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EDUCATION & PROFESSIONAL POSITIONS

University of Utah, Salt Lake City, USA
Jan. 2011 - present

Assistant Professor in Electrical and Computer Engineering Department
Adjunct Assistant Professor in School of Computing
Leading the Wireless Embedded Sensing Systems Lab

University of Michigan, Ann Arbor, USA
May 2010 - Dec. 2010

Post Doctoral Researcher, Mentor: Prof. Prabal Dutta

University of California, Los Angeles (UCLA), USA
Sept. 2009 - April 2010

Post Doctoral Researcher at the Center for Embedded Networked Sensing (CENS)
Topic: *"Support Infrastructure and Embedded System Design for Personalized Natural Resource Consumption Monitoring"*

University of California, Los Angeles (UCLA), USA
Oct. 2005 - Sept. 2009

Ph.D. in Electrical Engineering
Major in Embedded Computing Systems, GPA: 4.0/4.0
Dissertation topic: "Time in Wireless Embedded Systems"
Advisor: Prof. Mani B. Srivastava

Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland
2003-2005

M.Sc. in Communication Systems Engineering, GPA 3.8/4.0
Thesis: "On Mac Layer and Bulk Transfers in Sensor Networks"
Advisor: Prof. Martin Vetterli

McGill University, Montreal, Canada
2002-2003

Graduate School Exchange Year

Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland
2000-2002

B.Sc. in Communication Systems Engineering

AWARDS, FELLOWSHIPS, & GRANTS

UCLA Electrical Engineering 2009-2010 Outstanding PhD Award	2010
Winner of ISLPED Design Competition	2010
Best Paper Award, ACM HotEmNets	2010
Best Paper Award, ACM/IEEE IPSN	2010
Best Paper Award, ACM WUWNet	2009
Best Paper Award, ACM SenSys	2008
Winner of DAC/ISSCC Student Design Competition	2008
CI Fellowship	2010
SNSF PostDoc Fellowship for Prospective Researchers $41,000	2010
Dissertation Year Fellowship, $18,000 plus tuition	2008 / 2009
Chancellor's Prize Summer Support, $5,000	2007
Chancellor's Prize Summer Support, $5,000	2006
Chancellor's Prize Fellowship, $18,000 plus tuition	2005 / 2006
SenSys (2006), IPSN (2007), ISSCC (2008) Travel Grant	2006, 2007, 2008

TEACHING

University of Utah, Salt Lake City

ECE/CS 5780/6780 - Embedded Systems Design	Spring 2012
ECE6961 - Topics in Advanced Communication	Fall 2011

University of Michigan, Ann Arbor

Redesign and co-teaching EECS 373	Fall 2010

University of California, Los Angeles

Masters project mentor	Winter, Fall 2009
Undergraduate laboratory intern mentor	Fall 2009
Substitute Lecturer in Embedded Computer Systems (EE202a)	Fall 2008, 2009
Graduate class project mentor for several embedded systems projects	Fall '07, '08, '09
Undergraduate summer project mentor	Summer 2008, 2009

Ecole Polytechnique Fédérale de Lausanne, Switzerland

Teaching Assistant in Object Oriented Programming class (full year class)	2002 & 2004
Teaching Assistant in Operating Systems class (EPFL)	2004

Kantonsschule Romanshorn, Switzerland

Lectured a class on "Introduction to Internet Technology"	1999

LANGUAGES

German:	Native language
English:	Fluent
French:	Fluent
Spanish:	Basic grammar

PROFESSIONAL EXPERIENCE

Co-Founder of Emgre Systems   2009 - 2010

PROFESSIONAL SOCIETY MEMBERSHIPS

Association for Computing Machinery, Member   2010 - present
Institute of Electrical and Electronics Engineers, Member   2009 - present
Institute of Electrical and Electronics Engineers, Student Member   2004 - 2009

SERVICE

TPC

The 11th International Conference on Information Processing in Sensor Networks (IPSN)   2012
The 3rd ACM Workshop on Embedded Sensing Systems For Energy-Efficiency In Buildings
(BuildSys)   2011
The 10th International Conference on Information Processing in Sensor Networks (IPSN)   2011
The 31st IEEE Real-Time Systems Symposium (RTSS)   2010
International Conference on Distributed Computing in Sensor Systems (DCOSS)   2010

