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| Job Description |  |
| Research Fellow in Photoelectron Spectroscopy of Anions in the Gas-Phase and in Liquid-Microjets | Grade: **UCL Grade 6B, salary £34,502 - £36,348\***(including London Allowance) 1.0 FTEOr UCL Grade 7, salary £38,308 - £46,155 \*\*(including London Allowance) 1.0 FTE*\* Where applicants have not been awarded a PhD appointment will be made at Research Assistant UCL Grade 6B. Where applicants are PhD candidates, appointment will be made at Research Assistant UCL Grade 6B and payment at UCL Grade 7 salary will be backdated to the date of submission of the PhD thesis (including corrections).**\*\*Appointment at Grade 7 (£38,308 - £46,155 including London Allowance £4,000) is dependent upon having been awarded a PhD.***Duration: 24 months**  |
| Department: Chemistry  | Location: University College London, Christopher Ingold Building, 20 Gordon Street, London WC1H 0AJ  |

#### Reports to:

**LONDON’S GLOBAL UNIVERSITY**

ucl FACULTY OF MATHEMATICAL & PHYSICAL SCIENCES

DEPARTMENT OF CHEMISTRY

Professor Helen Fielding

#### Context

**The Chemistry Department**

The Chemistry Department at University College London is the oldest in England, and today is one of the best in the UK, being ranked 3rd in the UK for its world-leading research in REF2021. We are located in Bloomsbury, at the heart of London, and offer an exciting and vibrant environment in which to study in one of the UK's top universities. The Department of Chemistry at UCL is committed to supporting excellence in both research and teaching. The department offers undergraduate BSc and MSci programmes in Chemistry and currently teaches ~750 undergraduates registered in Chemistry as well as students who select Chemistry on the Natural Sciences programme and first year Chemistry for life scientists. The department also offers a number of Postgraduate Taught Masters courses with about 80 students per year and has an overall PGR student school of about 200 students.

The Chemistry Department has over 60 members of academic staff carrying out world-leading research. We specialise in the areas of organic synthesis, chemical biology, computational chemistry, nanotechnology, inorganic and materials chemistry, physical chemistry and chemical physics. The department has an annual research income of around £15 million, derived from many sources including the Research Councils (EPSRC, BBSRC, MRC, and NERC), European Commission and a wide range of charities and industrial partners in the UK, Europe and the USA.

Details about our research can be found on the departmental website <http://www.ucl.ac.uk/chemistry>

#### Main Purpose of the job

This research fellow position is supported by the Engineering and Physical Sciences Research Council through Research Grant EP/T011637/1 “A bottom-up approach to the rational design of new bioluminescence emitters” and Programme GrantEP/V026690/1 “Ultrafast Photochemical Dynamics in Complex Environments”.

The overall objective of the research that will be undertaken by this research fellow is to deepen our understanding of the response of biologically relevant molecular anions, such as bioluminescence emitters and photoactive protein chromophores, to absorption of light, and the effects of interactions between the molecular anions and their surroundings.

The candidate must possess a strong background in laser spectroscopy and be able to work effectively and sociably within a team and have an interest in and knowledge of photochemistry. The project will involve recording, analysing and interpreting static and time-resolved photoelectron spectra of molecular anions in the gas-phase and solution-phase, using nanosecond and femtosecond lasers, and anion velocity-map imaging and liquid-microjet magnetic bottle photoelectron spectrometers. It will include the installation and commissioning of already-designed-and-built upgrades to our existing anion photoelectron imaging spectrometer, so the candidate must also have a strong background and interest in advanced instrumentation. Experimental work will be carried out independently and as part of a team of researchers at UCL, Bristol, Imperial and Oxford. There will be opportunities to participate in complementary experiments using the Ultra and Lifetime facilities at the Rutherford Appleton Laboratory. The postholder will be expected to provide day-to-day supervision of PhD and Masters students, assisting experimentally, where necessary, and reading drafts of reports and papers, as well as assisting in managing lab safety.

#### Key Requirements

The successful candidate will have a PhD degree (or be about to be awarded a PhD) in experimental laser spectroscopy. They will have a good publication track record and a demonstrated commitment to excellence. Excellent laboratory skills are required. The successful candidate will be required to work in a collaborative team and have effective written and verbal communication skills in English.

#### Duties and responsibilities:

* To install and commission upgrades to our existing anion photoelectron velocity-map imaging spectrometer.
* To record, analyse and interpret static and time-resolved photoelectron spectra of molecular anions in the gas-phase and solution-phase, using nanosecond and femtosecond lasers, and anion velocity map imaging and liquid-microjet magnetic bottle photoelectron spectrometers.
* To work closely with our synthetic chemistry, spectroscopy and computational chemistry collaborators on multidisciplinary projects.
* To contribute to the drafting and submitting of papers to peer reviewed journals.
* To contribute to the preparation of progress reports on research for project management teams.
* To be responsible for ensuring that the photoelectron spectrometers are safe and maintained in good working order.
* To conduct necessary administrative tasks relating to laboratory work (e.g. Health and Safety assessments and documentation), ensuring compliance with relevant bodies.
* To contribute to the outreach activities of the research team and UCL department as required.
* To contribute to the induction and direction of other research staff and students as requested.
* To contribute to the overall activities of the research team and department as required.
* The job description reflects the present requirements of the post, and as duties and responsibilities change/develop, the job description will be reviewed and be subject to amendment in consultation with the post-holder.
* The postholder will carry out any other duties as are within the scope, spirit and purpose of the job as requested by the line manager.
* The postholder will actively follow UCL policies including Equal Opportunities and be expected to give consideration within their role as to how they can actively advance equality of opportunity and good relations between people who share a relevant protected characteristic and people who do not share it.
* The postholder will maintain an awareness and observation of Fire and Health & Safety Regulations.
* To be aware of and act upon:
	+ Disciplinary procedure and disciplinary rules
	+ Grievance procedure
	+ Section 7 and 8 of the Health and Safety at Work Act

