

Iris Cheung

Senior Research Associate

Environmental Energy Technologies Division, Lawrence Berkeley National Lab

Summary

- Researcher and engineer with 7 years of combined experience in energy efficiency research, greenhouse gas inventory, and water/wastewater infrastructure design and construction.
- Specialized in the data collection and analysis of IT equipment and electronics energy usage, to inform technical literature and energy efficiency policy.
- Demonstrated abilities in data analysis, written and verbal communications, in conjunction with performing and leading tasks in interdisciplinary team environments.

Education

Stanford University, Stanford, CA

Master of Science in Environmental Engineering and Science,
Department of Civil and Environmental Engineering, January 2010. GPA: 3.84

California Polytechnic State University, San Luis Obispo

Bachelor of Science in Environmental Engineering, June 2004. GPA: 3.84

Professional Experience

1. Senior Research Associate - Electronics, Lighting, and Networks Group Environmental Energy Technologies Division (4/2010 - Present) Lawrence Berkeley National Laboratory, Berkeley, CA

- Estimating current energy use in U.S. data centers, which serves as an update for the U.S. EPA's 2007 Report to Congress.
- Developing a comprehensive list of energy efficiency measures targeted for small and medium commercial buildings in California (specifically offices and retail), to be modeled in an EnergyPlus based software toolkit.
- Providing technical assistance for the Department of Energy, Federal Energy Management Program, by maintaining the Low Standby Power product database and advising DOE program manager on energy-efficient products covered by the program.
- Conducted surveys in 30 server rooms and closets across eight different organizations, and performed detailed energy measurements for four room configurations. Compiled efficiency measures and recommendations into a fact sheet for distribution to server room operators and utility program managers.
- Performed data analysis and testing tasks, using Python scripts, to improve the Home Energy Saver and Home Energy Scoring Tool platforms.

- Collected and analyzed field data on residential and commercial plug-load devices, to devise energy reduction strategies and inform electronics and appliance standards.
 - Conducted technical analysis for various Energy Star product specifications and energy saving forecast models.
- 2. Resource Management Intern (6/2008 – 9/2008)**
City of Palo Alto – Utilities Department – Resource Management Division, CA
- Compiled and computed greenhouse gas emissions for the City of Palo Alto’s municipal operations.
 - Analyzed emission results to identify causes for emission changes from previous years and developed improvements in inventory methods.
- 3. Design Engineer for Water/Wastewater Infrastructure (8/2004 – 9/2007)**
HDR Engineering, Folsom, CA
- Developed plans and specifications for water and wastewater treatment and conveyance facilities, up to \$50 million in construction costs.
 - Coordinated project activities between clients, sub-consultants, and office staff.
 - Prepared technical memoranda, reports, and cost estimates for design projects.
 - Determined appropriate design methods and equipment sizing and selection, based on hydraulic calculations and the use of simulation software tools.
- 4. Wastewater Pre-Treatment Plant Operator (4/2003 – 8/2003)**
The J. M. Smucker Company, Oxnard, CA
- Operated wastewater pre-treatment plant to meet effluent quality standards.
 - Responsible for system control and implemented operational strategies to optimize plant efficiency.

Computer Skills

- Python, R, Excel, MySQL, Matlab, C

Awards and Certification

- Engineer-In-Training, Certificate No EIT 116384
- Lawrence Berkeley National Laboratory Spot Award, 2010
- HDR Pathfinder Award of Performance and Productivity, 2005
- HDR Total Service Organization – Performance and Productivity Award, April 2005
- President’s List, Cal Poly, San Luis Obispo, 2001-2004
- Webmaster and Officer, Society of Environmental Engineers, student chapter, 2003
- Tau Beta Pi Engineering Honor Society, inducted 2003
- Engineering & Utility Contractors Association (EUCA) Scholarship, 2002

Publications

Cheung, Iris H.Y., Margarita Kloss, Richard Brown, and Alan Meier. (2014) “Using Public Participation to Improve MELs Energy Data Collection” *Berkeley, CA: Lawrence Berkeley National Laboratory*. LBNL-6596E.

Cheung, Iris H.Y., Steve E. Greenberg, Roozbeh Mahdavi, Richard E. Brown, and William Tschudi. (2013) “Energy Efficiency in Small Server Rooms.” *California Energy Commission. Publication number: CEC-XXX-2013-XXX*.

Ghatikar, Girish, **Iris H.Y. Cheung**, Steven Lanzisera, B Wardell, Manoj Deshpande, and Jayraj Ugarkar. (2013) “Miscellaneous and Electronic Loads Energy Efficiency Opportunities for Commercial Buildings: A Collaborative Study by the United States and India,” *Lawrence Berkeley National Laboratory and Infosys Technologies Limited*. LBNL-6287E

Lanzisera, Steven M., Steve Dawson-Haggerty, **Iris H.Y. Cheung**, Jay Taneja, David Culler, and Richard E. Brown. (2013) “Methods for Detailed Energy Data Collection of Miscellaneous and Electronic Loads in a Commercial Office Building” *Building and Environment* 65 (2013) 170-177.
<http://dx.doi.org/10.1016/j.buildenv.2013.03.025>

Delforge, Pierre, Willam Tschudi, Joyce Dickerson, **Iris H.Y. Cheung**, Roozbeh Mahdavi, Steve Greenberg, and Richard E. Brown. (2012) "Fact Sheet: Improving Energy Efficiency for Server Rooms and Closets" *Berkeley, CA: Lawrence Berkeley National Laboratory*. LBNL-5935E. September.

Cheung, Iris H.Y., Alan K. Meier, and Richard E. Brown. (2011) “Energy Savings Assessment for Digital-to-Analog Converter Boxes” *Energy Policy* 39: 1312-1317. doi:10.1016/j.enpol.2010.12.003. LBNL-4569E.

Brown, Richard E., Steven M. Lanzisera, **Iris H.Y. Cheung**, Judy Lai, Xiaofan Jiang, Steve Dawson-Haggerty, Jay Taneja, Jorge Ortiz, and David Culler. (2011) “Using Wireless Power Meters to Measure Energy Use of Miscellaneous and Electronic Devices in Buildings” *Proceedings of the 6th International Conference on Energy Efficiency in Domestic Appliances and Lighting*, May 2011.

Lanzisera, Steven M., Steve Dawson-Haggerty, Xiaofan Jiang, **Iris H.Y. Cheung**, Jay Taneja, Judy Lai, Jorge Ortiz, David Culler, Richard E. Brown. (2011) “Wireless Electricity Metering of Miscellaneous and Electronic Devices in Buildings.” *Proceedings of the November 2011 Future of Instrumentation International Workshop*.

Conference Talk

Cheung, Iris H.Y., Steven Lanzisera, Judy Lai, Steve Dawson-Haggerty, Jay Taneja, David Culler, and Richard E. Brown. (2012) “Detailed Energy Data Collection for Miscellaneous and Electronic Loads in a Commercial Office Building.” *Proceedings of the 2012 ACEEE Summer Study on Energy Efficiency in Buildings in Asilomar, CA*. Washington, DC: American Council for an Energy Efficient Economy. August. LBNL-6192E.