Reviewer

IEEE Transactions on Computing   2012
IEEE Transactions on Sensor Networks   2011,2012
IEEE Transactions on Mobile Computing   2010,2011,2012
IEEE Pervasive Computing, Special Issue on Smart Energy Systems   2010
The International Conference on Mobile Systems, Applications, and Services (MobiSys)   2010
IEEE Transactions on Wireless Communications   2009
IEEE Embedded Systems Letters   2009
The International Workshop on Scalable Ad Hoc and Sensor Networks (SASN)   2009
IEEE Vehicular Technology Magazine   2009
IEEE Journal on Selected Areas in Communications   2008
USENIX Networked Systems Design and Implementation (NSDI)   2007
IEEE/ACM Transactions on Networking   2007
ACM SIGCOMM   2007

JOURNAL ARTICLES

1. **T. Schmid**, R. Shea, Z. M. Charbiwala, J. Friedman, Y. H. Cho, M. B. Srivastava, "On the Interaction of Clocks, Power, and Synchronization in Embedded Sensor Nodes," Accepted for publication in ACM Transactions on Sensor Networks   2010

2. **T. Schmid**, Z. M. Charbiwala, R. Shea, M. B. Srivastava, "Temperature Compensated Time Synchronization," IEEE Embedded Systems Letters   July 2009

3. G. Troxel, E. Blossom, S. Boswell, A. Caro, I. Castineyra, A. Colvin, T. Dreier, J. Evans, N. Goffee, K. Haigh, T. Hussain, V. Kawadia, D. Lapsley, C. Livadas, A. Medina, J. Mikkelson, G. Minden, R. Morris, C. Partridge, V. Raghunathan, R. Ramanathan, C. Santivanez, **T. Schmid**, D. Sumorok, M. Srivastava, B. Vincent, D. Wiggin, A. Wyglinski, and S. Zahedi, "Enabling Open-source Cognitively-controlled Collaboration among Software-Defined Radio Nodes," *Computer Networks: The International Journal of Computer and Telecommunications Networking (Special Issue on Cognitive Wireless Networks),*   March 2008

CONFERENCE PUBLICATIONS

1. L. Yerva, A. Bansal, B. Campbell, **T. Schmid**, and P. Dutta,"Grafting Energy-Harvesting Leaves onto the Sensornet Tree", In IPSN'12: Proceedings of the 11th International Conference on Information Processing in Sensor Networks, Beijing, China,

    April 2012

2. J. Ko, K. Klues, C. Richter, W. Hofer, B. Kusy, M. Bruenig, **T. Schmid**, Q. Wang, P. Dutta, A. Terzis, "Low Power or High Performance? A Tradeoff Whose Time has Come (and Nearly Gone)" In EWSN'12: Proceedings of the 9th European Conference of Wireless Sensor Networks

    Feb 2012

3. Y. Kuo, **T. Schmid**, P. Dutta, "Hijacking Power and Bandwidth from the Mobile Phone's Audio Interface", In *the 1st Annual Symposium on Computing for Developmen*t (DEV)   December 2010

4. Z. Foo, D. Devecsery, **T. Schmid**, N. Clark, R. Frank, M. Ghaed, Y. Kuo, I. Lee, Y. Park, Z. Renner, N. Slottow, V. Vinay, M. Wieckowski, D. Yoon, C. Schmidt, D. Blaauw, P. Chen, and P. Dutta "A Case for Custom Silicon in Enabling Low-Cost Information Technology for Developing Regions", In *the 1st Annual Symposium on Computing for Development* (DEV)   December 2010

5. **T. Schmid**, Z. Charbiwala, Z. Anagnostopoulou, M. B. Srivastava, P. Dutta, "A Case Against Routing-Integrated Time Synchronization", Proceedings of the 8th ACM Conference on Embedded Networked Sensor Systems , Zurich, Switzerland   November 2010

6. Y. Kim, **T. Schmid**, M. B. Srivastava, "Design and Implementation of a Robust Sensor Data Fusion System for Unknown Signals", In the *International Conference on Distributed Computing in Sensor Systems* (DCOSS)   June 2010

7. **T. Schmid**, P. Dutta, M. B. Srivastava, "High-Resolution, Low-Power Time Synchronization an Oxymoron No More", In *ACM/IEEE International Conference on Information Processing in Sensor Networks* (IPSN)
    Best Paper Award   April 2010

8. Y. Kim, **T. Schmid**, Z. M. Charbiwala, M. B. Srivastava, "ViridiScope: Design and Implementation of a Fine Grained Power Monitoring System for Homes," In *the 11th international Conference on Ubiquitous Computing* (UbiComp)   September 2009

9. Y. Kim, **T. Schmid**, Z. M. Charbiwala, J. Friedman, M. B. Srivastava, "NAWMS: Nonintrusive Autonomous Water Monitoring System," In *the 6th ACM Conference on Embedded Networked Sensor Systems* (SenSys)
Best Paper Award   November 2008

