

CV of Prof. Robert Penchovsky, Dr. rer. nat.

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Head of Laboratory for Synthetic Biology and Bioinformatics

Work address: Dragan Tsankov_№8 blv., Sofia 1164, Bulgaria, room 363, visiting hours: Tuesday and Thursday, 4 pm – 6 pm

Position held: Professor of Molecular Genetics, Synthetic Biology and Bioinformatics and Head of the Laboratory of Synthetic Biology and Bioinformatics

Main activities and responsibilities: Training and assessment of students; Development of new courses; Guidance of graduates and doctoral students; Scientific research, preparation, and implementation of national and international scientific and educational courses.



Prof. Dr. Robert Penchovsky, Head of Laboratory of Synthetic Biology and Bioinformatics, Faculty of Biology, Sofia University "St. Kliment Ohridski".

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Teaching experience:

Courses:

"**Molecular Genetics**" (mandatory subject) for IV year students of the Molecular Biology major

"**Introduction to Bioinformatics**" (mandatory subject) for students of the 3rd year of the Agrobiotechnology major

"**Bioinformatics and Molecular Evolution**" (mandatory subject) for students of the 1st year of the master's program Genetics and Genomics (in English and in Bulgarian) and Gene and Cell Engineering (in Bulgarian)

"**Synthetic Biology**" (mandatory subject) for students in the first year of the Master's program Genetics and Genomics (in English and in Bulgarian) and Gene and Cell Engineering (in Bulgarian)

"**Genomics**" (mandatory subject) for students in the first year of the Master's program Genetics and Genomics (in English and in Bulgarian) and Genetic and Cell Engineering (in Bulgarian)

Head of the SDC: "MODERN ASPECTS OF BIOLOGY: BIOINFORMATICS, GENOMICS and SYNTHETIC BIOLOGY" (in Bulgarian)

"**Synthetic Biology**" (mandatory subject) for students in the first year of the Master's program Genetics and Genomics (in English and in Bulgarian) and Gene and Cell Engineering (in Bulgarian)

"**Genomics**" (mandatory subject) for students in the first year of the Master's program Genetics and Genomics (in English and in Bulgarian) and Genetic and Cell Engineering (in Bulgarian) **Education and training:**

2003-2006 - Post-doc in RNA Synthetic and Computational Biology at Yale University, in the laboratory of Prof. Ronald R.

2000-2003 - Educational and scientific degree "Doctor", specialty Genetics, Dissertation "An Integrated DNA Selection in Micro-flow Reactors as an Approach for Molecular Computation and Diagnostics" at the University of Cologne, Germany

1999 - Researcher at the Institute of Molecular Biotechnology in Jena, Germany

1996 Researcher in Molecular Biology at the Institute of Molecular Biology, Sofia, Bulgaria

1994 - Master's degree in Biochemistry, Microbiology, and Genetics, Sofia University "St. Kliment Ohridski".

Link: <https://penchovsky.atwebsites.com/index.php?page=16>

Selected scientific publications:

Link: <https://penchovsky.atwebpages.com/publications.php>

H-index: 18

Google Scholar citations: 1403 for 66 publications

Citations in the last 5 years: 799 times

Research Gate citations: 1164 and H-index: 18 for 70 publications

SCOPUS citations: 991 and H-index: 17 for 46 publications

Impact Factor (IF): 254

Prof. Robert Penchovsky is the leading author of 97% of his publications and the corresponding author of 94% of them. Over 87% of his publications do not have more than 3 co-authors, and 11.4% have more than 4 and 5 authors. Only 1.6% of his articles/books have more than 5 authors.

