



# 40th International Free-Electron Laser Conference

**Trieste, Italy | August 22-26 2022**  
[www.fel2022.org](http://www.fel2022.org)

# Proceedings

Hosting Organization



Elettra Sincrotrone Trieste

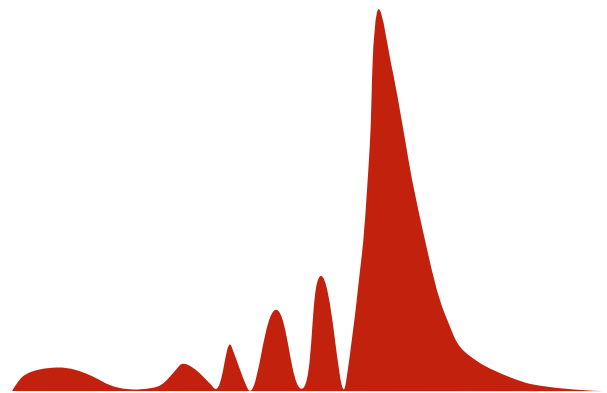


# FEL2022

**40<sup>th</sup> International Free Electron Laser Conference  
Trieste, Italy | August 22-26, 2022**

## PROCEEDINGS

**[www.fel2022.org](http://www.fel2022.org)**

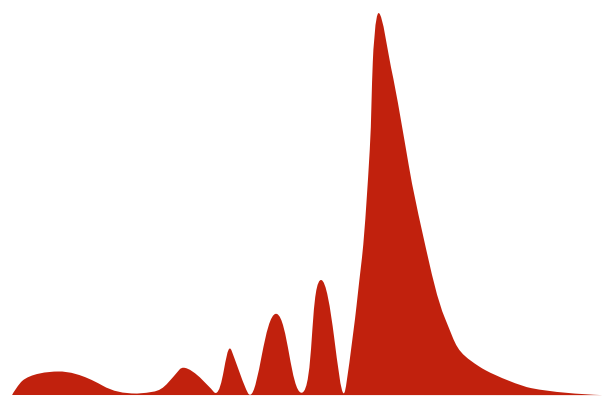




# Table of contents

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Preface	VII
Conference Organization	VIII
Sponsors	X
Conference Photos	XIII
Index of the Proceedings	XXI



# FEL2022

## Preface

We present the proceedings of FEL2022, the 40th International Free-Electron Laser Conference held from August 22nd to August 26th in Trieste, a multi-cultural city, well renowned for its writers, artists and food, a city well-worth discovering, as did famous James Joyce and several other distinguished writers a century ago. The conference was organized by Elettra-Sincrotrone Trieste, the international, multidisciplinary research center specialized in the generation of synchrotron and free-electron laser radiation together with their applications in material and life sciences.

Considering the prevailing circumstances, the conference achieved a remarkable level of participation. We were aware of the challenging global pandemic situation, which resulted in the exclusion of some countries and significantly limited the involvement of others. Despite these challenges, the exceptional work carried out by the Scientific Program Committee (SPC) ensured the quality of the oral presentations, engaging discussions, and the consistent involvement of attendees in all sessions. This dedication undoubtedly contributed to the success of the event.

The conference brought together approximately 260 individuals, including exhibitors and the dedicated support team from Elettra-Sincrotrone Trieste. Throughout the event, we witnessed 66 outstanding oral presentations (including 6 delivered remotely), featured 30 exhibitors, sponsored 14 students, showcased 180 posters during the dedicated poster sessions, and hosted the LEAPS-INNOV Workshop, which attracted 11 participants.

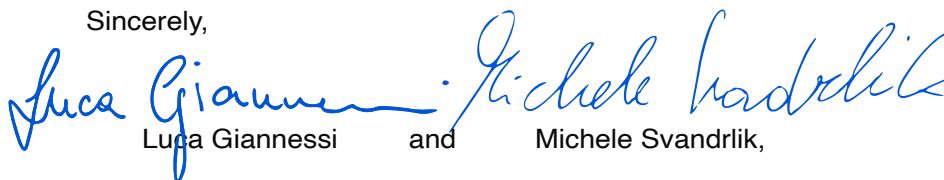
We wish to extend our sincere appreciation to the industrial companies that demonstrated great interest in the conference by presenting their exhibitions and providing vital support. Their contributions were instrumental in creating a venue with ample spaces and a high level of professionalism, enriching the overall conference experience. Furthermore, we would like to express our gratitude to the institutions that generously offered a number of student fellowships. These fellowships played a crucial role in enabling young scientists to attend the conference, providing them with valuable opportunities to learn, network, and contribute to the scientific community. Their presence and active participation added a dynamic and vibrant dimension to the event.

The conference offered participants a unique opportunity to explore the remarkable facilities of Elettra and FERMI. The organized visit, which attracted approximately 150 attendees divided into five groups, allowed participants to gain firsthand experience and insights into the fascinating world of these advanced scientific installations.