#### General Information

**Terms & Conditions of Employment**

The post is either a UCL grade 6b (**£34,502 - £36,348)** **OR** grade 7 **(£38,308 to £ 46,155**) post, per annum (including London Allowance of £4,000 p.a.).

Please note, appointment at Grade 7 is dependent upon having been awarded a PhD; if this is not the case, initial appointment will be at Research Assistant Grade 6B (salary £34,502 to £36,348 per annum, including London Allowance of £4,000) with payment at Grade 7 being backdated to the date of final submission of the PhD thesis.

Progression through the salary scale is incremental. Cost of living pay awards are negotiated nationally and are normally effective from 1st August each year. UCL’s non-clinical pay and grading structure is at <http://www.ucl.ac.uk/hr/salary_scales/final_grades.php>.

UCL’s terms & conditions for research, teaching and professional services staff are at:

<https://www.ucl.ac.uk/human-resources/conditions-service-research-teaching-and-professional-services-staff>

The full range of benefits is at <http://www.ucl.ac.uk/hr/benefits/employee_benefits.php>

**General information for Overseas Applicants**

<https://www.ucl.ac.uk/human-resources/working-ucl/employment-contract-administration-team/immigration>

<https://www.ucl.ac.uk/human-resources/working-ucl/relocating-uk-guide>

**Equal Opportunities**

[www.ucl.ac.uk/hr/docs/equal\_opportunity.pdf](http://www.ucl.ac.uk/hr/docs/equal_opportunity.pdf)

The Department has been awarded a Silver Athena Swan Award and we support the Athena beliefs that:

* The advancement of science, engineering and technology (SET) is fundamental to quality of life across the globe.
* It is vitally important that women are adequately represented in what has traditionally been, and is still, a male-dominated area.
* Science cannot reach its full potential unless it can benefit from the talents of the whole population, and until women and men can benefit equally from the opportunities it affords.

Further information on Athena Swan is at <http://www.athenaswan.org.uk/>

# Person specification – Research Fellow

| **Criteria** | **Essential or Desirable** | **Assessment Method (Application/ Interview)** |
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| **Qualifications, Experience and Knowledge**  |  |  |
| PhD (or about to be awarded a PhD) in experimental laser spectroscopy | Essential | Application |
| GCSE English Grade C or above (or equivalent, e.g. IELTS) | Essential | Application |
| Experience of working in an experimental physical chemistry or molecular physics research environment | Essential | Application |
| **Skills and Abilities**  |  |  |
| Reseach skills in laser spectroscopy studies of molecular photochemistry or photophysics | Essential | Application |
| Practical laboratory skills in the use of high-vacuum apparatus | Desirable | Application |
| Practical laboratory skills in photoelectron spectroscopy  | Desirable | Application  |
| Practical laboratory skills in velocity-map imaging | Desirable | Application  |
| Practical laboratory skills in some of: laser beam alignment, femtosecond lasers, photoelectron velocity map imaging, electronics and data acquisition, LabView, SIMION, Python | Essential | Application  |
| Ability to run and trouble-shoot sophisticated instrumentation | Essential | Application and interview |
| Abililty to analyse and interprete spectroscopic data | Essential | Application and interview |
| Ability to communicate complex information clearly and accurately in English, both orally and in writing | Essential | Application and interview |
| **Personal Attributes**  |  |  |
| Commitment to high quality research | Essential | Interview |
| Ability to work as part of a team and collaboratively with researchers from other groups with complementary expertise | Essential | Application and interview |
| Ability to lead in the preparation of manuscripts for publication and communicate the outcomes of the project to researchers from a broad range of disciplines | Essential | Application and interview |
| Ability to guide the research activities of postgraduate and undergraduate students. | Essential | Application and interview |
| Ability to organise own time and work effectively, to meet deadlines and manage competing priorities. | Essential | Application and interview |

**NOTE:** This job description reflects the present requirements of the post, and as duties and responsibilities change/develop, the job description will be reviewed and amended in consultation with the post-holder.

# Apply

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| To apply for this position visit:ucl.ac.uk/jobs |

**APPLICATIONS PROCEDURE**

Interview date to be confirmed.

**Enquiries / Visits**

Informal enquiries should be made to Professor Helen Fielding: h.h.fielding@ucl.ac.uk

**Applications should be completed online** [**http://www.ucl.ac.uk/hr/jobs/**](http://www.ucl.ac.uk/hr/jobs/),

Any questions about the application process should be directed to: hr.chem@ucl.ac.uk