1. Dimitrios Caloudas, Nikolet Pavlova and Robert Penchovsky **Computational Design of Allosteric Ribozymes via Genetic Algorithms**, 2024, Methods in Molecular Biology, MIMB, volume 2822, RNA Amplification and Analysis
2. Robert Penchovsky, Antoniya V. Georgieva, Vanya Dyakova, Martina Traykovska and Nikolet Pavlova, **Antisense and Functional Nucleic Acids in Rational Drug Development**, Antibiotics 2024, IF: 4.3, <https://doi.org/10.3390/antibiotics13030221>
3. Katya B. Popova and Robert Penchovsky, **General and Specific Cytotoxicity of Chimeric Antisense Oligonucleotides in Bacterial cells and Human Cell Lines**, Antibiotics 2024, IF: 4.3, <https://doi.org/10.3390/antibiotics13020122>
4. Nikolet Pavlova, Martina Traykovska, Robert Penchovsky, **“Targeting FMN, TPP, SAM-I, and glmS Riboswitches with Chimeric Antisense Oligonucleotides for Completely Rational Antibacterial Drug Development”**, Antibiotics, 2023.
5. Dimitrios Kaloudas, Nikolet Pavlova, Robert Penchovsky, **„GHOST-NOT and GHOST-YES: Two programs for generating high-speed biosensors with randomized oligonucleotide binding sites with NOT or YES Boolean logic functions based on experimentally validated algorithms“**, Journal of Biotechnology Volume 373, 20 August 2023, Pages 82-89, doi: <https://doi.org/10.1016/j.jbiotec.2023.07.005>

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1. Robert Penchovsky , Dimitrios Kaloudas, “Molecular factors affecting tomato fruit size”, Plant Gene Volume 33, March 2023, 100395, <https://doi.org/10.1016/j.plgene.2022.100395>
2. Martina Traykovska, Robert Penchovsky, “**Engineering antisense oligonucleotides as antibacterial agents that target FMN riboswitches and inhibit the growth of Staphylococcus aureus, Listeria monocytogenes, and Escherichia coli**”, ACS Synthetic Biology, 2022, ISSN: 2161-5063, doi: 10.1021/acssynbio.2c00013, Q1, IF 5
3. Martina Traykovska, Robert Penchovsky, “**Targeting SAM-I Riboswitch Using Antisense Oligonucleotide Technology for Inhibiting the Growth of Staphylococcus aureus and Listeria monocytogenes**”, Antibiotics, 2022, IF 5.0 <https://www.mdpi.com/2079-6382/11/11/1662/pdf>
4. Martina Traykovska, Lozena A. Otcheva, Robert Penchovsky, “**Targeting TPP riboswitches using chimeric antisense oligonucleotide technology for antibacterial drug development**”, ACS Applied Bio Materials, 2022, Q1, IF 4.5, doi: 10.1021/acsabm.2c00628
5. Dimitrios Kaloudas, Robert Penchovsky, “**An allosteric ribozyme generator and an inverse folding ribozyme generator: Two computer programs for automated computational design of oligonucleotide-sensing allosteric hammerhead ribozymes with YES Boolean logic function based on experimentally validated algorithms**”, Computers in Biology and Medicine Volume 145, June 2022, 105469, <https://doi.org/10.1016/j.combiomed.2022.105469>
6. Robert Penchovsky, Nikolet Pavlova, Georgi Miloshev, Antoniya Georgieva, Martina Traykovska, “**Versatile Tools of Synthetic Biology applied for Drug Discovery and Production**”, Future Medicinal Chemistry, Q2, IF 4.75, 2022
7. Georgi Y. Miloshev,, Martina Traykovska, Dimitrios Kaloudas, Robert Penchovsky, “**ENGINEERING A PLASMID AS A REPORTER SYSTEM FOR QUANTIFYING GENE EXPRESSION IN ESCHERICHIA COLI**” Proceedings of the Bulgarian Academy of Sciences, 2022
8. Aikaterini Valsamatzi, Martina Traykovska, Robert Penchovsky, “**Coronavirus SARS-CoV-2: Where do we stand?**”, Acta Microbiologica Bulgarica, ISSN: 26033755, 2022, SJR 0.115, Q4
9. Nikolet Pavlova and Robert Penchovsky, “**Bioinformatics and Genomic Analyses of the Suitability of Eight Riboswitches for Antibacterial Drug Targets**”, Antibiotics 2022, Impact Factor: 4.8 (2022); 5-Year Impact Factor: 4.9 (2022)

