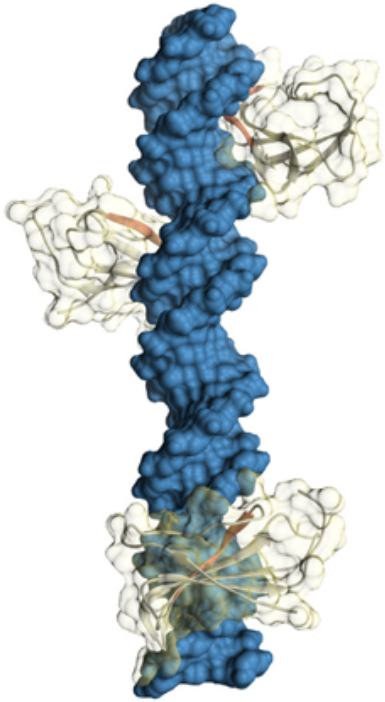
PhD POSITION

in Department of Structural Biology of Eucaryotes

Institute of Bioorganic Chemistry PAN Poznan

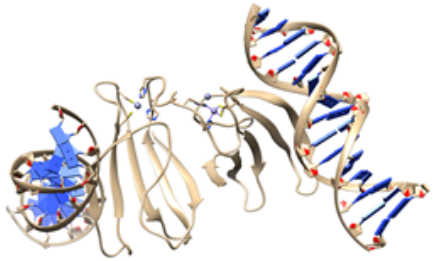


Join Our Research Team!

We invite applications for a fully funded by National Science Centre PhD position in project „**Molecular basis of the function of WRKY transcription factors as pivotal regulators of plant responses to stress**" focused on studies of key regulators of plant stress responses and development. This project offers the opportunity to work at the interface of structural biology, biochemistry, and molecular biology of plants.

Contact

For questions or to submit your application, please contact: mgrzech@ibch.poznan.pl
We look forward to your application!



About the Project

WRKY transcription factors—plant-specific proteins—play a pivotal role in regulating genes that respond to environmental stresses and pathogens. Although all WRKYs recognize the same DNA motif ("W-box," sequence TTGAC(C/T)), the mechanisms behind their target selectivity and the full three-dimensional structure of WRKY–DNA complexes remain unknown.

Our project aims to elucidate the structure and mode of action of WRKY proteins from Arabidopsis thaliana using cutting-edge structural biology techniques such as cryo-electron microscopy (cryo-EM) and X-ray crystallography, complemented by biophysical analyses and DNA-binding assays including electromobility shift assay (EMSA), isothermal titration calorimetry (ITC), and bio-layer interferometry (BLI).

This work has both fundamental value—advancing our understanding of plant physiology and gene regulation—and practical applications: it may direct the development of stress-resistant crops and enable precision genetic engineering.

Project will involve:

- Cloning, production and purification of WRKY transcription factors and their binding partners
- Characterizing WRKY–DNA and WRKY–protein interactions using EMSA, ITC, and BLIand specificity determinants
- Investigating mechanisms underlying WRKY oligomerization and transcriptional regulation
- Determining high-resolution structures of WRKY proteins and protein–DNA complexes using cryo-EM and X-ray crystallography,
- Integrating structural and biophysical data to uncover new regulatory principles
- Studying WRKY–DNA interactions
- Exploring WRKY oligomerization and regulatory mechanisms
- Integrating structural and functional data to uncover new insight into transcriptional regulation

We offer access to state-of-the-art research infrastructure (cryo-EM, spectroscopy, protein–DNA interaction analysis), substantive support at every stage of the project, opportunities to advance your skills through instrument training workshops, friendly work environment, chances to present your findings at conferences and to co-author scientific publications.

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What We Offer:

- A dynamic and collaborative research environment;
- Access to state-of-the-art structural biology facilities;
- Supervision by experienced scientists in protein structure and plant transcriptional regulation;
- Opportunities to present results at international conferences;
- Research carried out within the project OPUS27 2024/53/B/NZ9/04029 entitled "Molecular basis of the function of WRKY transcription factors as pivotal regulators of plant responses to stress", funded by *National Science Center.*
- PhD students shall receive a stipend in the gross amount of ca. 4300 PLN (3800 PLN net) for the period of 24 months with the possibility of extending to 48 months after mid-term evaluation and with the possibility of increasing the amount of the stipend after the mid-term evaluation (in accordance with the current regulation of the Minister - 5340.90 PLN gross).
- PhD students shall be subject to social insurance, pursuant to article. 6 section 1 passage 7b of the act of October 13th, 1998 on the social insurance system (Journal of Laws of 2019, item 300, 303 and 730).
- Access to a Multisport card, group insurance, and social benefits (subsidized vacation leave and reimbursement of tickets to cultural events).

Candidate Profile

We are looking for a motivated student with:

- A Master's degree in **Biology, Biochemistry, Biotechnology, or related fields**
- Strong interest in **protein structure** and **molecular mechanisms of gene regulation**
- Experience with at least one of the following (advantageous but not required):
  - protein expression and purification
  - protein-DNA interaction techniques e.g. electromobility shift assay (EMSA),
  - molecular biology or plant biology techniques
- Good communication skills and willingness to work in an interdisciplinary team

Application Details

Please send the following documents as a single PDF:

- CV
- Motivation letter
- Contact information for 1–2 referees
- Transcript of records

Applications will be reviewed on a rolling basis until the position is filled

Detailed informations:
https://portal.ichb.pl/wp-content/uploads/2026/04/Konkurs_2026_008_psd_student_szkoly_doktorskiej.pdf

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