

*Jagiellonian University in Kraków promotes cooperation and cares for a good atmosphere based on mutual trust. It implements the strategy resulting from The Human Resources Strategy for Researchers, creating stable conditions for employment as well as the development of academic career, which resulted in the award of the HR Excellence in Research by the European Commission*

### **INFORMATION ON SELECTION PROCEDURE**

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| <b>Date of selection procedure announcement</b>  | Cracow, 04/07/2024                    |
| <b>Selection procedure information number given by the Centre for Human Resources</b>  | 1227.1101.219.2024                    |
| <b>Dean of the faculty of /Director of a non-faculty, inter-faculty or common unit</b> | Prof. dr hab. Wojciech Macyk          |
| <b>Address</b>   | 2 Gronostajowa street<br>Cracow 30387 |

#### **RECTOR**

of the Jagiellonian University

announces a selection procedure for the position of an

#### **ASSISTANT PROFESSOR**

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| <b>Group of employees</b>                                 | Research staff   |
| <b>JU organisational unit (place of work performance)</b> | Faculty of Chemistry<br>Inorganic Chemistry Department |
| <b>Field of science</b>                                   | Natural sciences                                       |
| <b>Discipline</b>   | Chemical sciences                                      |
| <b>Number of posts</b>                                    | 1  |
| <b>Type of employment</b>                                 | Employment contract                                    |
| <b>Working time</b>                                       | Full-time (1/1).                                       |
| <b>Planned duration of employment</b>                     | 16 months  |

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| <b>Expected date of employment commencement</b> | 4th quarter of the 2024  |
| <b>Remuneration</b>                             | according to the <a href="#">Rules for Remunerating Jagiellonian University Employees</a>  |
| <b>Requirements</b>                             | <p>The selection procedure is open for all individuals, who meet the requirements set out in Articles 113 and 116.2.3) of the Act of 20 July 2018 – Law on Higher Education and Science, and who meet the following eligibility criteria according to § 165 of the Statute of the Jagiellonian University:</p> <ul style="list-style-type: none"> <li>• holding at least a doctoral degree;</li> <li>• having relevant scientific achievements;</li> <li>• taking active part in scientific life.</li> </ul>   |
| <b>Additional requirements and expectations</b> | <ul style="list-style-type: none"> <li>• holding at least a doctoral degree in the field of chemistry or physics awarded up to 4 years before applying for this position;</li> <li>• co-authorship of min. 2 published scientific papers in international scientific journals included in the JCR (first or corresponding authorship weight 100%, co-authorship weight 50%);</li> <li>• active participation of scientific conferences – participation certificates are required along with the type and title of the presentation;</li> <li>• very good English language skills (min. B2 level);</li> <li>• documented skills in the organic and/or inorganic synthesis and physico-chemical characterization of chemical compounds;</li> <li>• Strong motivation to achieve project goals.</li> </ul>  |
| <b>Project Title</b>                            | <i>Chiral molecular magnets – control of the UV-vis light adsorption using magnetic field</i>  |
| <b>Project description</b>                      | <p>The project is focused on the design and preparation of new chiral molecular magnets (CMMs) showing magneto-chiral dichroism (MChD) - a rare second order cross-effect arising from the coupling between natural optical activity (Cotton effect) and magnetic optical activity (Faraday effect). The main excitement about the CMMs and the MChD effect is the possibility of controlling the absorption of light by external magnetic field. In other words, magnetic field direction and strength controls the color of a chiral magnet. Moreover, the MChD effect is opposite for a pair of enantiomers under the same conditions which leads to a hypothesis that it might be responsible for the homochirality of life. MChD can also be used in asymmetric catalysis to improve the stereo-selectivity of organic syntheses.</p> <p>Chiral molecular magnets can be "tailored to needs" via the general molecular building block approach using methods developed within the framework of supramolecular and coordination chemistry as well as organometallic chemistry. The general design strategy for any molecular material relies on a careful selection of compatible molecules: metal complexes and ligands bearing specific functionalities, and assembling them into complex molecular architectures. In the case of CMMs the building blocks need to be paramagnetic and chiral, and need to form "strongly" magnetic chiral structures upon assembly in order to show significant MChD. The project will be focused on two main groups of chiral molecular magnets: CMMs with long range magnetic ordering with the highest possible critical temperature and CMMs with very slow magnetic relaxation (hours, days, weeks) typical for single molecule magnets (SMMs). Both groups will be targeted by using known and newly designed enantiopure organic molecules as ligands starting from the smallest ones such as 1,2-diaminopropane and ending with helicene-derivatives. The magnetically ordered CMMs will be assembled using</p> |