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10. Robert Penchovsky, Georgi Miloshev, Nikolet Pavlova, Katya Popova, Lozena Otcheva, Aikaterini Valsamatzi, Martina Traykovska, **Book: New Frontiers and Applications of Synthetic Biology; chapter 8. Small RNA-based systems for sensing and therapeutic applications**, Elsevier, 2022, ISBN: 9780128244692
11. Aikaterini Valsamatzi, Robert Penchovsky, **“Environmental factors influencing the transmission of the coronavirus 2019”**: a review, [*Environmental Chemistry Letters* volume 20](#), pages 1603–1610 (2022)
12. Martina Traykovska, Katya B. Popova, Robert Penchovsky, **“Targeting glmS Ribozyme with Chimeric Antisense Oligonucleotides for Antibacterial Drug Development”**, ACS Synthetic Biology, 2021, doi: <https://pubs.acs.org/doi/10.1021/acssynbio.1c00443>, SJR 5.5, Q1
13. Dimitrios Kaloudas, Nikolet Pavlova & Robert Penchovsky, **“Lignocellulose, algal biomass, biofuels and biohydrogen”**: a review, Environmental Chemistry Letters volume 19, pages2809–2824 (2021)
14. Dimitrios Kaloudas, Nikolet Pavlova & Robert Penchovsky, **“Phycoremediation of wastewater by microalgae”**: a review, [*Environmental Chemistry Letters* volume 19](#), pages2905–2920 (2021), Published: 28 March 2021
15. Robert Penchovsky, **“Nucleic Acids-Based Nanotechnology: Engineering Principals and Applications”**, Biomedical Engineering: Concepts, Methodologies, Tools and Applications, DOI: 10.4018/978-1-5225-3158-6.ch006
16. Aikaterini Valsamatzi-Panagiotou, Katya B. Popova & Robert Penchovsky, **„Methods for prevention and constraint of antimicrobial resistance“**: a review, Environmental Chemistry Letters volume 19, pages2005–2012 (2021), Published: 18 February 2021
17. Aikaterini Valsamatzi-Panagiotou, Katya B. Popova & Robert Penchovsky, **“Chapter: Strategies for Prevention and Containment of Antimicrobial Resistance”** January 2021, Sustainable Agriculture Reviews book series (SARV, volume 49)
18. Katya B. Popova, Aikaterini Valsamatzi-Panagiotou & Robert Penchovsky, **„New drug discovery strategies for targeting drug-resistant bacteria“**, Environmental Chemistry Letters volume 19, pages1995–2004 (2021), Published: 13 February 2021
19. Katya B Popova, Robert Penchovsky, **„Current Activators of the glmS Riboswitch”** Biomedical Journal of Scientific and Technical research, January 22, 2021, DOI: [10.26717/BJSTR.2021.33.005348](https://doi.org/10.26717/BJSTR.2021.33.005348)

