

Julia Romanowska

date of birth: 26 Dec 1983
gender: female; *nationality:* Polish
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EDUCATION

- Oct. 2007–Oct. 2012* **University of Warsaw, Poland**
PhD studies in Biophysics, Faculty of Physics;
supervisor: Prof. Joanna Trylska
thesis title: *Comparing physical properties of aminoglycoside antibiotics' binding sites in RNA and proteins*
- Oct. 2006–Sept. 2009* **University of Warsaw, Poland**
studies in Informatics, Faculty of Mathematics, Informatics and Mechanics
- Oct. 2002–Sept. 2007* **University of Warsaw, Poland**
master studies in Physics (specialization: Biophysics), Faculty of Physics;
supervisor: Prof. Joanna Trylska
thesis title: *Molecular dynamics studies of aminoglycosidic binding site in the ribosome*;
cumulative average grade: 88%; final grade: *very good*

PROFESSIONAL EXPERIENCE

- from January 2020* **BIOS (Biostatistics and Data Analysis), Department of Global Public Health and Primary Care, University of Bergen, Bergen**
bioinformatician and data analyst; currently: co-PI of DRONE project (Drug Repurposing for NEurological Diseases), led by Prof. Trond Riise
- from September 2019* **Centre for Fertility and Health, Norwegian Institute of Public Health, Oslo and Department of Global Public Health and Primary Care, University of Bergen, Bergen**
researcher in START project (Study of Assisted Reproductive Technology)
- July 2014–July 2019* **Department of Global Public Health and Primary Care, and Computational Biology Unit, University of Bergen, Norway**
post-doc under joint supervision of Prof. Rolv T. Lie and Prof. Inge Jonassen
(parental leave: *April–November 2015, March–June 2016, September 2017–May 2018 and August 2018*)
- Oct. 2012–July 2014* **Heidelberg Institute for Theoretical Studies, Heidelberg, Germany**
post-doc in Prof. Rebecca Wade's group
- Oct. 2009–May 2013* **Interdisciplinary Centre for Mathematical and Computational Modelling, University of Warsaw, Warsaw, Poland**
junior programmer
- Sept.–Dec. 2010* **Universitetet i Bergen, Bergen, Norway**
visiting Prof. Nathalie Reuter's group

Sept.–Nov. 2009

University of California San Diego, CA, USA
visiting Prof. J. Andrew McCammon's group

Jul.–Aug. 2006

International Institute of Molecular and Cell Biology, Warsaw, Poland
practice in Laboratory of Biomodelling, group of Prof. Sławomir Filipek

PUBLICATIONS

Preprint

Julia Romanowska, Øystein A. Haaland, Astanand Jugessur, Miriam Gjerdevik, Zongli Xu, Jack Taylor, Allen J. Wilcox, Inge Jonassen, Rolv Terje Lie, Håkon K. Gjessing; *Gene-Methylation Interactions: Discovering Region-Wise DNA Methylation Levels That Modify SNP-Associated Disease Risk*, [bioRxiv](#), **2019**.

