Răzvan V. Chereji

CONTACT

Section on Chromatin and Gene Expression
Division of Developmental Biology
NICHD, National Institutes of Health
Building 6A, Room 2A14
6 Center Drive
Bethesda, MD 20892, USA

Phone: 301-435-8670
E-mail: razvan.chereji@nih.gov
Website: rchereji.github.io
Google Scholar: goo.gl/QB8YEm
ORCID: 0000-0002-0572-6412
GitHub: rchereji

EDUCATION & RESEARCH

National Institutes of Health (NIH), Bethesda, MD, U.S.A.

Research Fellow **2016–**

- National Institute of Child Health and Human Development (NICHD)
- Advisor: Dr. David J. Clark

National Institutes of Health (NIH), Bethesda, MD, U.S.A.

Visiting Fellow **2013–2016**

- National Institute of Child Health and Human Development (NICHD)
- Advisor: Dr. David J. Clark

Rutgers, The State University of New Jersey, Piscataway, NJ, U.S.A.

Ph.D. **2007–2013**

- Department: Physics
- Dissertation: "Statistical Mechanics of Nucleosomes"
- Committee: Profs. Alexandre V. Morozov (advisor), Anirvan M. Sengupta, Gyan Bhanot, Joel L. Lebowitz, and James R. Broach (outside member)
- Cumulative GPA: 3.90 / 4

Babeş-Bolyai University, Cluj-Napoca, CJ, Romania

B.Eng. **2007–2013**

- Department: Physics
- Thesis: "Differential Geometry in General Relativity and Yang-Mills Theory"
- Advisor: Professor Emil Vinteler
- Thesis GPA: 10 / 10
- Cumulative GPA: 9.83 / 10
- Graduated as valedictorian

AWARDS

Richard J. Plano Outstanding Teaching Assistant Award	**2009**
Silver Medal at the International Physics Olympiad, Indonesia	**2002**
Excellency Diploma awarded by the President of Romania	**2001, 2002**
Bronze Medal at "Tuymaada" International Olympiad, Russia	**2001**
First Prize at Romanian National Physics Olympiad	**1999, 2000, 2002**

SCHOLARSHIPS

Graduate Assistantship, Rutgers University	**2010–2013**
Teaching Assistantship, Rutgers University	**2008–2010**
Excellence Fellowship, Rutgers University	**2007–2008**
University Merit Scholarship, Babeş-Bolyai University	**2002–2007**
Romanian Ministry of Education Scholarship	**2002–2007**
"Petrom" Scholarship, OMV Petrom S.A.	**2002–2007**

PUBLICATIONS

16. **Chereji RV***, Ramachandran S*****, Henikoff S – Chemical cleavage mapping provides new insights into nucleosome spacing and phasing, In preparation.
*** These authors contributed equally**

15. **Chereji RV**, Elfving N, Bharatula V, Blomberg J, Larsson M, Morozov AV, Broach JR, Björklund S – Mediator binds to boundaries of chromosomally interacting domains and to proteins involved in DNA looping, In preparation.

14. Chang HW, **Chereji RV**, Kulaeva OI, Morozov AV, Gurova K, Studitsky VM – Anticancer drugs curaxins inhibit FACT action during Pol II transcription, In preparation.

13. Johnson TA*****, **Chereji RV***, Stavreva DA, Guertin MJ, Hager GL, Clark DJ – Alternate Modes of Glucocorticoid Receptor Interaction with Enhancer and Promoter Chromatin, In preparation.
*** These authors contributed equally**

12. **Chereji RV***, Ocampo J*****, Clark DJ – MNase-sensitive complexes in yeast: nucleosomes and non-histone barriers, Under review.
*** These authors contributed equally**

11. Ocampo J*****, **Chereji RV***, Eriksson PR, Clark DJ – Interplay among different ATP-dependent chromatin remodeling machines determines nucleosome spacing on active and inactive genes, Nucleic Acids Res. 44 (10), 4625-4635 (2016)
*** These authors contributed equally**

10. Qiu H*****, **Chereji RV***, Hu C, Cole HA, Rawal Y, Clark DJ, Hinnebusch AG – Genome-wide cooperation by HAT Gcn5, remodeler SWI/SNF, and chaperone Ydj1 in promoter nucleosome eviction and transcriptional activation, Genome Res. 26 (2), 211-225 (2016)
*** These authors contributed equally**

