

PICQUE ROMA SCIENTIFIC SCHOOL 2015

Integrated Quantum Photonics Applications: from Simulation to Sensing

Roma, 6-10 July 2015



SUPPORTERS

Chair

Fabio Sciarrino, Università di Roma "La Sapienza"

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Roberto Osellame, IFN-CNR

Christine Silberhorn, University of Paderborn

Alexander Szameit, FS University of Jena

Mark Thompson, University of Bristol

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PICQUE ROMA SCIENTIFIC SCHOOL 2015

**Integrated Quantum Photonics
Applications:
from Simulation to Sensing**

Roma, 6-10 July

Scientific Programme

Monday 6 July

09.00-10.30	Quantum channel capacity <i>Vittorio Giovannetti, Scuola Normale Superiore, Pisa, Italy</i>
10.30-11.00	<i>Coffee break</i>
11.00-12.30	Boson sampling (1) <i>Tim Ralph, University of Queensland, Australia</i>
12.30-14.00	<i>Lunch break</i>
14.00-15.30	Photonics quantum simulator <i>Philip Walther, University of Vienna, Austria</i>
15.30-16.00	<i>Coffee break</i>
16.00-16.45	Orbital angular momentum of light <i>Lorenzo Marrucci, Università di Napoli "Federico II", Italy</i>
16.45-18.30	Short talks. Communication and fundations of quantum mechanisms <ul style="list-style-type: none">1. Post-Selection Loophole-Free Bell Test over an Installed Optical Fiber Network <i>Guilherme B. Xavier, Universidad de Concepción, Chile</i>2. Hybrid single photon states for quantum information <i>Vincenzo D'Ambrosio, Università di Roma "La Sapienza", Italy</i>3. Exploring relations between nonlocality and EPR steering by means of self-testing <i>Ivan Supic, ICFO, Spain</i>4. Infinite-dimensional quantum systems on indefinite causal structures <i>Flaminia Giacomini, University of Vienna, Austria</i>5. Fractional topological phase on spatially encoded photonic qudits <i>Artur Matoso, Univ. Minas Gerais, Brazil</i>6. Higher Order Correlation Beams in Turbulent Atmosphere <i>Hakob Avetisyan, Univ. Minas Gerais, Brazil</i>7. Temporal properties of counter-propagating twin beams in a Mirrorless Optical Parametric Oscillator <i>Tommaso Corti, Università dell'Insubria, Italy</i>

Tuesday 7 July

09.00-10.30	Quantum metrology <i>Vittorio Giovannetti, Scuola Normale Superiore, Pisa, Italy</i>
10.30-11.00	<i>Coffee break</i>
11.00-12.30	Boson sampling (2) <i>Tim Ralph, University of Queensland, Australia</i>
12.30-14.00	<i>Lunch break</i>
14.00-14.45	Complexity/validation of Boson Sampling <i>Anthony Laing, University of Bristol, UK</i>
14.45-15.30	Continuous variable quantum optics <i>Marco Bellini, CNR-INO, Italy</i>
15.30-16.00	<i>Coffee break</i>
16.00-18.00	Short talks. Integrated quantum photonics <ol style="list-style-type: none"> 1. Hybrid integration for scalable quantum photonic computing <i>Thomas Meany, Toshiba Research Europe, UK</i> 2. Thermally-reconfigurable laser written photonic circuit for applications at telecom wavelength <i>Fulvio Flamini, Università di Roma "La Sapienza", Italy</i> 3. Towards On-Chip Continuous-Variable Quantum Key Distribution <i>Mauro Persechino, Telecom ParisTech, France</i> 4. Simultaneous control of two degrees of freedom of photon pairs on a chip <i>Mario A. Ciampini, Università di Roma "La Sapienza", Italy</i> 5. Integrated-photon chip with PPLN and SiO₂-waveguides <i>Panagiotis Vergyris, CNRS, France</i> 6. On-chip quantum light sources <i>Eoin Murray, Toshiba Research Europe, UK</i> 7. Photon Pair Source Integrated in a Commercial 45 nm CMOS Microelectronics Platform <i>Cale M. Gentry, University of Colorado, USA</i> 8. Superconducting-nanowire single photon detectors: approaches for near-unity efficiency <i>Luca Redaelli, CEA/INAC, France</i>
18.00-19.30	PICQUE Project Board meetings [Restricted to Board members]

