

Editorial: State of the Transactions

Thomas F. La Porta

WELCOME to the third year of *IEEE Transactions on Mobile Computing*. Over the past two years, the number of submissions to *TMC* has grown dramatically, and with it the workload for all of the associate editors and our dedicated reviewers. The editorial board and staff at the IEEE Computer Society have worked very hard, even under this increased load, to maintain our fast review cycles in an effort to keep *TMC* current, and provide excellent service to our readers and authors. I would like to thank them all for their hard work in making this journal successful.

In particular, during the past year, we have seen the number of paper submissions increase by more than 20 percent. Likewise, we increased the number of papers published by about 25 percent. To help meet these demands, our editorial board has grown from 34 members to more than 40. We are expecting these positive trends to continue through 2004. Despite this increase, our time from submission to publication is holding at 12 months, thanks to our fast peer review process. A new benefit in 2004 is that material will be available on the *TMC* Web site two months before it appears in print, making it available to readers as soon as possible.

Because of the increase in paper submissions, we have limited our special issues to those that will attract new segments of the mobile computing community to participate actively in *TMC*. For example, in 2003, we published an issue on electromagnetic compatibility highlighting these issues when designing mobile computing devices. In 2004, we are planning to publish one issue focused on power efficient ad hoc networks and a second issue focused on mission-oriented sensor networks that make use of mobility.

At the start of the year, I would like to thank two editors that have completed their service to *TMC*: Andrew Campbell and Pravin Bhagwat. Both Andrew and Pravin were part of the initial Editorial Board of *TMC* and made important contributions to its successful launch. Their efforts are much appreciated.

In recognition of the growing number of papers being submitted to *TMC*, we have added 11 new editors to the board. I provide a brief introduction below. Their full biographies follow.

Bharat Bhargava is a professor at Purdue University. He will manage papers on cellular networks, network measurements, and security. Ramon Caceres is with the IBM T.J. Watson Research Center and will be managing papers on mobile computing systems, applications, services, and wireless network performance measurement and evaluation. Yuguang Fang is an associate professor at the University of Florida. His expertise is on mobility management, resource management, and teletraffic modeling and analysis.

Anthony Joseph is an associate professor at University of California at Berkeley. He will be handling papers on overlay networks, mobility management, and adaptive applications. Robin Kravets is an assistant professor at the University of Illinois, Urbana-Champaign. She will manage papers on connectivity management, transport protocols, device aggregation, admission control, and service discovery. Janise McNair is an assistant professor at the University of Florida, Gainesville. She will handle papers on cellular networking and mobility management.

Adrian Perrig is an assistant professor at Carnegie Mellon University. He will handle papers on security and policy. Raghupathy Sivakumar is an assistant professor at Georgia Tech. His expertise is in wireless data networks and wireless transport protocols. Krishna M. Sivalingam is an associate professor at the University of Maryland, Baltimore County. He will handle papers on design, modeling, and implementation of quality-of-service and medium access protocols in wireless networks.

Vassilis Tsaoussidis is a member of the faculty at Demokritos University, Greece. He is an expert in transport protocols. Wenwu Zhu is with Microsoft Research and will be responsible for papers related to multimedia in the mobile Internet.

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Editor-in-Chief

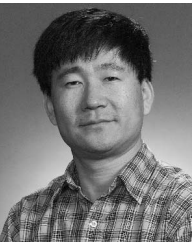




Bharat Bhargava is a professor in the Department of Computer Sciences and the Department of Electrical & Computer Engineering at Purdue University and has been since 1984. Professor Bhargava is conducting research in security issues in mobile and ad hoc networks. This involves host authentication and key management, secure routing and dealing with malicious hosts, adaptability to attacks, and experimental studies. Related research is in formalizing evidence, trust, and fraud. He has proposed schemes to identify vulnerabilities in systems and networks, and assess threats to large organizations. He has developed techniques to avoid threats that can lead to operational failures. The research has direct impact on nuclear waste transport, biosecurity, disaster management, and homeland security. In the 1988 IEEE Data Engineering Conference, he and John Riedl received the best paper award for their work on "A Model for Adaptable Systems for Transaction Processing." He is a fellow of the Institute of Electrical and Electronics Engineers and of the Institute of Electronics and Telecommunication Engineers. He has been awarded the charter Gold Core Member distinction by the IEEE Computer Society for his distinguished service. He received Outstanding Instructor Awards from the Purdue chapter of the ACM in 1996 and 1998. In 1999, he received IEEE Technical Achievement award for a major impact of his decade long contributions to foundations of adaptability in communication and distributed systems. In 2003, he was inducted in the Purdue's book of great teachers.



Ramon Caceres received the PhD degree in computer science from the University of California at Berkeley. He has more than 20 years of experience in technology research and development. He is currently working on pervasive computing at IBM Research. Previously, he was chief scientist of Vindigo, an award-winning provider of location-based services for handheld devices. Earlier, he was a research scientist at AT&T Labs and Bell Labs, where his work focused on mobile computing, wireless networking, and wide-area networking. He has also taught networking at Princeton University. He has served as program chair of MobiCom and WMCSA, on the directorate of the IETF Transport Area, and on the program committees of numerous conferences, including SIGCOMM and Infocom.



