Curriculum Vitae

Pavel Baranov

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Date of birth: April 29, 1972
Citizenship: Russia
Visa Status in US: Permanent resident

Education

1998	**Ph.D.** in Molecular Biology, Moscow State University, Moscow, Russia
1994	**M.S.** in Chemistry, Moscow State University, Moscow, Russia

Positions and Employment

2004-present	**Research fellow**, Biosciences Institute, University College Cork, Cork, Ireland
1999-present	**Senior Research Associate**, Human Genetics Department, University of Utah, Salt Lake City, UT
1998-1999	**Research Associate**, Max-Planck Institute for Molecular Genetics, Berlin, Germany
1995-1998	**Short pre-doctoral fellowships**, Max-Planck Institute for Molecular Genetics, Berlin, Germany
1994-1998	**Graduate Student**, Department of Chemistry and Biochemistry of Nucleoproteins, School of Chemistry, Moscow State University, Moscow, Russia

Teaching experience

1999-present	**Advisor** to several undergraduate and rotation graduate students, Human Genetics Department, University of Utah.
1997-1998	**Supervisor**, Laboratory course "Application of radioactive labels in Molecular Biology", School of Chemistry, Moscow State University, Moscow, Russia
1996-1997	**Co-supervisor**, Diploma work (MS equivalent) of Olga Gurvich, School of Chemistry, Moscow State University, Moscow, Russia
1996-1997	**Lecturer**, facultative course of Molecular Biology for undergraduate students, School of Chemistry, Moscow State University, Moscow, Russia

Professional Memberships

2001	Member, American Chemical Society
2001	Member, RNA Society

Honors

1999-2001	National Cancer Center Postdoctoral Fellowship
1995-1996, 1998	G Soros International Science Foundation Fellowship for graduate students

Peer Journal Reviewer

Bioinformatics (Oxford University Press),
EMBO Journal (European Molecular Biology Society),
Molecular Microbiology (Blackwell Publishing),
Molecular and General Genomics (Springer-Verlag),
Briefings in Bioinformatics (Henry Stewart Publications).

Selected publications

1. **Baranov PV,** Vestergaard B, Gesteland RF, Nyborg J, Atkins JF. **(2004)** A novel protein RF0 is a potential release factor. *In preparation*
2. Gurvich OL, **Baranov PV**, Gesteland RF, Atkins JF. **(2004)** Expression levels influence ribosomal frameshifting at the tandem rare arginine codons, AGG_AGG and AGA_AGA, in *E. coli*. *Submitted.*
3. **Baranov PV**, Hammer AW**,** Zhou J, Gesteland RF, Atkins JF. **(2004)** Analysis of homopolymeric runs in sequenced genomes: The minimal length of transcription slippage-prone sequences is markedly different in diverse bacteria. *Genome Biology*, *Submitted (under revision after referees comments).*
4. **Baranov PV,** Henderson CM, Anderson CB, Wills NM, Gesteland RF, Atkins JF Howard MT. **(2004)** Programmed ribosomal frameshifting in decoding the SARS-CoV genome*. Virology, Submitted (under revision after referees comments).*
5. **Baranov PV,** Gesteland RF, Atkins JF. **(2004)** P-site tRNA as a crucial initiator of ribosomal frameshifting. *RNA* **10:** 221-230.
6. Gao X, Havecker E, **Baranov PV**, Atkins JF, Voytas DF. **(2003)** Translational recoding signals between *gag* and *pol* in diverse LTR retrotransposons. *RNA* **9:**1422-1430.
7. Gurvich OL, **Baranov PV,** Hammer AW**,** Zhou J, Gesteland RF, Atkins JF. **(2003)** Sequences that direct significant levels of frameshifting are frequent in coding regions of *Escherichia coli*. *EMBO J* **22:** 5941-5950.
8. Hansen TM***, Baranov PV*,** Ivanov IP, Gesteland RF, Atkins JF. **(2003)** Maintenance of correct open reading frame by the ribosome. *EMBO Rep* **4:** 499-504.
9. **Baranov PV**, Gurvich OL, Hammer AW, Gesteland RF, Atkins JF. **(2003)** RECODE2003. *Nucl Acids Res* **31**: 87-89.

