



**Warsaw-4-PhD**

Warszawska Szkoła Doktorska  
Nauk Ścisłych i BioMedycznych

## **Results of the second admission to the Warsaw4PhD Doctoral School**

### **Candidates admitted to the School**

#### **The Nencki Institute of Experimental Biology of the Polish Academy of Sciences**

**1. Alwani Anna**

Project 1.2. Can transfer of genes encoding DREADD receptors to selected motoneurons in the transected spinal cord restore motor function? Synaptic and receptor changes in motoneurons caused by chemogenetic activation [prof. Małgorzata Skup, Ph. D.]

**2. Petrazzo Gregory**

Project 1.3. Targeting senescent brain cells to improve cognitive function in animal models of ageing and depression [prof. Ewa Sikora / (in collaboration with) prof. Jakub Włodarczyk]

**3. Zębrowski Aleksander**

Project 1.5. Identifying electrophysiological correlates of visual awareness by a single-trial EEG analysis [dr Michał Bola/ dr hab Michał Wierzchoń, prof. UJ]

**4. Pytyś Agata**

Project 1.6. The role of lipid modifications of proteins in functional neuronal plasticity, learning and memory [prof. dr hab. Jakub Włodarczyk/ promotor pomocniczy: dr n. med. Tomasz Wójtowicz ]

**5. Gbadamosi Ismail**

Project 1.7. To investigate the interplay between metabolic and epigenetic factors in pathogenesis and inheritance of neuropsychiatric disorders [dr Ali Jawaid]



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**6. Gomółka Magdalena**

Project 1.7. To investigate the interplay between metabolic and epigenetic factors in pathogenesis and inheritance of neuropsychiatric disorders [Dr Ali Jawaid]

**7. Tuross-Korgul Laura**

Project 1.8. Cell adhesion molecules as regulators of tunneling nanotubes (TNTs) formation and function in leukemia microenvironment [dr hab. Katarzyna Piwocka]

**8. Wiśniewska Justyna**

Project 1.11. Synaptic plasticity of appetitive learning [dr Anna Beroun]

**9. Duński Eryk**

Project 1.12. Identification of genes and evolutionary changes in the genome that underlie the human-specific features of astrocytes [dr Aleksandra Pękowska]

**10. Wójcik Marta**

Project 1.13. Neural and cognitive basis of spelling impairment [dr Agnieszka Dębska/  
dr hab. Katarzyna Jednoróg, prof. Nencki Institute]

**11. Wydrych Agata**

Project 1.14. Ubiquitin as a modulator of the mitochondrial protein import process [dr Piotr Brągoszewski]

**12. Glica Agnieszka**

Project 1.15. Verification of the neural noise hypothesis of dyslexia – a study using functional magnetic resonance spectroscopy [dr hab. Katarzyna Jednoróg, prof. Nencki Institute]

**13. Szeligowska Katarzyna**

Project 1.16. Verification of the neural noise hypothesis of dyslexia – a study using fMRI and EEG [dr hab. Katarzyna Jednoróg, prof. Nencki Institute]



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## The Institute of Organic Chemistry of the Polish Academy of Sciences

### 14. Gana Sanil

Project 2.2. Synthesis of non-planar heterocyclic nanographenes via CH-activation [prof. Daniel Gryko]

### 15. Araujo Badaro Jaqueline Stella

Project 2.3. Synthesis of small fluorophores possessing aromatic imide scaffold for virus proteases' detection [prof. Daniel Gryko]

### 16. Raveena

Project 2.4. Gated nanozymes: Hybrid, on-nanoparticle catalysts with long-range substrate selectivity [prof. dr Bartosz Grzybowski]

## The Institute of Physical Chemistry of the Polish Academy of Sciences

### 17. Kruszyńska Joanna

Project 3.2. Development of strategies for improving stability of lead halide perovskites [Dr hab. inż. Daniel Prochowicz]

### 18. Kravets Keteryna

Project 3.3. Ion permeation in the molecular crystals [Dr hab. Oksana Danylyuk]

### 19. Palanisamy Rupa Ranjani

Project 3.5. Electrochemistry in microfluidic cells for high-throughput multiple response analyses [dr hab. Martin Jönsson-Niedziółka, prof. instytutu]