Yuguang Fang received the PhD degree in systems and control engineering from Case Western Reserve University in 1994 and the PhD degree in electrical engineering from Boston University in 1997. From 1998 to 2000, he was an assistant professor in the Department of Electrical and Computer Engineering at the New Jersey Institute of Technology. In May 2000, he joined the Department of Electrical and Computer Engineering at the University of Florida, where he has been an associate professor since August 2003. His research interests span many areas including wireless networks, mobile computing, mobile communications, automatic control, and neural networks. He has published more than 100 papers in refereed professional journals and conferences. He received the US National Science Foundation Faculty Early Career Award in 2001 and the US Office of Naval Research Young Investigator Award in 2002. Dr. Fang has actively engaged in many professional activities. He is an editor for *IEEE Transactions on Communications*, an editor for *IEEE Transactions on Wireless Communications*, and an editor for *ACM Wireless Networks*. He has also actively involved with many professional conferences such as ACM MobiCom '02 (Committee Cochair for Student Travel Award), MobiCom '01, IEEE INFOCOM '04, IEEE INFOCOM '03, INFOCOM '00, INFOCOM '98 IEEE WCNC '02, WCNC '00 (Technical Program Vice-Chair), WCNC '99, IEEE Globecom '04 (Cochair for Global Internet and Next Generation Networks Symposium), Globecom '03, IEEE Globecom'02 and many others. He is a senior member of the IEEE and a member of the ACM.



Anthony Joseph received the BS, SM, and PhD degrees in computer science from MIT. He joined the University of California at Berkeley faculty in 1998 and is currently an associate professor. He leads the Griffin project in the design and implementation of agile, adaptive applications for mobile telephony systems, wireless packet radio networks, and wired/wireless IP-based networks. He also leads Berkeley's participation in developing the DETER distributed cyberdefense testbed. His principal field of interest is computer systems: mobile systems, security, and networking.



Robin Kravets received the PhD degree from the College of Computing, Georgia Institute of Technology in 1999. She is currently an assistant professor in the Computer Science Department at the University of Illinois, Urbana-Champaign. She is the head of the Movies group at UIUC, which researches communication issues in mobile and ad hoc networking, including power management, connectivity management, transport protocols, admission control, location management, routing and security. Her research has been funded by various sources, including the US National Science Foundation and HP Labs. She actively participates in the mobile networking and computing community, both through organizing conferences and being on technical program committees. She is currently an associate editor of *MC2R: Mobile Computing and Communications Review*, a publication of *ACM SIGMOBILE*, and a member of the editorial board for the *IEEE Transactions on Mobile Computing*. She is also a member of the Steering Committee for WMCSA, the IEEE Workshop on Mobile Computing Systems & Applications. For a list of publications and more detailed information, please visit: <http://www-sal.cs.uiuc.edu/~rhk/>.



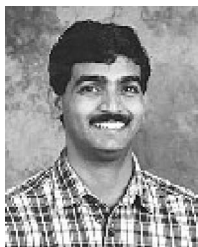
Janise McNair received the BS and MS degrees in electrical engineering from the University of Texas at Austin in 1991 and 1993, respectively, and received the PhD degree in electrical and computer engineering in 2000 from the Georgia Institute of Technology. She is an assistant professor in the Department of Electrical and Computer Engineering at the University of Florida, Gainesville, with a joint appointment in the Department of Computer and Information Sciences & Engineering. Professor McNair is active in professional service as a reviewer for IEEE and ACM journals and as a member of the organizing committee of the ACM WMASH workshop. At the University of Florida, she directs the Wireless and Mobile Systems Laboratory and is a faculty member of the Wireless Information and Networking Group (WING). Her research interests are in the areas of mobile user authentication, vertical handoff management, and medium access control.



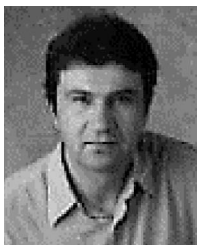
Adrian Perrig received the BS degree in computer engineering from the Swiss Federal Institute of Technology in Lausanne (EPFL) and the PhD degree in computer science from Carnegie Mellon University, and spent three years during his PhD study at the University of California at Berkeley. He is an assistant professor in electrical and computer engineering, engineering and public policy, and computer science at Carnegie Mellon University. His research interests revolve around building secure systems and include Internet security, security for sensor networks, and mobile applications. More information about his research is available at: <http://www.ece.cmu.edu/~adrian>.



