

# QTSpace



**First Conference and Working Group Meeting**

**Valletta (Malta), 27-31 March 2017**

## **PROGRAM**

	Mon. 27	Tue. 28	Wed. 29	Thu. 30	
9:00	MC Meeting	WG2: E Murphy (30) WG2: S Plant (30) WG2: S Schiller (30)	WG3: Guided discussions (30) WG4: B Leone (45) WG4: P Bianco (20)	Dinkelaker (25+5) Bedington (25+5) Pugh (25+5)	
9:30					
10:00					
10:30		Coffee break	Coffee break	Coffee break	
11:00	Coffee break	WG2: S Joshi (30) WG2: D Vitali (30) WG2: Guided discussions	WG4: M Lettner (30) WG4: Guided discussions(30)	Makarov (25+5) Oi (25+5) Zimboras (25+5)	
11:30	Plenary Session				
12:00					Quantum Technology in Space Roadmap Discussions
12:30	Lunch	Lunch		Lunch	
13:00					
13:30	WG1: S Donadi (30) WG1: D Bruschi (30) WG1: A Roura (30)	WG4: E Beckert (45) WG3: P Villoresi (45)	Lunch	Roediger (25+5) Guenthner (25+5) Dequal (25+5)	
14:00					
14:30					
15:00	Coffee break	Coffee break	Quantum Technology in Space Roadmap Discussions	Coffee break	
15:30	WG1: T Sumner (30) WG1: G Genta (30) WG1: Guided discussions	WG3: J Bateman (45) WG3: W von Klitzing (45)		Coffee break	Wrap-up: WGs
16:00				Carlesso (25+5) Gagatsos (25+5) Diosi (25+5)	
16:30					
17:00	Quantum Technology in Space Roadmap Discussions	Quantum Technology in Space Roadmap Discussions		Break	
17:30			Break	Closure	
18:00			Pelucchi (25+5) Arnold (25+5) Stefanov (25+5)		
18:30	Free-discussion time & posters	Free-discussion time & posters			
19:00					

## Sunday, March 26, 2017

Arrivals

## Monday, March 27, 2017

09:00 – 11:00 **MC Meeting**

11:00 – 11:30 Coffee Break

11:30 – 12:30 **Plenary**

12:30 – 13:30 Lunch

13:30 – 14:00 **WG1: S. Donadi**, “An introduction to spontaneous wave function collapse models and their experimental tests”

14:00 – 14:30 **WG1: D. Bruschi**, “Towards Relativistic and Quantum Technologies”

14:30 – 15:00 **WG1: A. Roura**, “Spacetime metric fluctuations and gravitational decoherence”

15:00 – 15:30 Coffee Break

15:30 – 16:00 **WG1: T. Sumner**, “Fundamental Physics Experiments in Space”

16:00 – 16:30 **WG1: G. Genta**, “Interstellar probes: are they feasible with present technology?”

16:30 – 17:00 **WG1: Guided Discussions**

17:00 – 18:30 **Quantum Technology in Space Roadmap discussions**

18:30 – 19:30 **Free discussion time and posters**

## Tuesday, March 28, 2017

09:00 – 09:30 **WG2: E. Murphy**, “Quantum engineering developments at ESA for future space missions”

09:30 – 10:00 **WG2: S. Plant**, “Towards precise measurements in space with cold atoms”

10:00 – 10:30 **WG2: S. Schiller**, “Mission I-SOC: an optical clock on the ISS”

10:30 – 11:00 Coffee Break

11:00 – 11:30 **WG2: S. Joshi**, “The Space Quest mission: Testing Gravitational Decoherence with Entanglement”

11:30 – 12:00 **WG2: D. Vitali**, “Cavity optomechanics: a playground for fundamental tests of physics”

12:00 – 12:30 **WG2: Guided discussions**

12:30 – 13:30 Lunch

13:30 – 14:15 **WG4: E. Beckert**, “Space-EPS- a space suitable engineering model of an entangled photon source”

14:15 – 15:00 **WG3: P. Villoresi**, “Study of Relativistic effects observed in Space Quantum Channel”

15:00 – 15:30 Coffee Break

15:30 – 16:15 **WG3: J. Bateman**, “Levitated optomechanics and optical fibre technology”

16:15 – 17:00 **WG3: W. von Klitzing**, “Atoms in space”

17:00 – 18:30 **Quantum Technology in Space Roadmap discussions**

18:30 – 19:30 **Free discussion time and posters**

## Wednesday, March 29, 2017

09:00 – 09:30 **WG3: Guided discussions**

09:30 – 10:15 **WG4: B. Leone**, “Quantum technologies at the European Space Agency”

10:15 – 10:35 **WG4: P. Bianco**, (TBA)

10:35 – 11:00 Coffee Break

11:00 – 11:30 **WG4: M. Lettner**, “Quantum Optics Experiments on the Hard Road to Space”

11:30 – 12:00 **WG4: Guided discussions**

12:00 – 13:00 **Quantum Technology in Space Roadmap discussions**

13:00 – 14:00 Lunch

14:00 – 15:30 **Quantum Technology in Space Roadmap discussions**

15:30 – 16:00 Coffee Break

16:00 – 16:30 **Workshop: M. Carlesso**, “Experimental bounds on collapse models from gravitational wave detectors”

16:30 – 17:00 **Workshop: C. Gagatsos**, “A fundamental limit in the capability of Gaussian systems in quantum metrology”

17:00 – 17:30 **Workshop: L. Diosi**, “When free-falling screen records interference and standing screen does not”

17:30 – 18:00 Break

18:00 – 18:30 **Workshop: E. Pelucchi**, “Quantum technologies in Ireland: entangled photon emission from scalable arrays of site-controlled quantum dots”

18:30 – 19:00 **Workshop: P. Griffin**, “Compact and rapid schemes for creation of ultracold and quantum degenerate gases”

19:00 – 19:30 **Workshop: A. Stefanov**, “Broadband energy entangled photons and their potential for space applications”

## Thursday, March 30, 2017

09:00 – 09:30 **Workshop: A. Dinkelaker**, “Towards diode laser systems for optical metrology on nanosatellites”

09:30 – 10:00 **Workshop: R. Bedington**, “Demonstrating miniaturised, entangled photon pair sources on board nanosatellites to enable future QKD missions”

10:00 – 10:30 **Workshop: C. Pugh**, “Airborne Demonstration of a Quantum Key Distribution Receiver Payload”

10:30 – 11:00 Coffee Break

11:00 – 11:30 **Workshop: V. Makarov**, “Performance and security of single-photon receiver for a quantum satellite”

11:30 – 12:00 **Workshop: D. Oi**, “Nanosatellites for Space Quantum Science & Technology”

12:00 – 12:30 **Workshop: Z. Zimboras**, “Quantum Communication with Satellites - complementing Quantum Optics with Space Weather considerations”

12:30 – 13:30 Lunch

13:30 – 14:00 **Workshop: J. Rödiger**, “Discrete-Variable Time-Frequency Quantum Key Distribution for Satellite Communication”

14:00 – 14:30 **Workshop: K. Günthner**, “Quantum-Limited Measurements of Optical Signals from a Satellite in Geostationary Earth Orbit”

14:30 – 15:00 **Workshop: D. Dequal**, “ASI HUB for quantum communication in space”

15:00 – 15:30 Coffee Break

15:30 – 16:30 **Wrap-up: WGs**

16:30 – 17:00 **Wrap-up: Roadmap**

17:00 – 17:30 Break

17:30 – 18:30 **Close**