Wednesday 8 July

09.00-10.30	Quantum simulation <i>Mauro Paternostro, Queen's University Belfast, Northern Ireland, UK</i>
10.30-11.00	<i>Coffee break</i>
11.00-12.30	Quantum optical analogies in coupled waveguide lattices <i>Alexander Szameit, FS University of Jena, Germany</i>
12.30-14.00	<i>Lunch break</i>
14.00-14.45	Quantum walk with integrated photonics <i>Roberto Osellame, IFN-CNR, Italy</i>
14.45-15.30	Boson sampling <i>Ernesto F. Galvão, Universidade Federal Fluminense, Brazil</i>
15.30-16.00	<i>Coffee break</i>
16.00-16.45	Quantum walk with time bin <i>Christine Silberhorn, University of Paderborn, Germany</i>
16.45-18.15	Short talks. Photonic quantum walk <ol style="list-style-type: none">1. Experimental Scattershot Boson Sampling <i>Marco Bentivegna, Università di Roma "La Sapienza", Italy</i>2. On unitary reconstruction of linear optical networks <i>Max Tillmann, University of Vienna, Austria</i>3. Efficient Certification of Boson Sampling in Waveguide Lattices with parity-like Symmetry <i>Christoph Dittel, University of Innsbruck, Austria</i>4. Two-walker discrete-time quantum walks on the line with percolation <i>Luca Rigovacca, Imperial College, UK</i>5. Quantum walks of twisted photons: shaping the initial state to explore the system band structure <i>Filippo Cardano, Università di Napoli "Federico II", Italy</i>6. Direct experimental signature of a topological phase transition in a photonic quantum walk. <i>Maria Maffei, Università di Napoli "Federico II", Italy</i>
20.00	Social dinner

Thursday 9 July

09.00-10.30	Quantum walks and related phenomena(1) <i>Seth Lloyd, Massachusetts Institute of Technology (MIT), USA</i>
10.30-11.00	<i>Coffee break</i>
11.00-11.45	Multiparameter quantum sensing <i>Luca Pezze, CNR-INO, Italy</i>
11.45-12.30	Hybrid quantum optics <i>Marco Barbieri, Università di Roma Tre, Italy</i>
12.30-14.00	<i>Lunch break</i>
14.00-14.45	Quantum networks <i>Robert Thew, Université de Genève, Switzerland</i>
14.45-15.30	Single photonic sources on chip <i>Gary Sinclair, University of Bristol, UK</i>
15.30-16.00	<i>Coffee break</i>
16.00-17.00	Short talks. Photonic quantum simulators 1. Embedding Quantum Simulators <i>Julen Simon Pedernales, Univ. of the Basque Country, Spain</i> 2. Measuring the entanglement generated by the evolution of an antiferromagnetic spin chain using photonic chips <i>Ioannis Pitsios, CNR Politecnico di Milano, Italy</i> 3. Deterministic Generation of Many-Body Entanglement and Photonic States Assisted by Dissipation <i>Vanessa Paulisch, Max-Planck Institute, Germany</i> 4. Simulating non-equilibrium Rabi-Hubbard model <i>Chaitanya Joshi, University of York, UK</i>
17.30-19.00	Poster session & happy hour <i>(with refreshments)</i>

Friday 10 July

09.00-10.30	Quantum walks and related phenomena(2) <i>Seth Lloyd, Massachusetts Institute of Technology (MIT), USA</i>
10.30-11.00	<i>Coffee break</i>
11.00-12.30	Quantum communication <i>Grégoire Ribordy, ID Quantique, Switzerland</i>
12.30-14.00	<i>Lunch break</i>
14.00-15.30	Device independent quantum protocols <i>Antonio Acin, ICFO, Spain</i>
15.30-16.00	<i>Coffee break</i>
16.00-16.45	Inside Nature Communications <i>Federico Levi, Nature Communications, London, UK</i>
16.45-17.15	Everything You Always Wanted to Know About Research* (*But Were Afraid to Ask) <i>Antigone Marino, CNR-SPIN, Italy</i>
17.15-17.30	<i>Best Talk & Poster Awards (funded by SPIE & EPS)</i>

