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EDUCATION

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
- 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 Vinţeler
- Thesis GPA: 10 / 10
- Cumulative GPA: 9.83 / 10
- Graduated as valedictorian

AWARDS

Fellows Award for Research Excellence (FARE award), NIH **2017, 2018**
"Outstanding Contribution in Reviewing" award from Genomics, Elsevier **2017**
Richard J. Plano Outstanding Teaching Assistant Award, Rutgers University **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

23. Ocampo J*, **Chereji RV***, Eriksson PR, Clark DJ – Contrasting roles of the RSC and ISW1/CHD1 chromatin remodelers in RNA polymerase II elongation and termination, Genome Res. (2019), doi: 10.1101/gr.242032.118

22. Hamdani O, Dhillon N, Hsieh T-HS, Fujita T, Ocampo J, Kirkland JG, Lawrimore J, Kobayashi TJ, Friedman B, Fulton D, Wu KY, **Chereji RV**, Oki M, Bloom K, Clark DJ, Rando OJ, Kamakaka RT - Transfer RNA Genes Affect Chromosome Architecture and Function via Local Effects, Mol. Cell. Biol. (2019), doi: 10.1128/MCB.00432-18

21. Chang HW, Valieva ME, Safina A, **Chereji RV**, Wang J, Kulaeva OI, Morozov AV, Kirpichnikov MP, Feofanov AV, Gurova K, Studitsky VM – Mechanism of FACT Removal from Transcribed Genes by Anti-Cancer Drugs Curaxins, Science Advances 4 (11), eaav2131 (2018).

20. Mehta GD, Ball DA, Eriksson PR, **Chereji RV**, Clark DJ, McNally JG, Karpova TS - Single-Molecule Analysis Reveals Linked Cycles Of RSC Chromatin Remodeling and Ace1p Transcription Factor Binding in Yeast, Mol. Cell 72 (5), 875-887.e9 (2018).

19. Rawal Y*, **Chereji RV***, Qiu H, Ananthakrishnan S., Chhabi G., Clark DJ, Hinnebusch AG – SWI/SNF and RSC cooperate to reposition and evict promoter nucleosomes at highly expressed genes in yeast, Genes Dev. 32 (9-10), 695-710 (2018).

18. Ouda R, Sarai N, Nehru V, Patel MC, Debrosse M, Bachu M, **Chereji RV**, Eriksson PR, Clark DJ, Ozato K - SPT6 interacts with NSD2 and facilitates interferon-induced transcription, FEBS Lett. 592(10), 1681-1692 (2018).

17. **Chereji RV**†, Clark DJ† – Major determinants of nucleosome positioning, Biophys. J. 114 (10), 2279-2289 (2018).

16. Rawal Y*, **Chereji RV***, Valabhoju V, Qiu H, Ocampo J, Clark DJ, Hinnebusch AG – Gcn4 binding in coding regions can activate internal and canonical 5' promoters in yeast, Mol. Cell 70 (2), 297-311 (2018).

15. **Chereji RV***, Ramachandran S*, Bryson TD, Henikoff S – Precise genome-wide mapping of single nucleosomes and linkers in vivo, Genome Biol. 19, 19 (2018).

14. Johnson TA*, **Chereji RV***, Stavreva DA, Morris S, Hager GL, Clark DJ – Conventional and Pioneer Modes of Glucocorticoid Receptor Interaction with Enhancer Chromatin in vivo, Nucleic Acids Res. 46 (1), 203-214 (2018).

13. **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, Nucleic Acids Res. 45 (15), 8806-8821 (2017).

12. **Chereji RV***, Ocampo J*, Clark DJ – MNase-sensitive complexes in yeast: nucleosomes and non-histone barriers, Mol. Cell 65 (3), 565–577 (2017).

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__
†__Corresponding author__

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).

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).

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).

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).

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

1. **Chereji RV**, Bryson TD, Henikoff S – Quantitative MNase-seq accurately maps nucleosome occupancy levels, In revision.

2. **Chereji RV***, Eriksson PR*, Ocampo J*, Clark DJ – DNA accessibility is not the primary determinant of chromatin-mediated gene regulation, In revision.

IN PREPARATION

1. **Chereji RV** – The universality of nucleosome organization, from yeast to human, In preparation.

*__These authors contributed equally__

2. **Chereji RV** – Robust estimation of nucleosome spacing at the gene level, In preparation.

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

BOOK CHAPTERS

1. Beati P*, **Chereji RV***† – Use of *plot2DO* for creating 2D occupancy plots, Invited chapter in Methods in Molecular Biology, Submitted.

