

ALEXANDER R. IVANOV, PH.D., ASSOCIATE PROFESSOR

Northeastern University

Department of Chemistry and Chemical Biology, Faculty Fellow at the Barnett Institute of Chemical and Biological Analysis, Affiliated Faculty Fellow at Department of Biology

360 Huntington Avenue, 412TF, Boston, MA, 02115, USA

Phone: +1 (617) 373-6549 Fax: +1 (617) 373-2855 E-mail: a.ivanov@neu.edu

www.northeastern.edu/ivanov

<http://www.northeastern.edu/cos/faculty/alexander-ivanov/>

RESEARCH INTERESTS

The current research interests of the Ivanov laboratory focus on the development of separation- and mass spectrometry-based technologies to answer challenging biomedical questions. The specific research areas include: deep characterization of limited cell populations (down to single cells) for basic biology and personalized medicine applications; characterization of proteoforms and protein interactions; and isolation and molecular profiling of extracellular microvesicles as new tools for diagnostics and therapy development.

EDUCATION

- 2000-2003 Postdoctoral Fellowship, *proteomics, mass spectrometry and liquid phase separation techniques*, Barnett Institute, Northeastern University, Boston, MA. *Advisor: Dr. Barry L. Karger*
- 2000 Ph.D. in Bioorganic Chemistry, *peptide/protein analytical chemistry emphasis*, Russian Academy of Science, Institute of Bioorganic Chemistry, Moscow, Russia. *Advisor: Dr. Igor V. Nazimov*
Thesis: Development of microscale techniques for analysis of modified and non-coded amino acids
- 1996 M.S. in Bioorganic Synthesis and Biotechnology with Honors (*summa cum laude, aka "Red Diploma"*), Engineer of Biotechnology, *bioanalytical chemistry emphasis*, Moscow Academy of Fine Chemical Technology, Moscow, Russia
Thesis: Structural Analysis of Peptides Containing Modified and Unusual Amino Acid Residues

ACADEMIC APPOINTMENTS

- 2017-pres. Associate Professor (without tenure), Department of Chemistry and Chemical Biology, Barnett Institute of Chemical and Biological Analysis, Northeastern University, Boston, MA
- 2016-pres. Affiliated Faculty Member, Department of Biology, Northeastern University, Boston, MA
- 2011-2017 Research Associate Professor, Barnett Institute of Chemical and Biological Analysis, Department of Chemistry and Chemical Biology, Northeastern University, Boston, MA
- 2008-2011 Director of HSPH Proteomics Resource, Department of Genetics and Complex Diseases (GCD), Harvard School of Public Health (HSPH), Harvard University, Boston, MA
- 2006-2008 Associate Director of Harvard NIEHS Center for Environmental Health Proteomics Facility, Department of Genetics and Complex Diseases (GCD), HSPH, Harvard University, Boston, MA
- 2003-2006 Assistant Director of Harvard NIEHS Center for Environmental Health Proteomics Facility, Department of Genetics and Complex Diseases (GCD), Harvard School of Public Health (HSPH), Harvard University, Boston, MA
- 2002-2003 Staff Scientist, Barnett Institute and Department of Chemistry, Northeastern University, Boston, MA
- 2000-2003 Postdoctoral Fellow, Barnett Institute and Department of Chemistry, Northeastern University, Boston, MA

AWARDS AND HONORS

- 2017 -pres. HUPO (Human Proteome Organization), Mass Spectrometry Pillar Leadership Committee
- 2015 ASMS Research Award, American Society for Mass Spectrometry, St. Louis, MO
- 2010-2011 President, the Russian Mass Spectrometry Information Group, RMSIG
- 2010-2012 Chair (two terms), The Standards in Proteomics Research Group (sPRG) of the Association of Biomolecular Resource Facilities
- 2009 Thermo Scientific ABRF 2009 Outstanding Scientist/Technologist Award, Annual Conference of the Association of Biomolecular Resource Facilities ABRF 2009, Memphis, TN, USA
- 2006 Service Award for invaluable contribution to the Journal of Proteome Research
- 2004 Outstanding young scientist award, Human Proteome Organization, HUPO 2004 World Congress, Beijing, China
- 2001 Academic Excellence Award, Barnett Institute, Northeastern University
- 2009 Outstanding Scientist/Technologist Award, ABRF 2009, Memphis, TN, USA

PUBLICATIONS& PRESENTATIONS (parentheses indicate items since 2017):

In total: 54 (14) Peer-Reviewed Articles, 5 Book Chapters, 3 Patents, 75 Talks, 106 Posters, Senior/corresponding authorship peer-reviewed papers: 16 (5). Manuscripts under review: 5 (out of which two are senior authorship manuscripts). Manuscripts in preparation for submission by 9/30/2020: 4. **Complete List of Peer Reviewed Publications in [MyBibliography \(PubMed\)](#). Citation metrics via [Google Scholar](#):** 3,743 citations; h-index: 31; i10-index: 45.

Invited talks and conference oral presentations: 75 (18). Presented posters: 106 (9).