Short talks

Monday 6 July at 16.45**Communication and fundations of quantum mechanisms**

Post-Selection Loophole-Free Bell Test over an Installed Optical Fiber Network

A. Cabello, J. Larsson, P. Mataloni, J. Cariñé, G. Saavedra, M. Figueroa, G. B. Xavier

Hybrid single photon states for quantum information

V. D'Ambrosio, L. Marrucci, F. Sciarrino

Exploring relations between nonlocality and EPR steering by means of self-testing

I. Supic, P. Skrzypczyk, A. Acin, M. Hoban

Infinite-dimensional quantum systems on indefinite causal structures

F. Giacomini

Fractional topological phase on spatially encoded photonic qudits

A. Z. Khouri, L. E. Oxman, A. Matoso, W. M. Pimenta, X. Sánchez-Lozano, B. Marques, S. Pádua

Higher Order Correlation Beams in Turbulent Atmosphere

H. Avetisyan, C.H. Monken

Temporal properties of counter-propagating twin beams in a Mirrorless Optical Parametric Oscillator

T. Corti, A. Gatti, E. Brambilla

Short talks

Tuesday 7 July at 16.00

Integrated quantum photonics

Hybrid integration for scalable quantum photonic computing

T. Meany, E. Murray, F. Floether, D. Ellis, A. Bennet, A. Shields

Thermally-reconfigurable laser written photonic circuit for applications at telecom wavelength

F. Flamini, L. Magrini, S. A. Rab, N. Spagnolo, V. D'Ambrosio, P. Mataloni, F. Sciarrino, A. Crespi, T. Zandrini, R. Osellame

Towards On-Chip Continuous-Variable Quantum Key Distribution

M. Ziebell, M. Persechino, N. Harris, C. Galland, D. Marris-Morini, L. Vivien, E. Diamanti, P. Grangier

Simultaneous control of two degrees of freedom of photon pairs on a chip

A. Orieux, M. A. Ciampini, S. Paesani, G. Corrielli, A. Crespi, R. Osellame, F. Sciarrino, P. Mataloni

Integrated-photon chip with PPLN and SiO₂-waveguides

P. Vergyris, T. Meany, T. Lunghi, J. Downes, M. J. Steel, M.J. Withford, O. Alibart, S. Tanzilli

On-chip quantum light sources

E. Murray

Photon Pair Source Integrated in a Commercial 45 nm CMOS Microelectronics Platform

C. M. Gentry, M.W. Wade, X. Zeng, F. Pavanello, M.A. Popovic

Superconducting-nanowire single photon detectors: approaches for near-unity efficiency

L. Redaelli, E. Monroy, V. Zwiller, J. M. Gérard

Short talks

Wednesday 8 July at 16.45**Photonic quantum walk**

Experimental Scattershot Boson Sampling

M. Bentivegna, N. Spagnolo, C. Vitelli, F. Flaminii, N. Viggianiello, L. Latminal, P. Mataloni, D. J. Brod, E. F. Galvao, A. Crespi, R. Ramponi, F. Sciarrino

On unitary reconstruction of linear optical networks

M. Tillmann, C. H. Schmidt, P. Walther

Efficient Certification of Boson Sampling in Waveguide Lattices with parity-like Symmetry

C. Dittel, R. Keil, M. C. Tichy, A. Perez-Leija, T. Kauten, S. Weimann, M. Lebugle, A. Szameit, G. Weihs

Two-walker discrete-time quantum walks on the line with percolation

L. Rigovacca, C. Di Franco

Quantum walks of twisted photons: shaping the initial state to explore the system band structure

F. Cardano

Direct experimental signature of a topological phase transition in a photonic quantum walk.

