



Personal information

First name / Surname **Giorgio Quer**
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Nationality, Date of Birth Italian, July 27th, 1983.

Current Employment

Post-Doc 2011, **University of California San Diego**: Post-Doc Researcher

Education

Ph.D. April 14, 2011, **University of Padova**: Ph.D. in Information Engineering
Thesis: *Optimization of Cognitive Wireless Networks using Compressive Sensing and Probabilistic Graphical Models*
Supervisor: Prof. Michele Zorzi (Univ. of Padova)
Ing. 2009, Qualification to the profession of Information Engineer (Italy).
M.Sc. 2007, **University of Padova**: M.Sc. in Telecommunication Engineering
Dissertation: *Cross-Layer Publish/Subscribe Forwarding for Low Power and Delay Tolerant Wireless Sensor Networks (WSN)*
Supervisors: Prof. Michele Zorzi (Univ. of Padova), Zach Shelby (Sensinode Ltd., FI).
B.Sc. 2005, **University of Padova**: B.Sc. in Information Engineering
Dissertation: *Signal dispersion effects in optical fiber propagation* (in Italian)
Supervisor: Marco Santagiustina, Ph.D. (Univ. of Padova).

Work Experience

DOCOMO EuroLabs 2008-2009: Research project in collaboration with DOCOMO EuroLabs on the design of distributed storage and data dissemination schemes for wireless systems.
EU project SENSEI 2008: European project SENSEI on Wireless Sensor and Actuator Networks as enablers of the Future Internet.

Academic Experience

Visiting Research **University of California San Diego** (2010), research on Bayesian Networks for Cognitive Control of Wireless Networks in the group of Prof. Ramesh Rao.
University of Oulu, Finland (2007:), research on Publish/Subscribe Forwarding for WSNs supervised by Zach Shelby and Prof. Carlos-Pomalaza Raez.

Research Interests

- Compressive Sensing for Data Aggregation in Wireless Sensor Networks,
- Pattern Recognition in large time-varying multidimensional Datasets,
- Probabilistic Graphical models (Bayesian Networks),
- Cognitive Networks optimization,
- Smart Energy Systems.

Teaching Assistantships

- *Networks and Protocols laboratory*, University of Padova (Spring 2009),
- *Wireless Systems and Networks*, University of Padova (Spring 2009).

Supervised M.Sc. Thesis

Alberto Menini (2009), Davide Zordan (2010): *Compressive Sensing*.

Selected publications

Conference papers:

1. **G. Quer**, H. Meenakshisundaram, B. Tamma, B.S. Manoj, R. Rao, and M. Zorzi, "Cognitive Network Inference through Bayesian Network Analysis", in *IEEE GLOBECOM 2010*, Miami, FL, Dec. 6–10, 2010.
2. **G. Quer**, D. Zordan, R. Masiero, M. Zorzi, and M. Rossi, "WSN-Control: Signal Reconstruction through Compressive Sensing in Wireless Sensor Networks", in *IEEE SenseApp 2010*, Workshop on Practical Issues in Building Sensor Network Applications, Denver, CO, Oct. 11–14, 2010.
3. **G. Quer**, H. Meenakshisundaram, B. Tamma, B.S. Manoj, R. Rao, and M. Zorzi, "Using Bayesian Networks for Cognitive Control of Multi-hop Wireless Networks", in *MILCOM 2010*, San Jose, CA, US, Oct. 31 – Dec. 3, 2010.
4. R. Masiero, **G. Quer**, M. Rossi, and M. Zorzi, "A Bayesian Analysis of Compressive Sensing Data Recovery in Wireless Sensor Networks", *IEEE SANS 2009*, Saint Petersburg, Russia, Oct. 12–14, 2009.
5. R. Masiero, **G. Quer**, D. Munaretto, M. Rossi, J. Widmer, and M. Zorzi, "Data Acquisition through joint Compressive Sensing and Principal Component Analysis", in *IEEE GLOBECOM 2009*, Honolulu, HI, Dec. 1–4, 2009.
6. **G. Quer**, R. Masiero, D. Munaretto, M. Rossi, J. Widmer, and M. Zorzi, "On the Interplay Between Routing and Signal Representation for Compressive Sensing in Wireless Sensor Networks", in *Information Theory and Applications Workshop (ITA 2009)*, San Diego, CA, Feb. 8–13, 2009.

Journal papers:

1. **G. Quer**, R. Masiero, M. Rossi, and M. Zorzi, "Sensing, Compression and Recovery for Wireless Sensor Networks: Monitoring Framework Design", *submitted to IEEE Trans. Wireless Communication*.
2. R. Masiero, **G. Quer**, G. Pillonetto, M. Rossi, and M. Zorzi "Sensing, Compression and Recovery for Wireless Sensor Networks: Sparse Signal Modelling", *submitted to IEEE Trans. Wireless Communication*.

Service: Reviewer at major IEEE conferences.

Skills

Languages
Programming skills
Personal skills

Italian: Mother tongue; **English:** Proficient User; **German:** Basic User.

MATLAB: Proficient User (6 years experience); **Java and C:** Basic User.

Ability to focus on relevant factors, self motivating and motivating others, versatile, self confident, willing, ambitious.

Interests

- Co-founder and executive officer of the no-profit "Santa Giustina University College Association" in Padova, Italy, <http://www.collegiosantagiustina.it> ,
- Sports: soccer, swimming, running, hiking, cycling,
- Traveling and cooking.

Referees

- Prof. Michele Zorzi, University of Padova (zorzi@dei.unipd.it),
- Prof. Ramesh Rao, University of California San Diego (r Rao@ucsd.edu),
- Michele Rossi, Ph.D., University of Padova (rossi@dei.unipd.it),
- Jörg Widmer, Ph.D., Institute IMDEA Networks (widmer@acm.org).