:30	Transportation to National Taiwan University Cancer Center, Taipei (Gather In 1st Floor Tempus Hotel Hall)	
10:00-10:30	Visit National Taiwan University Cancer Center	
10:30-11:30	Visit X lab and Yong-Lin Healthcare Foundation	
12:15-13:00	Lunch at Clinical Innovation Center, Taipei Veterans General Hospital	
13:00-15:00 Post-congress:	Introduction	Dr. Wynn Huey-Wen Yien, CEO of the Yong-Lin Healthcare Foundation
	Convergence in Multiple Sciences for Healthcare Innovation: Transdisciplinary Approaches to Evidence-Based Practice and Management	Dr. Thomas T.H Wan, Professor, Department of Health Management and Informatics, University of Central Florida
	Healing Environment Design for Cancer Care	Ms. Barbara Huelat, Principal of Healing Environment Design
	Artificial Intelligence and Technological Solutions for Healthcare	Dr. Wynn Huey-Wen Yien, CEO of the Yong-Lin Healthcare Foundation
	Q&A	
15:00	Back to Taichung	

SDPS 2019 INTERNATIONAL CONFERENCE PROGRAM OVERVIEW
July 28 – August 1, 2019
Taichung, Taiwan

Summary of The Schedule		
Description	**Time**	**Room**
July 28th		
Doctoral Symposium A	13:00 – 14:00	Harvard Room
Doctoral Symposium B	13:00 – 14:00	Oxford Room
Special Workshop	14:10 – 15:30	Harvard Room
Poster Session (July 28th – July 31st)		Harvard Room
Welcoming Party/Reception at Taichung City Hall	17:00 – 19:30	
July 29th		
Two Plenary Sessions	08:00 – 12:15	Cambridge Room
Two Concurrent Workshops (A & B)	13:30 – 14:25	Oxford & Harvard Room
Two Concurrent Workshops (C & D)	14:30 – 15:25	Oxford & Harvard Room
Two Concurrent Research Symposia (A & B)	15:30 – 16:25	Oxford & Harvard Room
Two Concurrent Research Symposia (C & D)	16:30 – 17:30	Oxford & Harvard Room
July 30th		
Two Plenary Sessions	08:00 – 12:15	Cambridge Room
Two Concurrent Workshops (E & F)	13:30 – 14:25	Oxford & Harvard Room
Two Concurrent Workshops (G & H)	14:30 – 15:25	Oxford & Harvard Room
Two Concurrent Research Symposia (E & F)	15:30 – 16:25	Oxford & Harvard Room
Two Concurrent Research Symposia (G & H)	16:30 – 17:25	Oxford & Harvard Room
July 31st		
Advanced Workshop on AI	09:00 – 09:50	Cambridge Room
Panel Discussion Session on Educational and Research Development	10:00 – 11:30	Cambridge Room
City and Facility Tours		
Banquet	18:00 – 22:00	Dadun Building 3F-Plum/Lotus/Orchid, Tempus Hotel
August 1st		
Special Meeting and Site Visit: Hosted by YongLin Healthcare Foundation in Taiwan (transportation will be provided from Tempus Hotel to Taipei)		

