

The Institute of Physical Chemistry, Polish Academy of Sciences (ICChF) offers full doctoral studies as part of the [Warsaw PhD School in Natural and BioMedical Sciences \(Warsaw-4-PhD\)](https://warsaw4phd.eu/register.php). Founded in 2019, the Warsaw-4-PhD School gathers 9 Warsaw scientific institutions which run PhD programs in cooperation with each other. The school offers interdisciplinary education in 4 scientific disciplines: biology, chemistry, physics, and medicine. Each institution trains doctoral students in its leading scientific field. Recruitment for doctoral studies takes place three times a year.

The next, second round of recruitment opens on July 25! We encourage all potential candidates to go ahead and contact the coordinators of their project of interest in advance to find out more details! There is a possibility to become our intern for short period (preferably 1-3 months) – the internship is paid. Please contact the project supervisors directly.

We propose interesting research topics, both experimental and theoretical, mostly in the fields of:

- nanotechnology and new materials;
- photochemistry and photophysics;
- physical chemistry of solids, soft matter, and surface phenomena;
- biochemistry and biophysics;
- molecular and supramolecular physical chemistry;
- chemical kinetics and catalysis;
- quantum chemistry, mathematical modelling of chemical phenomena, molecular dynamics;
- electrochemistry, including mechanisms of electrode processes, design of electrochemical bio- and chemosensors, and electrochemistry of materials.

We offer:

- high quality research opportunities;
- state-of-the-art research equipment and computational facilities;
- scientific collaboration with renowned research centres of Europe, USA, and Japan;
- possibility to acquire the teaching experience;
- frequent contacts with the research advisor;
- friendly and encouraging atmosphere.

The duration of doctoral studies is four years. The program and the remuneration conform to the requirements of the Polish Ministry of Science and Higher Education.

Candidates for the Warsaw-4-PhD school are invited to submit applications using the electronic form: <https://warsaw4phd.eu/register.php> by August 8, 2025.

Applicants are invited to select not more than 3 PhD projects from the offer of the School, indicating their 1st, 2nd, and 3rd choices. The current ICChF projects (each of these proposed for a single doctoral student) are listed below. Candidates meeting the preliminary criteria will be invited for Zoom-based interviews, to be held within the period from 3 September 2025 to 12 September 2025.

Currently, our Institute offers the following research projects (21 places) to pursue at a doctoral studies level:

3.1 Effect of lipid nanoparticles on the nanostructure of cell cytoplasm.

- 3.2 Ultra-high-throughput multimodal single-microbe profiling to study microbiomes (experimental).**
- 3.3 Ultra-high-throughput multimodal single-microbe profiling to study microbiomes (computational).**
- 3.4 Spatial Determinants of Immunotherapy Resistance in Cancer.**
- 3.5 Observation of the visual cycle in vivo using fluorescence with two-photon excitation.**
- 3.6 Photoswitching under dual confinement: a new strategy for the light regulation of functional host-guest systems.**
- 3.7 Macroporous polymer based microsensors for biomolecules.**
- 3.8 Synthesis of core-shell nanoparticles for chemosensing and electrosynthesis.**
- 3.9 New catalytical protocols of conductive polymer synthesis and application of these polymers in chemosensing (2 vacancies).**
- 3.10 Development of new receptors for the detection of biomarkers of neurodegenerative diseases.**
- 3.11 Development of ultrasensitive point-of-care electrochemical immunosensors.**
- 3.12 Material Science: Inverse design-assisted biodegradable modular dressings for negative pressure wound healing.**
- 3.13 Computer science: Inverse design-assisted biodegradable modular dressings for negative pressure wound healing.**
- 3.14 Development of gC3N4-containing heterojunctions with Nb-based perovskites for (piezo)photocatalytic applications.**
- 3.15 Microspectroscopy of Dark Electronic States in Molecule–Nanoparticle Systems.**
- 3.16 Development of New Organic Electron Transport Materials in Inverted Perovskite Solar Cells.**
- 3.17 Development of New Hole-Transporting Organic Materials in Inverted Perovskite Solar Cells.**
- 3.18 Development of lead halide perovskite quantum dots for next generation photodetectors.**
- 3.19 Development of effective synthetic methods for the preparation of metal alkoxides supported by chelating ligands.**
- 3.20 Controlled Intracellular Polymerization of Conjugated Polymers for Bioimaging and Cancer Treatment.**

Important information:

- Admission to the Doctoral School is free.
- There is no fee for studying at the Doctoral School.
- The academic year starts on October 1st and lasts until September 30th of the following calendar year.
- For details, please check Admission Rules for the particular academic year in [Documents](#) tab.

- Candidates who do not hold a Master's, Master of Engineering, or equivalent degree, but will obtain it by the end of the admission process are allowed to apply to the School. In such a case, a diploma or written declaration confirming graduation with a Master's or equivalent degree is required by the date of completion of the admission process.

Admissions schedule

Candidates apply online to the Doctoral School for the academic year 2025-2026 by submitting the required documents. Here are the most relevant dates for the three offered admission rounds:

Admissions deadlines:

II admission round: from 25 July 2025 to 8 August 2025

III admission round: from 18 December 2025 to 6 January 2026

Interviews of candidates are held:

II admission round: from 3 September 2025 to 12 September 2025

III admission round: from 28 January 2026 to 3 February 2026

The results will be announced on the website: <https://warsaw4phd.eu/en/admissions/>.

Candidates who are selected for the second stage of the recruitment process will be invited for interviews by email.

The Recruitment Policy of the Warsaw-4-PhD School is available at this link: https://warsaw4phd.eu/yleerdad/2022/09/Recruitment-Policy-2022_FIN.pdf.

More information about the Warsaw-4-PhD School is available on: <https://warsaw4phd.eu/en/>.

We encourage candidates to contact directly supervisors of the projects.



Your PhD at IChF - new recruitment!

New recruitment round to the Doctoral School **Warsaw-4-PhD**: we offer 20 projects at IChF, 21 vacancies.

from 25 July to 8 August 2025 – second admission round



Apply for a paid, 1-3 month internship at IChF, to explore our research.

