



Prof Mohsen Razavi

School of Electronic and Electrical Engineering at the University of Leeds · QCALL Coordinator

Mohsen Razavi received his B.Sc. and M.Sc. degrees (with honours) in Electrical Engineering from Sharif University of Technology, Tehran, Iran, in 1998 and 2000, respectively. From August 1999 to June 2001, he was a member of research staff at the Iran Telecommunications Research Centre, working on all-optical CDMA networks and the possible employment of optical amplifiers in such systems. He joined the Research Laboratory of Electronics, at the Massachusetts Institute of Technology (MIT), in 2001 to pursue his Ph.D. degree in Electrical Engineering and Computer Science, which he completed in 2006. He continued his work at MIT as a Post-doctoral Associate during Fall 2006, before joining the Institute for Quantum Computing at the University of Waterloo as a Post-doctoral Fellow in January 2007. Since September 2009, he is a faculty member at the School of Electronic and Electrical Engineering at the University of Leeds. Dr Razavi is a recipient of the MIT-HP Alliance Fellowship and the Marie-Curie International Reintegration Grant. He chaired and organized the first International Workshop on Quantum Communication Networks in 2014. He is the Coordinator of the European Innovative Training Network, QCALL, which aims at providing quantum communications services to all users. His research interests include a variety of problems in quantum and classical optical communications, quantum cryptography, quantum optics, and quantum networks.



Dr Andrew Shields

Quantum Information Group, Toshiba Research Europe Ltd · QCALL Director of Research and Lead for WP1

Andrew Shields has pioneered research on semiconductor quantum photonics and its applications. In 2002 he led a team at Toshiba Research Europe and the University of



Cambridge to demonstrate, the first voltage-powered source of single photons, based upon the electroluminescence of a quantum dot in a light emitting diode (LED), similar to those ubiquitous in TV remotes and traffic lights. He has also led pioneering activities in quantum access networks.



Prof. Dagmar Bruß

University of Dusseldorf · QCALL Director of Teaching

Dagmar Bruss has been working on quantum information theory as a postdoc in Oxford (GB), Torino (Italy) and Hannover (Germany). She is presently Full Professor for Theoretical Physics at the University of Duesseldorf, Germany. Her interests are, among others, quantum cryptography, quantum correlations and entanglement, and quantum networks.



Prof. Hugo Zbinden

University of Geneva · QCALL Deputy Coordinator

Hugo Zbinden was born in 1961 and studied physics at the University of Bern. In 1991 he obtained his PhD for his work on rare-earth solid-state lasers. Then, he developed high-power diode-pumped Nd:YAG lasers for industrial applications. In 1993 he joined the group of applied physics of the University of Geneva, and since then has been leading the group's experimental activities. His research has spanned various areas from optical sensors, single photon detectors, quantum communication and the foundations of quantum mechanics. He was appointed MER (Maître d'Enseignement et de Recherche) in 2003 and Associate Professor in 2012. In 2001 he co-founded id Quantique, a spin-off committing to commercialise quantum cryptography and other quantum technologies. Hugo Zbinden has published more than 100 refereed papers. He has refereed a couple of European and national project. He is associate editor of the Journal of Quantum Information and Communication.



Since 2005 he has been member of the parliament of the Canton Geneva.



Prof. Paolo Villoresi

University of Padova · QCALL Lead for WP2

Professor of Physics (Professore Ordinario), University of Padova, Department of Information Engineering. Served as coordinator in several national and international research projects, including the area of high order harmonics generation, space quantum communication, application of laser in Medicine and Industry.



Prof Marcos Curty

University of Vigo · QCALL Lead for WP3

Marcos received his M.Sc. and Ph.D in Telecommunication Engineering from Vigo University in 1999 and 2004 respectively. In 2001 he joined the Quantum Information Theory Group at the University of Erlangen-Nürnberg and he obtained a Ph.D in Physics (2006) under the supervision of Prof. Norbert Lütkenhaus. After postdoc positions at Toronto University (Prof. Hoi-Kwong Lo) and at the Institute for Quantum Computing, Waterloo University (Prof. Norbert Lütkenhaus), he joined the department of Electronic and Communications Engineering at Zaragoza University as Assistant Professor. Currently he is Associate Professor at the department of Theory of Signal and Communications at Vigo University. His research interest lies in quantum information processing, particularly quantum cryptography.