DOCTORAL SYMPOSIUM A Sunday, July 28, 2019, 13:00 – 14:00 Harvard Room, Tempus Hotel, Taichung			
Organizer :	**Dr. Varadraj P. Gurupur** Associate Professor of the Department of Health Management and Informatics, University of Central Florida		
Time	**Presenter**	**Title**	**Room Assigned**
13:00-13:10	Jie Meng, Gaofa He, Liancheng Ren and Min Liu	Research on The Reform of Practical Teaching of Mechanical Specialty Based on EBD	Harvard Room
13:10-13:20	Marzieh Khakifirooz, Mahdi Fathi, Jei-Zheng Wu and Kuan Yu	The Key Factors to Promote The Pay-As-You-Drive Insurance in Taiwan	Harvard Room
13:20-13:30	Yue Dai, Zhenquan Zheng, Yueping Li and Yanxian Lin	Implementation of Medical Information of County Medical Alliance in Fujian Province: Based on The World Bank China Health Care Reform Project	Harvard Room
13:30-13:40	Adil Patel and Leon Jololian	Framework for Validation for Different Media Types Using A Model Based on Consensus	Harvard Room
13:40-13:50	Ayan Nasir	Understanding Electronic Medical Record Data Integrity	Harvard Room
DOCTORAL SYMPOSIUM B Sunday, July 28, 2019, 13:00 – 14:00 Harvard Room, Tempus Hotel, Taichung			
Organizer :	**Dr. Murat M.Tanik** University of Alabama at Birmingham Senior Board Member, SDPS		
Time	**Presenter**	**Title**	**Room Assigned**
13:00-13:10	Abdulrahman Alharthi, Mohamed A. Abdelhafez and Murat M. Tanik	A Case Study For Information Centered Design Of Enterprise Systems For Process Improvement	Harvard Room
13:10-13:20	David Odaibo, Frank Skidmore and Murat Tanik	A Deep Learning Approach To Identify Key Biomarkers In Medical Imaging Application	Harvard Room
13:20-13:30	Serkan Güldal and Murat Tanik	Maximum Independent Solution of N-Queens Problem	Harvard Room
13:30-13:40	Radmila Juric and Eiman Almami	Proposing Drug Re-positioning through Semantic Reasoning	Harvard Room
13:40-13:50	Radmila Juric and Karoline Moholth Mcclenaghan	Towards the Semantic Classification of Constituent Parts of Internet-Of-Vehicles	Harvard Room
13:50-14:00	Karoline Moholth Mcclenaghan and Ole Christian Moholth	Edge Computing For New Generation Of Wearables	Harvard Room
SPECIAL WORKSHOP: Innovative Design and Data Science Research Sunday, July 28, 2019, 14:10– 15:30 Harvard Room, Tempus Hotel, Taichung			
Co-Chairs :	**Dr. Thomas T.H. Wan** Professor, University of Central Florida **Dr. Yinghui Shi** Professor, the Central China Normal University **Dr. Kyoung-Yun Kim** Professor, Industrial Engineering and Systems, Wayne State University and Site Director of NSF Center for e-Design		
Time	**Presenter**	**Title**	**Room Assigned**
14:10-14:25	**Yong Zeng, Ph.D.** Professor, NSERC Chair in Aerospace Design Engineering (NCADE), Concordia University	Learning by Design: an EBD Approach	Harvard Room
14:25-14:40	**Yinghui Shi, Ph.D.** Professor, Central China Normal University	Developing Information Literacy Assessment Criteria for K-12 Students with EBD	Harvard Room
14:40-14:55	**Varadraj Gurupur, Ph.D.** Associate Professor of Health Management and Informatics, UCF **Ayan Nasir**, Researcher at UCF	Issues with Data Completeness in Electronic Health Records	Harvard Room
15:00-15:15	**Leon Jololian, Ph.D.** Professor, University of Alabama at Birmingham	Mobile App Applications	Harvard Room
15:15-15:30	**Kyoung-Yun Kim, Ph.D.** Professor, Industrial and System Engineering, Wayne State University and Site Director of NSF Center for e-Design	Data-driven Design and Knowledge Construction	Harvard Room

POSTER PRESENTATION
Sunday, July 28- July 30, 2019 at noon to 1 pm
Harvard Room, Tempus Hotel, Taichung

