

Perry Pei-Ju Yang

Curriculum Vitae

Associate Professor, School of City and Regional Planning + School of Architecture, College of Architecture, Georgia Institute of Technology

Bayer Chair Professor, UNEP (United Nations Environment Program) - Tongji Institute of Environment for Sustainable Development (IESD)

Co-Director, Sino-U.S. Eco Urban Lab, Georgia Tech and Tongji University

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Academic/Professional qualification

Ph.D. (Building & Planning), National Taiwan University, 2001

MS (Urban Studies and Planning), Massachusetts Institute of Technology (MIT), 2000

M.Sc. (Building & Planning), National Taiwan University, 1994

B.Sc. (Agriculture/Bioenvironmental Systems Engineering), National Taiwan University, 1991

Registered City Planner, Taiwan, 1996-

Career history

- 2014-Present Bayer Chair Professor, UNEP (United Nations Environment Program) - Tongji Institute of Environment for Sustainable Development (IESD), from 2014 to 2016
- 2014-Present Co-Director, Georgia Tech- Tongji Joint Laboratory for Ecological Urban Design, Shanghai (from January 2014)
- 2009-Present Associate Professor, School of City and Regional Planning and School of Architecture, College of Architecture, Georgia Institute of Technology
Coordinator of MArch and MCRP Dual Degree Program (from Fall 2003)
- 2011 Fall Visiting Professor, College of Architecture and Urban Planning, Tongji University
- 2001-2008 Assistant Professor, Department of Architecture, School of Design and Environment, National University of Singapore
- 2004 Academic visitor, Centre for Advanced Spatial Analysis (CASA), University College London (UCL), UK.
- 1999-2001 Fellow, Special Program for Urban and Regional Studies (SPURS), Department of Urban Studies and Planning, Massachusetts Institute of Technology (MIT)
- 1999 The Fulbright Scholarship
- 1997-1999 Planner, Moh & Associates Inc.

Research focuses

Urban design; Urban simulation and GIS; Landscape ecology, industrial ecology and energy performance of urban environment

Funded research

- 2013- *Joint Laboratory for Ecological Urban Design*, as Principal Investigator (\$30,000 funded by the Denning Global Engagement Seed Fund (Global FIRE), the Office of Vice-Provost for International Initiatives, Georgia Institute of Technology; Additional \$15,000 was funded by the Dean of College of Architecture; \$120,000 equivalent post-doctoral fellowship funded by Tongji University for supporting the Lab.)
- 2012 – 2016 *Sustainable Housing through Holistic Waste Stream Management and Algal Cultivation*, as Co-Principal Investigator, with Daniel Castro and Charles Rudolph, in

- collaboration with Ben Stuart (PI) and Omer Tatari of Ohio University, (\$1,644,957, funded by National Science Foundation; Georgia Tech portion \$800,000).
- 2010-2011 *Low Carbon Urban Design*, as Principal Investigator, (\$30,000, funded by Macau Urban Planning Institute).
- 2009-2010 *Assessing Solar Availability of Urban Form Using 3D GIS*, as Principal Investigator, (\$13,800, funded by Georgia Tech Foundation)
- 2005-2008 *Asian new downtowns: urban transformation of central city areas in Singapore, Taipei and Shanghai*, as Principal Investigator, (\$169,855 SGD, funded by National University of Singapore, 01 January 2005 to 30 June 2008).
- 2002-2006 *GIS-based Design Support System in Tropical Urban Environment*, as Principal Investigator; Co-PI: Prof. Michael Batty, Professor of University College London, (\$89,964 SGD funded by National University of Singapore, 22 August 2002 – 21 May 2006.)

