2nd IEEE International Conference on Distributed Computing in Sensor Systems

San Francisco, California
June 18 - 20, 2006
http://www.dcoss.org/

Advance Registration: May 15, 2006
Hotel Reservation: May 19, 2006

Sponsored by:
IEEE Computer Society Technical Committee on Parallel Processing (TCPP)
IEEE Computer Society Technical Committee on Distributed Processing (TCDP)
Held in co-operation with:
ACM SIGARCH, ACM SIGBED, European Association for Theoretical Computer Science (EATCS), IFIP WG 10.3

DCOSS '06 PROGRAM

SUNDAY, JUNE 18, 2006

- **Workshop: Euro-American Workshop on Middleware for Sensor Networks (EAWMS)**
- **Workshop: Mobility and Scalability in Wireless Sensor Networks (MSWSN)**

MONDAY, JUNE 19, 2006

7:30 am - 8:20 am **Continental Breakfast**

8:20 am - 8:30 am **Opening Remarks**
Jose Rolim (Steering Committee Chair, Univ. of Geneva, Switzerland)
Viktor Prasanna (General Chair, Univ. of Southern California, USA)
Phil Gibbons (Program Chair, Intel Research/CMU, USA)

8:30 am - 9:35 am **KEYNOTE: "Structure Discovery and Information Brokerage in Sensor Networks"**
Leonidas Guibas *(Stanford Univ., USA)*

9:35 am – 9:50 am Break

9:50 am - 11:50 am SESSION 1: DISTRIBUTED ALGORITHMS & APPLICATIONS

- Evaluating Local Contributions to Global Performance in Wireless Sensor and Actuator Networks
  Christopher Rozell, Don Johnson (Rice Univ., USA)
- Roadmap Query for Sensor Network Assisted Navigation in Dynamic Environments
  Sangeeta Bhattacharya, Nuzhet Atay, Gazihan Alankus, Chenyang Lu, Burchan Bayazit, Gruia-Catalin Roman (Washington Univ. in St. Louis, USA)
- Stabilizing Consensus in Mobile Networks
  Dana Angluin, Michael J. Fischer, Hong Jiang (Yale Univ.)
- When Birds Die: Making Population Protocols Fault-Tolerant
  Carole Delporte-Gallet (Universite Paris); Hugues Fauconnier (LIAFA, Paris); Rachid Guerraoui (Swiss Federal Institute of Technology (EPFL)); Eric Ruppert (York Univ.)
- Stochastically Consistent Caching and Dynamic Duty Cycling for Erratic Sensor Sources
  Shanzhong Zhu, Wei Wang, Chinya Ravishankar (Univ. of California at Riverside, USA)
- Distributed Model-Free Stochastic Optimization in Wireless Sensor Networks
  Daniel Yagan, Chen Khong Tham (National Univ. of Singapore)

11:50 am – 1:15 pm LUNCH (on your own)

1:15 pm – 3:15 pm SESSION 2: PROGRAMMING SUPPORT & MIDDLEWARE

- Agimone: Middleware Support for Seamless Integration of Sensor and IP Networks
  Gregory Hackmann, Chien-Liang Fok, Gruia-Catalin Roman, Chenyang Lu (Washington Univ. St. Louis)
- Gossip Based Multi-Channel Reprogramming for Sensor Networks
  Limin Wang, Sandeep Kulkarni (Michigan State Univ.)
- The Virtual Pheromone Communication Primitive
  Leo Szumel, John Owens (Univ. of California at Davis)
- Logical Neighborhoods: A Programming Abstraction for Wireless Sensor Networks
  Luca Mottola, Gian Pietro Picco (Politecnico di Milano)
- Y-Threads: Supporting Concurrency in Wireless Sensor Networks
  Christopher Nitta, Raju Pandey, Yann Ramin (Univ. of California at Davis)
- Comparative Analysis of Push-Pull Query Strategies for Wireless Sensor Networks
  Shyam Kapadia, Bhaskar Krishnamachari (Univ. of Southern California)

3:15 pm – 3:30 pm Break

3:30 pm – 5:30 pm SESSION 3: DATA AGGREGATION & DISSEMINATION

- Using Data Aggregation to Prevent Traffic Analysis in Wireless Sensor Networks
  William Conner, Tarek Abdelzaher, Klara Nahrstedt (Univ. of Illinois at Urbana-Champaign)