10. J. Friedman, **T. Schmid**, Z. M. Charbiwala, M. B. Srivastava, Y. H. Cho "Multistatic Pulse-Wave Angle-of-Arrival-Assisted Relative Interferometric RADAR," In *Proceedings of Radar Conference*   May 2008

11. J. Friedman, Z. M. Charbiwala, **T. Schmid**, Y. H. Cho, M. B. Srivastava, "Angle-of-Arrival Assisted Radio Inteferometry (ARI) Target Localization," In *Proceedings of* MILCOM   November 2008

12. K. Ariyur, **T. Schmid**, Y. Yi, Z. M. Charbiwala, M. B. Srivastava, "On the Impact of Time Synchronization on Quality of Information and Network Performance," In *the Second Annual Conference of the International Technology Alliance* (ACITA)   Sept. 2008

13. **T. Schmid**, J. Friedman, Z. M. Charbiwala, Y. H. Cho, M. B. Srivastava, "Low-Power High-Accuracy Timing Systems for Efficient Duty Cycling," In *the International Symposium on Low Power Electronics and Design* (ISLPED)   August 2008

14. **T. Schmid**, Z. M. Charbiwala, J. Friedman, Y. H. Cho, M. B. Srivastava, "Exploiting Manufacturing Variations for Compensating Environment-induced Clock Drift in Time Synchronization," In *Proceedings of the 2008 ACM International Conference on Measurement and Modeling of Computer* Systems (SIGMETRICS)   June 2008

WORKSHOP PUBLICATIONS

1. **T. Schmid**, D. Culler, P. Dutta, "Any Wire, Anywhere: Just Virtualize the Voltage Channel", 2nd ACM Workshop On Embedded Sensing Systems For Energy-Efficiency In Buildings, Zurich, Switzerland,   November 2010

2. P. Dutta, Y. Kuo, A. Ledeczi, **T. Schmid**, P. Volgyesi, "Putting the Software Radio on a Low-Calorie Diet", In Proceedings of the Ninth Workshop on Hot Topics in Networks, Monterey, California,   October 2010

3. J. Friedman, D. Torres, **T. Schmid**, J. Dong, M. B. Srivastava, "A Biomimetic Quasi-static Electric Field Physical Channel for Underwater Ocean Networks", e Fifth International Workshop on UnderWater Networks, Woods Hole, MA,   September 2010

4. **T. Schmid**, R. S. Shea, M. B. Srivastava, P. Dutta, "Disentangling Wireless Sensing from Mesh Networking ", In *the 6th Workshop on Hot Topics in Embedded Networked Sensors* (HotEmNets)   June 2010

5. Y. Kim, **T. Schmid**, Y. Wang, M. B. Srivastava, "Challenges in Resource Monitoring for Residential Spaces", In *the First Workshop on Embedded Sensing Systems For Energy-Efficiency In Buildings* (BuildSys)   November 2009

6. D. Torres, J. Friedman, **T. Schmid**, M. B Srivastava, "Software-Defined Underwater Acoustic Networking Testbed," In *Workshop on Underwater Networks (*WUWNET)
Best Paper Award   November 2009

7. **T. Schmid**, Z. M Charbiwala, J. Friedman, Y. H. Cho, M. B. Srivastava, "The True Cost of Accurate Time," In *Workshop on Power Aware Computing and Systems* (HotPower'08)   December 2008

8. Y. Kim, Z. M. Charbiwala, A. Singhania, **T. Schmid**, M. B. Srivastava, "SPOTLIGHT: Personal Natural Resource Consumption Profiler," In *The Fifth Workshop on Embedded Networked Sensors* (HotEmNets)   June 2008

9. D. Jea, J. Liu, **T. Schmid**, M. B. Srivastava, "Hassle Free Fitness Monitoring," In *The 2nd International Workshop on Systems and Networking Support for Healthcare and Assisted Living Environments* (HealthNet)   June 2008

10. **T. Schmid**, O. Sekkat, M. B. Srivastava, "An Experimental Study of Network Performance Impact of Increased Latency in Software Defined Radios," In *The Second ACM International Workshop on Wireless Network Testbeds, Experimental Evaluation and Characterization* (WiNTECH)   September 2007

11. A. Parker, S. Reddy, **T. Schmid**, K. Chang, S. Ganeriwal, M. B. Srivastava, M. Hansen, J. Burke, D. Estrin, M. Allman and V. Paxson, "Network System Challenges in Selective Sharing and Verification for Personal, Social, and Urban-Scale Sensing Applications", *Record of the Fifth Workshop on Hot Topics in Networks* (HotNets)   November 2006