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20. Lozena A Otcheva, Nikolett Pavlova, Katya B Popova, Martina Traykovska, Robert Penchovsky, **“Why some Riboswitches are Suitable Targets for Antibacterial Drug Discovery”**, EC Microbiology, 2020
21. Aikaterini Valsamatzi-Panagiotou, Martina Traykovska, Robert Penchovsky, **“Mechanisms of antibacterial drug resistance and approaches to overcome”**, Drug Discovery Targeting Drug-Resistant Bacteria, 2020, ISBN: B978-0-12818480-6.00002-3
22. Nikolett Pavlova, Dimitrios Kaloudas, Robert Penchovsky, **„Riboswitch distribution, structure, and function in bacteria“**, Gene Volume 708, 5 August 2019, Pages 38-48, <https://doi.org/10.1016/j.gene.2019.05.036>
23. Dimitrios Kaloudas, Robert Penchovsky, **“Plant-Derived Compounds and Their Potential Role in Drug Development”**, Research Anthology on Recent Advancements in Ethnopharmacology and Nutraceuticals, DOI: 10.4018/978-16684-3546-5.ch026
24. Aikaterini Valsamatzi-Panagiotou, Martina Traykovska, Robert Penchovsky, **“Mechanisms of Drug resistance and Approaches to overcome it”**, Elsevier, 2019
25. Robert Penchovsky, **„Automated DNA hybridization transfer with movable super-paramagnetic microbeads in a microflow reactor“**, Biosensors and Bioelectronics Volume 135, 15 June 2019, Pages 30-35, <https://doi.org/10.1016/j.bios.2019.04.014>
26. Robert Penchovsky, **“Nucleic Acids-Based Nanotechnology: Engineering Principals and Applications”**, Source Title: Biomedical Engineering: Concepts, Methodologies, Tools, and Applications, 2018, DOI: 10.4018/978-1-5225-3158-6.ch006
27. Dimitrios Kaloudas, Robert Penchovsky, **“Arabidopsis Homologues to the LRAT a Possible Substrate for New Plant-Based Anti-Cancer Drug Development”**, International Journal of Biomedical and Clinical Engineering (IJBCE) 7(1), 2018, DOI: 10.4018/IJBCE.2018010103
28. Robert Penchovsky, Martina Traykovska, **“Synthetic Approaches to Biology: engineering gene control circuits, synthesizing, and editing genomes, Emerging Research on Bioinspired Materials Engineering”**, IGI Global, DOI: 10.4018/978-1-4666-9811-6, 2016 <https://www.igi-global.com/chapter/synthetic-approaches-to-biology/146511>

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29. Katya B Popova, Lozena A Otcheva, Martina Traykovska, Robert Penchovsky, **“RNA as A Potent Target for Antibacterial Drug Discovery”**, Biomedical Journal of Scientific and Technical Research, 2018, ISSN: 2574-1241, doi: 10.26717/BJSTR.2018.10.001938 ‘
30. Robert Penchovsky, Martina Traykovska, **“Designing drugs that overcome antibacterial resistance: where do we stand and what should we do?”** Expert opinion on drug discovery, doi: 10.1517/17460441.2015.1048219, 2015, IF 5.7
31. Penchovsky R, Kostova C., **“Computational selection and experimental validation of allosteric ribozymes that sense a specific sequence of human telomerase reverse transcriptase mRNAs as universal anticancer therapy agents”**, Nucleic Acid Therapeutics (2013) 23(6) 408-417, DOI: 10.1089/nat.2013.0446
32. Robert Penchovsky, **“Engineering Gene Control Circuits with Allosteric Ribozymes in Human Cells as a Medicine of the Future”**, Bioinformatics: Concepts, Methodologies, Tools, and Applications, 2013, DOI: 10.4018/978-14666-3604-0.ch047
33. Penchovsky R., **“Engineering integrated digital circuits with allosteric ribozymes for scaling up molecular computation and diagnostics”**, ACS synthetic biology (2012) 1(10) 471-482, DOI: [10.1021/sb300053s](https://doi.org/10.1021/sb300053s)
34. Kenneth Blount, Izabela Puskarz, Robert Penchovsky, Ronald Breake, **„Development and Application of a High-Throughput Assay for glmS Riboswitch Activators“**, RNA Biology, 2006

Link: <https://penchovsky.atwebpages.com/publications.php>

Patent:

1. International Publication Patent Number: WO 2008/127382
PCT/US20071973: **“Computational design of ribozymes”**, Nov. 2011
<https://penchovsky.atwebpages.com/publications.php?page=1>
2. International Publication Patent Number: WO 2018/197926 A1 **“Methods for creating novel antibacterial agents using chimeric antisense oligonucleotides”**, Nov. 2018
<https://penchovsky.atwebpages.com/publications.php?page=227>
3. Български патент **„Използване на антисенс олигонуклеотиди с антибактериални действие“**
<https://penchovsky.atwebpages.com/publications.php?page=270>

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Participation in research projects:

1. Project "Sofia University – Marker for Innovation and Technology Transfer (SUMMIT)", with number No.70-123-194/2.02.2024, **"Creation of software systems for computer design of fast allosteric ribozymes that sense the presence of oligonucleotides with a precisely defined sequence and a database of clinically significant genetic variations in humans for application for two patents"**, Budget 200,000 BGN, duration 2 years.
2. Project "Sofia University - Marker for Innovation and Technology Transfer (SUMMIT)", with number 70-123-505/05.07.2023, **"Design of antisense oligonucleotides linked to cell-penetrating oligopeptides as novel antibacterial agents against resistant pathogenic bacteria in humans for application for a European patent"**, Budget 200,000 BGN, duration 2 years.
3. **"Comparative analysis of the effectiveness of new antibacterial agents based on different antisense oligonucleotides using different molecular mechanisms of RNA inhibition"**, Funding institution Scientific Research Fund of Ministry of Education, from 2022 to 2024.
4. **"Design of Functional Nucleic Acids for Synthetic Reflation of Gene Expression in Prokaryotes and Eukaryotes"**, Funding Institution Scientific Research of Ministry of Education, from 2019 to 2022.
5. **"Design and experimental testing of chimeric antisense oligonucleotides as antibacterial agents"**, Funding institution Scientific Research Fund of Ministry of Education, from 2017 to 2020.
6. "Application of antisense oligonucleotides as antibacterial agents in *Enterococcus faecalis*", Funding institution Scientific Research Fund of Sofia University, from 2020 to 2020.
7. **"Antisense oligonucleotides that specifically bind to FMN and CAM riboswitches in human pathogenic bacteria"**, Funding institution of Scientific Research Fund Sofia University, from 2019 to 2019.
8. **"Application of antisense oligonucleotides as antibacterial agents in *Staphylococcus aureus*"**, Funding institution Scientific Research Fund of Sofia University, from 2018 to 2018.
9. **"New methods for creating antibacterial agents against *Listeria monocytogenes*"**, by using antisense oligonucleotides", Funding

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institution Scientific Research Fund of Sofia University, from 2018 to 2018.

10. **"New methods for creating antibiotics against resistant strains of Escherichia coli, by using antisense oligonucleotides that inhibit biochemical pathways controlled by riboswitches"**, Funding institution Scientific Research Fund of Sofia University, from 2017 to 2017.
11. **"New methods for the detection of antibiotic agents against resistant strains of Staphylococcus aureus, by applying antisense oligonucleotides"**, Funding institution Scientific Research Fund of Sofia University, from 2016 to 2016.
12. **"Application of antisense oligonucleotides for specific inhibition of bacterial RNAs, as a new method for creating antibiotics"**, Funding institution Scientific Research Fund of Sofia University, from 2015 to 2015

Awards won:

1. **1. Outstanding Scientist Award from the 7th Edition of International Research Awards on SENSING TECHNOLOGY on August 5th, 2023!) on August 5th, 2023!**



Certificate of Excellence, Prof. Dr. Robert Penchovsky, August 2023.

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2. Award from the Bulgarian national competition for scientific achievements in the field of synthetic biology, bioinformatics and molecular evolution for researchers from all fields over the age of 35, organized by the Union of Scientists in Bulgaria.