M. Maffei, F. Cardano, G. De Filippis, V. Cataudella, E. Santamato, L. Marrucci

Thursday 9 July at 16.00**Photonic quantum simulators**

Embedding Quantum Simulators

J. S. Pedernales, R. Di Candia, J. Casanova, E. Solano

Measuring the entanglement generated by the evolution of an antiferromagnetic spin chain using photonic chips

I. Pitsios, A. Crespi, L. Banchi, N. Spagnolo, F. Sciarrino, S. Bose, P. Mataloni, R. Osellame

Deterministic Generation of Many-Body Entanglement and Photonic States Assisted by Dissipation

V. Paulisch, A. Gonzalez-Tudela, H. J. Kimble, J. I. Cirac

Simulating non-equilibrium Rabi-Hubbard model

C. Joshi, M. Schiro, M. Bordyuh, R. Fazio, J. Keeling, H.E. Tureci

Poster session

Thursday 9 July

P_01

Fraunhofer diffraction pattern of a Mathieu-Gauss beam through rectangular aperture.

C. Acevedo, Y. Torres Moreno

P_02

The Forbidden Quantum Adder

U. Alvarez-Rodriguez, M. Sanz, L. Lamata, E. Solano

P_03

Quantum contextuality in a Young-type interference experiment.

G. Borges, M. Carvalho, P.L. de Assis, J. Ferraz, M. Araújo, A. Cabello, M. Terra Cunha, S. Pádua

P_04

A quantum walk in a single optical waveguide

J. Boutari, S. Barz, A. Feizpour, S. Kolthammer, C. Di Franco, M. S. Kim, I. Walmsley

P_05

Computational complexity of constant-depth BosonSampling

D.J. Brod

P_06

Experimental entanglement using vector vortex beams

G. Carvacho, V. D'Ambrosio, C. Vitelli, F. Graffitti, B. Piccirillo, L. Marrucci, F. Sciarrino

P_07

Quantum Lithography with Instantaneous Feedback

L.A. Clark, A. Stokes, A. Beige

P_08

Design and Characterization of a Portable Quantum Key Distribution Sender module

G. Mélen, M. Rau, L. Fuchs, G. Corrielli, H. Weier, S. Nauerth, A. Crespi, R. Osellame, H. Weinfurter

P_09

Experimental Observation of Transition between Strong and Weak Non-Markovianity

N. K. Bernardes, A. Cuevas, A. Orieux, C. H. Monken, P. Mataloni, F. Sciarrino, M. F. Santos

P_10

Generating and measuring NOON states with N=2 from a quantum dot source

L. de Santis, N. Somaschi, V. Giesz, O. Krebs, C. Gomez, I. Sagnes, L. Lanco, A. Lemaître, P. Senellart

P_11

Hacking Bell inequality

A.M. Elhassan

P_12

Fiber-Coupled SNSPDs

M. Graziosi, A. Gaggero, F. Mattioli, R. Leoni

P_13

Towards a network of microstructured polymer non-fluorescing waveguides on a chip

A. Landowski, M. Schmidt, M. Renner, G.V. Freymann, A. Widera

P_14

State-Transfer Simulation in Integrated Waveguides Circuits

L. Latmiral, C. Di Franco, P. Mennea, M. S. Kim

P_15

Towards SiC nanostructures for quantum technologies

F. Martini

P_16

Optimal entanglement-assisted discrimination of quantum measurements - experimental demonstration

M. Miková, M. Sedlák, I. Straka, M. Micuda, M. Ziman, M. Ježek, M. Dušek, J. Fiurášek

P_17

Bell measurements as a witness of a dualism in entanglement

E. Moreva, G. Brida, M. Gramegna, S. Bose, D. Home, M. Genovese

P_18

Position-dependent quantization of the electromagnetic field in layered structures

M. Partanen, T. Häyrynen, J. Oksanen, J. Tulkki

P_19

Witnessing continuous-variable entanglement with the use of a set of three mutually unbiased bases

