

CURRICULUM VITAE

Pavel V. Mazin

Personal data:

Business address: Bolshoy Karetny per. 19, Moscow, 127994, Russia

Date and place of birth: June 10, 1985, Moscow Region, Russia

Citizenship: Russian Federation

E-mail: iaa.aka@gmail.com

Education:

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| 2002 - 2006 | Department of Chemistry, Moscow State University, Moscow, Russia. |
| 2006 - 2008 | Department of Bioengineering and Bioinformatics, Moscow State University, Moscow, Russia. |
| 2008 | Master of science in Biology. Diploma “Prediction of substrate specificity in protein families”, supervisor: O.V. Kalinina. |
| 2012 | CSHL Genomic Data Analysis Course, Moscow, Russia, 2-11 June 2012. |

Career history:

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| 2002 - 2006 | MS Student, Department of Chemistry, Moscow State University, Moscow, Russia. |
| 2006 - 2008 | MS Student, Bioengineering and Bioinformatics, Moscow State University, Moscow, Russia. |
| 2008 - 2011 | Ph.D. student, Department of Bioengineering and Bioinformatics, Moscow State University, Moscow, Russia. |
| 2010 - 2011 | Visiting scientist, PICB-CAS, Shanghai, China |
| 2011 - present | Institute for Information Transmission Problems RAS, Moscow, Russia (http://ippi.ru) |
| 2013 – 2014 | Institute of Physico-Chemical Medicine RAS, Moscow, Russia |
| 2014 – present | Skolkovo Institute of Science and Technology, Moscow, Russia |

Honors

- 05.2012 - the Award of Invitro company
- 06.2012 - the Russian Federation President Stipend for young scientists. “*Gene markers for early diagnosis of neurodegenerative disorders*”

Teaching experience:

- 2012-2014, 2016 Bioinformatics school (Moscow): perl, R and MySQL – lectures and practical training for graduates
- 2014, 2015 The Faculty of Bioengineering and Bioinformatics, Lomonosov Moscow State University: three lectures about transcriptomics within “Next generation sequencing” lecture course.
- 2015 Summer school “Next generation sequencing” in Pushchino, Russia.
- 2015-2016 Skolkovo Institute of Science and Technology, five lectures in Bioinformatics lecture course.

Research experience:

- Leading alternative splicing research area in international evolutionary developmental project
- Prediction of specificity determining positions in multiple protein alignments
- Computational analysis of alternative splicing
- Bacterial transcriptomics

Products:

- o <http://bioinf.fbb.msu.ru/SDPfoxWeb/main.jsp> – SDPfox, a tool for prediction of specificity-determining positions in multiple protein alignment
- o <http://storage.bioinf.fbb.msu.ru/~mazin/index.html> – SAJR, a tool for alternative splicing and gene expression analysis based on RNA-seq data.

Computer skills:

- o Java programming: algorithms, databases (JDBC, MySQL), graphics (AWT, Swing)
- o Perl programming
- o Web-programming: html, javascript (AJAX), css, jsp.
- o SQL programming
- o R programming
- o Biostatistics

Research interests:

- o Alternative splicing
- o Genomics
- o Transcriptomics
- o Human evolution
- o Brain development

Publications in journals indexed in Scopus/WoS:

- o **Mazin, Pavel**; Fisunov, Gleb; Gorbachev, Alexey; Kapitskaya, Kristina; Altukhov, Ilya; Semashko, Tatiana; Alexeev, Dmitry; Govorun, Vadim. **Transcriptome analysis reveals novel regulatory mechanisms in a genome-reduced bacterium.** Nucleic Acids Res. 2014. 42(21):13254-68.
- o Gorbachev A.Y., Fisunov G.Y., Izraelson M., Evsyutina D.V., **Mazin P.V.**, Alexeev D.G., Pobeguts O.V., Gorshkova T.N., Kovalchuk S.I., Kamashev D.E., Govorun V.M. **DNA repair in Mycoplasma gallisepticum** // BMC Genomics. 2013. 14:726
- o **Pavel Mazin**, Jieyi Xiong, Xiling Liu, Zheng Yan, Xiaoyu Zhang, Mingshuang Li, Liu He, Mehmet Somel, Yuan Yuan, Yi-Ping Phoebe Chen, Na Li, Yuhui Hu, Ning Fu, Zhibin Ning, Rong Zeng, Hongyi Yang, Wei Chen, Mikhail Gelfand and Philipp Khaitovich. **Widespread splicing changes in human brain development and aging.** Mol Syst Biol. 2013 Jan 22;9:633.
- o **Pavel V Mazin**, Mikhail S Gelfand, Andrey A Mironov, Aleksandra B Rakhmaninova, Anatoly R Rubinov, Robert B Russell and Olga V Kalinina. **An automated stochastic approach to the identification of the protein specificity determinants and functional subfamilies.** Algorithms for Molecular Biology 2010, 5:29

Publications in preparation

- **Mazin P.**, M. Gelfand, P. Khaitovich. **Conservation, evolution, and regulation of splicing patterns during postnatal development of the prefrontal cortex in humans, chimpanzees, and rhesus macaques.** In preparation.
- **Mazin P.**, Shagimardanova E., Cherkasov A., Sutormin R., Stepanova V., Stupnikov A., Logacheva M., Penin A., Cornette R., Kikawada T., Gelfand M.S, and Gusev O. **Regulation of gene expression under extreme desiccation: hijacking of heat shock regulatory system.** In preparation.

