



**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS**  
POLISH ACADEMY OF SCIENCES

**Courses for PhD students**  
**The academic year 2023 / 2024**

Warsaw, June, 2023

# AUTUMN 2023

## MONDAYS

### **PROTEIN STRUCTURE AND FUNCTION**

October 2, 2023 - February 19, 2024

15 meetings

language: English

## FRIDAYS

### **COMMERCIALIZATION**

October 6-25, 2023

4 meetings

language: English

### **BIOSTATISTICS**

November 10, 2023 – February 16, 2024

10 meetings

language: English

# SPRING 2024

## MONDAYS

### **MEDICAL CHEMISTRY**

February 27 – June 5, 2024, Mondays, 9 a.m.

June 12 - June 19, 2024, Mondays, 3 p.m.

language: English

## FRIDAYS

### **SCIENTIFIC WRITING**

February 23 – March 30, 2024

5 meetings

language: English

### **HOW TO BUILD A GRANT PROPOSAL**

May, 2024

2 meetings

language: English

### **ETHICS IN RESEARCH**

June, 2024

4 meetings

language: English

## LECTURE

structure	series of 15 meetings (2 x 45 min each)
schedule	Mondays 09:30 am October 2 <sup>nd</sup> , 2023 – February 19 <sup>th</sup> , 2024
language	English
room	Lecture hall E or on-line, depending on the speaker
requirements	-
software	-

## ASSESSMENT

attendance credit	attendance (min. 80%) written exam
language	English
date	February 19 <sup>th</sup> , 2024
room	Lecture hall E
educational materials	-

## LECTURERS

Kamil Steczkiewicz, PhD, IBB PAS  
Piotr Zielenkiewicz, prof., IBB PAS  
Tomasz Włodarski, PhD, UCL  
Joanna Trylska, prof., CENT UW  
Joanna Sułkowska, prof., CENT UW  
Marcin Grynberg, PhD, DSc, IBB PAS  
Norbert Odolczyk, PhD, IBB PAS  
Michał Dadlez, prof., IBB PAS  
Adam Godzik, prof., UNIVERSITY OF CALIFORNIA

## CONTACT PERSON

Kamil Steczkiewicz, PhD (ksteczk@ibb.waw.pl)

## COORDINATORS

Anna Muszewska, PhD, DSc (musze@ibb.waw.pl)  
Adrian Iwaniuk (sbm@ibb.waw.pl)

### The course includes:

Description of protein structure at multiple complexity levels  
Computational modeling of protein synthesis at the ribosome  
Computational prediction of protein's 3D structure  
Protein-protein interactions  
Molecular dynamics  
Protein-ligand interactions  
Experimental approaches to studying multiple aspects of protein structure and dynamics  
Low complexity proteins  
Knotted proteins  
Modeling protein function evolution

## LECTURE

structure  
schedule  
language  
room  
requirements  
software

## COMMERCIALIZATION AND INTELLECTUAL PROPERTY

series of 4 meetings (2 x 45 min each)  
Fridays 09:30 am  
October 6<sup>th</sup>, 2023 – October 25<sup>th</sup>, 2023  
English  
Room 7 / A  
-  
-

## ASSESSMENT

attendance credit  
language  
room  
educational materials

attendance (min. 80%)  
English  
Room 7 / A  
-

## LECTURERS

Katarzyna Pala, PhD, CEO, FOOD4FUTURE TECHNOLOGIES SP. Z O.O.

Anna Rożkowicz, patent attorney, partner at WTS Patent Attorneys

## CONTACT PERSON COORDINATORS

Anna Muszewska, PhD, DSc (musze@ibb.waw.pl)  
Adrian Iwaniuk (sbm@ibb.waw.pl)

### The course includes two parts:

**IP rights** - protection of innovations and patent strategies. Introduction into intellectual property rights - presenting various in terms of length, scope and nature rights. Legal paths and substantial requirements for obtaining protection of inventions at national and international level, with a focus on innovations emerging from the biotech/chemistry/pharmaceuticals field.

**Commercialization of IP** – practical aspects and case studies. The practical aspects and case studies of IP commercialization, including the fundamental principles of generating revenue from knowledge. The advantages and disadvantages of lending versus selling, as well as the possibility of creating spin-off and start-up companies. The topic is illustrated with business cases and real-life examples.

## LECTURE

structure  
schedule

## BIOSTATISTICS

series of 10 meetings (2 x 45 min each)  
Fridays 09:00 am  
10-17-24.11.2023  
1-8-15.12.2023  
12.01.2024  
2-9-16.02.2024

language  
room  
requirements  
software

English  
on-line,  
use your full name while logging in  
-

## ASSESSMENT

attendance credit

attendance (min. 80%)

language  
educational materials

English  
-

## LECTURERS

Marta Zalewska, PhD, DSc, WUM  
Wojciech Niemirow, prof, MIM UW

## CONTACT PERSON

Anna Muszewska, PhD, DSc (musze@ibb.waw.pl)

## COORDINATORS

Adrian Iwaniuk (sbm@ibb.waw.pl)

### The course includes:

- Introduction to using R in statistical research (various types of data, summaries and interpretation of data).
- Probability as quantification of uncertainty.
- Confidence intervals and hypothesis testing. Popular statistical tests in biomedical applications.
- Correlation and regression, multiple regression, interpreting results.
- Anova: testing differences among many samples.
- Odds Ratio and Relative Risk in medical research.
- Elements of survival analysis.

