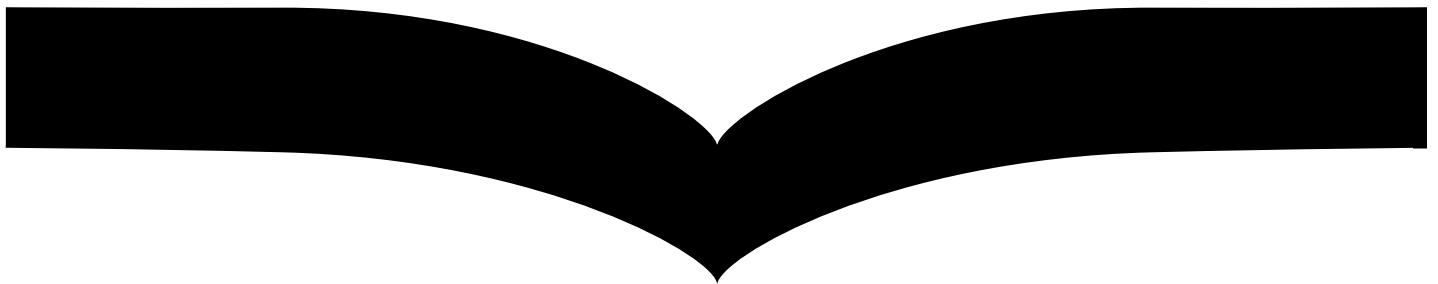


The winners of the Student Paper Competition will be announced as part of the closing ceremony of SBFoton IOPC 2025. The top five students will receive a certificate of achievement from SBFoton and US\$ 2.500,- from the competition sponsor (IEEE Photonics Society), distributed as follows:

- **1st place:** US\$ 1.000,-
- **2nd and 3rd place:** US\$ 500,- each
- **4th and 5th place:** US\$ 250,- each

SBFoton will also offer a certificate of achievement with an Honorable Mention Student Paper Award to the students with high final scores out of the top five.



PLENARY SPEAKERS



Vanderlei S. Bagnato

Presentation: From basic research with atoms and molecules to the applications of light in life sciences: the trajectory of CEPOF and its innovations

Full professor at IFSC-USP. Member of the Brazilian Academy of Sciences, TWAS, the National Academy of Science of the USA and the Pontifical Academy of Sciences of the Vatican

Abstract

At the Optics and Photonics Research Center, the basic focus is the interaction of light with matter in various aspects. Understanding the fundamentals creates the conditions for us to carry out the most diverse applications. By investigating cold atoms, we have built a solid base of instrumentation and precision optics that made it possible to build the first Brazilian atomic clock and, in addition, to investigate many-body quantum systems such as Bose-Einstein condensates. With the accumulated knowledge of collisions between excited atoms and their energy transfer effects, we began investigating photodynamic reactions, which led to applications in cancer treatment and microbiological control, and more recently to the breaking of bacterial resistance to antibiotics. Throughout this trajectory, we have always taken advantage of everything possible to transform the knowledge generated into applications and technological innovations with companies. Throughout this presentation, we will take a tour of the various developments that we are currently working on with around 120 people working in the Center's various laboratories, as well as a description of the formation of more than 40 companies with over 60 products on the market. We will also talk about the future planned for the new center of excellence created by USP.

Biography

Vanderlei S. Bagnato, is a Physicist from USP (1981) and a Materials Engineer from UFSCar (1981), with a PhD from MIT (1987). He is currently a full professor at IFSC-USP. He works in the areas of optics, atomic and molecular physics with cold atoms and biophotonics. He has published more than 800 scientific papers and supervised more than 130 graduate students. He has received several national and international awards. He is a member of the Brazilian Academy of Sciences, TWAS, the National Academy of Science of the USA and the Pontifical Academy of Sciences of the Vatican. He has several international collaborations and is currently a professor at Texas A&M University. He coordinates several projects such as CEPID-FAPESP, INCT-CNPq, Embrapii and SisFoton, among others.