Publications with peer-review process

1. Miriam Gjerdevik, Håkon K. Gjessing, Julia Romanowska, Øystein A. Haaland, Astanand Jugessur, Nikolai O. Czajkowski, and Rolv T. Lie. Design efficiency in genetic association studies, *Statistics in Medicine*, **2020**, 39(9), pp 1292–1310.
2. Miriam Gjerdevik, Astanand Jugessur, Øystein A. Haaland, Julia Romanowska, Rolv T. Lie, Heather J. Cordell, and Håkon K. Gjessing; *Haplin Power Analysis: A Software Module for Power and Sample Size Calculations in Genetic Association Analyses of Family Triads and Unrelated Controls*, *BMC Bioinformatics*, **2019**, 20(1), pp 165.
3. Julia Romanowska, Anagha Joshi; *From Genotype to Phenotype – through chromatin*, *Genes (MDPI)*, **2019**, 10(2), pp 76.
4. Øystein A. Haaland, Rolv T. Lie, Julia Romanowska, Miriam Gjerdevik, Håkon K. Gjessing, and Astanand Jugessur; *A Genome-Wide Search for Gene-Environment Effects in Isolated Cleft Lip with or without Cleft Palate Triads Points to an Interaction between Maternal Periconceptional Vitamin Use and Variants in ESRRG*, *Frontiers in Genetics*, **2018**, 9, pp 60–76.
5. Øivind Skare, Rolv T. Lie, Øystein A. Haaland, Miriam Gjerdevik, Julia Romanowska, Håkon K. Gjessing, and Astanand Jugessur; *Analysis of Parent-of-Origin Effects on the X Chromosome in Asian and European Orofacial Cleft Triads Identifies Associations with DMD, FGF13, EGFL6, and Additional Loci at Xp22.2*, *Frontiers in Genetics*, **2018**, 9, pp 25.
6. Miriam Gjerdevik, Øystein A. Haaland, Julia Romanowska, Rolv T. Lie, Astanand Jugessur, and Håkon K. Gjessing; *Parent-of-Origin-Environment Interactions in Case-Parent Triads with or without Independent Controls*, *Annals of Human Genetics*, **2018**, 82, pp 60–73.
7. Øystein A. Haaland, Astanand Jugessur, Miriam Gjerdevik, Julia Romanowska, Min Shi, Terri H. Beaty, Mary L. Marazita, *et al.*; *Genome-Wide Analysis of Parent-of-Origin Interaction Effects with Environmental Exposure (PoOxE): An Application to European and Asian Cleft Palate Trios*, *PLOS ONE*, **2017**, 12 (9), pp e0184358.
8. Øivind Skare, Håkon K. Gjessing, Miriam Gjerdevik, Øystein A. Haaland, Julia Romanowska, Rolv T. Lie, and Astanand Jugessur; *A New Approach to Chromosome-Wide Analysis of X-Linked Markers Identifies New Associations in Asian and European Case-Parent Triads of Orofacial Clefts*, *PLOS ONE*, **2017**, 12 (9), pp e0183772.
9. Julia Romanowska, Daria B. Kokh, Rebecca C. Wade; *When the Label Matters: Adsorption of Labeled and Unlabeled Proteins on Charged Surfaces*, *Nano Letters*, **2015**, 15 (11), pp 7508–7513.

10. Michael Martinez, Neil J. Bruce, Julia Romanowska, Daria B. Kokh, Musa Ozboyaci, Xiaofeng Yu, Mehmet Ali Öztürk, Stefan Richter, Rebecca C. Wade; *SDA 7: A modular and parallel implementation of the simulation of diffusional association software*, Journal of Computational Chemistry, **2015**, 36 (21), pp 1631–1645.
11. Marta Dudek, Julia Romanowska, Tomasz Wituła, Joanna Trylska; *Interactions of amikacin with the RNA model of the ribosomal A-site: Computational, spectroscopic and calorimetric studies*, Biochimie, **2014**, 102, pp 188–202.
12. Julia Romanowska, Nathalie Reuter, Joanna Trylska; *Comparing aminoglycoside binding sites in bacterial ribosomal RNA and aminoglycoside modifying enzymes*, Proteins: Structure, Function, and Bioinformatics, **2013**, 81 (1), pp 63–80
13. Julia Romanowska, Krzysztof Nowiński, Joanna Trylska; *Determining geometrically stable domains in molecular conformation sets*, Journal of Chemical Theory and Computation, **2012**, 8 (8), pp 2588–2599
14. Julia Romanowska, J. Andrew McCammon, Joanna Trylska; *Understanding the Origins of Bacterial Resistance to Aminoglycosides through Molecular Dynamics Mutational Study of the Ribosomal A-site*, PLoS Computational Biology, **2011**, 7 (7), e1002099
15. Julia Romanowska, Piotr Setny, Joanna Trylska; *Molecular dynamics study of the ribosomal A-site*, Journal of Physical Chemistry B., **2008**, 112 (47), pp 15227–15243

Book chapters

1. Anagha Joshi and Julia Romanowska, *Recent Advances in Computational-Based Approaches in Epigenetics Studies* in Epigenetics Methods, ed. Trygve Tollefsbol, (in preparation)
2. Julia Romanowska*, Daria B. Kokh*, Jonathan C. Fuller*, Rebecca C. Wade; *Computational Approaches for Studying Drug Binding Kinetics in Kinetics and Thermodynamics of Drug Binding* (György M. Keseru, David Swinney, eds.); Weinheim: Wiley-VCH; **2015**
(* — these authors contributed equally)
3. Julia Romanowska, Dariusz Ekonomiuk, Joanna Trylska; *Computational studies of RNA dynamics and RNA-ligand interactions* in Methods for Studying Nucleic Acid Drug Interactions; Taylor and Francis, CRC Press, **Dec. 2011**

Doctoral thesis

Comparing physical properties of aminoglycoside antibiotics' binding sites in RNA and proteins — successfully defended on 22.10.2012, at Faculty of Physics, University of Warsaw, Poland

