



## 2019 SPIE Student Chapter Annual Report



*Andrea  
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*Chiara  
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*Alessia  
Suprano*



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Poderini*

**Prepared by:**

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President*

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+

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Secretary*

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*Davide Poderini  
Treasurer*

**Executive Summary:**

The University of Rome La Sapienza student chapter was established in November 2015. The chosen name of the chapter, RAYS, stands for Rome Association of Young Scientist and reflects the important role that young scientists have in divulgation of scientific knowledge.

The purpose of the chapter is to bring science at the attention of undergraduated students, mostly high-school ones, such that a true interest about science, focusing on optics, could rise in them. In order to do that, we go to different schools in Rome and nearby and show experimental demonstration of some funny and interesting effects that can be found in nature, concerning optics and quantum science.

This year we managed four events. First, we organized the Quantum Christmas relative to 2018 christmas, during which we organized talks by some of our ex members actually working in optics in different universities around Europe. Then, our member Taira Giordani gave a talk in the high school "Liceo A. Meucci" based in Aprilia, about quantum computing with some insight on working in the university as a PhD student in quantum optics. Then, our member Chiara Esposito participated to "SPIE Optics+Photonics" conference in San Diego from 11 to 15 August using the Office Travel Grant. For sure the milestone event of the chapter is the fourth event we managed: the organization of a satellite event of the conference QIM V (Quantum Information and Measurements V), helded in Rome from 4 to 6 April 2019.

Due to limited number of members, it was difficult to organize this event. For this reason, we are planning to perform an “hiring campaign” in order to include more people in the chapter activities.

For the next year we are planning to obtain the Optics Outreach Kit to increase the possible experimental demonstration that we usually show during school lessons.

**Contact Information:**

For general questions about our chapter, please email our chapter advisor, Fabio Sciarrino, at [fabio.sciarrino@uniroma1.it](mailto:fabio.sciarrino@uniroma1.it).

Facebook Page: <https://www.facebook.com/rayssapienza/>

Instagram: <https://instagram.com/rayssapienza?igshid=4ghmweg39l7r>

**2018 - 2019 Officer Listing:**

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### Student and Community Membership

At the time of this report, there are 10 student members affiliated to the RAYS – University of Rome La Sapienza student chapter.

Name	Email	Expected Grad Month/Year	SPIE Membership Expiration Date
Iris Agresti	<a href="mailto:iris.agresti@gmail.com">iris.agresti@gmail.com</a>	March 2020	28/12/2019
Chiara Esposito	<a href="mailto:c.esposito@uniroma1.it">c.esposito@uniroma1.it</a>	March 2022	29/11/2019
Andrea Geraldi	<a href="mailto:andrea.geraldi@uniroma.it">andrea.geraldi@uniroma.it</a>	March 2021	30/11/2019
Taira Giordani	<a href="mailto:taira.giordani@uniroma1.it">taira.giordani@uniroma1.it</a>	March 2020	27/12/2019
Michele Mancusi			29/11/2019
Davide Poderini	<a href="mailto:dapode@gmail.com">dapode@gmail.com</a>	March 2021	31/03/2020
Emanuele Polino	<a href="mailto:emanuele.polino@gmail.com">emanuele.polino@gmail.com</a>	March 2020	10/12/2019
Sahana Prasanna			11/7/2019
Alessia Suprano	<a href="mailto:alessia.suprano@hotmail.it">alessia.suprano@hotmail.it</a>	March 2022	28/11/2019
Mauro Valeri	<a href="mailto:mauro.valeri@uniroma1.it">mauro.valeri@uniroma1.it</a>	March 2021	5/12/2019

### Activities Report

#### Quantum Christmas 2018

**Organizer:** RAYS student chapter

**Speaker:** ex chapter members (8 speaker from 5 different universities)

**Date/Time/Location:** December 20-21, 2018 from 11 am to 15 pm in the Department of Physics, University of Rome La Sapienza, Cortini Room

**Participants:** 30 students (mostly graduates and PhDs, both chapter members and non-members)

**Cost:** 50€

Quantum Christmas was a two-days event meant to share results of research activities of ex members of the chapter. Eight talks had been organized along the event, four for each day. We had speakers from ICFO, TU Delft, Heriot Watt University, University of Wien and University of Bristol.

