

Portland State University

PDXScholar

Confucius Institute at Portland State
Publications and Presentations

Confucius Institute at Portland State University

2017

CIPSU Funded Research Highlights

Jian Wang

Portland State University

Confucius Institute at Portland State University

Follow this and additional works at: https://pdxscholar.library.pdx.edu/cipsu_pub

Let us know how access to this document benefits you.

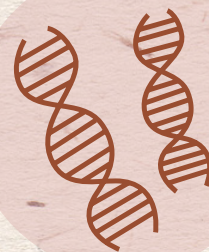
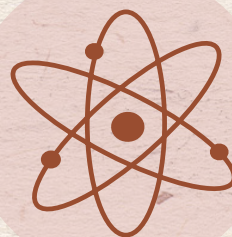
Citation Details

Wang, Jian and Confucius Institute at Portland State University, "CIPSU Funded Research Highlights" (2017). *Confucius Institute at Portland State Publications and Presentations*. 1.

https://pdxscholar.library.pdx.edu/cipsu_pub/1

This Report is brought to you for free and open access. It has been accepted for inclusion in Confucius Institute at Portland State Publications and Presentations by an authorized administrator of PDXScholar. Please contact us if we can make this document more accessible: pdxscholar@pdx.edu.

CIPSU FUNDED RESEARCH HIGHLIGHTS



“CIPSU is an integral component of the Office of International Affairs sponsored by the Confucius Institute Headquarters/Hanban and partnered with Soochow University in China. Supporting faculty research and facilitating educational exchanges between the United States and China is part of CIPSU’s larger effort to promote understanding of China.”

-- Jian Wang, Director of Confucius Institute at PSU

CONTACT:

**Jian Wang, 503-725-4574
jian@pdx.edu**

**Confucius Institute at PSU
Portland State University
P.O. 751
Portland, OR 97207**

WEBSITE:

**<https://www.pdx.edu/confucius-institute/>
Email: cipsu@pdx.edu**

Table of Contents

PSU's International Vision -----PG.4

2016 AWARDEES -----PG.5

INTERNATIONAL EXCHANGE ACADEMIC PROGRAMS

- CEEIXS - PSU and JLJU / Professor Chris Monsere -----PG.6-7

- MME - PSU and KUST / Professor Tae-Kyu Lee -----PG.8-10

**-Government and Management - PSU and Lanzhou
University / Professor Douglas Morgan -----PG.11-12**

BIOETHANOL TECHNOLOGIES

- Professor Lihon Qian -----PG.13-15

2017 AWARDEES -----PG.16

PSU's International Vision

Portland State University's future will be guided by the understanding, belief and commitment that our students will enter the 21st century as leaders in an emerging global community. The University understands that internationalization must become integral to the fabric of everything that we do. The University administration, faculty, academic professionals and staff believe that we must prepare our students to be not only globally aware but also globally active. The University demonstrates, on a daily basis, its firm commitment to our international mission. Through the integrated efforts of the administration, faculty, academic professionals and staff, we will internationalize our culture to the point that international is no longer something added to the university's mission, but is seamlessly woven throughout the fabric of our campus. The University will provide every PSU student with the highest quality international education possible within the limits of fiscal responsibility.

**For more information
visit the Internationalization Council website:**

<https://www.pdx.edu/international-affairs/internationalization-council>

AWARDEES

Tae-Kyu Lee

Associate Professor, Mechanical and Materials Engineering

Email: taeklee@pdx.edu

**Advanced Material and Additive Manufacturing Research
Collaboration with Kunming University of Science and Technology**

Douglas Morgan

**Professor Emeritus, Director of Executive Leadership Institute,
Department of Public Administration, Hatfield School of Government**