E. C. Paul, D. S. Tasca, S. P. Walborn

P_20

Decoherence Measurements on the Qubit-Reservoir Interaction via Sagnac Interferometer

A. H. C. Pimentel

P_21

Reconfigurable laser written interferometer for photonic applications at telecom wavelength

F. Flamini, L. Magrini, A. S. Rab, N. Spagnolo, V. D'Ambrosio, P. Mataloni, F. Sciarrino, A. Crespi, T. Zandrini, R. Osellame

P_22

Polarization-dependent light propagation in elliptical waveguide arrays and applications

S. Rojas-Rojas, L. Morales-Inostroza, U. Naether, G.B. Xavier, S. Nolte, A. Szameit, R.A. Vicencio, G. Lima, A. Delgado

P_23

Achieving the Holevo bound via a bisection decoding protocol

M. Rosati, V. Giovannetti

P_24

Narrow-band Polarization Entangled Photon Pairs Source Resonant to Cs Atoms

G. Rubino, A. Moqanaki, P. Walther

P_25

Heralded single photon sources for QKD applications

M. Schiavon, G. Vallone, P. Villoresi

P_26

Electrically Tunable Bright Sources of Highly Indistinguishable Single Photons

N. Somaschi, V. Giesz, L. de Santis, G. Hornecker, C. Gomez, I. Sagnes, L. Lanço, A. Lemaître, A. Auffèves, P. Senellart

P_27

Provable Secure Authentication For B92 Protocol

A. Stojanovic

P_28

Loss tolerant device-independent quantum key distribution: a proof of principle

G. Vallone, A. Dall'Arche, M. Tomasin, P. Villoresi

P_29

Plasmonic sources of photon entanglement

S. Viarbitskaya

P_30

New Types of Surface Waves on Hyperbolic Metasurface

O. Yermakov, A. Ovcharenko, A. A. Bogdanov, I. V. Iorsh, Yu. S. Kivshar

Venue



Amaldi Room

First floor

Marconi Building

Physics Department,

University of Rome La Sapienza

Piazzale Aldo Moro 5

00185 Rome, Italy



SAPIENZA
UNIVERSITÀ DI ROMA

University campus

**Department of
Physics
Fermi building**

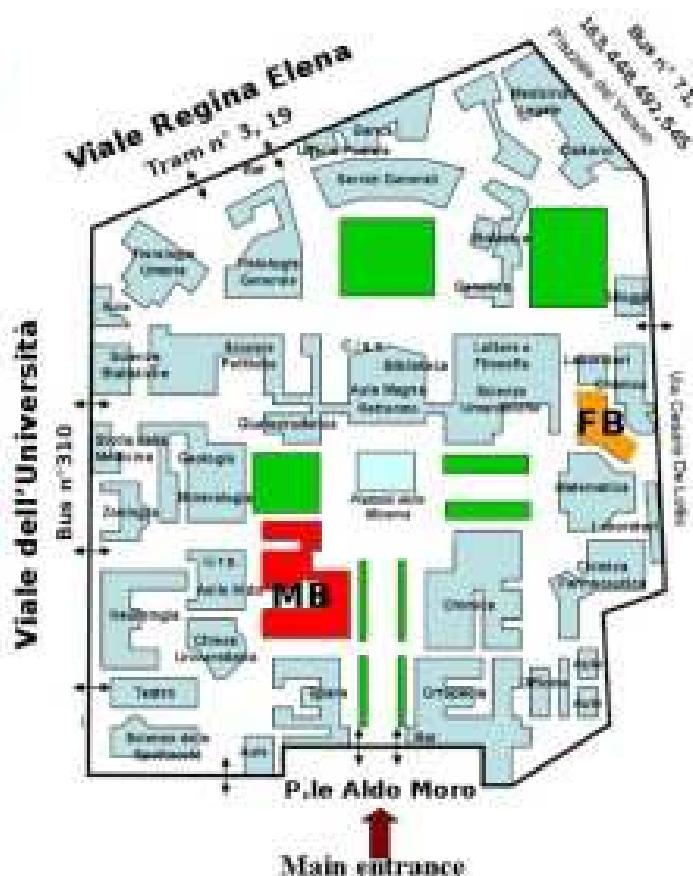


**Department of
Physics
Marconi building**



↑ Main entrance

↔ Other entrances



Information

Poster session

The poster session will be held on **Thursday 9 July from 17.30 to 18.30** adjacent to the Amaldi room (first floor).