Organizer: Dr. Michael Lipscomb	**Room Assigned : Harvard Room**
Presenter	**Title**
Melvin Rogers Associate Instructor, School of Public Administration, University of Central Florida	Human Factors In Health Care
Yin-Cheng Chen National Taiwan University	The Physical, Psychological, And Social Frailty In Chronic Kidney Disease People In Taiwan - A Nationwide Study
Ray-E Chang Professor of Institute of Health Policy and Management, National Taiwan University	
Yu-Ling Hsieh Department of Cardiac Rhythm & Heart Failure, Metronic (Taiwan) Ltd	Exploring The Association Between Social Support, Dialysis-Related Support, Perceived Autonomy Support, Self-Efficacy And Health Related Quality Of Life In Peritoneal Dialysis Patients
Hung-Bin Tsai Division of Hospital Medicine, Department of Internal Medicine, National Taiwan University Hospital	
Ray-E Chang Professor of Institute of Health Policy and Management, National Taiwan University	
Ying-Hui Hou Department of Health Industry Management, School of Healthcare Management, Kainan University	
Ayan Nasir University of Central Florida College of Medicine	Developing The Provider Consolidation Analysis Package (Pcap): A Study On The Impact Of Consolidation On Healthcare In The U.S.
Varadraj Gurupur University of Central Florida College of Health and Public Affairs	
Chien-Lung Hsu Department of Information Management, Chang Gung University	A Dynamic Identity End-To-End Authenticated Key Exchange Agreement For Wearable Devices In Ehealth Environments
Tzu-Hsien Chuang Department of Information Management, Chang Gung University	
Tzu-Wei Lin Graduate Institute of Business and Management, Chang Gung University	
Ming-Yen Lin College of Public Health, National Taiwan University	Association of The Intensity of Skin Color with Renal Function
Yu-Hsuan Lin Instrument Technology Research Center, National Applied Research Laboratories	
Feng-Xuan Jian College of Public Health, National Taiwan University	
Shang-Jyh Hwang Department of Renal Care, Kaohsiung Medical University	
Yi-Wen Chiu Department of Renal Care, Kaohsiung Medical University	

SYMPOSIUM A: System Designs: A Perspective for AI and Data Science
Monday, July 29, 2019, 15:30 – 16:25
Oxford Room, Tempus Hotel, Taichung

Co-Chairs : **Dr. Aurellie Aurilla Arntzen Bechina,** Professor, University of South Eastern Norway
Dr. Patrick Hang Hui Then, Professor, Swinburne University

Time	**Presenter**	**Title**	**Room Assigned**
15:30-15:40	Riady Siswoyo Jo, Valliappan Raman, Marlene Lu, Yakub Sebastian, Sheldon James Cameron, Kevin Thomas Chew, Jacky Ten Yue Han, Timothy Chong Kah Sheng, Feng Ling Yap, Vivien Chiew, Dickson Yeo, Reuben Koay Kai Min, Brandon Bong Sze Cheng, Victor Lim Yong Cheng And Patrick Hanghui Then	Design of IOT Monitoring Architecture for Smart Organic Farming in Sarawak State of Malaysian Borneo	Oxford Room
15:40-15:50	Wan-Tze Vong, Fatin Syafiqah Yazi, Valliappan Raman And Patrick Hang Hui Then	A Mobile-Based Approach to Improving The Accessibility of Public and Shared Transport Services in Rural Sarawak, Malaysia	Oxford Room
15:50-16:00	Brian Chung Shiong Loh And Patrick Hang Hui Then	Machine and Deep Learning for Computer-Aided Diagnosis And Detection: Challenges and Potential Solutions	Oxford Room
16:00-16:10	Ozgur Aksu And Dr. Adem Kalinli	Adapting Linear Genetic Programming Algorithm To Distributed Computing Architecture	Oxford Room
16:10-16:20	Aurellie Aurilla Arntzen Bechina	Predicting Root Cause Failure in Network Topology	Oxford Room

SYMPOSIUM B: AI Design and Applications in Medicine Monday, July 29, 2019, 15:30 – 16:25 Harvard Room, Tempus Hotel, Taichung			
Chair :	**Chao-Sung Chang, M.D., Ph.D.** Professor, College of Medicine for International Student Department of Hematology/Oncology, E-Da Cancer Hospital, I-Shou University, Kaohsiung, Taiwan		
Time	**Presenter**	**Title**	**Room Assigned**
15:30-15:40	**Yu-Jun Huang** Professor of Electronic Engineering Department of I-Shou University	Medical Image Segmentation Based on Deep Learning	Harvard Room
15:40-15:50	**Yu-Chieh Chen** Associate Researcher of Taiwan Instrument Reseearch Institute (NARL)	Development of Wearable Physiological Signal Sensing System	Harvard Room
15:50-16:00	**Shao-I Chu** Associate Professor of Electronic Engineering Department of National Kaohsiung University of Science and Technology	Medical Record Management of Level of Care with Blockchain Technique	Harvard Room
16:00-16:10	**Wei-Chen Lin** Associate Researcher of Medical Research Department of E-Da Hospital	The Development and Application of Artificial Intelligence in E-Da Healthcare Group	Harvard Room