Email: morgandf@pdx.edu

**Create a Research Consortium between PSU and Lanzhou University's
School of Management**

Chris Monsere

Associate Professor and Chair of Civil and Environmental Engineering

Email: monsere@pdx.edu

**Seed Development of CEEIXS: Civil and Environmental Engineering
International Exchange Scholars**

Lihong Qian

**Assistant Professor, Management and Strategy, School of Business
Administration**

Email: lihongqian@pdx.edu

**Industry Evolution and Technological Change in the Biofuel Industry:
A Comparison between China and the US**

INTERNATIONAL EXCHANGE ACADEMIC PROGRAMS

CEEIXS - PSU and JLJU

The Department of Civil and Environmental Engineering at PSU is a participant in the Maseeh College of Engineering and Computer Science (MCECS)'s Changchun Partnership Program. The partnerships are collaborative undergraduate dual degree programs in engineering. Our program is with Jilin Jianzhu University (JLJU). The purpose of this grant is to seed the development of the Civil and Environmental Engineering International Exchange Scholars (CEEIXS) program. The project allows the development of joint programming and student-student interactions between PSU and the Jilin Jianzhu University in China.



About Professor *Chris Monsere*

Dr. Monsere's primary research interests are in the areas of multimodal transportation safety; management and dissemination of large transportation datasets; and improve`ments in transportation operations. Dr Monsere is co-chair of the Transportation Research Board's Safety Data, Analysis, and Evaluation committee (ANB20), on the editorial

board of Journal of Transportation Safety and Security, and a past member of the TRB Task Force to develop the Highway Safety Manual (ANB25T). Monsere received his BCE from the University of Detroit Mercy; his MSCE and Ph.D.with an emphasis in transportation from Iowa State University. Dr. Monsere is licensed professional engineer in the state of Oregon.

List of selected recent publications or scholarly work

Himes, S. Peach, K., Eccles, K. Monsere, C., Gates, T. “Estimating the Safety Effects of Intersection Sight Distance at Unsignalized Intersections” Transportation Research Record: Journal of the Transportation Research Board, No. 2588, Washington, D.C., 2016. DOI:10.3141/2588-08.

Blanc, B., Johnson, P., Figliozzi, M., Monsere, C., Nordback, K. “Leveraging Signal Infrastructure for Non-Motorized Counts in a Statewide Program: A Pilot Study” Transportation Research Record: Journal of the Transportation Research Board, No. 2527, Transportation Research Board of the National Academies, Washington, D.C., 2015. pp 99-77. DOI 10.3141/2527-08

Foster, N., Monsere, C., Dill, J., Clifton, K. “A Level-of-Service Model for Protected Bike Lanes” Transportation Research Record: Journal of the Transportation Research Board, No. 2520, Transportation Research Board of the National Academies, Washington, D.C., 2015. Pp 90–99. DOI:10.3141/2520-11

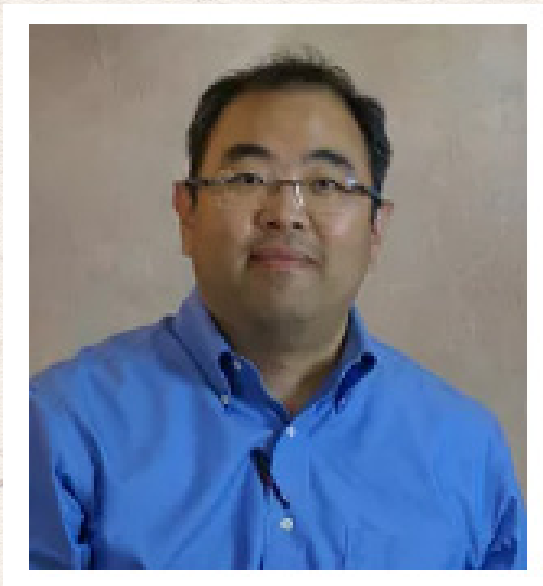
McNeil, N.M., Monsere, C., Dill, J. “The Influence of Bike Lane Buffer Types on Perceived Comfort and Safety of Bicyclists and Potential Bicyclists” Transportation Research Record: Journal of the Transportation Research Board, No. 2520, Transportation Research Board of the National Academies, Washington, D.C., 2015. pp. 132-142 DOI 10.3141/2520-15.

