



New Faculty Member and Group Leader

Dr. Nicoletta Liguori will join ICFO from LaserLab of the Vrije Universiteit Amsterdam

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ICFO's NEST program, supported by Fundacio Cellex and Fundacio Mir-Puig, allows the institute to offer outstanding opportunities for young scientists aiming to start and lead an independent research group. We are very pleased to announce a new member of the program, Dr Nicoletta Liguori, who will join ICFO as a new faculty member and Group Leader, coming from the Vrije Universiteit Amsterdam. Nicoletta will lead a program focused on Photon-Harvesting in Plants and Biomolecular Systems.

Dr Nicoletta Liguori is currently a postdoctoral research associate in the LaserLab of the Vrije Universiteit Amsterdam (NL). Nicoletta is a physicist with experimental and computational experience in (bio)molecular physics. She graduated cum laude in Physics at the Universita degli Studi Roma Tre (IT), after completing a master thesis in molecular dynamics (MD) simulations in the group of Teresa Head-Gordon at UC Berkeley (US). For her PhD, she joined

the group of Biophysics of Photosynthesis headed by Roberta Croce at the VU Amsterdam (NL). In her PhD project, Nicoletta combined several spectroscopic approaches, especially ultrafast spectroscopy, with MD simulations to investigate how the light-harvesting complexes of plants and algae turn photoprotective mechanisms on. She obtained in 2018 a prestigious national NWO VENI grant that allowed her to establish her independent research line in the LaserLab of the VU Amsterdam. Nicoletta's current focus is on developing methods to study the functional response of photoactive (bio)molecules to changes in pH. To this end, Nicoletta has developed a novel ultrafast multipulse spectroscopic tool that she is now combining with a mix of state-of-the-art computational methods. In February 2022 she will start as Principal Investigator at ICFO within the NEST Fellow Program, with a research line that will focus on Photon-Harvesting in Plants and Biomolecular Systems.

The research program that Nicoletta will develop at ICFO will be aimed at understanding how changes in light, structure and environment regulate the molecular mechanisms of photoactive (bio)molecular systems. Her group will specifically develop and apply innovative spectroscopic methods tailored to: i) induce in a controlled way the physiological changes that photoactive molecules experience in their natural environment, and ii) probe in real time how, and how fast, photoactive molecules respond to such changes and switch their function on/off. Her group will combine these experimental tools with cutting edge MD-based methods, to obtain structural detail of such molecular switches. The group's research output can potentially refine our fundamental knowledge of how living and artificial systems sense and respond at the molecular level to changes in light and environment. This information can also be essential for future rational design of (bio)inspired molecular sensing systems.