short molecular bridges as linkers between the paramagnetic metal centers ensuring medium-to-strong magnetic interactions within the constructed coordination framework while the SMM-type CMMs will be mostly based on low-coordinate chiral lanthanide complexes ensuring good-to-excellent SMM performance. An alternative synthetic approach targeting bidentate radical ligands coordinated to diamagnetic metal ions in an octahedral fashion will also be pursued resulting in the preparation of  $\Delta$  and  $\Lambda$  stereoisomers showing antiferromagnetic triangle spin frustration. All compounds developed within the proposed research will be fully characterized using a range of physical techniques including structure determination and magnetic properties analysis. Selected candidates will be tested for the presence of the natural circular dichroism, magnetic circular dichroism and MChD effect.

The successful implementation of the project will have a three-fold impact on the scientific community involved in magneto-optical and molecular materials research: (i) it will vastly expand the limited library of enantiopure chiral magnets enabling an in-depth understanding of their design principles, (ii) it will provide a molecular playground for the exhaustive study of the MChD phenomenon including its influence on the homochirality of life or significance in asymmetric catalysis and finally (iii) it will provide a unique opportunity to discover the reverse phenomenon – control of the magnetic domains in the magnetically ordered state by unpolarized light (depending on its direction) as well as control of the magnetization by electric field (most CMMs show multiferroicity – a combination of ferromagnetism and ferroelectricity enabling magnetization switching with electric field and electric polarization switching using magnetic field).

The additional key goal of the project will be the construction of MChD spectrophotometer – a unique commercially unavailable magneto-optical instrument capable of recording the MChD effect in the UV-vis part of the electromagnetic spectrum in a wide range of temperature (5-300 K) and magnetic field ( $\pm 1$  T). Currently there are only a few MChD instruments of this type in the world (France, Japan and China) and none in Poland.

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| <b>Scope of duties</b>                | according to the <a href="#">Work Regulations of the Jagiellonian University</a> Annex 1 to the Work Regulations of the Jagiellonian University – Model scopes of responsibilities and duties of academic teachers  |
| <b>We offer</b>                       | <ul style="list-style-type: none"> <li>• stable employment based on an employment contract at the renowned university,</li> <li>• cooperation with the interdisciplinary academic community represented by well-known scientists,</li> <li>• scientific support as well as the possibility of qualifications improvement and professional development,</li> <li>• access to research infrastructure: scXRD and PXRD instruments, SQUID magnetometer, DynaCool PPMS system, MChD, MCD and CD spectrometers, state-of-the-art gloveboxes and synthetic equipment, and many others</li> <li>• benefits in the form of i.a. Multisport card, sports activities, medical packages, group insurance,</li> <li>• additional social benefits.</li> </ul>    |
| <b>Required application documents</b> | <ol style="list-style-type: none"> <li>1. resume,</li> <li>2. personal questionnaire filled in by the candidate,</li> <li>3. copy of the doctoral diploma or a diploma confirming the candidate's habilitation degree, if applicable,</li> <li>4. information on the candidate's scientific, teaching and organisational achievements,</li> <li>5. declaration of the candidate, confirming that the Jagiellonian University will be their primary place of work, should they be selected in the selection procedure,</li> <li>6. statement under Article 113 of the Law on higher education and science,</li> <li>7. statement on acknowledging and accepting the rules and regulations concerning intellectual property management and</li> </ol> |