Monsere, C., Foster, N., Dill, J., McNeil, N.M. “User Behaviors and Perceptions at Intersections with Mixing and Turning Zones on Protected Bike Lanes” Transportation Research Record: Journal of the Transportation Research Board, No. 2520, Transportation Research Board of the National Academies, Washington, D.C., 2015. pp. 112-122. DOI 10.3141/2520-13

Foster, N. Monsere, C. Carlos, K. “Evaluating Driver and Pedestrian Behaviors at Enhanced Multilane Midblock Pedestrian Crossings: Case Study in Portland, Oregon” Transportation Research Record: Journal of the Transportation Research Board, No. 2464, Transportation Research Board of the National Academies, Washington, D.C., 2014. pp 59-66.

MME - PSU and KUST

This project is an international collaboration and a preliminary study for further research partnership in Material science and engineering with Kunming University of Science and Technology (KUST), located in Kunming, the capital of Yunnan province, Southwest China. KUST is a university with strong science and technology background. Especially, the research infrastructure in the field of additive manufacturing in KUST is the major collaboration research interest, which is well aligned with metal additive manufacturing and material characterization capability in PSU department of mechanical and materials engineering (MME). Recent additive manufacturing technology developments provide wide possibilities for structures manufacturing with capable of meeting mechanical and functionality requirements. This technology promises to reduce raw material costs by reducing subtractive manufacturing related material wastage, time to market and increased design freedom. This could result in materials saving and facilitate the manufacture of complex assemblies. Since the recent demand on this area of Additive manufacturing, which KUST recently heavily invested on additive manufacturing equipment, the existing manufacturing capability and specialized analytic capability infrastructure here in PSU, is the focus for further collaboration. This project contains the establishment of interactive communication system (economically feasible web based teleconferencing system) ahead of an in-person visit to KUST to identify several detailed research topics and sharing preliminary studies building a long-term collaboration between KUST and PSU. The PI and team in PSU closely worked with Dr. Victor Li at the department of Material science in KUST, who has been in a strong relationship with PSU materials group and recently joined KUST as a faculty. Dr. Victor Li earned his Ph.D. in Materials Science and Engineering from Oregon Graduate Institute, joined the faculty of PSU Mechanical and Materials Engineering in November 2001 and worked as a Research Associate Professor until June 2011. He worked as the deputy director of Materials Research Institute for Energy Equipment of China and joined the faculty at KUST in January 2016.



About Professor *Tae-Kyu Lee*

Before joining the Department of mechanical and materials engineering in 2015, Dr. Lee worked as a Senior Engineer in Cisco Component quality and technology (CQT) group, located in San Jose, CA. Dr. Lee received his Ph.D. degree in Materials Science and engineering from University of California, Berkeley on studies related to high temperature

Superconducting Quantum Interference Device (SQUID) non-destructive evaluation and was a Postdoctoral fellow in Lawrence Berkeley National Laboratory before joining Cisco. He is working on board level interconnect reliability, next generation packaging technology, macro to micro joining technology, metal additive manufacturing and material characterizations. He is actively involved in several industry consortia and as a lead organizer for the Lead free solder technology workshop, serving as a Chair in the Electronic Packaging and Interconnect Technology Committee in TMS. He is also serving as an associate editor in Journal of Electronic Materials.

