The IEEE Computer Society Technical Committee on Semantic Computing was recently elevated to technical committee status by the Society’s Technical and Conference Activities Board (TCAB). The new technical committee began as a task force dedicated to semantic computing, a field that explores the connection between Web content and user intentions.

IEEE Computer Society technical councils, committees, and task forces are international networks of professionals with common interests in computer hardware, software, applications, and interdisciplinary fields. They serve as the focal point for the Society’s activities within a technical discipline and directly influence the Society standards development, conferences, publications, and educational activities. IEEE has established two conferences to support the field since 2007—the IEEE International Conference on Semantic Computing and the IEEE International Summer School on Semantic Computing.

MEETING AN EMERGING NEED

Semantic computing involves the development of new, synergized technologies from natural language processing, data and knowledge engineering, software engineering, computer systems and networks, communication, signal processing, pattern recognition, and other technologies.

Said John Walz, vice president of TCAB, “Knowledge acquisition has not kept up with the world’s volume of data increasing exponentially each year. Semantic computing can allow humans to interact with technical devices and machines, including robots, as well as to access large knowledge resources in an intuitive fashion.”

GET INVOLVED

The committee will be chaired by Phillip C-Y Sheu, an IEEE Fellow and professor of electrical engineering and computer science at the University of California, Irvine.

“Semantic computing is in line with Web 3.0, the next generation of Web that is characterized by the Semantic Web and the Internet of ‘things,’ may be even broader as it also includes computing driven by natural language and all computational content such as software, devices, and processes,” said Sheu, coeditor of Semantic Computing (IEEE Press/Wiley, 2010). “I believe it will impact essentially every part of our lives.”

The Technical Committee on Semantic Computing is looking for Computer Society members to serve as executive members of various subcommittees and special interest groups tasked with establishing working partnerships with other organizations, producing a roadmap for research and development, and identifying the capacity for technical standards in semantic computing.

Contact Phillip C-Y Sheu at psheu@uci.edu. IEEE members are also encouraged to join the committee as general members at https://cima.computer.org/TECA_Login.htm.

IEEE COMPUTER SOCIETY TECHNICAL BODIES

The Computer Society supports 41 technical committees, four technical task forces, and two technical councils. The Technical and Conference Activities Board provides leadership and structure in support of technical innovation and the exchange of information and services for the benefit of providers and users of all aspects of computing technologies worldwide. Technical activities serve as forums for promoting innovation, the exchange of information and services in current technical areas, and extending computing technologies and applications into currently unexplored areas.

To join a technical body, or to learn more, visit the IEEE Computer Society Technical and Conference Activities website at www.computer.org/portal/web/tandc.
James Demmel, a professor of mathematics and computer science at the University of California, Berkeley, was recently honored with the 2010 IEEE Computer Society Sidney Fernbach Award for high-performance computing. Demmel has been involved in the design and development of algorithms and mathematical software, including the premier high-performance linear algebra library for workstations, parallel machines, and vector processors. His citation reads “For computational science leadership in creating adaptive, innovative high-performance linear algebra software.”

Demmel is known for his work on the numerical linear algebra libraries LAPACK and ScalAPACK, for which he was co-principal investigator with Jack Dongarra of the University of Tennessee. These libraries form part of the standard mathematical libraries for HP/Convex, IBM, Compaq/Digital, Sun, Intel, NEC, Fujitsu, Hitachi, SGI and Cray, as well as Matlab and the NAG library. Demmel and Mark Adams of Columbia University collaborated on the Prometheus parallel unstructured 3D multigrid solver for finite element problems, which won the 1999 Carl Benz Award for the best industrial application.

Demmel served as founding chief scientist of the University of California’s Center for Information Technology Research in the Interest of Society (CITRIS) from 2001 to 2005.

SIDNEY FERNBACH AWARD
One of the Society's most prestigious honors, the Sidney Fernbach Award was established in 1992 in memory of one of the pioneers in the development and application of high-performance computers for the solution of large computational problems. A certificate and $2,000 recognize outstanding contributions in the application of high-performance computers using innovative approaches. The awards ceremony will take place in November at the SC10 conference in New Orleans. Learn more about Computer Society awards at www.computer.org/portal/web/awards.

Infosys Technologies, headquartered in Bangalore, India, has been named the recipient of the 2010 IEEE Computer Society Software Process Achievement Award for establishing an extremely cost-effective, sustained, and culturally integrated quality and productivity improvement program during a period of extraordinary corporate growth.

Cosponsored by the IEEE Computer Society and the Carnegie Mellon University Software Engineering Institute, the SPA award recognizes outstanding achievement in improving the software process.

INFOSYS’ CONTRIBUTIONS
Infosys defines, designs, and delivers technology-enabled business solutions for Global 2000 companies. Its offerings include business and technology consulting, application services, systems integration, product engineering, custom software development, maintenance, re-engineering, independent testing and validation services, IT infrastructure services, and business process outsourcing.

Infosys and its subsidiaries employ nearly 114,000 people in more than 50 offices and development centers.

SOFTWARE PROCESS ACHIEVEMENT AWARD
Software Process Achievement Award honorees receive an engraved commemorative plaque and make presentations at practitioner and researcher community events. Award recipients also produce a Software Engineering Institute Technical Report describing their accomplishments, experiences, and any lessons learned.

SOFTWARE ENGINEERING INSTITUTE
The Software Engineering Institute is a US Department of Defense-funded research and development center operated by Carnegie Mellon University. SEI helps organizations make measured improvements in their software engineering capabilities by providing technical leadership to advance the practice of software engineering. For more information, visit the SEI website at http://www.sei.cmu.edu.