10. **Baranov PV**, Gesteland RF, Atkins JF. **(2002)** Release factor 2 frameshifting sites in different bacteria. *EMBO Rep* **3**:373-377.
11. **Baranov PV**, Gesteland RF, Atkins JF. **(2002)** Recoding: translational bifurcations in gene expression. *Gene* **286**:187-201.
12. **Baranov PV**, Gurvich OL, Fayet O, Prere MF, Miller WA, Gesteland RF, Atkins JF, Giddings MC. **(2001)** RECODE: a database of frameshifting, bypassing and codon redefinition utilized for gene expression. *Nucl Acids Res* **29**:264-267.
13. Atkins JF, **Baranov PV**, Fayet O, Herr AJ, Howard MT, Ivanov IP, Matsufuji S, Miller WA, Moore B, Prere MF, Wills NM, Zhou J, Gesteland RF. **(2001)** Over-riding standard decoding: Implications of recoding for ribosome function and enrichment of gene expression. *Cold Spr Harb Symp Quont Biol* **66**:217-232.
14. Mueller F, Sommer I, **Baranov P**, Matadeen R, Stoldt M, Wöhnert J, Görlach M, van Heel M, Brimacombe R. **(2000)** The 3D Arrangement of the 23S and 5S rRNA in the *Escherichia coli* 50S Ribosomal Subunit Based on a Cryo-electron Microscopic Reconstruction at 7.5Å Resolution. *J Mol Biol* **298**:35-59.
15. **Baranov PV**, Kubarenko AV, Gurvich OL, Shamolina TA, Brimacombe R. **(1999)** The Database of the *E. coli* ribosomal cross-links: an update. *Nucl Acids Res* **27**:184-185.
16. **Baranov PV**, Gurvich OL, Bogdanov AA, Brimacombe R, Dontsova OA. **(1998)** New features of 23S ribosomal RNA folding: The long helix 41-42 makes "U-turn" inside the ribosome. *RNA* **4**:658-668.
17. **Baranov PV**, Sergiev PV, Dontsova OA, Bogdanov AA, Brimacombe R. **(1998)** The Database of the *E. coli* ribosomal cross-links (DRC). *Nucl Acids Res* **26**:187-189.
18. **Baranov PV**, Dokudovskaya SS, Oretskaya TS, Dontsova OA, Bogdanov AA, Brimacombe R. **(1997)** A new technique for the characterization of long-range tertiary contacts in large RNA molecules: insertion of a photolabel at a selected position in 16S rRNA within the *Escherichia coli* ribosome. *Nucl Acids Res* **25**:2266-2273.
19. Bogdanova S, Degtyarev A, **Baranov P**, Lavrik I, Dokudovskaya S, Dontsova O, Oretskaya T, Krynetskaya N, Shabarova Z, Bogdanov A**. (1995)** Site-directed cleavage of single internucleotide bonds in ribosomal RNA. *Biokhimiia* **60**:217-224.
20. Bogdanov A, Dontsova O, Rinke-Appel J, Dokudovskaya S, Lavrik I, Alekseeva K, Spanchenko O, Sergiev P, **Baranov P**, Shirokova E, Nierhaus K, Brimacombe R. **(1995)** Thio-substituted derivatives of RNA: application in protein biosynthesis studies. *Nucleic Acids Symp Series* **31**:273-274.

* - These authors contributed equally.

Invited and Plenary lectures

November 2004	"Recoding: A conspiracy against the genetic code." University of Western Ontario, London, Canada.
June 2004	"Identification of *D. radiodurans* genes expressed *via* transcriptional slippage." North Pacific National Laboratory, Pasco, WA.
November 2003	"Searching for cases of non triplet decoding." RNA Center, Case Western Reserve University, Cleveland, OH.
January 2002	"Release factor 2 frameshifting sites in different bacteria." Triennial International Conference on the Ribosome "The Dynamics of Ribosome Structure and Function", Queenstown, New Zealand.
August, 1997	"A new technique for the characterization of long-range tertiary contacts in large RNA molecules." Chernogolovka, Russia.

Research Support

Ongoing research support

R01 GM48152 to **Atkins, J. F.** 1/1/1999 to 12/31/2004
NIH
Dynamic Reprogramming of Genetic Readout
Role: Senior Research Associate

Completed research support

DE-FG03-01ER63132 to **Gesteland, R. F.** 1/1/2002 to 6/30/2002
DOE
Making Sense out of "Odd ORFs"
Role: Research Associate

Postdoctoral fellowship to **Baranov, P. V.** 5/1/1999 to 4/31/2001
National Cancer Center
Polyamines and an Antizyme mRNA Pseudoknot-Binding Protein
Role: Recipient.