List of selected recent publications or scholarly work

Tae-Kyu Lee, Zhiqiang Chen, Greg Baty, Thomas R. Bieler, and Choong-Un Kim, Impact of an Elevated Temperature Environment on Sn-Ag-Cu Interconnect Board Level High-G Mechanical Shock Performance, *Journal of Electronic Materials*, 45(12), 2016, 6177-6183

Quan Zhou, Bite Zhou, Tae-Kyu Lee and Thomas R. Bieler, Microstructural Evolution of SAC305 Solder Joints in Wafer Level Chip-Scale Packaging (WLCSP) with Continuous and Interrupted Accelerated Thermal Cycling, *Journal of Electronic Materials*, 45(6) 2016, 3013-3024

Tae-Kyu Lee, Choong-Un Kim, Thomas R. Bieler, Impact of cooling rate on low silver Sn-Ag-Cu solder interconnect board level mechanical shock and thermal cycling performance, *Journal of Electronic Materials*, 45 (1), 2016, 172-181

Christine Jill Lee, Wei-Yu Chen, Tzu-Ting Chou, Tae-Kyu Lee, Yew-Chung Wu, Tao-Chih Chang, Jenq-Gong Duh, The investigation of interfacial and crystallographic observation in the Ni(V)/SAC/OSP Cu solder joints with high and low silver content during thermal cycling test, *Journal of Materials Science : Mater Electron*, 26, 2015, 10055-10061

Bite Zhou, Quan Zhou, Thomas R. Bieler and Tae-kyu Lee, Slip, Crystal Orientation, and Damage Evolution During Thermal Cycling in High-Strain Wafer-Level Chip-Scale Packages, *Journal of Electronic Materials*, 44 (3), 2015, 895-908

Tae-Kyu Lee, and Weidong Xie, Effect of board thickness on Sn-Ag-Cu joint interconnect Thermal cycling and Dynamic shock performance, *Journal of Electronic Materials*, 43(12), 2014, 4522-4531

Tae-Kyu Lee and Jeng-Gong Duh, Effect of Isothermal Aging on the Long-Term Reliability of Fine-Pitch Sn-Ag-Cu and Sn-Ag Solder Interconnects With and Without Board-Side Ni Surface Finish, *Journal of Electronic Materials*, 43(11), 2014, 4126-4133

Government and Management - PSU and Lanzhou University

Since 1999 China has been systematically and strategically investing billions of dollars a year to improve the capacity and quality of its higher education institutions. These strategic investments have spawned the creation of new universities, joint ventures with American and west European universities, global educational partnerships and a heightened emphasis on improving the research capacity and output of Chinese scholars and universities. This grant proposal seeks to take advantage of the transformation and establish a ten-year cooperative relationship between the Hatfield School of Government and Lanzhou University's School of Management.



About Professor *Douglas Morgan*

Over the past 30 years Dr. Morgan has taught in three universities (University of Illinois, Springfield; Lewis and Clark College and Portland State University) where he has also served as departmental chair of six graduate level programs. His teaching and publications focus on the legal, institutional and ethical foundations of democratic governance. In addition to his interest in traditional scholarship and teaching, as Director of the Executive Leadership Institute, Dr. Morgan is heavily

involved in extending the mission of the Hatfield School of Government through leadership training for career public servants, applied research and technical assistance to community groups. He has served as President of the Northwest Political Science Association and the Oregon Chapter of the American Society for Public Administration. He has served on the editorial board of *Administration and Society* and *Administrative Theory and Praxis*. In 2003 Dr. Morgan was elected to the Portland Public School Board. More recently, Dr. Morgan has served on more than a half dozen special purpose task forces and blue ribbon committees for agencies within the Portland Metropolitan area. Dr. Morgan has a Ph.D. and M.A. from the University of Chicago in Political Science and a B.A. in Political Science from Claremont McKenna. He spent one year at the London School of Economics and Political science and has participated in three post-doctoral fellowship programs.

List of selected recent publications or scholarly work

Dr. Morgan's scholarly work includes more than two dozen articles and book chapters on ethics, administrative discretion, civic engagement and public service. His article on "The Limits of Reinventing Government: What Middle Managers do in Local Government" received the Brownlow Award in 1994 for the best practitioner-focused article in The Public Administration Review . Most recently Morgan completed a Handbook on Public Budgeting and co-authored a major text under contract with M.E. Sharpe on The Foundations of American Public Service.