AWARDS AND GRANTS

Oct. 2013	Best Bioinformatics PhD thesis of 2012 awarded by Polish Bioinformatics Society (www.ptbi.org.pl)
July 2013–July 2014	EMBO Long-Term Fellowship ; project title: “Understanding protein behavior in cell-like crowded and confined systems”, realized under the supervision of Prof. R. Wade at HITS, Heidelberg, Germany
Nov. 2011	Scopus-Perspektywy Young Researcher Award 2011 ; an award for outstanding young Polish researchers, funded by Elsevier, the international scientific publisher, and Perspektywy Foundation, Polish foundation for education

Sept. 2010–Aug. 2012 **doctoral research grant** financed by Polish Ministry of Science and Higher Education;
project title: “Comparison of physicochemical features of aminoglycoside antibiotics’ binding sites by means of computational biology”

SCHOLARSHIPS

Sept.–Dec. 2010 *Scholarship and Training Fund (FSS)*;
individual mobility grant for conducting research in Prof. Nathalie Reuter’s group, at University of Bergen, Norway

Mar. 2010–Oct. 2011 *Foundation for Polish Science (FNP)*;
personal stipend in TEAM project led by Assoc. Prof. Joanna Trylska

Oct. 2007–Jul. 2008 and Dec. 2009–Mar. 2010 *Foundation for Polish Science (FNP)*;
scholarship funded by FOCUS Programme grant holder, Assoc. Prof. Joanna Trylska

SELECTED CONFERENCES

Novemeber 14–15, 2018, Trondheim, Norway **NOFE (Norwegian epidemiologic association) conference**
oral presentation: “Incorporating genome-wide methylation and genotype data to elucidate how region-wise methylation level might influence allele-defined relative risks”

June 30–July 1, 2017, Heidelberg, Germany **HiTS Alumni Meeting**
oral presentation: “Predicting risks of genetic diseases with genotypes and DNA methylation levels”

September 7–8, 2015, Sotra, Norway **Bioinformatics in Bergen**
poster presentation: “Haplin — a powerful tool for studying gene-environment interactions”

June 15–18, 2014, Telluride, CO, USA **International Society of Quantum Biology and Pharmacology, 2014 President’s Meeting**
oral presentation: “New insights into the process of lysozyme adsorption to surfaces from Brownian dynamics simulations”

October 7–9, 2013, Heidelberg, Germany **Third Biological Diffusion and Brownian Dynamics Brainstorm: BDBDB3**
oral presentation: “Studying lysozyme adsorption onto a charged surface with multimolecular BD simulations”

September 25, 2013, Heidelberg, Germany **HITS research presentation for the attendees of Heidelberg Laureate Forum**
oral presentation: “Research overview — Molecular and Cellular Modeling Group @ HITS”

July 1, 2013, Heidelberg, Germany **Lab Meeting of HITS gGmbH and EML GmbH**
oral presentation: “Protein adsorption process — insights from multimolecular simulations”

December 17–18, 2012, Berlin, Germany **Kinetics for Drug Discovery (K4DD) Kick-off Meeting**
poster presentation: “HITS @ Work Package 1: Molecular Understanding”

November 30, 2012, Liège, Belgium **MedChem 2012 — From Rapid Dissociation to Irreversible Inhibition — Optimisation of Drug-Target Residence Time; Annual One-Day Meeting on Medicinal Chemistry of SRC & KVCV**