### 20. Koszewska Agnieszka

Project 3.6. Leukaemia cells under controlled shear flow in microfluidic channels [prof. dr hab. Piotr Garstecki/Co-supervisor: Dr Ladislav Derzsi]



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#### **21. Gajda Marianna**

Project 3.7. Paper and other fibrous materials as micro/nanomolds for deposition on electrodes surface molecularly imprinted polymers of developed surface [dr hab. Piyush S. Sharma/Co-supervisor: Dr inż. Maciej Cieplak]

#### **22. Navarette Jonathan Pullas**

Project 3.8. Printing of self-assembling droplet arrays: from physical mechanisms of self-assembly to applications in cell encapsulation and high-throughput screening [prof. dr hab. Piotr Garstecki/Co-supervisor: Dr Jan Guzowski]

#### **23. Sareen Sakshi**

Project 3.9. Study of nanoviscosity changes during cell death [prof. dr hab. Robert Hołyst/Co-supervisor: Dr inż. Karina Kwapiszewska]

#### **24. Pyrcz Patryk**

Project 3.10. Chemistry and photophysics of molecules in nanocavities [prof. dr hab. Jacek Waluk/Co-supervisor: Dr Sylwester Gawinkowski]

#### **25. Celej Joanna**

Project 3.12. Localization and determination of redox activity in biological cells [prof. dr hab. Marcin Opałto/Co-supervisor: Wojciech Nogala]

#### **26. Bałamut Bartłomiej**

Project 3.14. A new approach of vision restoration based on modified Rabies virus tracing technique [prof. dr hab. Maciej Wojtkowski/Co-supervisor: Dr Andrzej Foik]

#### **27. Pal Sushmita**

Project 3.15. Models of bacterial response to antibiotics [dr hab. Anna Ochab-Marcinek/Co-supervisor: Dr Bartłomiej Wacław]



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**28. Kornacki Dawid**

Project 3.17. Development of new pathways for CO<sub>2</sub> utilization [prof. dr hab. inż. Janusz Lewiński]

**29. K Vighnesh**

Project 3.18. Morphological and structural evolution of organic-inorganic metal halide perovskites [prof. dr hab. inż. Janusz Lewiński]

**30. Deepika**

Project 3.19. Design and preparation of zinc oxide quantum dots for photovoltaic applications [prof. dr hab. inż. Janusz Lewiński]

**31. Wdowiak Mateusz**

Project 3.20. Bacteriophage-based biosensors for bacteria detection [prof. dr hab. Robert Hołyst/Co-supervisor: dr Jan Paczesny]

**32. Shahab Samaneh**

Project 3.4. Ultrafast chemical reactions in the dark [dr hab. Gonzalo M. Angulo Núñez/ Co-Supervisor: Dr inż. Marcin Pastorczak]

**The Institute of Physics of the Polish Academy of Sciences**

**33. Carnevale da Cunha Luis**

Project 4.2. Multiscale Simulation of Break-up droplet dynamics (theoretical) [dr hab. Piotr Deuar / Dr Panagiotis Theodorakis]

**34. Kajouri Russell**

Project 4.3. Multiscale Simulation of spontaneous liquid motion on nanopatterned substrates (theoretical) [dr hab. Piotr Deuar / Dr Panagiotis Theodorakis]



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**35. Jagadeesan Rahul**

Project 4.4. Computational studies of disulfide bonds (theoretical) [prof. dr hab. Mai Suan Li, dr Paweł Krupa]

**36. Govind Gokul**

Project 4.5. Protein folding and aggregation on the ribosome (theoretical) [prof. dr hab. Mai Suan Li]

**37. Dey Jaydeb**

Project 4.11. Magnetic order in nanolaminated MAX phases based on  $Mn_2GaC$  (experimental) [dr hab. Marek Wójcik, professor IFPAN]

**38. Das Kausik**

Project 4.12. Precessional magnetization switching in ferromagnetic (Ga,Mn)N layers using sub-nanosecond short electric pulses (experimental) [prof. dr hab. Maciej Sawicki/dr Dariusz Sztenkiel]