His areas of teaching specialization and training include public sector leadership, ethics, budgeting, and law.

BIOETHANOL TECHNOLOGIES

Being the third largest bioethanol producer in the world (US being the largest, and Brazil being the 2nd), China's biofuel industry exhibits sharp differences from that of the United State. The bioethanol industry in both China and the US are facing some similar technological challenges. Because corn has been the primary feedstock for producing bioethanol in China and the US, both the US government and China government have put a lot of pressures to shift to cellulosic ethanol production instead of corn. This project seeks to understand the bioethanol industry evolution and technological changes in China and the US by investigating the following questions:

- *How have Chinese bioethanol firms developed their current bioethanol producing technologies?*
- *In facing uncertain technological changes, how do managers of Chinese bioethanol firms perceive and prepare for such changes?*
- *Given the institutional differences between China and the U.S. , what are the different drivers of industry evolution? What policy implications can we derive such differences?*



About Professor *Lihong Qian*

Dr. Qian's recent research resides in the intersection of industry evolution, technological change, and firm strategy. Within these domains she explores how firms make their technological choice, how firms design their boundaries upon entering a new market or a new industry, and how such strategic choices affect firm performance.

Her work has appeared in the *Strategic Management*

Journal, *Organization Science*, *Journal of International Business Studies*, *European Management Journal*, *Managerial and Decision Economics*, and *Journal of Property Research*. Dr. Qian holds a Ph.D. in Management & Entrepreneurship from the University of Illinois at Urbana-Champaign, an M.S. in Management from the National University of Singapore, and a B.A. in Finance from Nanjing University of China.

List of selected recent publications or scholarly work

Qian, L, and Wang, I.K., 2017. Competition and Innovation: The Tango of the Market and Technology in the Competitive Landscape, forthcoming at Managerial & Decision Economics.

Chen, T., Qian, L., and Narayanan, V.K., 2017. Battle on the Wrong Field? Entrant Type, Dominant Designs, and Technology Exit, forthcoming at Strategic Management Journal.

Wang, I.K., Qian, L., and Lehrer, M., 2017. From Technology Race to Technology Marathon: A Behavioral Explanation of Technology Advancement, European Management Journal, 35: 187-197.

Freybote, Julia and Lihong Qian, 2015 The Impact of Asset Location on REIT Merger Decisions, Journal of Property Research, 32(2): 103-122.

Mahoney, Joseph and Lihong Qian, 2013 Market Frictions as Building Blocks of an Organizational Economics Approach to Strategic Management, Strategic Management Journal, 34(9): 1019-1041.

Qian, Lihong, Rajshree Agarwal and Glenn Hoetker, 2012 Configuration of Value Chain Activities: The Effect of Pre-Entry Capabilities, Transaction Hazard and Industry Evolution on the Decision to Internalize, Organization Science, 23(5): 1330-1349.

Qian, Lihong and Andrew Delios, 2008 Internalization and Experience: Japanese Banks' International Expansion, 1980-1998, Journal of International Business Studies, 39 (2): 231-248.

COMING UP... 2017 AWARDEES

Yiping Fang

Assistant Professor, Toulan School of Urban Studies and Planning. “Planning Ideas Fly: How Urban Growth Boundaries are Taking Root in China”

Shawn Smallman

Professor of International Studies, Chair, Department of International and Global Studies. “Public Policy and Avian Influenza in China.”

Alissa J. Hartig

Assistant Professor, Department of Applied Linguistics. “Strengthening and Expanding Relationships with the Peking University School of Transnational Law”

Desmond Cheung

Assistant Professor, History Department, Portland State University. “Expelling Locusts: Statecraft and Environmental Governance in Late Imperial China”



Compiled by:

Prof. Jiunn-Der (Geoffrey) Duh
Geography,
Portland State University

Designed by:

Elena Kim
Graphic Design,
Portland State University

