

# NCN RESEARCH SCHOLARSHIP - JOB OFFER

OPUS-29 National Science Centre, Poland (NCN), proposal no. 2024/55/B/ST5/02894

**Position code:** OPUS-29 / MSc-2 / EN

**Position:** Student (NCN scholarship holder)

**Principal Investigator:** Dr. hab. Michał Wójcik

**Host institution:** Laboratory of Synthesis of Organic Nanomaterials and Biomolecules, Faculty of Chemistry, University of Warsaw

## Project title:

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*Advanced structural control and long-range organization of magnetic and magnetically doped nanoparticles in liquid crystal systems for adaptively tuned, multi-stimuli responsive reconfigurable materials*

## About the project

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The RESPO-MAG project addresses the synthesis and study of a new class of hybrid magnetic materials in which magnetic nanoparticles (including SPIONs, Fe, Co, Mn-doped ZnO) are coated with functional organic ligands: pro-mesogenic (liquid-crystalline), photoswitchable (spiropyrans) and supramolecular (crown ethers). The goal is to obtain long-range ordered thin-film systems capable of reversible reconfiguration under temperature, UV light and chemical stimuli — with applications in spintronics, quantum technologies and optomagnetic materials. The project is carried out in collaboration with the group of Prof. Vasily Temnov (Institut Polytechnique de Paris, CNRS).

## About the position

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We are seeking a student to take part in the materials/analytical workstream of RESPO-MAG. The position covers the synthesis and preliminary characterization of magnetic nanoparticles and magnetically doped semiconductor nanoparticles. The position offers a natural route to undertake an MSc thesis in the PI's group.

**Scholarship amount:** PLN 2,000 per month (NCN research scholarship)

**Funding period:** up to 36 months (contract granted for periods of up to 12 months with possibility of extension, total maximum 36 months within the project)

## Scope of duties

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- synthesis of magnetic nanoparticles (including SPIONs) and magnetically doped semiconductor nanoparticles (Mn-doped ZnO) following established protocols (Park, Sun methods);
- nanoparticle purification (centrifugation, dialysis, sequential sedimentation) and preparation of suspensions for further studies;
- routine structural and spectroscopic characterization: TEM (sample preparation and preliminary analysis), UV-Vis, FT-IR, DLS;

- supporting the second PhD student and the postdoc in sample preparation for structural (SAXS, WAXD) and magnetic (SQUID) measurements;
- maintaining laboratory documentation to ensure reproducibility;
- participation in weekly group meetings and internal presentations of results.

## Mandatory requirements

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- status of a 1st-cycle (BSc, from year 3) or 2nd-cycle (MSc) student in chemistry (physical or materials chemistry preferred) or a related field (mandatory under the NCN Regulations for awarding research scholarships);
- basic hands-on experience in nanoparticle synthesis or inorganic synthesis (laboratory courses, BSc thesis, student projects);
- ability to maintain orderly laboratory documentation;
- good command of English (reading scientific literature);
- high motivation and ability to organize laboratory work independently.

## Preferred qualifications (additional assets)

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- hands-on experience with TEM, UV-Vis, FT-IR or DLS;
- experience in colloidal nanoparticle or inorganic synthesis;
- ability to work under inert atmosphere (Schlenk line);
- prior experience in a research group, scientific student associations or undergraduate research projects;
- documented achievements (awards, scholarships, student conference contributions).

## What we offer

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- place of work: Faculty of Chemistry, University of Warsaw, Pasteura 1;
- NCN research scholarship of PLN 2,000 per month;
- funding period: up to 36 months within the project;
- scholarship start: from 1 July 2026;
- opportunity to carry out an MSc thesis in the PI's group;
- funding for participation in national and international conferences;
- work in an experienced team with a publication record in leading journals (ACS Nano, Adv. Mater., Angew. Chem. Int. Ed., Small, among others);
- opportunity to participate in the international collaboration with the partner group (Institut Polytechnique de Paris).

## Required documents

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- cover letter (max. 1 page) explaining motivation and interest in the project topic;
- academic CV including educational background and prior research experience;
- summary of scientific achievements (publications, conference contributions, awards, internships, participation in research projects);

- confirmation of student/PhD student status (certificate from the dean's office or doctoral school) - may be provided before signing the scholarship agreement;
- signed consent for processing personal data for recruitment purposes [Klauzula-informacyjna-przy-rekrutacji-do-pracy\\_11\\_2019\\_EN.docx](#) .

## Deadline and submission procedure

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Application deadline: **17 May 2026 (end of day)**.

Applications should be submitted electronically to: [mwojcik@chem.uw.edu.pl](mailto:mwojcik@chem.uw.edu.pl) with the position code and the candidate's surname in the subject line, e.g. "OPUS-29 [CODE] - Smith".

All documents should be combined into a single PDF file.

## Recruitment procedure and evaluation criteria

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The competition is conducted in accordance with the NCN Regulations for awarding research scholarships in research projects funded by the National Science Centre, Poland (Council of NCN Resolution no. 25/2019 of 16 May 2019, as amended).

Applications are evaluated in two stages: (1) formal evaluation - completeness of documents and fulfilment of formal requirements; (2) substantive evaluation by a recruitment committee appointed by the PI (committee of at least three members including the PI and two persons indicated by the PI, holding a PhD or higher academic degree, with research experience relevant to the project area).

Substantive evaluation criteria: (1) scientific achievements of the candidate, including publications, conference contributions, awards, prior research work (50%); (2) substantive and technical competences relevant to the position (30%); (3) prior research scholarships, awards and distinctions (10%); (4) the cover letter and a possible interview (10%).

Selected candidates may be invited to an interview (in person or remotely).

Candidates will be informed of the results of the competition by e-mail within 14 days of the application deadline.

The competition may be cancelled without giving reasons or may be left without a final selection.