<i>August 28, 2012, Heidelberg, Germany</i>	Prof. Rebecca Wade's group meeting at HITS oral presentation: "Comparing physico-chemical features of biomolecules binding aminoglycoside antibiotics"
<i>June 17-20, 2012, Stockholm, Sweden</i>	International Society of Quantum Biology and Pharmacology, 2012 President's Meeting oral presentation: "Defining independently moving domains based on sets of biomolecular conformations"
<i>Sept. 13-16, 2011, Zurich, Switzerland</i>	CECAM workshop: Dynamics of Protein-Nucleic Acid Interactions: Integrating Simulations with Experiments poster presentation: "Understanding aminoglycoside recognition by aminoglycoside modifying enzymes and ribosomal RNA"
<i>May 22-26, 2011, Stockholm, Sweden</i>	IXth European Symposium of The Protein Society poster presentation: "Understanding aminoglycoside recognition by aminoglycoside modifying enzymes and ribosomal RNA" awarded <i>Protein Science Young Investigator Travel Grant</i>
<i>Mar. 29, 2011, Anaheim, CA, USA</i>	241st American Chemical Society National Meeting oral presentation: "Insights into aminoglycoside antibiotics recognition mechanisms"
<i>Sept. 28, 2010, Bergen, Norway</i>	Prof. Nathalie Reuter's group meeting , Computational Biology Unit (CBU), University of Bergen oral presentation: "Comparing physicochemical features of biomolecules interacting with aminoglycosidic antibiotics by means of computational modeling"
<i>Jun. 13-16, 2010, Cetraro, Italy</i>	International Society of Quantum Biology and Pharmacology, 2010 President's Meeting poster and oral presentation: "Insights into aminoglycosidic antibiotics' recognition mechanisms"
<i>Sept. 30, 2009, UCSD, San Diego, USA</i>	Prof. J. Andrew McCammon's group meeting oral presentation: "Characteristics of chosen aminoglycosidic antibiotics binding sites"
<i>Oct. 3-5, 2008, Jadwisin, Poland</i>	First Convention of the Polish Bioinformatics Society oral presentation: "Molecular dynamics study of the ribosomal A-site"
<i>Mar. 28-Apr. 3, 2008, Steamboat Springs, CO, USA</i>	Computer-Aided Drug Design poster presentation: "Molecular dynamics study of the ribosomal A-site"
<i>Mar. 26-29, 2007, Heidelberg, Germany</i>	Biological Diffusion and Brownian Dynamics Brainstorm poster presentation: "Dynamics of aminoglycosidic binding site in the small ribosomal subunit"

TEACHING EXPERIENCE

<i>June 2018</i>	lecturer and instructor at "Genetic epidemiology and genome-wide association analyses", course for PhD-students at University of Bergen
<i>spring semester 2017</i>	coordinator for master-level course "Applied bioinformatics 2" at University of Bergen, Norway
<i>June 2016</i>	lecturer and instructor at "Genetic epidemiology and genome-wide association analyses", course for PhD-students at University of Bergen

<i>April 2014</i>	instructor at “Computational analysis of protein binding properties”, course for PhD students at Heidelberg University
<i>Jan. 2014</i>	instructor at Bioinformatics Course for master students at Heidelberg University
<i>Mar. 2010–Oct. 2011</i>	Mentoring a student: help in preparing, conducting and analyzing Molecular Dynamics simulations; helping with presenting research results (preparation of posters, writing a scientific article)
<i>summer sem. 2009/2010</i>	group instructor in Computer Science I
<i>Jun.–Aug. 2008</i>	Mentoring a Master student: giving introduction to Molecular Dynamics simulation methods
<i>winter sem. 2007/2008</i>	group instructor in Computer Laboratory

VOLUNTEER WORK

<i>from October 2019</i>	co-founder of the R-Ladies Bergen chapter, part of the R-Ladies Global, a worldwide organization to support minorities in the R-programmer environment
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CONSULTING

<i>aug. 2016–sept. 2017</i>	Expert in the scientific panel for a collaborative project between the Polish National Health Fund and University of Bergen: <i>CanCell Cancer -preventing cancer development through health education</i> . The aim of the project was to create an app that would help prevent cancer in people with higher risk (play.google.com/store/apps/details?id=pl.gov.nfz.cancellcancer)
<i>from 2012</i>	Reviewer in ROpenSci, <i>Perspective in Medicinal Chemistry</i> , <i>Journal of Molecular Modeling</i> , <i>Journal of Chemical Information and Modeling</i> , and <i>Biophysical Journal</i>

INSTITUTIONAL RESPONSIBILITIES

<i>2017–2019</i>	temporary employees’ representative at the Board of Computational Biology Unit, University of Bergen
<i>October 2018</i>	member of the organizing committee for “Bioinformatics in Bergen 2018” conference

MEMBERSHIPS

Forskerforbundet: from 2019
Norsk Biokjemisk Selskap (FEBS Constituent Society): 2013
Biophysical Society: 2012–2014
International Society of Quantum Biology and Pharmacology: 2010–2016
Polish Bioinformatics Society: July 2008–July 2010

FOREIGN LANGUAGES

English	fluency in writing, reading and speaking; passed CAE (grade: B) in 2000; broad knowledge of scientific vocabulary
Norwegian	fluency in speaking and reading; good writing skills
German	beginner level

COMPUTER SKILLS

- advanced knowledge in Unix/Linux and Windows operating systems
- programming skills: Java, R, bash/csh, C/C++ , LaTeX, HTML, python, Fortran
- usage of systems for versioning control: git, SVN, Mercurial (hg)
- parallel programming techniques, big data analysis

HOBBY

knitting, yoga, photography, swimming, cycling, skiing, ice-skating, traveling, learning foreign languages