**39. Borkowska Paulina**

Project 4.13. Interactions between the fusion peptide and the transmembrane domain of hemagglutinin (experimental) [dr hab. Bartosz Różycki, dr Remigiusz Worch]

**40. Haider Syed Sadhi**

Project 4.14. Mechanoluminescent displays and sensors based on nanostructured piezoelectric materials (experimental) [prof. Andrzej Suchocki]

**41. CS Pooja**

Project 4.19. Laser spectroscopy of diatomic molecules (experimental) [prof. dr hab. Włodzimierz Jastrzębski/dr Jacek Szczepkowski]



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**42. Prem Sarath**

Project 4.20. Dynamics of topological defects coupled to environments (theoretical)  
[Mircea Trif / Tomasz Dietl]

**43. Khan Muhammad Asad**

Project 4.21. Ultrafast structural transitions in condensed matter (experimental)  
[dr hab. inż. Ryszard Sobierajski]

**44. Palai Swaroop**

Project 4.22. Properties and interactions of group IV-VI semiconductor multiferroics  
(experimental) [dr hab. Łukasz Kilański]

**45. Tanwar Pardeep**

Project 4.23. Heat transport by topological excitations (experimental) [dr hab. Marcin Matusiak]

**46. Farooq Omer**

Project 4.17 Quantum and wave-dynamical chaos in low dimensional systems  
(experimental+theoretical) [Prof. dr hab. Leszek Sirko]

**The Center for Theoretical Physics of the Polish Academy of Sciences**

**47. Zipper Matthias**

Project 5.2. Studies of aspects of objectivity in quantum mechanics [dr hab. Jarosław Korbicz]

**48. Kopyciński Jakub**

Project 5.4. NUANCE 1 : Study of novel quantum phases in cold gases using ab initio  
methods [dr Krzysztof Pawłowski]



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**49. Słowik Oskar**

Project 5.6. Shallow quantum circuits and random walks in compact groups [prof. Adam Sawicki]

**50. Makuta Owidiusz**

Project 5.1. Characterization and certification of quantum resources [dr Remigiusz Augusiak]

**51. Rybotycki Tomasz**

Project 5.3. Practical and theoretical aspects of near-term quantum computers [dr Michał Oszmaniec]

**The Institute of High Pressure Physics of the Polish Academy of Sciences**

**52. Cherniadev Alexander**

Project 6.1. Investigations of coupled photonic and plasmonic metasurface resonators for terahertz frequency range [prof. IHPP PAS Alvydas Lisauskas]

**53. Ahmad Ashfaq**

Project 6.2. Application and development of ab initio methods for determination of the properties of surfaces and quantum structures of group III nitrides [dr hab. Paweł Strąk, prof. IWC PAN]

**54. Abdur-Rehman Anwar**

Project 6.4. Topological phase transition in semiconductor nanostructures based on indium gallium nitride [dr hab. Sławomir Paweł Łepkowski, prof. in IWC PAN]

**55. Madhavi Dalsaniya**

Project 6.5. Calculations of the thermodynamic stability and properties at high pressure of fluorides of oxygen and sulphur [dr hab. Paweł Strąk / dr. hab. Dominik Kurzydłowski]



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## **Maria Skłodowska-Curie National Research Institute of Oncology**

### **56. Pathan Hummaira**

Project 7.1. Molecular characteristics of the response to neoadjuvant chemotherapy in patients with locally advanced soft tissue sarcomas [Anna Czarnecka, DSc PhD/ Co-supervisor: Mateusz Spalek, MD PhD]

## **The International Institute of Molecular and Cell Biology in Warsaw**

### **57. Obrębski Tomasz**

Project 9.3. The impact of cytoplasmic polyadenylation on local translation in neurons [prof. dr hab. Andrzej Dziembowski]

### **58. Azmain Tousif**

Project 9.1. Elucidating the epigenetic contribution to cardiovascular lineage specification [dr Cecilia Winata]

### **59. Szulc Natalia**

Project 9.2. Lysine deserts as a universal mechanism to escape premature proteins degradation [dr hab. Wojciech Pokrzywa]

Przewodniczący Rady Dyrektorów  
Warszawska Szkoła Doktorska  
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*A. Dobrzyń*  
Prof. dr hab. Agnieszka Dobrzyń