



University of
St Andrews

School of Chemistry Research Fellow in Organometallic Optoelectronics





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Introduction

Founded in the 15th century, St Andrews is Scotland's first university and the third oldest in the English-speaking world. The University of St Andrews is one of Europe's most research intensive seats of learning. It is one of the top-rated universities in Europe for research, teaching quality, and student satisfaction. Today, under the leadership of Principal and Vice-Chancellor Professor Dame Sally Mapstone FRSE, the University's strategy is to broaden its global influence, with a focus on diversity, building a culture of entrepreneurship, research excellence, and social responsibility.

The University of St Andrews is world-leading, with a responsibility to integrate sustainability within our University strategy. From climate science and sustainable development to energy ethics and grass-roots level action across all our communities in which we operate, sustainability is at the heart of all we do. World-leading research on sustainability is taking place across the breadth of the University with researchers addressing key questions on the defining issue of our generation.

St Andrews is ranked as the top university in the UK in The Guardian Guide 2024, and The Times and Sunday Times University Guide 2024. The Complete University Guide 2024 ranks St Andrews as the top university in Scotland, and fourth in the UK. The University is top in the UK for Teaching Quality in the Daily Mail Guide 2024.



The School

The School of Chemistry forms part of a joint chemistry school, known as EaStCHEM, with the School of Chemistry at the University of Edinburgh. EaStCHEM has 84 group leaders. The combined h-index of these researchers is 65, a metric that places EaStCHEM in an elite group of universities in Europe with similar h-indices such as ETHZ in Switzerland and TU Munich in Germany. In the last research assessment exercise (RAE), EaStCHEM ranked first in the UK (out of 32) in the power ranking (Quality GPA x # of Staff) and fourth in the Quality GPA ranking. The EaStCHEM partners submitted 73% of all world-leading outputs (4*) in Scotland and 12% of world leading outputs in all of the UK. Since that assessment, there has been a 10% increase in the number of postgraduate students and PDRAs, total publication output has increased slightly but their impact as measured by total number of citations in the first two years after publication has almost doubled. Funding awards have increased by almost 80%. The School of Chemistry at the University of St Andrews has 38 research academic staff, 250 postgraduate students (PGs) and 130 PDRAs.

Organic Semiconductor Centre

The Organic Semiconductor Centre (www.st-and.ac.uk/~osc) is a facility, unique in Scotland, dedicated to the understanding, characterisation and development of organic semiconductors and devices made from them. There are outstanding facilities for organic semiconductor research. These facilities include a cleanroom, femtosecond spectroscopy laboratory, time-resolved luminescence instrumentation, spectroscopic ellipsometer, atomic force microscope, scanning near field optical microscopy, and a wide range of other equipment for optical and electrical measurements. Within the centre, the group of Professor Zysman-Colman (<http://www.zysman-colman.com/home>) currently consists of 11 research fellows and 23 research students. The main areas of research are the development and understanding of the optical and electrical properties of organic semiconductors (including structure-property relationships); organic light-emitting diodes; photophysics; photochemistry; lasers and optical amplifiers and developing new organic semiconductors.



Job Description

Job Title: Research Fellow

Unit: Chemistry

Reporting to: Prof E Zysman-Colman

Location: N Haugh, St Andrews, KY16 9ST

Job Family: Academic Research

Working Hours: Full time / 36.25 hours per week

Grade/Salary Range: £37,999 - £45,163

Reference Number: AR3061RS

Start Date: 1st January 2025 or as soon as possible thereafter

Interview Date: 6th December

Duration of post: 1 year (fixed term) with possibility of extension

Main Purpose of the Role

Applicants are invited to work in the rapidly developing field of organic optoelectronics. The aim is to develop new solution-processable thermally activated delayed fluorescence (TADF) emissive materials for OLED displays. The appointments will be made for one year, with the possibility of an extension for up to an additional 1-year period. The candidate will be expected to work on the development of new solution-processable dendrimer-based OLED materials giving efficient and narrowband blue light emission. In particular, the applicant will be expected to undertake DFT and coupled cluster calculations modeling, perform multi-step synthesis, and characterize the electrical and solution-state photophysical properties of the materials. The applicant will be expected to work within a team on this project.



Key Responsibilities

1. Conduct relevant individual and collaborative research projects
2. Design and perform experiments
3. Manage, analyse and interpret research data
4. Plan and manage own research activity
5. Write up research for reports and publication
6. Take a lead in preparing proposals and reports for external funding bodies
7. Set an example of research good practice to research students and assist in the supervision of student projects.
8. Work collaboratively within a wider research team.

Please note that this job description is not exhaustive, and the role holder may be required to undertake other relevant duties commensurate with the grading of the post. Activities may be subject to amendment over time as the role develops and/or priorities and requirements evolve.



