



UNIVERZA V NOVI GORICI  
Vipavska cesta 13, 5000 Nova Gorica

The University of Nova Gorica announces the opening of the following position:

**RESEARCH FELLOW working at the development and use of a light source based on laser high-order harmonic generation (HHG) in gas.**

The University of Nova Gorica is engaged in the development of a new light source for ultra-fast fundamental and applied science, generating tunable, intense, femtosecond pulses in the spectral range from IR to XUV. The XUV pulses (about  $10^5$ - $10^6$  photons/pulse in the range 14-80 eV) are produced by laser-induced high-order harmonic generation in gas. The tunable IR-UV pulses ( $10^{12}$ - $10^{15}$  photons/pulse in the range 0.4-5.6 eV) are generated by an optical parametric amplifier, which is driven by a fraction of the same laser pulse that generates high order harmonics. The IR-UV and XUV pulses follow different optical paths and are eventually recombined on the sample for pump-probe experiments. The new light source will become the fulcrum of a new center located at the University of Nova Gorica, active in a wide range of scientific fields, including materials science, catalysis, biochemistry and magnetism.

The hired researcher will join the team of the Laboratory for Quantum Optics (...), which is presently implementing the project CITIUS (co-financed in the framework of the Program for cross-border cooperation Italia-Slovenia 2007-2013, <http://www.ita-slo.eu>) and CENILS (co-financed in the framework of the Central Europe Initiative, <http://www.central2013.eu/>).

**Job tasks:**

- Design and execution of experiments aimed at characterizing and optimizing the light generated by the source.
- Execution of the experiments foreseen in the framework of the CITIUS and CENILS projects.
- Design and implementation of new optical schemes aimed at improving the capability of the source for pump-probe experiments.
- Establishment of collaborations with local, national and international research groups.

For more information about CITIUS and CENILS activities, contact: Giovanni De Ninno ([giovanni.de.ninno@ung.si](mailto:giovanni.de.ninno@ung.si)).

**Contract duration:**

The contract will have an initial duration of one year, with the possibility of a further extension. Annual salary will be competitively offered based on the level and experience of the applicant, and will include full employee benefits.

**Candidates must:**

- Hold a PhD in the field of nonlinear optics and have proven experience with lasers and laser-based sources.
- Demonstrate a well-developed capability to promote and carry out independent activities within a research group.
- Be author of high-quality scientific papers.
- Show very good (oral and written) communication skills in English.

**The application must include:**

- A cover letter.
- The CV.
- The list of most relevant publications.
- Two recommendation letters.
- Candidates are strongly encouraged to provide a general plan of the research activity they intend to carry out (max 2 pages).

Candidates must send their applications by normal post to the following address:

*University of Nova Gorica, Vipavska cesta 1, 5000 Nova Gorica*

*e-mail: [tea.stibilj.nemec@ung.si](mailto:tea.stibilj.nemec@ung.si).*

and by email to Giovanni De Ninno ([giovanni.de.ninno@ung.si](mailto:giovanni.de.ninno@ung.si)).

Application deadline is **15. 12. 2013**.

**Contacts:**

Tea Stibilj Nemec, telephone: 05-33 15 261, email: [tea.stibilj.nemec@ung.si](mailto:tea.stibilj.nemec@ung.si)

Giovanni De Ninno, email: [giovanni.de.ninno@ung.si](mailto:giovanni.de.ninno@ung.si)