Organized conferences: 2 (1); Organized conference sessions 11 (6). Currently, in the process of organizing the 37th International Symposium on Microscale Separations and Bioanalysis (MSB 2021, Boston) as Chair.

RESEARCH FUNDING SUPPORT (parentheses indicate items since 2017):

Total Support at NU: \$ 9.3 (\$8.3) Million (total costs), \$ 7.2 (\$6.4) Million (total costs to NU), and \$ 5.2 (\$4.6) Million (direct costs to the Ivanov lab), where Prof. Ivanov is PI or MPI; funding programs with Prof. Ivanov's former supervisors where Prof. Ivanov served as the Co-PI are not included.

Ongoing Support (NU, 2017 – 2020): NIH Support: \$ 6.9 Million (total costs), \$ 5.1 Million (total costs to NU), and \$ 3.2 Million (direct costs to the Ivanov lab); includes two NIH R01 awards (1R01GM120272-01, 1R01CA218500), where Ivanov is either PI or MPI and an NIH R35 Outstanding Investigator Award R35GM136421 (PI: Ivanov). **Industrial Support:** \$ 1.2 Million (total costs), \$ 1.2 Million (total costs to NU), and \$1.18 Million (direct costs to the Ivanov lab), **Other Support (foundations, internal):** \$225K (total costs), \$175K (total costs to NU), and \$125K (direct costs to the Ivanov lab)

Completed Support (NU, 2011 – 2017): \$469,878 (direct costs where Ivanov is the PI) with \$311,005 (direct costs to the Ivanov lab). \$490,180 (direct costs where Ivanov is either Co-PI or Co-I).

Completed Support (Harvard University, 2003 – 2011): \$273,160 (direct costs where Ivanov is the PI) with \$164,600 (direct costs to the Ivanov lab). \$250,000 (direct costs where Ivanov is either Co-PI or Co-I) with \$37,400 (direct costs to the Ivanov lab).

TEACHING & TRAINING: 10 Courses taught in total, 5 at NU**Courses Taught at Northeastern University and Student Course Evaluation Ratings:**

Course	Title	Credits	Year, Term	# of Students	Instructor Related, Survey Mean (max = 5.0)			Instructor Effectiveness, Survey Mean (max = 5.0)		
					Ivanov	Chemistry	University	Ivanov	Chemistry	University
CHEM5611	Analytical Separations	4	2020, Spring	7	4.5	4.4	4.5	4.6	4.4	4.5
CHEM1151	Gen Chem for Engineers	4	2019, Fall	98	4.0	4.2	4.4	3.9	4.1	4.4
CHEM5611	Analytical Separations	4	2019, Spring	27	4.5	4.2	4.4	4.4	4.2	4.4
CHEM1151	Gen Chem for Engineers	4	2018, Fall	96	3.9	4.1	4.4	3.7	4.1	4.4
CHEM5611	Analytical Separations	4	2017, Fall	16	4.4	4.1	4.4	4.5	4.1	4.5

Other Teaching Experience:

Year	Title	Institution	Experience
2013, 2014	CHEM 5611, Analytical Separations	Northeastern University	<i>Ad hoc</i> lecturer
2009	Program in Quantitative Genomics; Introduction to Proteomics	Harvard University (HSPH)	Lecturer, steering committee member of the program
2005 -2006	ID509 Functional Genomics and Proteomics (proteomics module)	Harvard University (HSPH)	Lecturer, lab, grading

Research Student Training: Total: 14 Undergrad, 7 Grad, 15 Ph.D., 8 Postdocs, 20 other; **Northeastern University: Total: 10 Undergrad, 14 Ph.D. (7 graduated co-supervised Ph.D. students), 7 M.S., 6 Postdocs, 1 Research Scientist, 4 Visiting Scientists. Current:** Ph.D. students: 7; M.S. students: 3; B.S. students: 3; postdocs: 3; visiting scientists: 1. **Harvard University:** graduated co-supervised Ph.D. students: 1; postdocs: 2; research associates: 2; visiting scientists: 6; B.S. interns: 4.

SERVICE

1) Biochemistry Program Steering Committee (2019 – 2020); Merit Review Committee (2019); Search Committee for Director of the Barnett Institute (2018 – present); Graduate Admissions Committee (2017/2018, 2018/2019, 2019/2020). **2)** an *ad hoc* reviewer of grant applications at the NIH (NIGMS, NIDDK, NCI, NIEHS), FDA, Netherlands Organization for Scientific Research (NWO). **3)** a member of the editorial boards of “Journal of Circulating Biomarkers” (2014-present), “Exosomes and Microvesicles” (2013-2014). Served as the lead editor, Sample Preparation in Biological Mass Spectrometry, Springer, Eds. Ivanov AR, Lazarev AV, ISBN 978-94-007-0828-0. **4)** a member of the search committee for Editor-In-Chief of Journal of Biomolecular Techniques (2010). **5)** an *ad hoc* manuscript reviewer for 20 journals.