Person Specification

Attributes	Essential	Desirable	Means of Assessment (i.e. application form, interview, test, presentation etc.)
Education & Qualifications <i>(technical, professional, academic qualifications and training required)</i>	PhD in a relevant physical science		Application form/certificates
Experience & Knowledge <i>(examples of specific experience and knowledge sought)</i>	Organic and organometallic synthesis using Schlenk techniques Refereed published journal papers of high quality	Prior experience of working on organic semiconductors particularly TADF emitters is highly desirable. Prior work conducting DFT and/or coupled cluster calculations is highly desirable Electrochemistry Photophysics	Application form, interview



Person Specification

Attributes	Essential	Desirable	Means of Assessment (i.e. application form, interview, test, presentation etc.)
Competencies & Skills (e.g. effective communication skills, initiative, flexibility, leadership etc)	Strong communication and collaboration skills to ensure effective working with collaborators. Initiative Organizing time and projects and multitasking Ability to write papers		Application, Interview, presentation

Essential Criteria – requirements without which a candidate would not be able to undertake the full remit of the role. Applicants who have not clearly demonstrated in their application that they possess the essential requirements will normally be rejected at the short-listing stage.

Desirable Criteria – requirements which would be useful for the candidate to hold. When short listing, these criteria will be considered when more than one applicant meets the essential requirements.



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Benefits

In addition to the salary on offer for this position, there are a wide range of benefits for staff working at the University of St Andrews. The package for the Research Fellow includes:

- Grade 6 - £37,999 - £45,163
- Membership of the USS Pension Scheme with a generous employer contribution of 14.5%
- A hybrid working environment, including partial homeworking where appropriate and a range of family friendly policies
- Staff discount scheme for local and national goods and services
- Free staff parking, employee Carshare and Cycle to Work Schemes and subsidised local bus travel
- Subsidised sports membership, reduced tuition fees on degree programmes for staff, access to training and development opportunities including LinkedIn Learning, access to library facilities, salary sacrifice scheme
- A range of wellbeing initiatives including membership of Peppy, a health application that connects staff to expert practitioners and personalized support on health matters
- 34 Days Annual Leave plus 5 Public Holidays





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How to Apply

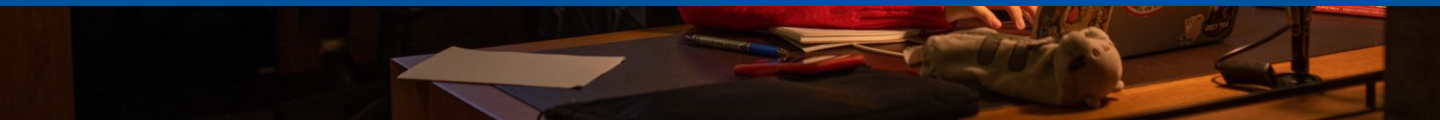
We encourage applicants to apply online at www.vacancies.st-andrews.ac.uk/welcome.aspx

If you have difficulties in completing the online application form, please call +44 (0)1334 461990 or contact vacancies@st-andrews.ac.uk for an application pack.

Applications should consist of the online application form only. Please do not upload CVs or covering letters.

For all applications, please quote ref: **AR3061RS**

The University of St Andrews is a charity registered in Scotland (No SC013532).





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The Town of St Andrews

A modern location surrounded with ancient History, St Andrews is a dynamic and cosmopolitan town found on the east coast of Scotland. Situated in the Kingdom of Fife, St Andrews has easy links to nearby commuter towns and transport links (including airports) to the nearby cities of Dundee (13 miles) and Edinburgh (c. 1 hour by train).

St Andrews and the surrounding area is home to a wide range of restaurants and shops, while boasting an array of beautiful beaches. St Andrews is also the home of golf and there are seven local courses including the famous Old Course.

The Kingdom of Fife is an area filled history and culture. There are nearly 5,000 listed buildings and 50 conservation areas in Fife, with some historic structures dating all the way back to the 12th century. The part of Fife in which St Andrews is situated (known as the East Neuk), enjoys a microclimate and is typically much drier than western parts of the country.





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Equality, Diversity & Inclusion

Equality, diversity and inclusion are at the heart of the St Andrews experience. We strive to create a fair and inclusive culture demonstrated through our commitment to diversity awards (Athena Swan, Carer Positive, LGBT Charter and Race Charters). We celebrate diversity by promoting profiles of BAME, LGBTIQ+ staff and supporting networks including the Staff BAME Network; Staff with Disabilities Network; Staff LGBTIQ+ Network; and the Staff Parents & Carers Network. Full details available online: <https://www.st-andrews.ac.uk/hr/edi/>

The University encourages all interested candidates to apply regardless of nationality and all applications received are assessed against the essential and desirable criteria listed in the further particulars. The successful candidate will have to demonstrate their right to work in the UK prior to commencing employment and where required, obtain the right to work in the UK without relying on University sponsorship. Information on other visa options is available at <https://www.gov.uk/check-uk-visa> or by contacting our HR Immigration Team on hrimmigration@st-andrews.ac.uk.

The University of St Andrews has also received a prestigious institutional Silver Athena Swan Award in recognition of its continued efforts to advance gender equality across the University (building on our Bronze awards of 2012 and 2017)





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Further Information

This post will be primarily based at the School of Chemistry in St Andrews.

Interviews will be held on 6th December 2024.

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