Time and Frequency Laboratory
Physics Institute
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PHD POSITION
IN ATOMIC CLOCKS – QUANTUM TECHNOLOGIES

The group of Prof. G. Mileti at the Time-Frequency Laboratory (www.unine.ch/physique) of the University of Neuchâtel conducts basic and applied research in the fields of compact atomic clocks (based on hot or laser-cooled atomic samples), miniature atomic clocks and related technologies such as stabilized laser systems (field of quantum technologies). Our activities cover a wide range of interests, from basic research to industry collaborations and space-related projects.

In the frame of these activities we are looking for a motivated PhD candidate to work on the topic of a compact cold-atom clock. Other topics may be available on request. The research work is mostly experimental, supplemented with theoretical work and data analysis. Teaching duties according to University rules are also part of this PhD position.

Position Details

- Starting Date: Immediately available or by arrangement.
- Duration: 4 years.
- Location: Neuchâtel (Switzerland), with potential missions to scientific conferences and international partners for collaborative work. Neuchâtel is in the French-speaking part of Switzerland, between Lake Neuchâtel and the Jura Mountains, offering a high quality of life and good connections to Zürich and Geneva (and their airports).
- Salary: Competitive annual income starting around 60,000 CHF.

Requirements

- Master's degree in physics or related engineering disciplines.
- Background in experimental or theoretical physics, ideally with knowledge in atomic and quantum physics, laser physics and spectroscopy.
- Programming and/or electronics competences are desirable.
- Good knowledge in English and at least basic knowledge in French (as teaching and working language).

Application

Interested candidates are requested to submit the following documents:

- Curriculum vitae (CV) ;
- Motivation letter (1 page maximum) ;
- Bachelor and Master's degree transcript (with courses followed);
- Brief summary of the Master's thesis and eventual internships;
- Contact information for two or more references (recommendation letters are encouraged).

Please, send your application to secretariat.physique(at)unine.ch with the subject line "PhD Application Atomic Clocks". For any questions, feel free to reach out via the same email.

We look forward to hearing from you.

Background information:

Publications on our on-going research:

https://journals.aps.org/prapplied/pdf/10.1103/PhysRevApplied.18.054039

https://www.nature.com/articles/s41598-024-51418-8

https://pubs.aip.org/aip/jap/article/133/22/224401/2895271

Context of our on-going research:

https://iopscience.iop.org/article/10.1088/1681-7575/ad17d2

https://pubs.aip.org/avs/aqs/article/5/1/019201/2879127

https://www.sciencedirect.com/science/article/pii/S0273117720306414

Public presentations on our research area:

https://www.unige.ch/theologie/a_ciel_ouvert/enseignement-1/enseignements/cours-transversal-dau-tomne-2024-voyages-au-coeur-du-temps (conférence du 10 octobre 2024)

https://cast.unine.ch/permalink/v12688af290c04tq701z/iframe/

https://www.youtube.com/watch?v=a3oEHiU8-hg