Related Publications

Published Books and Parts of Books (student advisees underlined)

- B1. **Yang, Perry P. J.** 2014. Book chapter “Energy resilient urban planning”, in *Geodesign by Integrating design and geospatial sciences*, Lee D and Dias E, Scholten H eds, Springer.
- B2. **Yang, Perry P. J.** 2013. Book chapter “Landscape ecology and its urbanism” in *Landscape Urbanism and its Discontents: Dissimulating the Sustainable City*. Andres Duany and Emily Talen eds., Island Press.
- B3. **Yang, Perry P. J.** 2013. Book chapter “Hydrological effects of urban form and landscape change”, in *Planning stormwater resilient urban open spaces*, vol. 3, F.D. Moccia and M.F. Palestino eds. Clean, Napoli.
- B4. Quan, Steven. J., Minter, John, **Yang, Perry P. J.** 2013. Book chapter “A GIS-based performance metrics for designing a low energy urban agriculture system” in *Planning Support Systems for Sustainable Urban Development*, Springer Publication. (as the corresponding author)
- B5. **Yang, Perry P. J.** 2010 *Ecological Urbanism: Scale, Flow and Design*, China Architecture and Building Press (**China Architecture and Building Press is a prestigious publisher owned by China’s Ministry of Construction with great reputation in the area of architecture, city planning and construction in Chinese language world: <http://en.cabp.cn>**).

Refereed Journal Papers (student advisees underlined)

- J1. **Yang, Perry P. J.**, Quan, Steven. J., Castro- Lacouture, Daniel, Rudolph, Charles, Stuart, Ben. 2014. Performance metrics for designing an algae-powered eco urban district: A Geodesign perspective, in *Energy Procedia*, Elsevier, accepted and in press.
- J2. Quan, Steven. J., Economou, Athanassios, Grasl, Thomas., ***Yang, Perry P. J.** 2014. Computing energy performance of building density, shape and typology in urban context, in *Energy Procedia*, Elsevier, accepted and in press. (as corresponding author).
- J3. **Yang, Perry P. J.** 2014. Eco Area Ratio: Energy performance assessment and reduction approach for urban redevelopment in high-density environment, in *Urban Planning Forum*, Vol.03, 91-10.
- J4. **Yang, Perry P. J.**, Li Zhengwei. 2013. Carbon emission assessment for Central City Districts of Macau, *Planner*, Vol. 03, 08:32, 2013.
- J5. **Yang, Perry P. J.** 2012. Complexity Question in Urban Systems Design, in *Journal of Architectural Engineering Technology*, editorial, Vol. 1, Issue 2, 187-189.
- J6. **Yang, Perry P. J.** 2010. Ecological Urbanism: Five Dimensions in Design, in Special Issue “Ecological Urbanism”, *WA (World Architecture)*, Tsinghua University, January 10.
- J7. **Yang, Perry P. J.** 2010. Landscape as Flows: An Ecological Design Approach to Large-scale Urban Landscape, in Special Issue “Ecological Urbanism”, *WA (World Architecture)*, Tsinghua University, January 10.
- J8. **Yang, Perry P. J.** 2009. Questioning urban sustainability: social sufficiency, ecological efficiency and ecosystems compatibility. *Journal of Urbanism*, November 2009, Vol. 2, Issue 3.
- J9. **Yang, Perry P. J.**, Putra, Simon. Y., Chaerani, Meutia. 2007. Computing the Sense of Time in Urban Physical Environment, *Urban Design International*. 12, 115-129.
- J10. **Yang, Perry P. J.**, Putra, Simon Y., Li Wenjing. 2007. Viewsphere: GIS-based 3D visibility analysis for urban design evaluation. *Environment and Planning B: Planning and Design*, Vol.34. 971-992.
- J11. **Yang, Perry P. J.**, Ong, Boon Lay. 2004. Applying ecosystem concepts to the planning of industrial areas: a case study of Singapore's Jurong Island. *Journal of Cleaner Production*, 12, 1011-1023.

(Journal articles under review)

- J12. **Yang, Perry P. J., Quan, Steven. J.** 2014. A Geodesign framework for designing a low energy urban agriculture system, submitted to *Environment and Planning: Planning and Design B*.

