

Nissrine ALHELOU

Postdoctoral researcher



Contact

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Nationality:

French-Lebanese

Languages

Fluent Arabic (Mother Tongue).

Good English (Spoken and Written).

Very Good French (Spoken and Written).

Computer skills

COMSOL multiphysics, Matlab, OriginPro, C++, MS Office.

Summary

Postdoctoral researcher with 2 years in fellowship at "Group of Physics of Materials (GPM)".

Innovative, hardworking and result oriented research scientist with expertise in the domains of optics, lasers, light-matter interaction and microscopy.

Diligent to deadlines of multiple tasks to ensure completion of projects goals with good experience in mentoring and leadership skills.

Work Experience

Postdoctoral researcher - 01/2019 - Present

Group of physics of Materials (GPM), CNRS, University of Rouen

Project 1: Enhancement of the luminescence of rare earth ions for photovoltaic applications.

Project 2: Designing nanoparticles during the drawing of optical fibers.

- Atomic scale characterization of materials for applications in the fields of **photonics**, **nanotechnologies** and **photovoltaics**.
- Preparation of samples for analysis by using focused ion beam scanning electron microscope (**FIB-SEM**).
- Characterization of materials by coupling the **atom probe tomography** and the **cathodoluminescence**.

PhD student - 10/2015 to 09/2018

Laboratory of Physics of Lasers, Atoms and Molecules (PhLAM), University of Lille

Thesis title: "Study of glasses for fibred dosimetry of ionizing radiations".

- Development and characterization of a new fibred dosimeter.
- Characterization of the materials by different spectroscopic techniques: **absorption**, **Raman**, **photoluminescence** and **electron paramagnetic resonance**.
- Simulation of the luminescence response of the materials.
- Manage external collaboration with different academic institutions.
- Planning and management of experiments.
- Communication skills leading to many publications and international conferences.

Intern - 03/2015 to 06/2015

Laboratory of Physics of Lasers, Atoms and Molecules (PhLAM), University of Lille

Project: "Nano-aggregates of silver in sol-gel thin films for photovoltaic conversion".

Intern - 04/2014 to 07/2014

Lebanese University- Faculty of science 2

Project: "A review of spasers".

Education

PhD in physics, 2018, **University of Lille, Laboratory of Physics of Lasers, Atoms and Molecules (PhLAM).**

Master 2 - Physics, **Light and matter, 2015, Double degree between the Lebanese University-Faculty of science 2 and the University of Lille.**

Master 1- Physics, **Laser, 2014, Lebanese University-Faculty of science 2.**

Bachelor of Physics, 2013, **Lebanese University-Faculty of science 2.**

Teaching Experience

Teaching assistant, 2016-2018, **University of Lille.**

Presenter at Xperium, 2015-2016, **University of Lille.**

Teacher at Espace scolaire, 2013-2014, **Zalka, Lebanon.**

Teacher at Mentalist, 2012-2013, **Jounieh, Lebanon.**

Publications

1. **N. Al Helou**, H. El Hamzaoui, B. Capoen, G. Bouwmans, A. Cassez, Y. Ouerdane, A. Boukenter, S. Girard, and M. Bouazaoui, "Optical responses of a copper-activated sol-gel silica glass under low-dose and low-dose rate X-ray exposures", *OSA Continuum*, Volume 2, Issue 3, 563-571, 2019.
2. **N. Al Helou**, H. El Hamzaoui, B. Capoen, Y. Ouerdane, A. Boukenter, S. Girard, M. Bouazaoui, "Effects of ionizing radiations on the optical properties of ionic copper-activated sol-gel silica glasses", *Optical Materials*, Volume 75, Pages 116-121, 2018.
3. **N. Al Helou**, H. El Hamzaoui, B. Capoen, G. Bouwmans, A. Cassez, Y. Ouerdane, A. Boukenter, S. Girard, G. Chadeyron, R. Mahiou, M. Bouazaoui, "Radioluminescence and Optically Stimulated Luminescence Responses of a Cerium-doped Sol-gel Silica Glass under X-ray Beam Irradiation", in *IEEE Transactions on Nuclear Science*, Volume 65, Issue 8, Pages 1591-1597, 2018.
4. H. El Hamzaoui, B. Capoen, **N. Al Helou**, G. Bouwmans, Y. Ouerdane, A. Boukenter, S. Girard, C. Marcandella, O. Duhamel, G. Chadeyron, "Cerium-activated sol-gel silica glasses for radiation dosimetry in harsh environment", *Materials Research Express*, Volume 3, Number 4, 2016.
5. M. Benabdesselam, F. Mady; A. Guttilla, W. Blanc, H. El Hamzaoui, M. Bouazaoui, **N. Al Helou**, J. Bahout, G. Bouwmans, B. Capoen, "Investigation of Thermoluminescence Properties of Potential Fibered-OSL Dosimeter Materials," in *IEEE Transactions on Nuclear Science*, Volume 67, Number 7, 2020.

References

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