In addition to the visit, another significant highlight of the conference was the memorable social dinner held at the Stazione Marittima of Trieste. This evening brought together participants in an atmosphere of camaraderie, fostering networking opportunities and celebrating the outstanding accomplishments within the field of Free-Electron Lasers. The event provided a platform for attendees to connect, exchange ideas, and strengthen professional relationships, contributing to the vibrant and collaborative spirit of the conference. During this special occasion, we had the privilege of awarding the prestigious FEL prize to Brian W. J. McNeil and Ying K. Wu for their exceptional achievements and significant contributions to the advancement of Free-Electron Lasers. Their groundbreaking work has propelled the field forward, inspiring researchers and shaping the future of FEL technologies. In addition, we were thrilled to present the Young Scientist Award to Svitozar Serkev, Yawei Jan, and Zen Zhang to acknowledge their outstanding achievements at an early stage of their careers, highlighting their potential and promising contributions to the field.

We hope that these proceedings capture the spirit of FEL2022, serving as a valuable resource for all attendees and the broader scientific community.

Sincerely,



Luca Giannessi and Michele Svandrik,

Conference Chairs

# Conference Organization

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 Mikhail Yurkov (DESY)  
 Marie-Emmanuelle Couprie (Soleil)  
 Hiroyuki Hama (Tohoku Un.)



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Joerg Rossbach (DESY& Hamburg University)  
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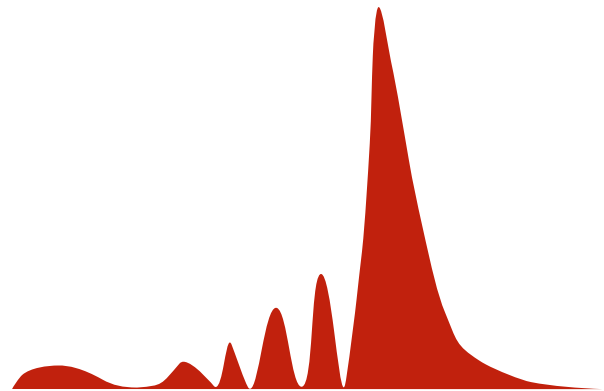
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# FEL2022

## Conference Sponsors

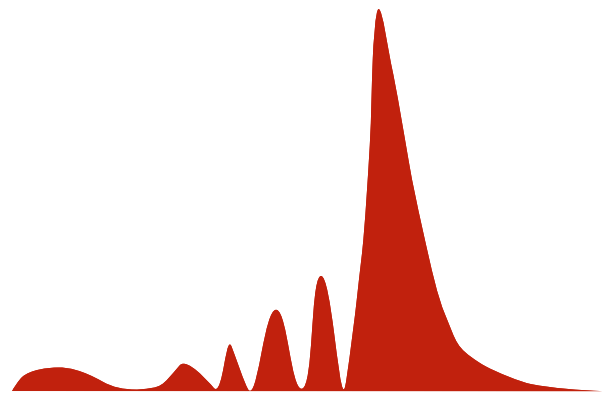
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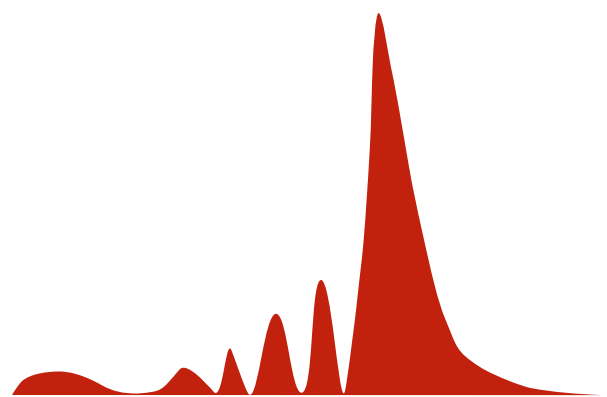


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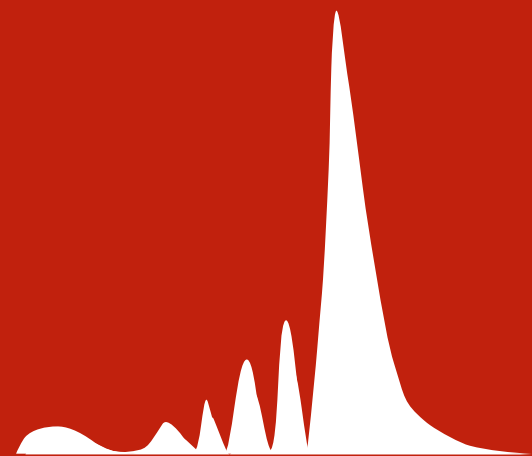
## Student grants supporting institutes