Keynote Addresses and invited lectures in Related Topics

Invited keynote speeches:

- K1. **Yang, Perry P. J.** 2014. Featured speech "Redefining Public Realm through Reconstructing Ecology of Urbanization in China and Asian Mega Cities" at the *Big Ideas Session – Design of the Public Realm in Asian Mega-Cities* (with Gary Hack), the 54th Annual Conference of ACSP, Philadelphia, October 30 – November 2, 2014.
- K2. **Yang, Perry P. J.** 2014. Featured speech "Design for ecological urban systems: Two models or ways of thinking" in *Eco Smart City Symposium*, Tongji University, Shanghai, October 24-25, 2014
- K3. **Yang, Perry P. J.** 2014. Keynote speech "Design and Planning Workshop as an Urban Laboratory" in *iCities 2014: Workshop on Workshop*, National Cheng-Kung University, Tainan, October 14-15, 2014.
- K4. **Yang, Perry P. J.** 2014. Featured speech "EAR (Eco Area Ratio): A tool of energy performance and carbon reduction assessment for ecological urban systems" in *Shanghai Chongming Eco-Island International Forum*, Shanghai, September 24-26, 2014
- K5. **Yang, Perry P. J.** 2011. Plenary speech "Design challenges of low energy urban systems design", 2011 *World Congress on Engineering and Technology*, Shanghai, October 2011. **Yang, Perry P. J.** 2010. Keynote speech, "Low Carbon Ecological City: From Evaluation, Planning to Design", *U.S.-China Low Carbon City Mayors' Workshop*, Beijing, July 2010.
- K6. **Yang, Perry P. J.** 2010. Keynote speech, "Low Carbon Ecological City: From Evaluation, Planning to Design", *Future City Forum, New Taipei City Government*, June 2010.
- K7. **Yang, Perry P. J.** 2007. Featured speaker, "Sustainable design and development in Asian metropolis: analytical tools, design intervention and development mechanisms", in international conference of *Town Development: Building the New Metropolitan*, Manila, September 2007.
- K8. **Yang, Perry P. J.** 2006. Keynote speech, "Large-scale urban and landscape design as the catalyst of eco-city development", *The Second Mega-cities International Conference: Challenges in Sustainability for Asian Cities*, Hong Kong University, Guangzhou University & CIB, Guangzhou, China, December, 2006.
- K9. **Yang, Perry P. J.** 2006. Featured speaker, "Sustainable urban design in Asia", in *HPAIR 2006, The Harvard Project for Asian and International Relations 2006 Annual Academic Conference*, Singapore, August 2006.

Invited lectures in leading research institutes or universities:

- L1. Centers of Disease Control and Prevention (CDC), "Design for Urban Metabolism", Atlanta, February 25, 2014.
- L2. University of Pennsylvania, Department of City and Regional Planning, "Cities as flows: scale, complexity and stochastic processes", February 13, 2012.
- L3. Northeastern Session of the Mayor's Institute on City Design, invited talk as the resource team member, "Ecological urbanism: four issues for policy makers", Boston 2009.
- L4. MIT, Department of Urban Studies and Planning, invited talk at the SPURS Seminar, "The third ecology proposition: an approach to sustainable design and development in five Asian urban settings", October 2007.
- L5. Yale University, School of Architecture and School of Forestry and Environmental Studies, invited lecture "The third ecology proposition: an approach to sustainable design and development in five Asian urban settings", October 2007.
- L6. Yale University, School of Forestry and Environmental Studies, invited lecture "Planning the second nature: applying landscape ecology to analysis and planning of urban environment", April 2006.