- Efficient and Robust Data Dissemination using Limited Extra Network Knowledge
  Ioannis Chatzigiannakis (Computer Technology Institute); Athanasios Kinalis, Sotiris Nikoletseas (Univ. of Patras and Computer Technology Institute)
- Distance-Sensitive Information Brokerage in Sensor Networks
  Stefan Funke (Max-Planck-Institut f. Informatik); Leonidas Guibas, An Nguyen, Yusu Wang (Stanford)
- Efficient In-Network Processing through Local Ad-hoc Information Coalescence
  Onur Savas, Murat Alanyali,Venkatesh Saligrama (Boston Univ.)
- Distributed Optimal Estimation from Relative Measurements for Localization and Time Synchronization
  Prabir Barooah (UCSB); Neimar Da Silva (Federal Univ. of Rio de Janerio); Joao Hespanha (UCSB)
- GIST: Group-Independent Spanning Tree for Data Aggregation in Dense Sensor Networks
  Lujun Jia, Guevara Noubir, Rajmohan Rajaraman, Ravi Sundaram (Northeastern Univ.)

5:30 pm – 7:30 pm **Poster Session and Reception**
Chair: Jim Reich *(Palo Alto Research Center, USA)*

TUESDAY, JUNE 20, 2006

8:00 am - 8:30 am **Continental Breakfast**
8:30 am - 9:35 am **KEYNOTE: "In-network Adaptation of Sensor Node Location and Energy"**
William J. Kaiser *(Univ. of California, Los Angeles)*

9:35 am – 9:50 am Break

9:50 am - 10:50 am **SESSION 4: SECURITY**

- Distributed User Access Control in Sensor Networks
  Haodong Wang, Qun Li (College of William and Mary)
- Locating Compromised Sensor Nodes through Incremental Hashing Authentication
  Youtao Zhang (Univ. of Pittsburgh); Jun Yang, Lingling Jin (UC Riverside); Weijia Li (Univ. of Pittsburgh)
- COTA: A Robust Multi-hop Localization Scheme in Wireless Sensor Networks
  Yawen Wei, Zhen Yu, Yong Guan (Iowa State Univ.)

10:50 am - 11:50 am **SESSION 5: INFORMATION FUSION**

- Contour Approximation in Sensor Networks
  Chiranjeeb Buragohain, Sorabh Gandhi (UCSB); John Hershberger (Mentor Graphics); Subhash Suri (UCSB)
- A Distortion Aware Scheduling Approach for Wireless Sensor Networks
  Periklis Liaskovitis, Curt Schurgers (UCSD)
- Optimal Placement and Selection of Camera Network Nodes for Target Localization
  Ali Ercan, Danny Yang, Abbas El Gamal, Leonidas Guibas (Stanford)

11:50 am – 1:15 pm LUNCH (on your own)

1:15 pm – 3:15 pm **SESSION 6: LIFETIME MAXIMIZATION**

- An Optimal Data Propagation Algorithm for Maximizing the Lifespan of Sensor Networks
  Aubin Jarry, Pierre Leone, Olivier Powell, Jose Rolim (Univ. of Geneva)
- Lifetime Maximization under Connectivity and k-Coverage Constraints in Wireless Sensor Networks
  Wei Mo, Daji Qiao, Zhengdao Wang (Iowa State Univ.)
- Network Power Scheduling for TinyOS Applications
  Barbara Hohlt, Eric Brewer (UC Berkeley)
- Algorithms for Scheduling Wireless Sensor Networks with Rate and Duty-Cycle Constraints over Interference Channels
  Rajgopal Kannan, Shuangqing Wei (Louisiana State Univ.)
- MobiRoute: Routing towards a Mobile Sink for Improving Lifetime in Sensor Networks
  Jun Luo, Jacques Panchard, Michal Piorkowski, Matthias Grossglauser, Jean-Pierre Hubaux (Swiss Federal Institute of Technology (EPFL))
- SenCar: An Energy Efficient Data Gathering Mechanism for Large Scale Multihop Sensor Networks
  Ming Ma, Yuanyuan Yang (State Univ. of New York at Stony Brook)

3:15 pm – 3:30 pm Break

3:30 pm – 4:30 pm SESSION 7: LOCALIZATION

- A Distributed Linear Least Squares Method for Precise Localization with Low Complexity in Wireless Sensor Networks
  Frank Reichenbach (University of Rostock)
- Consistency-Based On-line Localization in Sensor Networks
  Jessica Feng, Miodrag Potkonjak (University of California at Los Angeles)
- The Robustness of Localization Algorithms to Signal Strength Attacks: A Comparative Study
  Yingying Chen, Konstantin Kleisouris, Xiaoyan Li, Wade Trappe, Richard Martin (Rutgers University)

4:30 pm DCOSS 2006 concludes

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Systems
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