SYMPOSIUM C: Medical Image Research & Precision Medicine Monday, July 29, 2019, 16:30 – 17:25 Oxford Room, Tempus Hotel, Taichung			
Chair :	**Dexter Hadley, M.D., Ph.D., MSEG,** Assistant Professor, University of California, San Francisco and Affiliated Member of the Center for Digital Health Innovation at UCSF, and the UCSF Helen Diller Family Comprehensive Cancer Center		
Time	**Presenter**	**Title**	**Room Assigned**
16:30-16:40	Wei-Hsi Hung, Tzu-Hao Wang, Chi-Chih Liu, Jing-Chi Wang and Yiye Tong	Evaluation of The Implementation of Pacs In The Hospital: The Perspective Of Discrepant Events	Oxford Room
16:40-16:50	Ayan Nasir and Varadraj Gurupur	Developing The Provider Consolidation Analysis Package (PCAP): A Study on The Impact of Consolidation on Healthcare In The U.S.	Oxford Room
16:50-17:00	Ming-Yen Lin, Yu-Hsuan Lin, Feng-Xuan Jian, Shang-Jyh Hwang and Yi-Wen Chiu	Association of The Intensity of Skin Color With Renal Function	Oxford Room
17:00-17:10	Zhechang Xiong And Fan Xiong	A Comparison of Photomultiplier Tube and Avalanche Photodiode Detectors for Flow Cytometry	Oxford Room
17:10-17:20	Aurellie Aurilla Arntzen Bechina	Chat bot: An Implementation	Oxford Room
17:20-17:30	Jon Marstrander, Murat Tanik and Frank Skidmore	A Survey Of Morphological Analysis Techniques Of Magnetic Resonance Images Of The Human Brain	Oxford Room

SYMPOSIUM D: Health Services Research I Monday, July 29, 2019, 16:30 – 17:25 Harvard Room, Tempus Hotel, Taichung			
Chair :	**Hsueh Fen Chen, Ph.D.,** Associate Professor of Health Administration, University of Arkansas		
Time	**Presenter**	**Title**	**Room Assigned**
16:30-16:40	Sheng-Kang Huang and Wen-Hsiang Lai	A Study of The Key Success Factors in Lean Hospital Pharmacy Management	Harvard Room
16:40-16:50	Yung Tan and Ching-Wei Ho	Investigate the Impact of Taiwan's Military Facebook Community and Organization Identification on the Behavioral Intentions of Join the Military	Harvard Room
16:50-17:00	Hsun-Kan Cho and Wen-Hsiang Lai	The Investigation of Key Success Factory by Technology Acceptance Model in 020 Cosmetic Business	Harvard Room
17:00-17:10	Yan-Ju Lin and Wen-Hsiang Lai	A Study of The Key Success Factors in Intellectual Machinery Manufacturing	Harvard Room
17:10-17:20	Selin Unal and Ali Hikmet Dogru	A Solution To LOT Heterogeneity Problem With Connectors In Component Based Systems	Harvard Room

SYMPOSIUM E: Health Services Research II Tuesday, July 30, 2019, 15:30 – 16:25 Oxford Room, Tempus Hotel, Taichung			
Chair :	**Dr. Bill, B. L. Wang,** Chief Operational Office, HB Health and Beauty International, Inc.		
Time	**Presenter**	**Title**	**Room Assigned**
15:30-15:40	Hsueh-Fen Chen, Robert Schuldt and Neel Lalkiya	Preventable Hospitalizations for Dual-Eligible Beneficiaries with Alzheimer's and Dementia Diseases: Does state HCBS Spending Matter?	Oxford Room