9. **Chereji RV***, Kan T-W*****, Grudniewska MK, Romashchenko AV, Berezikov E, Zhimulev IF, Guryev V, Morozov AV, Moshkin YM – Genome-wide profiling of nucleosome sensitivity and chromatin accessibility in Drosophila melanogaster, Nucleic Acids Res. 44 (3): 1036-1051 (2016)
*** These authors contributed equally**

8. **Chereji RV**, Morozov AV – Functional roles of nucleosome stability and dynamics, Brief. Funct. Genomics 14 (1), 50-60 (2015)

7. Cole HA, Ocampo J, Iben JR, **Chereji RV**, Clark DJ – Transcription of Induced Genes in Yeast Correlates with Differential Loss of Histone H2A-H2B Dimers from Coding

Regions, Nucleic Acids Res. 42 (20), 12512-12522 (2014)

6. Ganguli D*****, **Chereji RV***, Iben JR, Cole HA, Clark DJ – RSC-dependent Constructive and Destructive Interference between Opposing Arrays of Phased Nucleosomes in Yeast, Genome Res. 24 (10), 1637-1649 (2014)
*** These authors contributed equally**

5. **Chereji RV**, Morozov AV – Ubiquitous nucleosome crowding and unwrapping in the yeast genome, Proc. Natl. Acad. Sci. USA 111 (14), 5236-5241 (2014)

4. Elfving N*****, **Chereji RV***, Bharatula V, Björklund S, Morozov AV, Broach JR – A dynamic interplay of nucleosome and Msn2 binding regulates kinetics of gene activation and repression following stress, Nucleic Acids Res. 42 (9), 5468-5482 (2014)
*** These authors contributed equally**

3. Petrenko N, **Chereji RV**, McClean MN, Morozov AV, Broach JR – Noise and interlocking signaling pathways promote distinct transcription factor dynamics in response to different stresses, Mol. Biol. Cell 24 (12), 2045-2057 (2013)

2. **Chereji RV**, Morozov AV – Statistical mechanics of nucleosomes constrained by higher-order chromatin structure, J. Stat. Phys. 144 (2), 379-404 (2011)

1. **Chereji RV**, Tolkunov D, Locke G, Morozov AV – Statistical mechanics of nucleosome ordering by chromatin-structure-induced two-body interactions, Phys. Rev. E 83 (5), 050903 (2011)

PRESENTATIONS

CSHL Epigenetics & Chromatin Meeting, Cold Spring Harbor, NY (poster)	**Sep 2016**
NICHD Scientific Retreat, NIH, Bethesda, MD (poster)	**Sep 2016**
12th Annual NICHD Fellows Meeting, Washington, DC (poster)	**Apr 2016**
APS March Meeting, Baltimore, MD (contributed talk)	**Mar 2016**
Biophysical Society 60th Annual Meeting, Los Angeles, CA (poster)	**Feb 2016**
PGD Seminar, NIH, Bethesda, MD (seminar)	**Jan 2016**
NIH Research Festival, NIH, Bethesda, MD (poster)	**Sep 2015**
34th Summer Symposium in Molecular Biology, Penn State University, State College, PA (poster)	**Jul 2015**
FASEB conference: Transcription, Chromatin, and Epigenetics, Palm Beach, FL (poster)	**Jun 2015**
PGD Seminar, NIH, Bethesda, MD (seminar)	**May 2015**
11th Annual NICHD Fellows Meeting, Washington, DC (poster)	**May 2015**
Chromatin-DECODE Seminar, NIH, Bethesda, MD (invited talk)	**Apr 2015**
NCI Symposium on Chromosome Biology, NIH, Bethesda, MD (poster)	**Apr 2015**
Keystone Symposia: DNA Methylation / Epigenomics, Keystone, CO (poster)	**Mar 2015**
APS March Meeting, San Antonio, TX (invited talk + contributed talk)	**Mar 2015**
Biophysical Society 59th Annual Meeting, Baltimore, MD (poster)	**Feb 2015**
CSHL Epigenetics & Chromatin Meeting, Cold Spring Harbor, NY (poster)	**Sep 2014**
PGD Seminar, NIH, Bethesda, MD (seminar)	**Jun 2014**
NICHD Scientific Retreat, NIH, Bethesda, MD (poster)	**Jun 2014**

