

# Post-doctoral position in Physics

Lunds universitet, Lunds Tekniska Högskola, Fysiska institutionen

Lund University was founded in 1666 and is repeatedly ranked among the world's top 100 universities. The University has 40 000 students and 7 400 staff based in Lund, Helsingborg and Malmö. We are united in our efforts to understand, explain and improve our world and the human condition.

LTH forms the Faculty of Engineering at Lund University, with approximately 9 000 students. The research carried out at LTH is of a high international standard and we are continuously developing our teaching methods and adapting our courses to current needs.

The Department of Physics is with a staff of about 350 scientists and educators one of the largest departments within Lund University. There are seven research divisions and a number of research centra within the department. The research activities at the department cover a broad spectrum of modern physics. [www.fysik.lu.se/english](http://www.fysik.lu.se/english).

The Division of Atomic Physics at the Faculty of Engineering (LTH), Lund University, Sweden has a staff of over 50 researchers including guest researchers and graduate students. The research at the division is mainly based on the use of lasers, ranging from diode lasers to terawatt lasers at the High-Power Laser Facility. Some areas of research are: physics with high intensity laser pulses, attosecond science. VUV/XUV laser spectroscopy, quantum electronics, quantum optics and solid state spectroscopy, applied molecular spectroscopy, laser applications in medicine and biology, and industrial applications. More information can be found at <http://www.atomic.physics.lu.se/>.

At the Lund Attosecond Science Center, three attosecond sources are being developed and used for applications: An intense attosecond beamline with output energies in the microjoule range for XUV-XUV pump/probe experiments, an attosecond source based on a 1 kHz repetition rate titanium sapphire laser system used in interferometric measurements and a high-repetition rate (200 kHz) system based upon Optical Parametric Chirped Pulse Amplification (OPCPA) technology. Our scientific goal is to study ultrafast dynamical processes in a variety of systems ranging from atoms and molecules in gas phase to nanostructures on surfaces.

**Subject description** We are looking for a postdoctoral fellow

- to develop an isolated attosecond pulse source and its applications, using few-cycle laser pulses obtained after post compression from a 1-kHz titanium sapphire laser system
- to develop the intense attosecond beam line in order to do XUV-XUV pump/probe experiments.

**Work duties** The main duties involved in a post-doctoral position is to conduct research. Teaching may also be included, but up to no more than 20% of working hours. The position shall include the opportunity for three weeks of training in higher education teaching and learning.

The work will be to operate a femtosecond titanium-sapphire laser system, generate attosecond pulses by high-order harmonic generation in gases, transport and manipulate XUV radiation, and perform applications in atomic and molecular systems in gas phase. The work may include both temporal and spatial characterization of ultrashort XUV pulses. Supervision of master degree projects and PhD students is expected.

**Qualification requirements** Appointment to a post-doctoral position requires that the applicant has a PhD, or an international degree deemed equivalent to a PhD, within the subject of the position, completed no more than three years before the last date for applications. Under special circumstances, the doctoral degree can have been completed earlier.

Additional requirements:

- Very good oral and written proficiency in English.
- Experience with femtosecond laser systems and/or XUV radiation

**Assessment criteria and other qualifications** This is a career development position primarily focused on research. The position is intended as an initial step in a career, and the assessment of the applicants will primarily be based on their research qualifications and potential as researchers. Particular emphasis will be placed on research skills within the subject.

For appointments to a post-doctoral position, the following shall form the assessment criteria:

- A good ability to develop and conduct high quality research.
- Teaching skills.

Additional assessment criteria:

- Experience with femtosecond lasers and ultrafast optics
- Experience in high-order harmonic generation and attosecond physics
- Other skills, e.g. instrumentation programming, data analysis, vacuum techniques, mechanical design.

Consideration will also be given to good collaborative skills, drive and independence, and how the applicant's experience and skills complement and strengthen ongoing research within the department, and how they stand to contribute to its future development.