Set up and removal times: Posters must be hung on Thursday 9 before 16.00 and removed on the same day at the end of the session (the panels will be removed afterwards).

Presenters are invited to stand by their posters during the poster session.

Best Presentation and Poster Awards

The “Best Talk & Poster Awards” ceremony will take place on Friday 10 July at 17.15.

The best presentation will be awarded of the Best Presentation Award (€ 500), funded by SPIE.

The best poster will be awarded of the Best Poster Award (€ 250), funded by EPS.

Wi-Fi

Access to free Wi-Fi Internet connection at the conference venue is available only for participants who completed the Wi-Fi registration before the conference.

After registration, you received an email with username and password to be used for login. Should you have difficulties in connecting to the Wi-Fi onsite, please try changing the browser and/or lowering your computer's security settings.

Social dinner

The social dinner will take place on **Wednesday 8 July at 20.00** at:



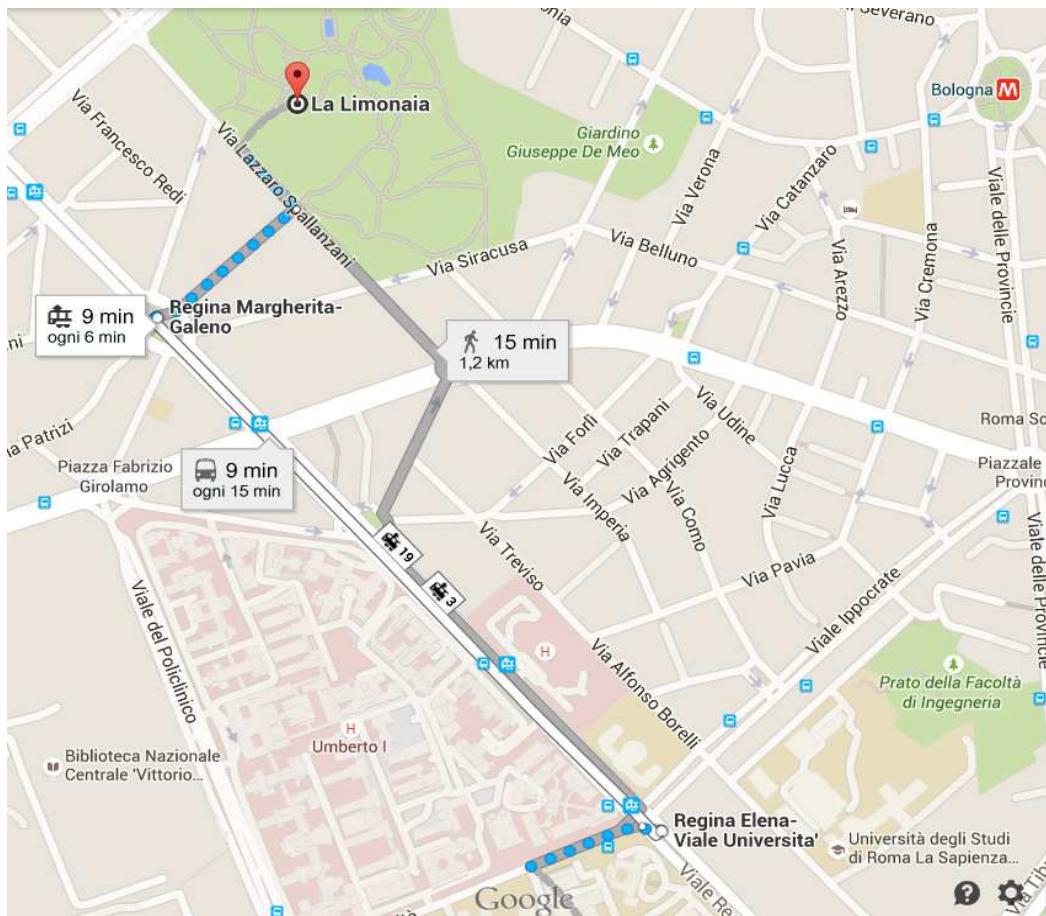
Restaurant La Limonaia

Via Lazzaro Spallanzani, 1A
00161 Roma

La Limonaia is a charming 19th century country house, with a beautiful view on the garden and a modern decoration.

The social dinner is included in the registration fee. Extra tickets for accompanying persons can be purchased at the secretariat desk by Tuesday 7 July at 16.00. The cost is € 40.00.

La Limonaia is in walking distance from the meeting location. It can also be reached by taking tram no. 3 (Direction *Valle Giulia*) or 19 (Direction *Risorgimento/San Pietro*) from tram stop *Verano De Lollis*. Get off at *Regina Margherita/Galeno*.



List of participants

Cristian Acevedo

CREOL, Florida, USA

Antonio Acin

ICFO, Spain

Unai Alvarez-Rodriguez

IKERBASQUE, Spain

Hakob Avetisyan

Univ. Minas Gerais, Brazil

Flavio Baccari

ICFO, Spain

Marco Barbieri

Università di Roma Tre, Italy

Marco Bellini

CNR-INO, Italy

Marco Bentivegna

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Gilberto Borges

Univ. Minas Gerais, Brazil

Joelle Boutari

University of Oxford, UK

Daniel J. Brod

Perimeter Institute, Canada

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UNINA/SPIE Chapter, Italy

Debora Caprara

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Filippo Cardano

Università di Napoli "Federico II", Italy

Gonzalo Carvacho

Università di Roma "La Sapienza", Italy

Mario Ciampini

Università di Roma "La Sapienza", Italy

Lewis Clark

University of Leeds, UK

Giacomo Corrielli

IFN-CNR, Italy

