HP Announces Recipients of Fourth Annual HP Labs Innovation Research Awards

Global program of collaborative research aligned to company's strategic focus areas

PALO ALTO, Calif., Sept. 7, 2011

HP today announced it has selected 51 universities from around the world to receive awards as part of its fourth annual HP Labs Innovation Research Program (IRP).

The program creates opportunities for faculty and students at leading colleges, universities and research institutes worldwide to conduct breakthrough collaborative research with HP.

The awards offered through the IRP are intended to provide financial support for a graduate student to assist the principal investigator in conducting a collaborative research project with HP Labs, the company's central research facility. Awards provide cash support for one year, typically in the range of $50,000 to $75,000, inclusive of overhead costs, and renewable up to a maximum of three years at HP's discretion.

The IRP 2011 call for proposals attracted 626 submissions from 525 researchers at 239 universities in more than 30 countries. This year, a total of 62 projects at 51 universities received funding; approximately 50 percent are receiving funding for a second or third year. A full list of awardees, project titles and where they align to HP Labs' research is available athttp://www.hpl.hp.com/open_innovation/irp/2011_results.html.

The applicants for the 2011 IRP awards were invited to submit proposals that specifically aligned to HP's strategic focus areas, such as cloud, information analytics and sustainability. Examples include:

- A key facet of cloud computing is it enables businesses of all sizes to respond quickly to changing conditions such as demand peaks and configuration changes by flexibly adapting resources. The research being carried out by Professor Paul Anderson at the University of Edinburgh aims to transform existing capabilities by applying artificial intelligence techniques that automatically create and execute strategies to reconfigure cloud services, guaranteeing continuity of service as resources such as processing capacity are flexed or reconfigured.
- Several IRP awards directly support HP's research into scalable, power- and cost-efficient, automated and programmable data centers. At the University of Michigan, Professor Trevor Mudge's project has been researching techniques to optimize resource usage in data centers. A key element of the work is harnessing the distributed memory in multiple virtual machines, consolidating it into a single resource. In addition to revealing new approaches to designing data-centric data centers, the research has potential for significant energy savings and reduced operating costs.
- Central to HP's strategy is the creation of products and services that enable its customers to harness and exploit vast amounts of digital information. IRP awards to Professor Atri Rudra at the University at Buffalo and to Carnegie Mellon University's Parallel Data Lab focus in this area. The goal of this research is to create techniques that give end users assurances about the integrity of information they store in the cloud. Further, it will enable users to measure and compare systems from different providers, and incorporate consistency metrics into their service-level objectives.

"With the goal of inspiring some of the brightest minds from around the world, the HP Labs Innovation Research Program has seen researchers submit projects that firmly tie into areas that reflect our strategic focus, such as cloud, information analytics and sustainability," said Prith Banerjee, senior vice president, Research, HP, and director, HP Labs. "The strength of the entries this year demonstrates the value of our investment in the ongoing partnerships we have with participating universities and also our commitment to driving forward the next generation of technologists and scientists."

During the first three years of the program, HP funded 131 IRP projects, which in turn have generated more than 200 research papers and more than 35 patents and patent applications worldwide. Equally important, the program has helped to provide financial support and learning experiences for more than 200 post-graduate students.

As part of HP's commitment to open innovation, the IRP facilitates the creation of collaborative research projects with top researchers and entrepreneurs in academia, government and businesses worldwide. Each of the IRP projects is aligned with HP Labs' high-impact research themes, which in turn reflect HP's strategy of providing seamless, secure, context-aware experiences for a connected world. Successful relationships created through the program allow HP to extend its research footprint, advancing the state of the art, and nurturing the new technologies that will be incorporated in future generations of HP's products and services.