## LECTURE

structure

schedule

language

room

requirements

software

## MEDICINAL CHEMISTRY

series of 15 meetings (2 x 45 min each)

Mondays 09:30 am

February 26<sup>th</sup>, 2024 - June 17<sup>th</sup>, 2024

English

Lecture hall E or on-line, depending on the speaker

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## ASSESSMENT

attendance credit

attendance (min. 80%)

written exam

language

English

date

June 17<sup>th</sup>, 2024

room

Lecture hall E

educational materials

-

## LECTURERS

full list will be available later

## CONTACT PERSON

Adam Mieczkowski, PhD, DSc (amiecz@ibb.waw.pl)

## COORDINATORS

Anna Muszewska, PhD, DSc (musze@ibb.waw.pl)

Adrian Iwaniuk (sbm@ibb.waw.pl)

### The course includes:

The lecture concerns modern issues, directions and strategies in the field of medicinal chemistry and presents current chemical and biochemical tools applied in drug discovery. The lecture will be focused on the development of novel therapeutic agents based on nucleoside analogues, metal-based drugs, radiopharmaceuticals, peptide nucleic acids, therapeutic nucleic acids (mRNA, antisense, siRNA, Crispr/Cas, ribozymes, DNA and RNA oligonucleotides) boron-based drugs, peptide and peptidemimetics used as antitumor, antiviral and/or antibacterial agents and also include issues related to drug polymorphism, activity/affinity-based protein profiling in drug discovery and PROTACs as promising new strategy for anticancer therapy.

## **LECTURE**

structure  
schedule  
language  
room  
requirements  
software

## **ASSESSMENT**

attendance credit

language

room

educational materials

## **LECTURERS**

## **CONTACT PERSON**

## **COORDINATORS**

## **SCIENTIFIC WRITING**

series of 5 meetings (2 x 45 min each)  
Fridays 09:30 am  
February 23<sup>th</sup>, 2024 – March 30<sup>th</sup>, 2024  
English  
Room 7 / A  
-  
-

attendance (min. 80%)

English

Room 7 / A

-

Piotr Wasylczyk, PhD, DSc (pwasylicz@fuw.edu.pl)

Anna Muszewska, PhD, DSc (musze@ibb.waw.pl)

Adrian Iwaniuk (sbm@ibb.waw.pl)

## LECTURE

structure

schedule

language

room

requirements

software

## HOW TO BUILD A GRANT PROPOSAL

series of 2 meetings (2 x 45 min each)

Fridays 09:30 am

May 9<sup>th</sup>, 2024 – May 16<sup>th</sup>, 2024

English

7 / A

-

## ASSESSMENT

attendance credit

attendance

language

English

educational materials

-

## LECTURERS

Szymon Świeżewski, PhD, DSc

## CONTACT PERSON

Szymon Świeżewski, PhD, DSc ([sswiesz@ibb.waw.pl](mailto:sswiesz@ibb.waw.pl))

## COORDINATORS

Anna Muszewska, PhD, DSc ([musze@ibb.waw.pl](mailto:musze@ibb.waw.pl))

Adrian Iwaniuk ([sbm@ibb.waw.pl](mailto:sbm@ibb.waw.pl))

### The course includes:

- Selecting a proper call.
- Identifying your strengths.
- How to choose the subject of the grant proposal.
- Balancing novelty and feasibility.
- Art of writing a grant proposal.
- Common mistakes in grant proposals.



## LECTURE

structure  
schedule  
language  
room  
requirements  
software

## ETHICS IN RESEARCH

series of 4 meetings (2 x 45 min each)  
Fridays 09:30 am  
June xxx<sup>th</sup>, 2024 – June xx<sup>th</sup>, 2024  
English  
on-line  
use your full name while logging in  
-

## ASSESSMENT

attendance credit

attendance (min. 80%)

language

English

room

on-line

educational materials

-

## LECTURERS

Wojciech Fendler, prof, physician and biostatistician  
Paulina Seidler, PhD in Philosophy  
Zuzanna Warso, PhD, Director of Research at the Open Future Foundation  
Błażej Dawidson, supports organizations in improving services and customer experience  
Anna Muszewska, PhD, DSc (musze@ibb.waw.pl)  
Adrian Iwaniuk (sbm@ibb.waw.pl)

## CONTACT PERSON COORDINATORS

### The course includes:

- Data integrity and data manipulation
- The role of society and communication
- Ethics in the philosophical context
- Legal frames of research and RRI