Dr Eleni Diamanti

Université Pierre et Marie CURIE · QCALL Lead for Dissemination

Eleni Diamanti received a B.Sc. in Electrical and Computer Engineering from the National Technical University of Athens, Greece, in 2000 and a PhD in Electrical Engineering from Stanford University in 2006. After a Marie-Curie postdoc at Institut d'Optique in Palaiseau, she joined the CNRS in 2009 as a tenured researcher, at Télécom ParisTech until 2016, and currently at the Université Pierre et Marie Curie in Paris. Her research interests lie in theoretical and experimental quantum cryptography, including continuous-variable quantum key distribution (QKD) and protocols beyond QKD with applications in future secure communication systems, and in the development of entangled photon resources for quantum networks. She is the vice director of the Paris Center for Quantum Computing, steering committee member of the international conference on quantum cryptography (QCRYPT), elected member of the Board of Stakeholders of the Photonics21 European technology platform, editorial board member of Nature Scientific Reports and IOP Quantum Science and Technology, and has been involved as a coordinator and as a partner in numerous national and international research projects.



Dr Gregoire Ribordy

ID Quantique SA · QCALL Industry Advisory Board

Dr. Gregoire Ribordy, co-founder and CEO, has 20 years of experience in various R&D and management roles in the field of optical measurements and communication systems. He founded ID Quantique in 2001 and has managed the company since then. Prior to this, he was a research fellow at the Group of Applied Physics of the University of Geneva between 1997 and 2001. In this position, he actively developed quantum cryptography technology and is the holder of a number of patents in the field. Between 1995 and 1996, Dr. Ribordy worked for one year in the R&D division of Nikon Corp. in Tokyo.



Quantum Communications for ALL (QCALL) is a European Innovative Training Network (project 675662) funded by the Marie Skłodowska Curie Call H2020-MSCA-ITN-2015.



Dr Romain Alléaume

Telecom ParisTech · QCALL Lead for Outreach

After graduating from ENS Paris, Romain Alléaume has completed his PhD at University Paris VI and ENS Cachan in 2004, on experimental quantum cryptography with single-photon sources, he was the co-recipient of “magazine La Recherche” scientific prize 2004. He then joined Telecom ParisTech to coordinate of the work on QKD networks performed within the European FP6 project SECOQC that culminated by the first demonstration of a QKD network in Europe. Romain Alléaume co-founded the start-up company SeQureNet in 2008, who has developed the first commercial continuous-variable QKD product, Cygnus, released in 2012. He participated to two national projects on quantum key distribution PROSPIQ (2006-2009) and SEQURE (2007-2010), as well as the French-Canadian project FREQUENCY dedicated fundamental research on quantum cryptography. Romain Alléaume then coordinated national and european projects, with an emphasis on QKD implementation security (FP7 Q-CERT, 2008-2012) and on the optical integration of QKD in telecommunications networks (French ANR Quantum-WDM, 2012-2015). He is also a member of the ETSI QKD Industry Standardization Group, and an active contributor to the international scientific and technical effort on QKD technology, and quantum cryptography.



Dr Mikael Afzelius

University of Geneva · QCALL Project Supervisor

Dr. Mikael Afzelius, born in 1976, received his M.Sc. degree in physics at Lund University, Sweden, in 2000. He obtained his Ph. D. in physics in 2004, on the subject of coherent anti-Stokes Raman spectroscopy as a measurement tool in combustion research. This was a joint project between Lund University and Université de Franche-Comté, France, which resulted in a doctoral degree from both universities (co-tutelle program). After being awarded with a post-doc fellowship from the Swedish Research Council, Mikael Afzelius joined the Group of Applied Physics (GAP) at Geneva University in 2004. Since then he has developed the experimental quantum memory and quantum repeater activities within the GAP group. The

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group has established itself as one of the leaders of solid-state quantum memories based on rare-earth-ion doped crystals. In 2010 Mikael Afzelius was appointed a permanent MER position (Maître d'Enseignement et de Recherche) at Université de Genève. He has published more than 60 articles in peer-reviewed journals and has written one book chapter on solid-state quantum memories.



Dr Félix Bussières

ID Quantique SA · QCALL Project Supervisor

Dr. Félix Bussières (born 1978) obtained his PhD from the University of Montréal and the University of Calgary in 2010, and joined the Group of Applied Physics at the University of Geneva shortly after as a postdoctoral fellow. In 2012, he was appointed a Maître-Assistant (senior researcher). He is now leading the activities on Superconducting Single-Photon detectors in the group of Professor Hugo Zbinden. In 2016 he also joined ID Quantique where he leads the Sensing team in the R&D division. He is one of the working group leaders in the Nanoscale Quantum Optics COST Action MP1403, and also acts as the leader of the Industry Advisory Board. In 2016 he co-organised the Single-Photons Single-Spins (SPSS) meeting in Oxford and the Lorentz Center Workshop on Nanowire Single-Photon detectors. His research expertise covers quantum photonics, single-photon detectors, sources of photonic entanglement, solid-state quantum memories, quantum communications and quantum cryptography. He has co-authored 28 journal publications and holds patents in the fields of quantum communications and single-photon detection.