15:40-15:50	Shrirang Kulkarni and Varadraj Gurupur	A Case Study for Comparing The Difference Between Logistic Regression and K-Nearest Neighbour Using Rasberry PI for The Purpose of Machine Learning	Oxford Room
16:00-16:10	Yao Min Hung, Yun-Ju Lai, Yun-Te Chang, Chia-Wei Liu, Ching-Chih Lee, & Pesus Chou	A Weighted Scoring System and Risk Factors Predicting Emergency Department Visits During The First Year of End-Stage Renal Disease: A Taiwanese Population-Based Retrospective Cohort Study	Oxford Room
16:10-16:20	Fuchung Changchien and Yafeng Cheng	Analysis of American National Health Insurance and Taiwan's National Health Insurance System from Cost-benefit Analysis	Oxford Room
SYMPOSIUM F: AI Research Monday, July 29, 2019, 15:30 – 16:25 Harvard Room, Tempus Hotel, Taichung			
Chair :	**Dr. Varadraj Gurupur** Associate Professor of the Department of Health Management and Informatics, University of Central Florida		
Time	**Presenter**	**Title**	**Room Assigned**
15:30-15:40	Michael Lipscomb	On the Nature of Convergence Engineering	Harvard Room
15:40-15:50	Hussain Alshehri, Abdulrahman Alharthi and Murat M. Tanik	P3tech Parchitict, Review of A Process Capturing Tool	Harvard Room
15:50-16:00	Tuan Vinh Le and Chien-Lung Hsu	New Blockchain-Enabled Genomic Data Sharing Network	Harvard Room
16:00-16:10	Chaithanya Renduchintala and Thomas T.H.Wan	A Divergence-Convergence Engagement Process Model for Collaborative Research	Harvard Room
16:10-16:20	Ali Dogru and Darrell Fielder	A Transdisciplinary Enabling Technology: Component Connectors	Harvard Room
SYMPOSIUM G: Automation and AI Applications Tuesday, July 30, 2019, 16:30 – 17:25 Oxford Room, Tempus Hotel, Taichung			
Chair :	**Dr. Murat Tanik** Professor and Chair, Electrical and Computer Engineering Wallace R. Bunn Endowed Chair for Telecommunications University of Alabama at Birmingham Senior Board Member, SDPS		
Time	**Presenter**	**Title**	**Room Assigned**
16:30-16:40	Abdulrahman Alharthi, Hussain Alshehri, Saleh Allehaibi, Mohammad Alhefdi and Murat M. Tanik	Resource Management System in Home Automation	Oxford Room
16:40-16:50	Mehmet Aksit	Software Engineering Challenges in Realizing Smart-City Systems	Oxford Room
16:-50-17:00	Rikuya Takehara and Tad Gonsalves	Parking Space Identification for Self-Parking	Oxford Room
17:00-17:10	Rina Komatsu and Tad Gonsalves	Generating Conditional RGB Images with Conditional DCGAN	Oxford Room
17:10-17:20	Muhammad Dzulkarnain Shahidan	Development of An Interactive Visual Management System To Increase The Production Performance	Oxford Room
SYMPOSIUM H: Integrated Approaches to Health Management and Informatics Research Monday, July 30, 2019, 16:30 – 17:25 Harvard Room, Tempus Hotel, Taichung			
Chair :	**Dr. Hao-Yun Kao** Associate Professor, Department of Health Administration and Medical Informatics, Kaohsiung Medical University		
Time	Presenter	Title	Room Assigned
16:30-16:40	Yu-Chun Kuo, Shou-Hsia Cheng, and Herng-Chia Chiu	Medications Alert System Decreased the Hospital Outpatients Duplicate Medications: A	Harvard Room
16:40-16:50	Yu-Jo Yeh, Yu-Ching Chen, Jung-Der Wang, and Hon-Yi Shi	Longitudinal Hospital Cohort Study.	Harvard Room
16:-50-17:00	Petty Lin and Der-Ming Liou	Effectiveness and Cost Utility of Multidiscipline Post-Acute Care for Stroke Patients: A	Harvard Room
17:00-17:10	Chia-Mei Hsia and Shih-Feng Weng	Prospective Cohort Study in Taiwan	Harvard Room
17:10-17:20	Yu-Chieh Chang and Hao-Yun Kao	Exploration of Computerized Clinical Pathway Nursing Assessment with Standardized	Harvard Room

TRAVEL INFORMATION

Clinical Innovation Center (CIC) is nearby the Shipai MRT station (Red Line). After finishing the conference activities in CIC in Taipei, there are many tour and transportation options to get you from the CIC.