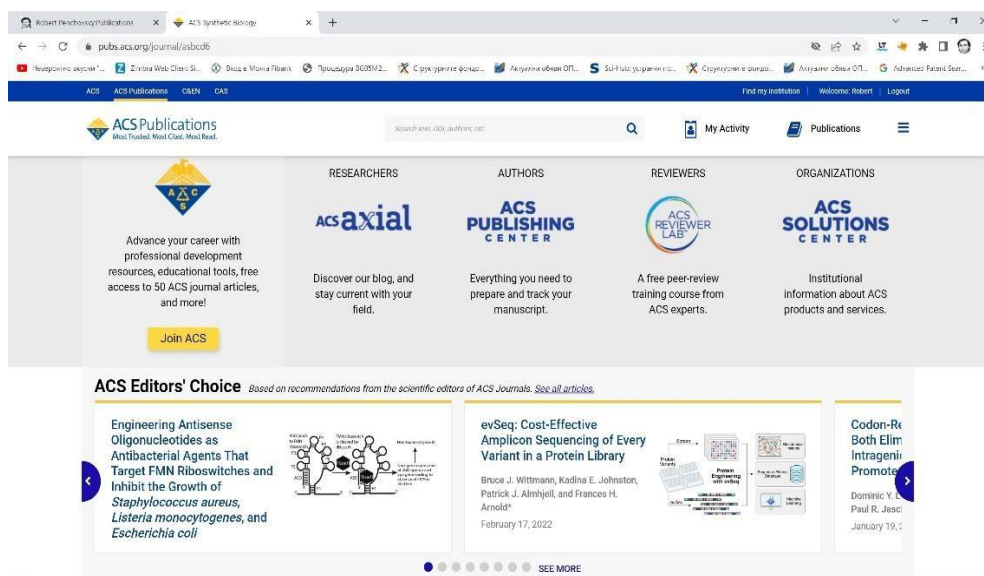


3. Award for the most successful project of the "Sofia Science Festival" in the field of biological sciences on the topic: "Application of antisense oligonucleotides as antibacterial agents in *Enterococcus faecalis*", under the National Program "Young scientists and postdoctoral students", 15-16 May 2021, Sofia, Bulgaria
4. Four young scientists under the mentorship of Prof. Penchovsky won awards for the best young scientists and doctoral students in Bulgaria
5. Received recognition for the publication "Engineering antisense oligonucleotides as antibacterial agents that target FMN riboswitches and inhibit the growth of *Staphylococcus aureus*, *Listeria monocytogenes*, and

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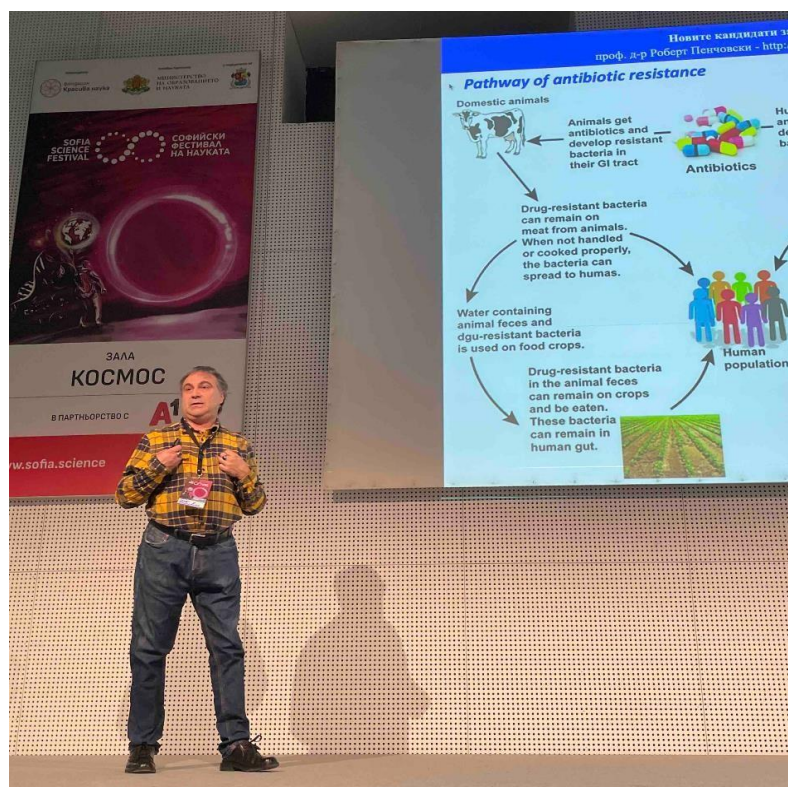
Escherichia coli" – an editors' choice of the American Chemical Society and is among the most popular in the ACS Synthetic Biology

<https://penchovsky.atwebpages.com/publications.php>



Participation in conferences:

1. Guest speaker with a lecture at the 13th Sofia Science Festival from May 11 to 14, Sofia, Bulgaria, on the topic "The New Antibiotics"



Prof. Dr. Robert Penchovsky presents the topic "New Antibiotics" at the 13th Sofia Science Festival, Sofia, Bulgaria.