Both members and non members of the chapter attended the talks and were encouraged to share their opinions about the presented research activities. A discussions followed each talk, concerning possible developments that could rise from these scientific works. During discussion, some sweets had been offered by our chapter student to all the partecipants.

In order to have more attendees at the event, it would be great to announce the event at least one week before the beginning. Indeed the event had been presented only 3 days before it.

## 🌲 Quantum Christmas 🌲



*Figure 1: Speakers of the Quantum Christmas event. Seven of them are ex chapter student members.*

**Talk by Taira Giordani (2018/19 president of the chapter) about quantum computation**

**Organizer:** RAYS chapter student

**Speaker:** Taira Giordani, 2018/19 president of our chapter

**Date/Time/Location:** May 30, 2019 from 10-11 am in the high school “Liceo A. Meucci”, Aula Magna

**Participants:** 100

**Cost:** 20€



*Taira speaking about quantum mechanics during the event. The student were so interested in the talk!*

This event was part of a special day organized by the high school “Liceo A. Meucci” dedicated to physics and mathematics, during which some ex students of the high school are invited to talk about their current job inside these two fields. Taira Giordani presented a talk about Turing machine and its link with the quantum computer. It has been an opportunity to show what kind of job a PhD student working in quantum optics actually does. The students were excited to hear something funny and curious directly by someone working in the field of quantum information. This event could also be proposed to other schools, inviting them to dedicate a day to physics and mathematics.

## Partecipazione di Chiara Esposito to the FIO conference in Washington

**Organizer:** RAYS chapter student and SPIE

**Speaker:** Chiara Esposito

**Date/Time/Location:** August 11-15, 2019, San Diego, USA

**Participants:** 200

**Cost:** 30€

Chiara Esposito used the officier travel grant in order to partecipate to the “SPIE Optics+Photonics” conference in San Diego, USA. She had the opportunity to present her scientific work and the activities of the chapter. She also met a lot of people from different countries around the world. It was an opportunity to let other to know our chapter activities and for us to learn new ways of increase the chapter capabilities. The conference was wonderful, we really look forward to obtain the officier travel grant also for the next year, such that an other member of the chapter could do the same experience.



## Quantum Leap: from academia to industry

**Organizer:** RAYS chapter student

**Speaker:** former PhDs and researchers, currently working on the field of optics

**Date/Time/Location:** April 3, 2019 from 15.00 to 19.00, University of Rome La Sapienza, Aula Magna Regina Elena

**Participants:** 60

**Cost:** 400€

This was a satellite event of the conference Quantum Information and Measurement V, helded in Rome from 4 to 6 of April in 2019. The event was meant to give an overview over the job opportunities to which European young researchers can aim, outside academia. Hence, the invited speakers were former PhD students, that are currently employed in scientific journals editorship, optics hardware development and sale and software developments. We promoted the professional development opportunities provided by the optical societies such as SPIE to get in touch with people of the same field and have the chance to be updated on the latest job openings.



*Andrea and Taira introducing the speaker Niccolò Somaschi, Quandela founder.*

## Treasurer's Report

Date	Description	Notes	Credit (Income)	Debit (Expenses)	Total
1/1/2019	Previous Year's Funds				\$1652,63
	Everything in Between			550	\$550
12/31/2019	Anticipated End of Year Balance		1102,39		\$1102,39

Date	Description	Notes	Credit (Income)	Debit (Expenses)	Total
1/1/2019	Previous Year's Funds				\$1652,39
20-21/12/2019	Quantum Christmas	Coffe break		\$55	\$1597,39
3/4/2019	Quantum Leap	Dinner		\$440	\$1157,39
30/5/2019	High school talk Liceo A. Meucci	Transport		\$22	\$1135,39
11-15/8/2019	San Diego conference	Poster		\$33	\$1102,39
12/31/2019	Anticipated End of Year Balance				\$1102,39

\*Anticipated funding amounts based on chapter budget and last year's costs/incomes.

### Conclusions and Recommendations

This year the chapter organized two main events, namely Quantum Christmas and Quantum Leap: from academia to industry. The organization was difficult mostly due to the low number of chapter members. We are looking forward to increase the size of the chapter, such that more events can be organized during the year.

It is out of doubt that for the next year we need to organize more visits to high schools in order to fulfill the aim of our chapter, namely divulgation of scientific knowledge. For this purpose it would be good to apply for the Optics Oureach Kit, in order to have more feasibility in the experiment we can perform during our divulgation lessons.