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Università di Roma "La Sapienza", Italy

Innocenzo De Marco

Università di Roma "La Sapienza", Italy

Lorenzo De Santis

CNRS, France

Giulia Digeronimo

Technical Univ. Eindhoven, The Netherlands

Hossein Dinani

Macquarie University, Australia

Christoph Dittel

University of Innsbruck, Austria

Ashraf M. Elhassan

Stockholm University, Sweden

Imad Faruque

University of Bristol, UK

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Cale Gentry

University of Colorado, USA

Flaminia Giacomini

University of Vienna, Austria

Vittorio Giovannetti

Scuola Normale Superiore, Pisa, Italy

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Università di Roma "La Sapienza", Italy

Marcello Graziosi

IFN-CNR, Italy

Chiara Greganti

University of Vienna, Austria

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Luca Innocenti	Thomas Meany
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Joshi Chaitanya	Gwenaelle Mélen
University of York, UK	LMU München, Germany
Eduardo Lages	Martina Miková
Univ. Minas Gerais, Brazil	Palacky University, Czech Republic
Anthony Laing	Nicola Montaut
University of Bristol, UK	University of Paderborn, Germany
Alexander Landowski	Tiago Monteiro Cardoso
Univ. Kaiserslautern, Germany	Università di Roma "La Sapienza", Italy
Ludovico Latmiral	Ekaterina Moreva
Imperial College, UK	INRIM, Italy
Roberto Leoni	Eoin Murray
IFN-CNR, Italy	Toshiba Research Europe, UK
Federico Levi	Giorgio Nocerino
Nature Communications, London, UK	UNINA/SPIE Chapter, Italy
Seth Lloyd	Roberto Osellame
Massachusetts Institute of Technology (MIT), USA	IFN-CNR, Italy
Tommaso Lunghi	Sebastiao Padua
CNRS, France	Univ. Minas Gerais, Brazil
Ilaria Maccari	Stefano Paesani
Università di Roma "La Sapienza", Italy	Università di Roma "La Sapienza", Italy
Maria Maffei	Mikko Partanen
Università di Napoli "Federico II", Italy	Aalto University, Finland
Luca Mancino	Mauro Paternostro
Università di Roma "La Sapienza", Italy	Queen's Univ. Belfast, N. Ireland, UK
Antigone Marino	Eduardo da Costa Paul
CNR-SPIN, Italy	Univ. Federal do Rio de Janeiro, Brazil
Lorenzo Marrucci	Vanessa Paulisch
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Francesco Mattioli	Michela Florinda Picardi
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IMT, Romania
Mauro Valeri
Università di Roma "La Sapienza", Italy
Panagiotis Vergyris
CNRS, France
Sviatlana Viarbitskaya
UMR CNRS-Université de Bourgogne,
France
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Universidad de Concepción, Chile
Oleh Yermakov
Ioffe Institute, Russia
Jonas Zeuner
University of Vienna, Austria