2011 HP Labs Innovation Research Program award winners by region

Americas

- Dr. Dijiang Huang, Arizona State University
- Dr. Gabriel Taubin, Brown University
- Dr. Travis Breaux, Carnegie Mellon University
- Dr. Bruce Krogh, Carnegie Mellon University
- Dr. Krishnendu Chakrabarty, Duke University
- Dr. Xinming Ou, Kansas State University
- Dr. Michael Braun, Massachusetts Institute of Technology
- Dr. Jeremy Cooperstock, McGill University
- Dr. Ness Shroff, Ohio State University
- Dr. Patrick Chiang, Oregon State University
- Dr. Wenjie Jiang, Princeton University
- Dr. Jan Allebach, Purdue University
- Dr. Elias Franses, Purdue University
- Dr. Charles Killian, Purdue University
- Dr. Mohammed Zaki, Rensselaer Polytechnic Institute
- Dr. Edward Knightly, Rice University
- Dr. Beth Pruitt, Stanford University
- Dr. Samuel Palermo, Texas A&M University
- Dr. Trent Jaeger, The Pennsylvania State University
- Dr. Anna Squicciarini, The Pennsylvania State University
- Dr. Atri Rudra, University at Buffalo, SUNY
- Dr. Srinivasan Ramasubramanian, University of Arizona
- Dr. Chen-Nee Chuah, University of California, Davis
- Dr. Prasant Mohapatra, University of California, Davis
- Dr. John Owens, University of California, Davis
- Dr. James Davis, University of California, Santa Cruz
- Dr. Daniel Friedman, University of California, Santa Cruz
- Dr. Hui Fang, University of Delaware
- Dr. Jose C. Principe, University of Florida
- Dr. Bing Liu, University of Illinois at Chicago
- Dr Thomas Huang, University of Illinois at Urbana-Champaign
- Dr. William Sanders, University of Illinois at Urbana-Champaign
- Dr. Chengxiang Zhai, University of Illinois at Urbana-Champaign
- Dr. Mark Kushner, University of Michigan
- Dr. Kang Shin, University of Michigan
- Dr. Haitao Li, University of Missouri, St. Louis
- Dr. Gerard Medioni, University of Southern California
- Dr. Chengkai Li, University of Texas at Arlington
- Dr. Ashish Khisti, University of Toronto
- Dr. Rajeev Balasubramonian, University of Utah
- Dr. Feifei Li, University of Utah
- Dr. Alejandro Lopez-Ortiz, University of Waterloo
- Dr. David Schweidel, University of Wisconsin-Madison
- Dr. Ethan Munson, University of Wisconsin-Milwaukee
- Dr. Naren Ramakrishnan, Virginia Tech
- Dr. Dan Fleming, Western Michigan University

EMEA – Europe, Middle East and Africa

- Dr. Alper Sen, Bilkent University
- Dr. Babak Falsafi, École Polytechnique Fédérale de Lausanne
- Dr. Jason Riley, Imperial College London
- Dr. Aad van Moorsel, Newcastle University
- Dr. Tommaso Di Noia, Technical University of Bari
- Dr. Shie Mannor, Technion, Israel
- Dr. Shai Shalev-Shwartz, The Hebrew University of Jerusalem
- Dr. Robert M. Richardson, University of Bristol
- Dr. Paul Anderson, University of Edinburgh
- Dr. Daniel Keim, University of Konstanz

APJ – Asia Pacific and Japan

- Dr. Inkyu Park, Korea Advanced Institute of Science and Technology
- Dr. Yanmin Zhu, Shanghai Jiao Tong University
- Dr. Shueng-Han Gary Chan, The Hong Kong University of Science and Technology
- Dr. Lei Chen, The Hong Kong University of Science and Technology
- Dr. Zhiliang Wang, Tsinghua University
- Dr. Mark Billinghurst, University of Canterbury

More information about HP Labs is available at www.hpl.hp.com.

About HP

HP creates new possibilities for technology to have a meaningful impact on people, businesses, governments and society. The world's largest technology company, HP brings together a portfolio that spans printing, personal computing, software, services and IT infrastructure at the convergence of the cloud and connectivity, creating seamless, secure, context-aware experiences for a connected world. More information about HP (NYSE: HPQ) is available at http://www.hp.com.

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