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2. **Guest speaker with a lecture at the 15th Congress of Bulgarian Microbiologists with international participation. 15th Congress of the Bulgarian Microbiologists with International Participation, on the topic "Targeting glmS and FMN riboswitches with antisense oligonucleotides for antibacterial drug development", October 5-8, 2022, in Koprivshitsa, Bulgaria.**



Presentation of the "Targeting glmS and FMN riboswitches with antisense oligonucleotides for antibacterial drug development", Prof. dr. Penchovsky, 15th Congress of Bulgarian Microbiologists.

3. **Guest speaker with a lecture delivered at the Week of the beneficiaries of the Scientific Research Fund (BFNF), on the topic "Design and experimental validation of chimeric antisense oligonucleotides as antibacterial agents" July 1-5, 2019 in Sofia, Bulgaria**
4. **Guest speaker with a lecture delivered at the 9th EuroSciCon Conference on Microbiology and Virology, on "Engineering Antisense Oligonucleotides as Antibacterial Agents" on April 22-23, 2019 in Athens, Greece**

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5. Guest speaker with a lecture delivered at the 14th Congress of Microbiologists in Bulgaria with international participation, on the topic "Design and application of antisense oligonucleotides as antibacterial agents" October 10-13, 2018 in Hisarya, Bulgaria
6. Guest Speaker Poster Presentation at the German Bioinformatics Conference
- 2018 on "EBWS: Basic Bioinformatics Web Services for Sequence Analysis", September 25-28, 2018 in Vienna, Austria
7. Guest speaker with a lecture at the 10th Balkan Congress of Microbiology - Microbiologia Balkanica, on "Development of drugs that overcome antibacterial resistance: where are we and what should we do?", November 16-18, 2017 in Sofia, Bulgaria
8. Guest speaker with a lecture at the First Balkan Conference on Personalized Medicine, on the topic "Microfluidics and functional nucleic acids as tools in personalized medicine", October 26-27, 2017 in Sofia, Bulgaria
9. Guest speaker with a lecture delivered at the 12th Balkan Congress of Human Genetics, on the topic "Engineering integrated digital circuits with allosteric ribozymes for scaling molecular computation and diagnosis of rare diseases", September 8-10, 2017 in Plovdiv, Bulgaria
10. Guest speaker at the Jubilee Conference "125 Years of Mathematics and Natural Sciences", Faculty of Mathematics and Informatics, Sofia University, Sofia, Bulgaria
11. Guest speaker at the "National Conference on Biotechnology" at the Faculty of Biology, October 17-18, 2014, Sofia, Bulgaria

Link: <https://penchovsky.atwebpages.com/conferences.php>

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News and Views articles on the research publications

Link: <https://penchovsky.atwebpages.com/publications.php?page=2>

Link: <https://penchovsky.atwebpages.com/publications.php?page=3>

Link: <https://penchovsky.atwebpages.com/publications.php?page=3121>

Link: <https://penchovsky.atwebpages.com/publications.php?page=4>

Media appearances of the research team under the leadership of Prof. Dr. Robert Penchovsky and coverage of successes.

