

Răzvan V. Chereji

CONTACT

Section on Chromatin and Gene Expression
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ORCID: [0000-0002-0572-6412](https://orcid.org/0000-0002-0572-6412)
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EDUCATION & RESEARCH

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

Research Fellow

2016–present

- 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.

2002–2007

- 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

PUBLICATIONS

12. **Chereji RV***, Ocampo J*, Clark DJ – MNase-sensitive complexes in yeast: nucleosomes and non-histone barriers, *Molecular Cell* 65 (3), 565–577 (2017).
*** These authors contributed equally**
11. Ocampo J*, **Chereji RV***, Eriksson PR, Clark DJ – The ISW1 and CHD1 ATP-dependent chromatin remodelers compete to set nucleosome spacing in vivo, *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)

SUBMITTED
MANUSCRIPTS

1. **Chereji RV***, Ramachandran S*, Bryson TD, Henikoff S – Precise genome-wide mapping of single nucleosomes and linkers in vivo, Submitted.

*** These authors contributed equally**

2. **Chereji RV***, Bharatula V*, Elfving N, 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, RNA metabolism, chromatin remodeling, and actin assembly, Submitted.

*** These authors contributed equally**

3. Johnson TA*, **Chereji RV***, Stavreva DA, Morris S, Hager GL, Clark DJ – Pre-Programmed Glucocorticoid Receptor Enhancers are Marked by DNase I-accessible Nucleosomes, Submitted.

*** These authors contributed equally**

MANUSCRIPTS IN
PREPARATION

1. Rawal Y, Qiu H, **Chereji RV**, Clark DJ, Hinnebusch AG – Genome-wide identification of functional and non-functional Gcn4 binding sites in promoters and coding regions in vivo, In preparation.

2. Rawal Y, Qiu H, **Chereji RV**, Clark DJ, Hinnebusch AG – Chromatin remodeler SWI/SNF and histone chaperone Nap1 cooperate in removing H2B-containing non-nucleosomal structures that compete with PIC assembly, In preparation.

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

4. Clark S*, **Chereji RV***, Lee P, Fields D, Clark DJ - Chromatin structure of dorsal root ganglia neurons and cortical glia, In preparation.

*** These authors contributed equally**

5. Ouda R, Sarai N, Patel M, Debrosse M, Nehru V, Bachu M, **Chereji RV**, Clark DJ, Ozato K - SPT6 interacts with NSD2 and facilitates interferon stimulated transcription, In preparation.

INVITED TALKS

PGD Seminar, NIH, Bethesda, MD	Jan 2017
Departmental Seminar, Department of Computational and Systems Biology, University of Pittsburgh, Pittsburgh, PA	Dec 2016
Departmental Seminar, Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA	Dec 2016
Biophysics Seminar, Physics Department, University of Minnesota, Minneapolis, MN	Nov 2016
PGD Seminar, NIH, Bethesda, MD	Jan 2016
PGD Seminar, NIH, Bethesda, MD	May 2015
Chromatin-DECODE Seminar, NIH, Bethesda, MD	Apr 2015
APS March Meeting, San Antonio, TX (invited talk + contributed talk)	Mar 2015
PGD Seminar, NIH, Bethesda, MD	Jun 2014
BioMaPS Institute for Quantitative Biology Student Seminar, Rutgers University, Piscataway, NJ	Sep 2013

	David Clark laboratory invited talk, NIH, Bethesda, MD	Jun 2013
	Jun Song laboratory invited talk, UCSF, San Francisco, CA	Jun 2013
OTHER PRESENTATIONS	<p>APS March Meeting, New Orleans, LA (contributed talk) Mar 2017</p> <p>Biophysical Society 61st Annual Meeting, New Orleans, LA (poster) Feb 2017</p> <p>NCI Symposium on Chromosome Biology, NIH, Bethesda, MD (poster) Nov 2016</p> <p>CSHL Epigenetics & Chromatin Meeting, Cold Spring Harbor, NY (poster) Sep 2016</p> <p>NICHD Scientific Retreat, NIH, Bethesda, MD (poster) Sep 2016</p> <p>12th Annual NICHD Fellows Meeting, Washington, DC (poster) Apr 2016</p> <p>APS March Meeting, Baltimore, MD (contributed talk) Mar 2016</p> <p>Biophysical Society 60th Annual Meeting, Los Angeles, CA (poster) Feb 2016</p> <p>NIH Research Festival, NIH, Bethesda, MD (poster) Sep 2015</p> <p>34th Summer Symposium in Molecular Biology, Penn State University, State College, PA (poster) Jul 2015</p> <p>FASEB conference: Transcription, Chromatin, and Epigenetics, Palm Beach, FL (poster) Jun 2015</p> <p>11th Annual NICHD Fellows Meeting, Washington, DC (poster) May 2015</p> <p>NCI Symposium on Chromosome Biology, NIH, Bethesda, MD (poster) Apr 2015</p> <p>Keystone Symposia: DNA Methylation / Epigenomics, Keystone, CO (poster) Mar 2015</p> <p>Biophysical Society 59th Annual Meeting, Baltimore, MD (poster) Feb 2015</p> <p>CSHL Epigenetics & Chromatin Meeting, Cold Spring Harbor, NY (poster) Sep 2014</p> <p>NICHD Scientific Retreat, NIH, Bethesda, MD (poster) Jun 2014</p> <p>10th Annual NICHD Fellows Meeting, Washington, DC (poster) Apr 2014</p> <p>APS March Meeting, Denver, CO (contributed talk) Mar 2014</p> <p>Biophysical Society 58th Annual Meeting, San Francisco, CA (poster) Feb 2014</p> <p>APS March Meeting, Baltimore, MD (contributed talk) Mar 2013</p> <p>Biophysical Society 57th Annual Meeting, Philadelphia, PA (poster) Feb 2013</p> <p>108th Statistical Mechanics Conference, Rutgers University, Piscataway, NJ (contributed talk) Dec 2012</p> <p>The 8th Gotham-Metro Condensed Matter Meeting, The New York Academy of Sciences, New York, NY (poster) Nov 2012</p> <p>Biophysical Society Pennsylvania Network Meeting, Lehigh University, Bethlehem, PA (poster) Sep 2012</p>	
PROFESSIONAL ACTIVITIES	<p>Reviewer</p> <ul style="list-style-type: none"> • Independent: Biophysical Journal, Epigenetics, PLoS ONE • Jointly with my advisor: Genome Research, Nucleic Acids Research <p>Service</p> <ul style="list-style-type: none"> • Chair of the DDB Fellows' seminar committee 2016-present • Member of the Chromatin-DECODE seminar committee 2016-present • Co-chair of the DDB Fellows' seminar committee 2015-2016 <p>Member</p> <ul style="list-style-type: none"> • 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
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
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	
	<ul style="list-style-type: none"> • Currently used: MATLAB, R, Python, Bash • Used in the past: Basic, C, Fortran, FoxPro, Pascal 	
	Genomic Data Analysis	
	<ul style="list-style-type: none"> • ATAC-seq, Chemical mapping data, ChIP-exo, ChIP-seq, DNase-seq, FAIRE-seq, MNase-seq, NET-seq, RNA-seq 	
	Other skills	
	<ul style="list-style-type: none"> • Chimera, \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	

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Steven Henikoff

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James R. Broach

Professor and Chair, Department of Biochemistry and Molecular Biology
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Alan G. Hinnebusch

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Gordon L. Hager

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