Highlights of recognitions in academic/professional activities and services (from 2009 in Georgia Institute of Technology)

2014	To co-chair the special session "Energy resilient urban planning" in 2014 International Conference of Applied Energy (ICAP), meeting to be in June, 2014.
2013/06	Building the <i>Georgia Tech – Tongji Joint Laboratory of Ecological Urban Design</i> , Shanghai. In June 2013, the Memorandum of Understanding (MOU) of Joint Lab was signed by College of Architecture, Georgia Institute of Technology and College of Architecture and Urban Planning, Tongji University
2012/10	Jury member, <i>International Competition of Pedestrian Bridge Design for Kaohsiung Weiwuying Park</i> , Taiwan
2012/9	Jury member, <i>2012 Development of Excellence Award</i> , Atlanta Regional Commission.

2010- 2012	Member of International Committee/ Globalization Task Force chaired by Vice Provost, Georgia Institute of Technology
2011/5	Elected as the acting member of steering committee (to represent GPEAN from May to July 2011) for The Habitat Partner University Initiative at UN Habitat London meeting.
2010/8	As the Co-chair of Organizing Committee, <i>the 9th Symposium of the International Urban Planning and Environment Association (UPE9): Rapid Urbanization, Global Recession and Climate Change</i> , Guangzhou, China
2010/5	As one of the two representatives from Georgia Tech to speak in <i>Global Alliance of Technological Universities: First workshop on Sustainable Urban Solutions</i> , Shanghai Jiaotong University.
2010/1	Urban design works featured in one of China's leading architecture journal <i>WA (World Architecture</i> , published by Tsinghua University), in January 2010 Issue "Ecological Urbanism", together with two renowned urban designers, James Corner of University of Pennsylvania and I'AUC from Paris.
2009/10	As resource team member, Northeastern Session of <i>the Mayor's Institute on City Design</i> , Boston, October 7-9, 2009.
2009/7	<i>The 2009 World Games</i> opened in Kaohsiung Taiwan in July 2009. Perry was the first prize winner of the international competition in 2005 and then served as the Chief Planner of the stage-one master planning team of the 2009 World Games Park. The game opening was featured by CNN as an "eco-friendly venue" (http://edition.cnn.com/2009/SPORT/07/16/world.games/index.html).

Design awards/honors (as the chief planner or the principal designer)

2012	The 1 st place in planning competition: <i>Taipei's "Manhattan": Waterfront revitalization strategy along Taipei Danshui River</i> , organized by Bureau of Urban Development, Taipei Municipal Government.
2011	The 1st prize in <i>the Campus Planning Competition of Beijing Information Technology University</i> , by winning over ten other prestigious design institutes in China including Tsinghua, Tongji and South China University of Technology. (with BUE Beijing Urban Engineering Design Institute)
2010	The 1 st Prize (one of the two awarded winners out of 36 entries), international design competition of Shunde <i>Green Heart Design</i> , Guangdong China. (The other winner sharing the 1 st prize was Turenscape of Kongjian Yu, Design Critic of Harvard GSD and the Dean of School of Landscape Architecture, Peking University).
2010	The 2 nd Prize (out of 63 entries), international design competition of <i>Hangzhou Bay New District</i> , Ningbo City China (with Tongji University).
2008	The 1st prize international design competition of <i>Shuidong Bay Urban Design</i> , Maoming, Guangdong China (with Guangdong Urban and Rural Planning Institute).
2008	Final entry, international competition of <i>Tangshan Core City District Urban Design</i> (with Sun Yet Sen University). Other final entries include EDAW (now AECOM) and AUS (Australia).
2008	Final entry, urban design competition of <i>Guangzhou's White Swan Waterfront Revitalization</i> (with Guangdong Urban and Rural Planning Institute). Other final entries include EDAW (now AECOM), Tongji University, Shanghai Urban Planning Institute, South China University of Science and Technology)
2007	The 1st prize international design competition of Eco-City, <i>'Xiamen's New Downtown at Maluan Bay'</i> (with Xiamen Planning and Design Institute). Other final entries include Nikken Sekkei (Japan) and Urban Design International Co Ltd (Hong Kong).
2005	The 1st prize, international design competition of master planning, <i>2009 World Games Park</i> , Kaohsiung, with MAA (Taipei) and COX + Peter Droege (Sydney). Other entries include Richard Rogers Partnership, Mott MacDonald Ltd and ARUP, Taiwan Engineering Consultants Group and Jones Lang LaSalle. (Perry was the first prize winner and then served as the Chief Planner of the stage-one master planning team of the 2009 World Games Park. The game opening was featured by CNN as an "eco-friendly venue".) http://edition.cnn.com/2009/SPORT/07/16/world.games/index.html