Raghupathy Sivakumar received the BE degree in computer science from Anna University, Chennai, in 1996 and the MS and PhD degrees in computer science from the University of Illinois at Urbana-Champaign in 1998 and 2000, respectively. He is an assistant professor in the School of Electrical and Computer Engineering at Georgia Tech. He leads the Georgia Tech Networking and Mobile Computing (GNAN) Research Group, where he, along with his students, does research in the areas of wireless networking, mobile computing, and computer networks. He is the recipient of the ACM MobiCom Best Student Paper Award (Coauthor, 2003), and the winner of several awards at the University of Illinois, Urbana-Champaign. These include the David J. Kuck Best Doctoral Dissertation Award from the Department of Computer Science (2001), the Poppelbaum Award for Excellence in Creative Research and Academic Merit from the Department of Computer Science (2000), the Mavis Memorial Award Scholarship for Excellence in Teaching and Research from the College of Engineering (1999), and the David J. Kuck Best Masters Thesis Award from the Department of Computer Science. He is also the winner of the University Gold Medal from Anna University (1996). He was the technical program vice-chair for the IEEE ICC 2003 conference, the student travel awards chair for the ACM SenSys 2003 conference, the registration chair for the ACM MobiHoc 2003 conference, and the local arrangements chair for the ACM MobiCom 2002 conference. He has guest edited special issues of the *ACM MONET* and the *IEEE JSAC* journals. He serves as an editor for the Elsevier Science's *Computer Networks Journal*, and has served on the program committees of several IEEE and ACM conferences.



Krishna M. Sivalingam (IEEE SM '00; M '95) received the BE degree in computer science and engineering in 1988 from Anna University, Chennai (Madras), India, and the MS and PhD degrees in computer science from the State University of New York at Buffalo in 1994 and 1990, respectively. He is an associate professor in the Department of CSEE at the University of Maryland, Baltimore County. Previously, he was with the School of EECS at Washington State University, Pullman, from 1997 until 2002, and with the University of North Carolina, Greensboro, from 1994 until 1997. He has also conducted research at Lucent Technologies' Bell Labs in Murray Hill, New Jersey, and at AT&T Labs in Whippany, New Jersey. While at the State University of New York at Buffalo, he was a Presidential Fellow from 1988 to 1991. His research interests include wireless/mobile networks, optical wavelength division multiplexed networks, and performance evaluation. He holds three patents in wireless networks and has published several research articles including more than 25 journal publications.



Vassilis Tsaoussidis received the BSc (honor) degree in applied mathematics from Aristotle University, Greece; the diploma in statistics and computer science from the Hellenic Institute of Statistics; and the PhD degree in computer networks from Humboldt University, Berlin, Germany, in 1995. He held a postdoctoral appointment in the Department of Computer Science, Rutgers University, New Brunswick, and a faculty appointment in the Computer Science Departments of State University of New York at Stony Brook and Northeastern University. Dr. Tsaoussidis recently joined the faculty of the Department of Electrical and Computer Engineering at Demokritos University, Greece. He studies the behavior of protocols over heterogeneous wired/wireless/satellite networks, their congestion control mechanisms, their energy-saving capabilities, their QoS-supportive mechanisms, and their real-time performance. He is the founder of the Wired/Wireless Internet Communications Conference and he is on the board of *Computer Networks* and *Wireless Communications and Mobile Computing*. His Web page can be found at utopia.duth.gr/~vtsaousi.



Wenwu Zhu (S'92-M'97-SM'01) received the BE and ME degrees from the National University of Science and Technology, China, in 1985 and 1988, respectively, the MS degree from the Illinois Institute of Technology, Chicago, and the PhD degree from Polytechnic University, Brooklyn, New York, in 1993 and 1996, respectively, all in electrical engineering. From August 1988 to December 1990, he was with the Graduate School, University of Science and Technology of China (USTC), and the Chinese Academy of Sciences (the Institute of Electronics), Beijing, China. He joined Microsoft Research, Beijing, in 1999 as a researcher in the Internet Media Group. He is currently a research manager of the Wireless and Networking Group. Prior to his current post, he was with Bell Labs, Lucent Technologies, Whippany, Holmdel, and Murray Hill, New Jersey, as a member of the technical staff during 1996-1999. While he was with Bell Labs, he performed research and development in the areas of Internet video, video conferencing, and video streaming over IP networks. He has published more than 150 refereed papers in international leading journals and key conferences in the areas of wireless/Internet video delivery, wireless/Internet multimedia communications and networking, and has contributed to the IETF ROHC WG draft on robust TCP/IP header compression over wireless links. He is the inventor of more than a dozen pending patents. His current research interest is in the area of wireless/Internet multimedia delivery and multimedia networking. Dr. Zhu has served as a guest editor, respectively, for special issues on streaming video and wireless video in the *IEEE Transactions on Circuits and Systems for Video Technology*. He also serves as guest editor for a special issue on advanced mobility management and QoS protocols for wireless Internet in the *IEEE Journal of Selected Areas in Communications*. Currently, he is serving as a guest editor for a special issue on advanced video coding and delivery in the *Proceedings of the IEEE*. He received the Best Paper Award in the *IEEE Transactions on Circuits and Systems* for video technology in 2001. He is a member of Eta Kappa Nu, the Visual Signal Processing and Communication Technical Committee, and the Multimedia System and Application Technical Committee of the IEEE Circuits and Systems Society. He is also a member of the Multimedia Communication Technical Committee of the IEEE Communications Society.