10th Annual NICHD Fellows Meeting, Washington, DC (poster)	**Apr 2014**
APS March Meeting, Denver, CO (contributed talk)	**Mar 2014**
Biophysical Society 58th Annual Meeting, San Francisco, CA (poster)	**Feb 2014**
BioMaPS Institute for Quantitative Biology Student Seminar, Rutgers University, Piscataway, NJ (invited talk)	**Sep 2013**
National Institutes of Health, Bethesda, MD (invited talk)	**Jun 2013**
University of California San Francisco, San Francisco, CA (invited talk)	**Jun 2013**
APS March Meeting, Baltimore, MD (contributed talk)	**Mar 2013**
Biophysical Society 57th Annual Meeting, Philadelphia, PA (poster)	**Feb 2013**
108th Statistical Mechanics Conference, Rutgers University, Piscataway, NJ (contributed talk)	**Dec 2012**
The 8th Gotham-Metro Condensed Matter Meeting, The New York Academy of Sciences, New York, NY (poster)	**Nov 2012**
Biophysical Society Pennsylvania Network Meeting, Lehigh University, Bethlehem, PA (poster)	**Sep 2012**

PROFESSIONAL ACTIVITIES

Reviewer

- Independent: Biophysical Journal, Epigenetics, PLoS ONE
- Joint with my adviser: Genome Research

Service

- Co-chair of the DDB Fellows' seminar committee **2015–**

Member

- American Physical Society, Biophysical Society

TEACHING EXPERIENCE

General Physics II	**Summer 2012**
General Physics II	**Summer 2010**
Extended Analytical Physics II	**Spring 2010**
Extended Analytical Physics I	**Fall 2009**
General Physics II	**Summer 2009**
Extended Analytical Physics II	**Spring 2009**
Extended Analytical Physics I	**Fall 2008**

TEST SCORES

Ph.D. Candidacy Examination, overall percentage: **89.1%**	**Aug 2008**
GRE Subject: Physics, score: **990 / 990**	**Nov 2006**

TECHNICAL SKILLS

Programming/Scripting Languages

- MATLAB, R, Bash

Genomics Data Analysis

- MNase-seq, ChIP-seq, RNA-seq, DNase-seq, ATAC-seq, NET-seq, ChIP-exo

Other

- LaTeX, Illustrator, InDesign, Dreamweaver

REFERENCES

David J. Clark (Post-doctoral advisor)
Senior Investigator, Division of Developmental Biology,
NICHD, National Institutes of Health
Building 6A Room 2A02
Bethesda, MD 20892, USA
Phone: 301-496-6966
Fax: 301-480-1907
E-mail: clarkda@mail.nih.gov

Alexandre V. Morozov (Ph.D. advisor)
Associate Professor
Department of Physics & Astronomy
Rutgers, The State University of New Jersey
136 Frelinghuysen Road
Piscataway, NJ 08854-8019, USA
Phone: 848-445-1387
Fax: 732-445-4320
E-mail: morozov@physics.rutgers.edu

Steven Henikoff
Member, Fred Hutchinson Cancer Research Center
Investigator, Howard Hughes Medical Institute
Professor, University of Washington, School of Medicine
1100 Fairview Ave. N
Seattle, WA 98109-1024, USA
Phone: 206-667-4515
Fax: 206-667-5889
E-mail: steveh@fhcrc.org

James R. Broach
Professor and Chair, Department of Biochemistry and Molecular Biology
Director, Penn State Hershey Institute for Personalized Medicine
Penn State College of Medicine
500 University Drive
Hershey, PA 17033-0858, USA
Phone: 717-531-8586
Fax: 717-531-7072
E-mail: jbroach@hmc.psu.edu

Alan G. Hinnebusch
Chief, Section on Nutrient Control of Gene Expression
Program in Cellular Regulation and Metabolism, NICHD
National Institutes of Health
Building 6, Room 230
Bethesda, MD 20892, USA
Phone: 301-496-4480
Fax: 301-496-6828
E-mail: alanh@mail.nih.gov

Gordon L. Hager
Chief, Laboratory of Receptor Biology and Gene Expression

Head, Hormone Action and Oncogenesis Section
Center for Cancer Research, NCI, NIH
Building 41, Room B-602
Bethesda, MD 20892, USA
Phone: 301-496-9867
Fax: 301-496-4951
E-mail: hagerg@dce41.nci.nih.gov