Other publications

- E.V.Antipov, A.G.Borzenko, V.M.Denisov, A.Yu.Filatov, V.V.Ivanov, S.M.Kazakov, **P.V.Mazin**, V.M.Mazin, V.I.Shtanov, D.A.Simakov, G.A.Tsirlina, S.Yu.Vassiliev, Yu.A.Velikodny, **Electrochemical behavior of metals and binary alloys in cryolite-alumina melts.** Light metals 2006, 403-408.

Conferences:

- P. V. Mazin, O. V. Kalinina. **SDPlight – a fast method for searching positions that determine specificity in protein alignments.** The XIV Int Scientific Conf for undergraduate and postgraduate students, and young scientists “Lomonossov”. 11 - 14 April 2007 (poster presentation).
- P.V. Mazin A.B.Rakhmaninova, O.V. Kalinina. **SDPclust: a new tool for prediction protein specificity in MPA.** Moscow Conference on Computational Molecular Biology `07 (poster presentation)
- P.V. Mazin. **SDPclust — program package for protein substrate specificity prediction.** Information Technologies and Systems (ItaS). P 269-270. September 18-21, 2007, Zvenigorod, Russia (poster presentation)
- P. V. Mazin, O. V. Kalinina. **SDPfox – a Web-server for prediction of protein specificity and specificity determinants from multiple sequence alignment.** The XV Int Scientific Conf for undergraduate and postgraduate students, and young scientists “Lomonossov”. 11 - 14 April 2008 (poster presentation).
- P.V. Mazin, A.A. Mironov, A.B. Rakhmaninova, M.S. Gelfand, O.V.Kalinina. **SDPfox: A tool to predict protein specificity and specificity determinants from multiple sequence alignment.** The Sixth International Conference on Bioinformatics of Genome Regulation and Structure (BGRS'2008), Novosibirsk, Russia, June 22-28, 2008 (poster presentation).
- P.V. Mazin, O.V.Kalinina, A.B. Rakhmaninova, A.A. Mironov, M.S. Gelfand. **SDPfox - a Web-server for protein substrate specificity analysis.** Information Technologies and Systems (ITaS). 266-267. September 29 – October 3, 2008, Gelendzhik, Russia (oral presentation)
- P.V. Mazin, P.Khaitovich, A.A. Mironov, M.S. Gelfand **Investigation of age related alternative splicing changes in human brain using solexa sequencing.** Moscow Conference on Computational Molecular Biology `09 (poster presentation)
- A.A. Adzhubei, A.V. Vlasova, P.V. Mazin. **Qasmod: Protein Model Quality Assessment Suite.** The Seventh International Conference on Bioinformatics of Genome Regulation and Structure (BGRS'2010), Novosibirsk, Russia, June 20-27, 2010 (poster presentation).

- P. Mazin, M. Gelfand, P. Khaitovich. **Splicing changes in human brain over the course of lifespan.** CSH-Asia Conference “Computational Biology”. Suzhou, China, 27.09-1.10.2010 (poster presentation)
- P. Mazin, M. Gelfand, P. Khaitovich. **Splicing differences in primate brain development.** Moscow Conference on Computational Molecular Biology `11 (poster presentation)
- P.Mazin, P.Khaitovich. **Splicing differences during primate brain development.** Information Technologies and Systems (ITaS). October 2 – 7, 2011, Gelendzhik, Russia (oral presentation)
- P. Mazin, M. Gelfand, P. Khaitovich. **Age changes and tissue differences of alternative splicing in the primate brain.** The Eighth Winter Symposium on Chemometrics, Moscow, February 27 - March 2, 2012 (oral presentation)
- P. Mazin, P. Khaitovich. **Age-related splicing changes in human, chimpanzee and monkey brains.** Conf for young scientists, Molecular and cell biology: practical aspects, April 13, 2012, Moscow (oral presentation).
- P. Mazin, P. Khaitovich, M. Gelfand. **Widespread differences in age-related splicing patterns between higher primates.** Information Technologies and Systems (ITaS). August 19 – 25, 2012, Petrozavodsk, Russia (poster presentation)
- Mazin P., Xiong J., Liu X. **Widespread splicing changes in human brain development and aging.** ECCB'12 - European Conference on Computational Biology 2012, 9-12 September 2012, Basel Switzerland.
- Mazin P., Khaitovich P. **Conserved age-related splicing regulation in primate brains.** Moscow Conference on Computational Molecular Biology `13 (oral presentation)
- Pavel Mazin, Gleb Fisunov, Alexey Gorbachev, Dmitry Alexeev. **Regulation without regulators: transcriptom of Mycoplasma gallisepticum.** Information Technologies and Systems (ITaS). September 1 – 5, 2014, Russia (poster presentation)
- Pavel Mazin. **Quantification of alternative splicing using RNA-seq.** Postgenome-2014. 29.10-01.11.2014 Kazan, Russia.
- Mazin P. **Expression regulation of desiccation-resistance genes in Polypedilum vanderplanki.** Moscow Conference on Computational Molecular Biology `15 (oral presentation)
- Mazin P.V. **Expression regulation of desiccation-resistance genes in Polypedilum vanderplanki.** Oral presentation. ITaS, 2015 September, 7-11, Olympic Village, Sochi, Russia. ISBN: 978-5-901158-28-9.
- Mazin P., Khaitovich P., Gelfand M. **Conservation and evolution of splicing patterns during postnatal development of prefrontal cortex in primates.** Oral presentation. IMGC 2015 Yokohama, Japan. 8-11.11.2015.
- P.V. Mazin, H. Kaessmann. **Evolution of alternative splicing in mammals.** V congress of the Russian biochemical society, Sochi-Dagomys, Russia, October 4-9, 2016. Acta Naturae, 2016, 2, p 117, ISBN 978-5-9902238-4-4 (oral presentation).