Major Teaching

1. Urban Ecological Design, MCRP, MArch and MS in Architecture (from Spring 2010)
2. Site Planning and Urban Ecosystems Simulation, MCRP, MArch and MS (from Fall 2012)
3. Applied Planning Studio for MCRP Program
4. Design and Research Studio for MArch Program):

Sponsored International Urban Design Studio

1. Spring 2015, *Shanghai Chongming Eco Island Studio* (sponsored by Bayer endowment to UNEP-Tongji Institute of Environment for Sustainable Development, Shanghai)

2. Spring 2014, *Waterfront Revitalization Studio: Shuidong Bay in Maoming, Guangdong China* (sponsored by Maoming City Government and Guangdong Urban Planning and Design Institute, China)
3. Spring 2013, *Waterfront Revitalization Studio: Asian New Bay Area in Kaohsiung* (sponsored by Kaohsiung City Government, Taiwan)
4. Spring 2012, *Agrarian Urbanism Studio: A low energy agriculture system in Wheat Street Garden at Atlanta*, with Georgia Tech's School of Biology, Arkfab group and Truly Living Well.
5. Spring 2011, *Ecological Urbanism Studio: global benchmarking for low carbon urban design*, project selected and exhibited at the 100th ACSA annual conference, March 2012, Boston
6. Spring 2010, *Shanghai Pudong Waterfront Revitalization* (with Dagenhart), joint studio with Tongji University.
7. Spring 2009, *Chattanooga Waterfront Revitalization* (with Dagenhart), 2009 APA Tennessee Chapter Student Project Award
– Studio website: <https://waterfrontcities.wordpress.com/>

Biosketch

Perry Yang is an Associate Professor jointly appointed to School of City and Regional Planning and School of Architecture at the Georgia Institute of Technology. He was recently appointed *the Bayer Chair Professor* based on Bayer group's endowment of US\$ 1,000,000 to the United Nations Environment Program (UNEP)- Tongji Institute of Environment for Sustainable Development (IESD) in Shanghai from 2014 to 2016. He co-directs the *Sino-U.S. Eco Urban Lab* at Georgia Tech and Tongji University. Perry's work focuses on promoting the ecological performance of cities through urban design. He has been awarded prizes in international competitions, including the *2009 World Games Park* at Kaohsiung, Taiwan in 2005, a project opened in July 2009 and featured by CNN as "an eco-friendly venue". He founded *ESD (Eco Systems Design Studio)*, an urban design practice from 2005, first in Singapore and then moved to Atlanta, Taipei and Shanghai. His urban design work was published in the January 2010 issue *Ecological Urbanism at WA (World Architecture)*, a leading architectural journal by Tsinghua University. Yang received degrees from National Taiwan University (Ph.D., M.Sc., B.Sc.) and Massachusetts Institute of Technology (MS) and was a Fulbright Scholar at MIT in 1999-2000. Prior to joining the Georgia Tech faculty, he was assistant professor at National University of Singapore. He is a board member of the *International Urban Planning and Environment Association (UPE)*, and served as co-chair of *UPE9* in 2010. He is a member of *Global Carbon Project*, an international organization that is part of *Future Earth* initiative. As an international scientific committee member of *ICAE (International Conference on Applied Energy)*, Perry will co-chair the special session *Urban Energy Systems Design* for the *2015 ICAE* in Abu Dhabi in March 2015.