1. Official webpage of Prof. Dr. Robert Penchovsky:
<https://penchovsky.atwebpages.com/research.php>
2. Distinction for Prof. Dr. Robert Penchovsky from the Faculty of Biology
https://www.unisofia.bg/index.php/eng/news/news_and_events/distinction_for_prof_dr_robert_penchovsky_from_the_faculty_of_biology
3. Four young scientists from the Faculty of Biology received 7 prizes from competitions: https://www.unisofia.bg/index.php/novini/novini_i_s_bitiya/chetirima_mladi_ucheni_ot_biologichesk_iya_fakultet_poluchiha_nagradi_ot_konkursi
4. "How science is done at Sofia University, USA and Europe", interview of Prof. Penchovsky for BG Nauka:
https://www.facebook.com/watch/live/?ref=watch_permalink&v=5248314608547317
5. "That which does not kill us" - Prof. Robert Penchovsky and his team developed a new technology that overcomes antibiotic resistance, story on the Bulgarian National Radio: <https://bnr.bg/post/101625294>
6. "Design and experimental testing of chimeric antisense oligonucleotides as antibacterial agents", Prof. Penchovsky, BG Nauka:
<https://www.youtube.com/watch?v=4wq1FwFDYDo>
7. "How Prof. R. Penchovsky and his team fight antibiotic resistance", BG Nauka podcast: <https://www.youtube.com/watch?v=xNdp040iF9o>

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8. "Ch. Dr. Martina Trajkovska and her work as a geneticist at SU" in an interview with

BG Nauka: <https://www.youtube.com/watch?v=02douKt1Zmc>

9. "A microbiologist replaces antibiotics when they don't work" - interview in Business Global magazine, no. 6 (34): <https://bglobal.bg/108954->

<https://bglobal.bg/108954-%D0%9C%D0%B8%D0%BA%D1%80%D0%BE%D0%B1%D0%B8%D0%BE%D0%BB%D0%BE%D0%B3-%D0%B7%D0%B0%D0%BC%D0%B5%D1%81%D1%82%D0%B2%D0%B0-%D0%B0%D0%BD%D1%82%D0%B8%D0%B1%D0%B8%D0%BE%D1%82%D0%B8%D1%86%D0%B8%D1%82%D0%B5-%D0%BA%D0%BE%D0%B3%D0%B0%D1%82%D0%BE-%D0%BD%D0%B5-%D1%80%D0%B0%D0%B1%D0%BE%D1%82%D1%8F%D1%82>

10. Participation of Prof. Penchovsky in the 13th Sofia Science Festival:

<https://bnr.bg/sofia/post/101818513/festival-na-naukata>

11. First prize of the Stefan Angelov Foundation for the best work of a young Bulgarian microbiologist in 2022: <https://microbio.bas.bg/pages-409-76-godini-ot-osnovavanetona-institut-po-mikrobiologii-a-stefan-angelov-kam-ban-chlen-na-mrejata-pastior->

12. First prize of the Stefan Angelov Foundation for the best work of a young Bulgarian microbiologist in 2022: <https://www.bas.bg/?p=43141>

13. Four young scientists under the scientific guidance of Prof. Dr. Robert Penchovsky received five awards within the period 2021-2023: <https://nauka.bg/chetirima-mladiucheni-poluchiha-pet-nagradi-nauchnoto -rakovodstvo/>

14. Four young scientists under the scientific guidance of Prof. Dr. Robert Penchovsky received five awards within the period 2021-2023: <https://naukamon.eu/chetirimamladi-ucheni-pod-nauchnoto-rakovodstvo-na -prof-d-r-robert-penchovski-poluchihapet-nagradi-v-ramkite-na-perioda-2021-2023-g/>

15. Interview of Ch. Associate Professor Martina Trajkovska in "Bulgarian Science" magazine, no. 111: <https://kupinauka.com/product/balgarska-nauka-broy-111-v-pdf>

16. Participation of Prof. Penchovsky in the 13th Sofia Science Festival:

<https://bnr.bg/sofia/post/101818513/festival-na-naukata>

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17. Participation of Prof. Penchovsky in the 13th Sofia Science Festival:

<https://artsofia.bg/bg/events/2023/05/11/sofijskijat-festival-na-naukata-sybiraucheni-ot-11-dyrjavi>

18. Participation of Prof. Penchovsky in the 13th Sofia Science Festival:

<https://nauka.offnews.bg/novini/sofijski-festival-na-naukata-2023-tema-zdrave199040.html>

19. Round table at BCCI on innovations in research universities:

<https://www.bcci.bg/news/10388>