Self-Walking Tour in Taipei City

Shipai MRT station ⟷ Taipei Main Station (20minutes)

- Via Taipei MRT. There is a lot of sightseeing in Taipei city.
- Travel Passes are provided by Taipei MRT (24hr/48hr/72hr pass)
- The fare will be approximately NTD$180 (USD$6)/ NTD$280 (USD$9.5)/ NTD$380 (USD$13)

From CIC to Songshan Airport

CIC ⟷ Taipei Main Station (20 minutes)

- Via Red Line MRT to Taipei Main Station

Taipei Main Station ⟷ Songshan Airport (30 minutes)

- Via Blue Line MRT (BL15)
- Transfer to Brown Line in Zhongxiao Fuxing Station
- Via Brown Line MRT (BR 13)
- The total fare will be approximately NTD$35/USD$1

Emergenciess	Number
Emergency call / Police Phone	110
Medical Emergency service	119

From CIC to Taoyuan International Airport

CIC Taipei ⟷ Main Station (20 minutes)

- Via Red Line MRT to Taipei Main Station
- The fare will be approximately NTD$25/USD$1

Taipei Main Station ⟷ Taoyuan Airport MRT (50 minutes)

- Via Taoyuan Airport MRT (A12: Terminal 1 ; A13: Terminal 2)
- The fare will be approximately NTD$160/USD$5.5

From CIC to TEMPUS Hotel (Conference Hotel)

CIC ⟷ Taipei Main Station (20 minutes)

- Via Red Line MRT to Taipei Main Station
- The fare will be approximately NT$25/USD$1

Taipei Main Station (Taiwan High Speed Rail, THSR) ⟷ THSR Taichung Station (70 minutes)

- Purchase at the ticket counter, vending machine, or Pre-purchase ticket through Online Booking System at https://irs.thsrc.com.tw/IMINT/?locale=en
- The fare will be NT$700/USD$24 or NT$1250/USD$42 (Depends on class code).
- Aged 65 or over can get half-price tickets (NT$350/USD$12 or NT$625/USD$21).

THSR Taichung station ⟷ TEMPUS Hotel Taichung station (20 minutes)

- Taxi service is at Exit 7, left side (20~30 minutes, depends on the traffic).
- The fare will be approximately NT$300/USD$10.

HOTEL INFORMATION

Name: TEMPUS Hotel Taichung

Address: No. 689, Sec. 2, Taiwan Boulevard, Xitun Dist., Taichung City, 407 Taiwan, Tel: +886-4-2326-8008

From Taipei-Taoyuan International Airport to TEMPUS Hotel Taichung

Via High Speed Rail Transportation (Recommend)

Taoyuan International Airport ⟷ Taiwan High Speed Rail (THSR) Taoyuan station (20 minutes)

- Via Airport Shuttle Service (Shuttle runs every 20 minutes).
- The fare will be approximately NT$300/USD$10.

THSR Taoyuan station ⟷ THSR Taichung station (40 minutes)

- Purchase at the ticket counter, vending machine, or Pre-purchase ticket through Online Booking System at https://irs.thsrc.com.tw/IMINT/?locale=en
- The fare will be NT$540/USD$18 or NT$1010/USD$34 (Depends on class code).
- Aged 65 or over can get half-price tickets (NT$270/USD$9 or NT$505/USD$17).

THSR Taichung station ⟷ TEMPUS Hotel Taichung station (20 minutes)

- Taxi service is at Exit 7, left side (20~30 minutes, depends on the traffic). The fare will be approximately NT$300/USD$10.

Directly Via Taxi

- Taxi from Taoyuan International Airport (2 hr).
- The fare will be approximately NT$3,600/USD120.
- Be sure to have enough Taiwan currency with you. Credit card or USD wouldn't be accepted by some taxi