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# Conference Photos

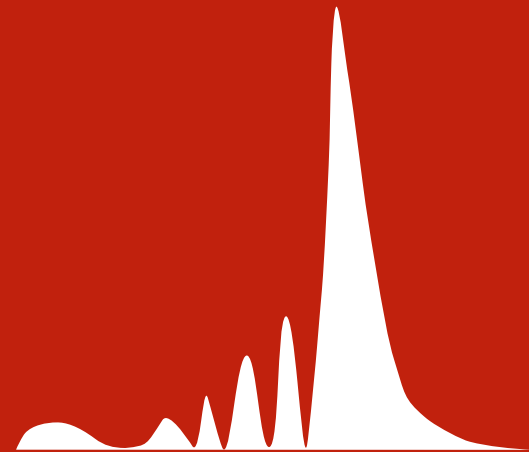




Group photo



Conference location: Trieste Convention Center





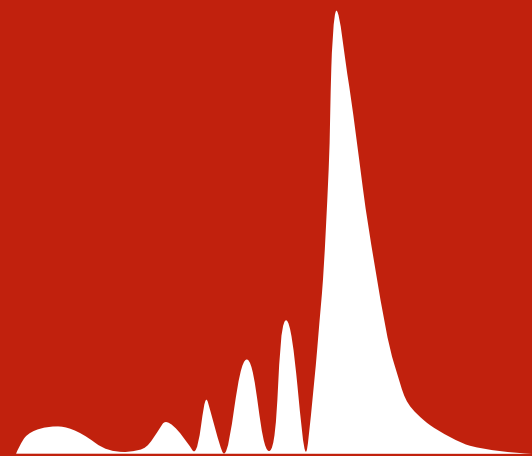
Group photo



Stazione Marittima



Conference dinner at Stazione Marittima



# 2022 FEL Prize

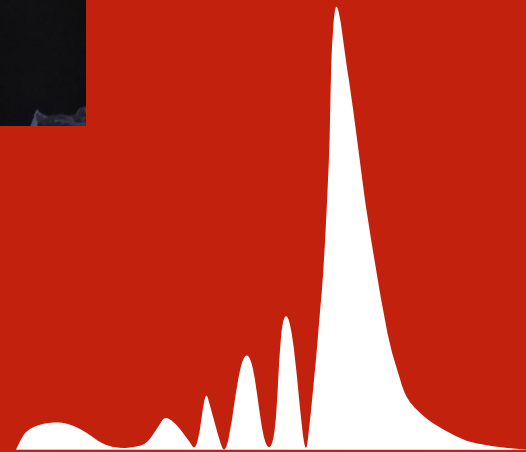
The prestigious FEL prize was awarded to Brian W. J. McNeil and Ying K. Wu for their exceptional achievements and significant contributions to the advancement of Free-Electron Lasers.



Brian W. J. McNeil receives the 2022 FEL Prize from Zhirong Huang, Chair of the FEL Prize Committee.



Ying K. Wu receives the 2022 FEL Prize from Zhirong Huang, Chair of the FEL Prize Committee.





# 2022 FEL Young Scientist Awards



Svitozar Serkev receives the 2022 FEL Young Scientist Award from Zhirong Huang, Chair of the FEL Prize

Yawei Jan receives the 2022 FEL Young Scientist Award from Zhirong Huang



Zen Zhang receives the 2022 FEL Young Scientist Award from Zhirong Huang

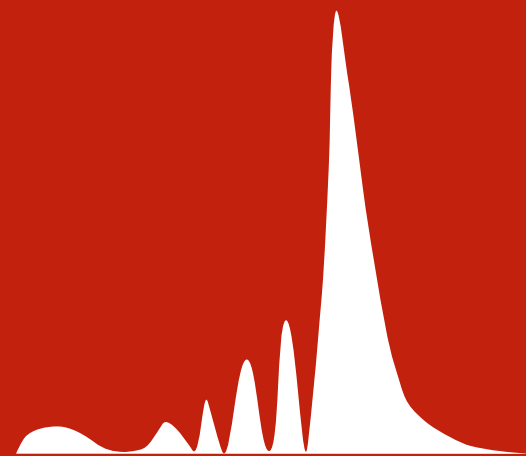
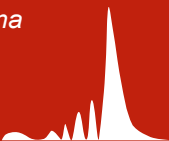




Photo by Massimo Goina

## Past FEL Prize Winners at the 2022 FEL Prize Ceremony





Pavel  
Evtushenko

Yawei Jan

Svitozar Serkev

Zen Zhang

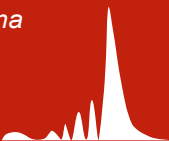
Marie Labat

Eugenio Ferrari

Joseph Duris

Photo by Massimo Goina

## Young Scientist Award Winners at the 2022 FEL Prize Ceremony



# FEL 2022

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