Funding & other supports

The school is financially supported by:



As part of the ITN training activities



University of Rome La Sapienza (Finanziamento Congressi, Seminari, Workshop- Anno 2015)



3D – Quantum Integrated Optical Simulation ERC grant



International Society For Optics And Photonics



SPIE Student Chapter, University of Naples Federico II



The European Physical Society

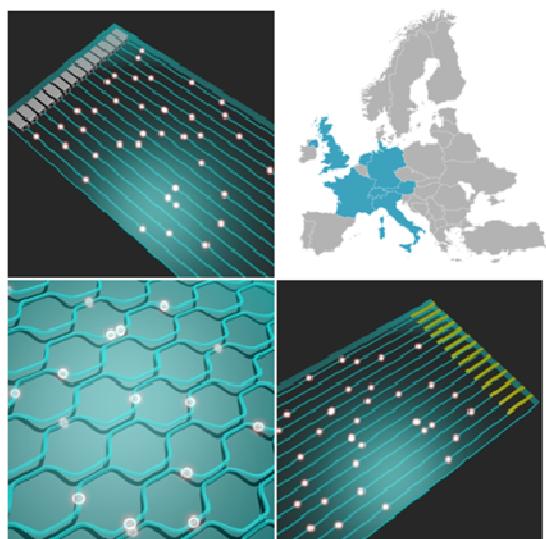
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PICQUE Project

Photonic Integrated Compound Quantum Encoding-PICQUE is a Marie Curie Initial Training Network involving 10 full partners and 8 associated partners from 7 different European countries, and aims at forming the new generation of quantum information scientists.



All the basic components of a photonic quantum processor will be addressed: generation, manipulation and detection of photon states. Particular attention will be devoted to potential applications and on how to interface all the different components. PICQUE will establish a world-class training platform spreading around the highly interdisciplinary/inter-sectorial European-led area of quantum integrated photonics. By pushing the development of quantum optical technologies we foresee results of interest also for standard optical technologies.

PICQUE Partners



SAPIENZA
UNIVERSITÀ DI ROMA



UNIVERSITY OF
OXFORD



UNIVERSITÄT PADERBORN
Die Universität der Informationsgesellschaft



Centre National
de la Recherche
Scientifique



FRIEDRICH-SCHILLER-UNIVERSITÄT
JENA



universität
wien

TU/e

Technische Universiteit
Eindhoven
University of Technology



Consiglio
Nazionale delle
Ricerche



University of
BRISTOL

TOSHIBA
Leading Innovation >>>



Funding Programme: FP7-PEOPLE-2013-ITN
Starting date: September 2013

Next PICQUE events

2016

Young Scientist Conference
Quantum Information with Photons
Bristol

Workshop
Quantum Simulation with Integrated Photonics
Vienna

Scientific School
Architectures for Quantum Photonic Circuits
Nice

2017

Final Conference
Integrated Quantum Photonics
Roma

Stay updated on PICQUE events!





Marie Curie Initial Training Network in
Photonic Integrated Compound Quantum Encoding

www.picque.eu

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