Via Conference Hotel Pick-up Service Reservation

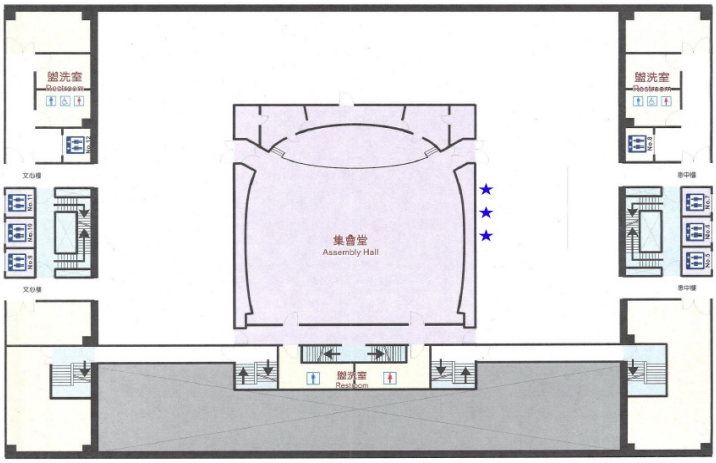
- For further details and assistance, please call (+886) 4 2326-8008 and ask for the concierges.
- The fare will depend on your location and time.

From Cingcyuangang-Taichung International Airport to TEMPUS Hotel Taichung

Via Taxi (Recommend)

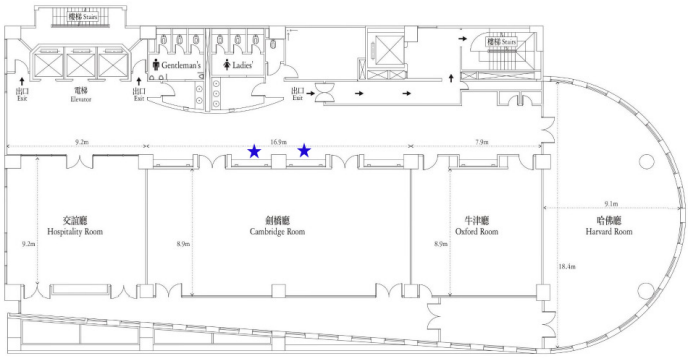
- Taxi from Cingcyuangan-Taichung International Airport (50~60 minutes, depends on traffic).
- The fare will be approximately NT$510/USD$17
- Be sure to have enough Taiwan currency with you. Credit card or USD wouldn't be accepted by some taxi

★ 報到台&服務台(Registration & Information Counter)



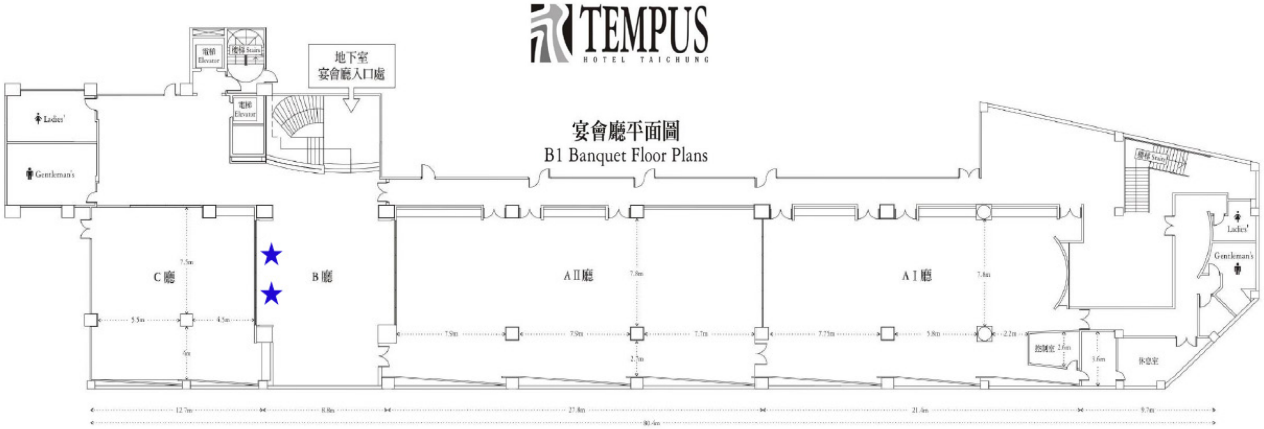
TEMPUS HOTEL TAICHUNG

三樓會議廳平面圖
3F Conference Room Floor Plan



TEMPUS HOTEL TAICHUNG

宴會廳平面圖
B1 Banquet Floor Plans



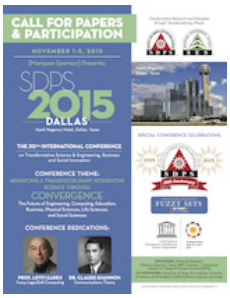
永豐棧酒店 407台中市中港路二段9號 9,Taichung Kang Road,Sec.2,Taichung,Taiwan Tel: 886-4-2326-8008 Fax: 886-4-2326-8060

