UNIVERSITÉ DE FRIBOURG
UNIVERSITÄT FREIBURG

Prof. Guillermo Acuna
Photonics Nanosystems Group
Physics Department, University of Fribourg

Fully funded Ph.D. positions (4 years)

DNA Nanotechnology for Nanophotonics:

Chiral sensing with high-index dielectric nanoparticles

Our interdisciplinary group works at the boundary between DNA nanotechnology and Nanophotonics for a wide variety of applications ranging from quantum optics to diagnostics. Recently, we pioneered the assembly of high-index dielectric nanoparticles exhibiting both magnetic and electric resonances using the DNA origami technique [doi.org/10.1021/jacs.4c03833]. We are now looking for outstanding Ph.D. candidates to exploit this new technology to construct nanodevices for chiral sensing. This will require both the design, fabrication and characterization of DNA-based optical antennas together with functionalization of analytes and the development of advanced optical measurements.

Your Profile:

- Masters or Diploma in Physics, Chemistry, Biotechnology, Engineering or related fields
- Outstanding academic achievements and relevant experimental research experience
- Understanding of nanophotonics and/or DNA nanotechnology
- Excellent communication skills and proficiency in English

We offer: Internationally competitive salaries (starting at 58'000 CHF/year for PhD students, including pension and social charges) that ensure an excellent standard of living. Work in an interdisciplinary, multicultural and dynamic environment with state-of-the-art technology and application relevant research questions. Collaborations, including planned research stays, with Prof. Albella (Santander), Prof. Stefani (Buenos Aires) and Prof. Garcia-Etxarri (San Sebastian) and Prof. Hiroshi Sugimoto (Kobe).

Start Date: End of 2024/beginning of 2025 (Flexible)

Applications and inquiries: Please contact Prof. Guillermo Acuna, guillermo.acuna@unifr.ch

Deadline: 31st of October. Applications will be reviewed starting in September, apply as soon as possible.

https://sites.google.com/view/group-acuna/home

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