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|  | commercialisation in force at the Jagiellonian University.<br><b>Declaration forms (no. 5-7) and personal questionnaire template (no. 2) can be obtained at:</b><br><a href="https://cso.uj.edu.pl/en_GB/konkursy">https://cso.uj.edu.pl/en_GB/konkursy</a>   |
| <b>Additional application documents</b>                                  | <ol style="list-style-type: none"> <li>list of publications with DOI numbers,</li> <li>doctoral dissertation including reviews in electronic version</li> <li>recommendation concerning the candidate's predisposition of research and teaching work, including the results of student surveys and evaluations, if the candidate was subject to such evaluation.</li> </ol>   |
| <b>The course of selection procedure</b>                                 | The first stage of the selection procedure is the formal assessment of the submitted documents. Applications which meet all formal requirements are the subject of substantive assessment, during which an interview with the Candidate may be conducted (directly or via electronic communication channels), upon settling the date of the interview with the Candidate. The Candidate has the right to appeal against the negative assessment by the selection board within 7 days from receiving the information about the results of the assessment. The selection procedure is conducted in accordance with <a href="#">The Policy of Open, Transparent and Merit-Based Recruitment Process at the Jagiellonian University</a> |
| <b>Form of submission</b>  | by e-mail to the address: <a href="mailto:etat@chemia.uj.edu.pl">etat@chemia.uj.edu.pl</a> , title: Competition for post-doc position in OPUS 19 – prof. Dawid Pinkowicz<br><br>or by mail to: Secretariat of the chemistry department, Wydział Chemii, ul. Gronostajowa 2, 30-387 Kraków<br>with the note: Competition for post-doc position in OPUS 19 – prof. Pinkowicz  |
| <b>Deadline for submission of applications</b>                           | 18 th July 2024   |
| <b>Expected date of the selection procedure settlement</b>               | Till 20th August 2024   |
| <b>Method of communicating of the results of the selection procedure</b> | by e-mail   |
| <b>Questions</b>   | For further information please contact to Prof. Dawid Pinkowicz, e-mail address: <a href="mailto:dawid.pinkowicz@uj.edu.pl">dawid.pinkowicz@uj.edu.pl</a>   |

In the selection procedure, the Jagiellonian University follows the principles of the European Charter for Researchers and a Code of Conduct for the Recruitment of Researchers. Jagiellonian University does not provide housing.

On behalf of  
the Rector of the Jagiellonian University  
prof. dr hab. Wojciech Macyk  
Dean of the Faculty of Chemistry

## Personal data processing information for job applicants

According to Article 13 of the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation – hereinafter GDPR), the Jagiellonian University informs that:

1. The Administrator of your personal data is the Jagiellonian University with its registered office in Gołębia 24, 31-007 Kraków, represented by the Rector of UJ.
2. The Jagiellonian University appointed the Data Protection Officer [www.iod.uj.edu.pl](http://www.iod.uj.edu.pl), Gołębia 24, 30-007 Kraków. The Officer can be contacted by email: [iod@uj.edu.pl](mailto:iod@uj.edu.pl) or at the telephone number 12 663 12 25.
3. Your personal data will be processed in order to:
  - a. conduct recruitment process for the position specified in the hereby advertisement – as part of the legal obligation of the Administrator pursuant to Art. 6 (1) lit c of the GDPR in connection with the Polish Labour Code;
  - b. conduct recruitment process for the position specified in the hereby advertisement based on your consent pursuant to Art. 6 (1) lit a of the GDPR – your consent is granted by the clear action of submitting your CV with the Administrator. The consent to the processing of personal data concerns data that you voluntarily provide as part of your CV, which do not result from Polish Labour Code.
4. The obligation to provide your personal data results from the law (it applies to personal data processed under Article 6 (1) lit c of the GDPR). Failure to provide your personal data will result in your inability to take part in the recruitment process. Submission of personal data processed on the basis of consent (Article 6 (1) lit a of the GDPR) is voluntary.
5. Your data will be processed during the recruitment period. In the event of not concluding the contract with you, your data will be deleted after the recruitment process.
6. You have the right of access to the content of your personal data, as well as the right to correct, delete, restrict processing, transfer, object to processing – on the terms and conditions set out in the GDPR.
7. If the processing is based on consent, you have the right to withdraw the consent at any time, which shall not affect the lawfulness of processing based on the consent given before the withdrawal. Withdrawal of consent to the processing of personal data can be sent by e-mail to: [etat@chemia.uj.edu.pl](mailto:etat@chemia.uj.edu.pl) or by post to the following address: ul. Gronostajowa 2, 30-387 Kraków, or you can withdraw your consent in in the room C0-06.
8. Your personal data will not be subject to automated decision making or profiling.
9. You have the right to lodge a complaint with the Inspector General for the Protection of Personal Data, if you feel that the processing of your personal data violates the GDPR regulations.