12. G. Troxel, E. Blossom, S. Boswell, A. Caro, I. Castineyra, A. Colvin, T. Dreier, J. Evans, N. Goffee, K. Haigh, T. Hussain, V. Kawadia, D. Lapsley, C. Livadas, A. Medina, J. Mikkelson, G. Minden, R. Morris, C. Partridge, V. Raghunathan, R. Ramanathan, C. Santivanez, **T. Schmid**, D. Sumorok, M. Srivastava, B. Vincent, D. Wiggin, A. Wyglinski, and S. Zahedi, "Adaptive Dynamic Radio Open-source Intelligent Team (ADROIT): Cognitively-controlled Collaboration among SDR Nodes", *Proceedings of the First IEEE Workshop on Networking Technologies for Software Defined Radio (SDR) Networks*   September 2006

13. **T. Schmid**, H. Dubois-Ferrière, M. Vetterli. "SensorScope: Experiences with a Wireless Building Monitoring Sensor Network," In *The Workshop on Real-World Wireless Sensor Networks* (REALWSN), Stockholm, Sweden   June 2005

DESIGN CONTEST

1. Y. Kuo, **T. Schmid**, P. Dutta, "Hijacking Power and Bandwidth from the Mobile Phone's Audio Interface", International Symposium on Low Power Electronics and Design, Design Contest, Austin, TX
   Design Contest Award Winner   August 2010

2. **T. Schmid**, J. Friedman, Z. M. Charbiwala, Y. H. Cho, M. B. Srivastava, "*XCXO: An Ultra-low Cost Ultra-high Accuracy Clock System for Wireless Sensor Networks in Harsh Remote Outdoor Environments*," ISSCC/DAC
   Design Contest Award Winner   June 2008

POSTERS & DEMONSTRATIONS

1. Y
2. Y. Kuo, **T. Schmid**, P. Dutta, "Demo Abstract: Hijacking Power and Bandwidth from the Mobile Phone's Audio Interface", SenSys   November 2010
3. Y. Kuo, **T. Schmid**, P. Dutta, "Hijacking Power and Bandwidth from the Mobile Phone's Audio Interface", MobiCom   September 2010
4. **T. Schmid**, M. B Srivastava, "Low-Power High-Precision Timing Hardware for Sensor Networks," SenSys   November 2009
5. **T. Schmid**, J. Friedman, Z. M Charbiwala, Y. H Cho, M. B Srivastava, "*XCT: Crystal Compensated Timer for Low-cost, Low-drift Clocks*," ISSCC   February 2008
6. **T. Schmid**, M. B Srivastava, "*Exploiting Social Networks for Sensor Data Sharing with SenseShare*," CENS 5th Annual Research Review   November 2007
7. **T. Schmid**, R. S Shea, J. Friedman, M. B Srivastava, "*Movement Analysis in Rock-Climbers*," IPSN   May 2007
8. **T. Schmid**, T. Dreier, M. B Srivastava, "*Software Radio Implementation of Short-range Wireless Standards for Sensor Networking*," SenSys   November 2006
9. S. Reddy, **T. Schmid**, A. Parker, J. Porway, G. Chen, A. Joki, J. Burke, M. Hansen, D. Estrin, M. B Srivastava, "*UrbanCENS: Sensing with the Urban Context in Mind*," Ubicomp   September 2006

TALKS, PRESENTATIONS, & TUTORIALS

1. "High-Resolution, Low-Power Time Synchronizationan Oxymoron No More," Talk at IPSN   April 2010
2. "Energy Metering and Tracking with iCount and Quanto," Tutorial at IPSN   April 2009
3. "The True Cost of Accurate Time," HotPower   December 2008
4. "NAWMS: Nonintrusive Autonomous Water Monitoring System," Guest Seminar EPFL, Switzerland   August 2008
5. "Exploiting Manufacturing Variations for Compensating Environment-induced Clock Drift in Time Synchronization," SIGMETRICS   June 2008
6. "XCXO: An Ultra-low Cost Ultra-high Accuracy Clock System for Wireless Sensor Networks in Harsh Remote Outdoor Environments," ISSCC/DAC   June 2008
7. "Hassle Free Fitness Monitoring," HealthNet   June 2008
8. "An Experimental Study of Network Performance Impact of Increased Latency in Software Defined Radios," WiNTECH   September 2007
9. "Software Radio Implementation of Shortrange Wireless Standards for Sensor Networking," CENS Technical Seminar, UCLA   February 2007
10. "SensorScope: Experiences with a Wireless Building Monitoring Sensor Network," REALWSN   June 2005