CONFERENCE HISTORY

2018, Bologna, Italy

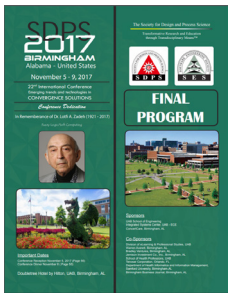
2013, Campinas, Brazil

2014, Kuching, Malaysia



2015, Dallas, Texas

2016, Orlando, Florida



2017, Birmingham, AL

2008, Taichung,Taiwan

2009, Montgomery, AL

2010, Dallas, Texas

2011, Jeju, South Korea

2012, Berlin, Germany

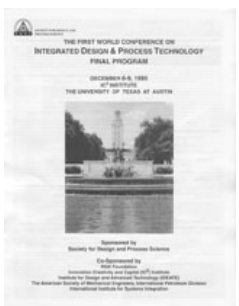
2003, Austin, TX

2004, Izmir, Turkey

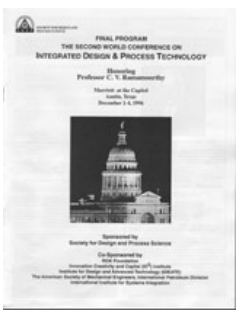
2005, Beijing, China

2006, San Diego, CA

2007, Antalya,Turkey



1995, Austin, TX



1996, Austin, TX

1998, Berlin, Germany

2000, Dallas,TX

2002, Pasadena, CA

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Dr. Raymond T. Yeh
Lifetime Fellow, SDPS, CA

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The University of Alabama at Birmingham,
Birmingham, AL

Dr. Ying-Chyi Chou
Director of Center for Healing Environment Administration and Research
Tunghai University

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Dr. Thomas T.H. Wan
Professor, Department of Health Management and Informatics and Public Affairs Doctoral Program, College of Community Innovation and Education, *University of Central Florida.*

Dr. Yong Zeng
Professor, Concordia Institute for Information Systems Engineering, *Concordia University,* Montreal, Canada

Program Chairperson

Dr. Leon Jololian
Associate Chair, Electrical and Computer Engineering,
University of Alabama at Birmingham,
Birmingham, AL

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Texas A&M University Commerce, Commerce, TX

Dr. Serkan Güldal
Researcher in Department of Physics,
Adiyaman University,
Adiyaman, Turkey

Program Support Persons

Dr. Varadraj Prabhu Gurupur
Assistant Professor, Health Management and Informatics, *University of Central Florida*, Orlando, FL

Dr. David Robbins
Assistant Professor, Health Informatics and Information Management,
Samford University, Birmingham, AL

Dr. Michael Lipscomb
UAB, Birmingham, AL

Program Documentation

Ting Zhang
Electrical and Computer Engineering,
University of Alabama at Birmingham,
Birmingham, AL

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Middle East Technical University, Ankara, Turkey

Dr. Stephen Ekwaro-Osire
Texas Tech University, Lubbock, TX

Dr. Bhuvan Unhelkar
University of South Florida, FL

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University of Twente, Netherlands

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University of Central Florida, Orlando, FL

Mr. Deniz Kocak
Ankara, Turkey

Dr. Hong-Wei Yen
University of South Florida, FL

Dr. Frank Skidmore, MD
UAB, Birmingham, AL

Dr. Fan Xiong
Bio-Rad Laboratories, San Francisco, CA

Dr. Radmila Juric, *University College South East Norway*

Dr. Ching-Hua Lu, *Tunghai University*, Taichung, Taiwan

Dr. Bernd J. Krämer
FernUniversität Hagen, Germany

Dr. Fuad. G. Sobrinho, *III UNASP*, Brazil

Dr. Aurelie Aurilla Arntzen Bechina, *University of South-eastern Norway,* Kongsberg

Dr. Maqbool Patel
Vincari Inc.,Birmigham, AL

Dr. Slovensky, Donna J
The University of Alabama at Birmingham,, Birmingham, AL

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