**Terms of employment** This is a full-time, fixed-term employment of a maximum of 2 years. The period of employment is determined in accordance with the agreement "Avtal om tidsbegränsad anställning som postdoktor" ("Agreement on fixed-term employment as a post-doctoral fellow") between Lund University, SACO-S, OFR/S and SEKO, dated 4 September 2008.

**Instructions on how to apply** Applications shall be written in English. Please draw up the application in accordance with LTH's Academic qualifications portfolio – see link below. Upload the application as PDF-files in the recruitment system. Read more: <http://www.lth.se/index.php?id=71223>

Lund University welcomes applicants with diverse backgrounds and experiences. We regard gender equality and diversity as a strength and an asset. We kindly decline all sales and marketing contacts.

<b>Type of employment</b>	Visstidsanställning längre än 6 månader
<b>Contract type</b>	Full time
<b>First day of employment</b>	2018-03-01
<b>Salary</b>	monthly
<b>Number of positions</b>	1
<b>Working hours</b>	100
<b>City</b>	Lund
<b>County</b>	Skåne län
<b>Country</b>	Sweden
<b>Reference number</b>	PA2018/301
<b>Contact</b>	Anne L'Huillier, professor +46 46 222 7661, <a href="mailto:anne.lhuillier@fysik.lth.se">anne.lhuillier@fysik.lth.se</a>
<b>Union representative</b>	OFr/ST:Fackförbundet ST:s kansli 046-222 93 62 SACO:Saco-s-rådet vid Lunds universitet 046-222 93 64
<b>Published</b>	2018-01-29
<b>Last application date</b>	2018-02-26
<b>Link to ad</b>	<a href="http://lu.mynetworkglobal.com/what:job/jobID:189682/">http://lu.mynetworkglobal.com/what:job/jobID:189682/</a>

# Postdoktor i Fysik

Lunds universitet, Lunds Tekniska Högskola, Fysiska institutionen

Lunds universitet grundades 1666 och rankas återkommande som ett av världens 100 främsta lärosäten. Här finns 40 000 studenter och 7 400 medarbetare i Lund, Helsingborg och Malmö. Vi förenas i vår strävan att förstå, förklara och förbättra vår värld och människors villkor.

Lunds Tekniska Högskola, LTH, är en teknisk fakultet inom Lunds universitet med forskning av hög internationell klass och stora satsningar på pedagogisk mångfald.

Fysiska institutionen är en av Lunds universitets största institutioner med cirka 350 anställda. Vid institutionen finns sju forskningsavdelningar och ett antal större centrumbildningar. Forskningen vid institutionen täcker ett brett spektrum av modern fysik. [www.fysik.lu.se](http://www.fysik.lu.se).

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Lunds universitet välkomnar sökande med olika bakgrund och erfarenheter. Vi ser jämställdhet och mångfald som en styrka och tillgång. Välkommen med din ansökan! Vi undanber oss alla kontakter från annonsförsäljare, rekryterings- och bemanningsföretag på grund av statliga upphandlingsregler.

<b>Anställningsform</b>	Visstidsanställning längre än 6 månader
<b>Anställningens omfattning</b>	Heltid
<b>Tillträde</b>	2018-03-01
<b>Löneform</b>	månadslön
<b>Antal lediga befattningar</b>	1
<b>Sysselsättningsgrad</b>	100
<b>Ort</b>	Lund
<b>Län</b>	Skåne län
<b>Land</b>	Sverige
<b>Ref. nr.</b>	PA2018/301
<b>Kontakt</b>	Anne L'Huillier, professor +46 46 222 7661, <a href="mailto:anne.lhuillier@fysik.lth.se">anne.lhuillier@fysik.lth.se</a>
<b>Facklig företrädare</b>	OFR/ST:Fackförbundet ST:s kansli 046-222 93 62 SACO:Saco-s-rådet vid Lunds universitet 046-222 93 64
<b>Publicerat</b>	2018-01-29
<b>Sista ansökningsdag</b>	2018-02-26
<b>Länk till annons</b>	<a href="http://lu.mynetworkglobal.com/what:job/jobID:189682/">http://lu.mynetworkglobal.com/what:job/jobID:189682/</a>