INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS
POLISH ACADEMY OF SCIENCES

Courses for PhD students

The academic year 2023 / 2024

Warsaw, June, 2023
(Update: March, 2024)

AUTUMN 2023

MONDAYS

PROTEIN STRUCTURE AND FUNCTION
October 2, 2023 - February 19, 2024
15 meetings
language: English

FRIDAYS

COMMERCIALIZATION
October 6-27, 2023
4 meetings
language: English

BIOSTATISTICS
November 10, 2023 – February 16, 2024
10 meetings
language: English

SPRING 2024

MONDAYS

MEDICAL CHEMISTRY
March 4 – June 17, 2024, Mondays, 9:30 a.m.
language: English

FRIDAYS

SCIENTIFIC WRITING
March 1 – April 12, 2024
5 meetings
language: English

HOW TO BUILD A GRANT PROPOSAL
May, 2024
2 meetings
language: English

ETHICS IN RESEARCH
May - June, 2024
4 meetings
language: English

LECTURE	**PROTEIN STRUCTURE AND FUNCTION**
structure	series of 15 meetings (2 x 45 min each)
schedule	Mondays 09:30 am October 2nd, 2023 – February 19th, 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 19th, 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	**COMMERCIALIZATION AND INTELLECTUAL PROPERTY**
structure	series of 4 meetings (2 x 45 min each)
schedule	Fridays 09:30 am October 6th, 2023 – October 27th, 2023
language	English
room	Room 7 / A
requirements	-
software	-
ASSESSMENT	
attendance credit	attendance (min. 75%)
language	English
room	Room 7 / A
educational materials	-
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	**BIOSTATISTICS**
structure	series of 10 meetings (2 x 45 min each)
schedule	Fridays 09:00 am 10-17-24.11.2023 1-8-15.12.2023 12.01.2024 2-9-16.02.2024
language	English
room	on-line,
requirements	use your full name while logging in
software	-
ASSESSMENT	
attendance credit	attendance (min. 80%)
language	English
educational materials	-
LECTURERS	Marta Zalewska, PhD, DSc, WUM Wojciech Niemiro, 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	**MEDICINAL CHEMISTRY**
structure	series of 15 meetings (2 x 45 min each)
schedule	Mondays 09:30 am March 4th, 2024 - June 17th, 2024
language	English
room	**Lecture hall E or on-line, depending on the speaker (Specific List of Lectures is available in a subject folder on NextCloud)**
requirements	-
software	-
ASSESSMENT	
attendance credit	attendance (min. 80%) written exam
language	English
date	June 17th, 2024
room	Lecture hall E
educational materials	-
LECTURERS	Available in a subject folder on NextCloud
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

SCIENTIFIC WRITING

structure	series of 5 meetings (2 x 45 min each)
schedule	Fridays 09:30 am March 1 th, 2024 ~~March 8 th, 2024~~ March 15 th, 2024 March 22 th, 2024 April 5 th, 2024 April 12 th, 2024
language	English
room	Room 7 / A
requirements	-
software	-

ASSESSMENT

attendance credit	attendance (min. 80%)
language	English
room	Room 7 / A
educational materials	-

LECTURERS

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

CONTACT PERSON

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

COORDINATORS

Adrian Iwaniuk (sbm@ibb.waw.pl)

LECTURE	**HOW TO BUILD A GRANT PROPOSAL**
structure	series of 2 meetings (2 x 45 min each)
schedule	Fridays 09:30 am May 10th, 2024 May 17th, 2024
language	English
room	Lecture hall E
requirements	
software	-
ASSESSMENT	
attendance credit	attendance
language	English
educational materials	-
LECTURERS	Szymon Świeżewski, PhD, DSc
CONTACT PERSON	Szymon Świeżewski, PhD, DSc (sswiez@ibb.waw.pl)
COORDINATORS	Anna Muszewska, PhD, DSc (musze@ibb.waw.pl) Adrian Iwaniuk (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	**ETHICS IN RESEARCH**
structure	series of 4 meetings (2 x 45 min each)
schedule	Fridays 09:30 am May 24 th online June 7 th, 2024 online **June 21 th, 2024 on-site** June 28 th, 2024 online
language	English
room	on-line/ Room 7 / A
requirements	use your full name while logging in
software	-
ASSESSMENT	
attendance credit	attendance (min. 75%)
language	English
room	Room 7 / A and on-line
educational materials	-
LECTURERS	Wojciech Fendler, prof, physician and biostatistician Paulina Seidler, PhD in Phylosophy Zuzanna Warso, PhD, Director of Research at the Open Future Foundation Błażej Dawidson, supports organizations in improving services and customer experience
CONTACT PERSON	Anna Muszewska, PhD, DSc (musze@ibb.waw.pl)
COORDINATORS	Adrian Iwaniuk (sbm@ibb.waw.pl)

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