INVITED TALKS

Workshop, IMPaM CONICET-UBA Institute, Buenos Aires, Argentina	**Nov 2018**
Seminar, "Dr. Héctor N. Torres" Institute, Buenos Aires, Argentina	**Nov 2018**
Keynote Speaker at The 3rd International Conference on Molecular Biology & Nucleic Acids, Toronto, Canada	**Aug 2018**
Biowulf Seminar Series, NIH, Bethesda, MD	**Mar 2018**
Biophysical Society 62st Annual Meeting, San Francisco, CA	**Feb 2018**
13th Annual NICHD Fellows Meeting, Washington, DC	**May 2017**
Departmental Seminar, Physics Department, University of Minnesota, Minneapolis, MN	**Apr 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**
Chromatin-DECODE Seminar, NIH, Bethesda, MD	**Apr 2015**
APS March Meeting, San Antonio, TX (invited talk + contributed talk)	**Mar 2015**
BioMaPS Institute for Quantitative Biology Student Seminar, Rutgers University, Piscataway, NJ	**Sep 2013**
David Clark laboratory, NIH, Bethesda, MD	**Jun 2013**
Jun Song laboratory, UCSF, San Francisco, CA	**Jun 2013**

OTHER PRESENTATIONS

Biophysical Society 63rd Annual Meeting, Baltimore, MD (poster)	**Mar 2019**
PGD Monday AM Seminar, NIH, Bethesda, MD	**Dec 2018**
CSHL Epigenetics & Chromatin Meeting, Cold Spring Harbor, NY (poster)	**Sep 2018**
NICHD Scientific Retreat, NIH, Bethesda, MD (poster)	**Sep 2018**
PGD Monday AM Seminar, NIH, Bethesda, MD	**Jan 2018**
Workshop on Chromosome Biology, Bethesda, MD (contributed talk)	**Dec 2017**

*__These authors contributed equally__
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Washington Area Yeast Club Meeting, Bethesda, MD (contributed talk)	**Nov 2017**
NICHD Scientific Retreat, NIH, Bethesda, MD (poster)	**Sep 2017**
CSHL Mechanisms of Eukaryotic Transcription Meeting, Cold Spring Harbor, NY (poster)	**Aug 2017**
APS March Meeting, New Orleans, LA (contributed talk)	**Mar 2017**
Biophysical Society 61st Annual Meeting, New Orleans, LA (poster)	**Feb 2017**
PGD Monday AM Seminar, NIH, Bethesda, MD	**Jan 2017**
NCI Symposium on Chromosome Biology, NIH, Bethesda, MD (poster)	**Nov 2016**
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 Monday AM Seminar, NIH, Bethesda, MD	**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**
11th Annual NICHD Fellows Meeting, Washington, DC (poster)	**May 2015**
PGD Monday AM Seminar, NIH, Bethesda, MD	**May 2015**
NCI Symposium on Chromosome Biology, NIH, Bethesda, MD (poster)	**Apr 2015**
Keystone Symposia: DNA Methylation / Epigenomics, Keystone, CO (poster)	**Mar 2015**
Biophysical Society 59th Annual Meeting, Baltimore, MD (poster)	**Feb 2015**
CSHL Epigenetics & Chromatin Meeting, Cold Spring Harbor, NY (poster)	**Sep 2014**
NICHD Scientific Retreat, NIH, Bethesda, MD (poster)	**Jun 2014**
PGD Monday AM Seminar, NIH, Bethesda, MD	**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**
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:
  - Science
  - Nature Communications
  - Biophysical Journal
  - Nucleic Acids Research
  - Cell Reports
  - Epigenetics & Chromatin
  - Scientific Reports
  - Epigenetics
  - PLoS ONE
  - Genomics
  - BMC Molecular Biology
  - Journal of Biomolecular Structure & Dynamics

- Jointly with my advisor: Nature, Molecular Cell, Genome Research

Service

- Biophysical Society 62nd Annual Meeting **2018**
  - Chair of the "Chromatin and the Nucleoid" session
- 3rd International Conference on Molecular Biology & Nucleic Acids **2018**
  - Chair of the "Carcinogenesis, Gene Targets and Pathways" session
- Member of the DDB Fellows' seminar committee **2015–present**
  - Chair **2016–2017**
  - Co-chair **2015–2016**
- Member of the Chromatin-DECODE seminar committee **2016–present**

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**

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%** (best score) **Aug 2008**
GRE Subject: Physics, score: **990 / 990** **Nov 2006**

TECHNICAL SKILLS

Programming/Scripting Languages

- Currently using: Python, R, MATLAB/Octave, Bash
- Used in the past: Basic, C, Fortran, FoxPro, Pascal

Genomic Data Analysis

- ATAC-seq, Chemical cleavage mapping, ChIP-exo, ChIP-seq, DNase-seq, FAIRE-seq, MNase-seq, NET-seq, RNA-seq

Other skills

- Good knowledge of git, LaTeX, Illustrator
- Basic knowledge of Chimera, InDesign, Dreamweaver
- Proficiency in Linux/UNIX environment
- Excellent collaboration skills

REFERENCES

Alexandre V. Morozov (Ph.D. advisor)
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Director, Center for Quantitative Biology
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David J. Clark (Post-doctoral advisor)
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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
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Alan G. Hinnebusch
Chief, Section on Nutrient Control of Gene Expression

Program in Cellular Regulation and Metabolism,
NICHD, National Institutes of Health
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Bethesda, MD 20892, USA
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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
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Gordon L. Hager
Chief, Laboratory of Receptor Biology and Gene Expression
Head, Hormone Action and Oncogenesis Section
Center for Cancer Research, NCI, NIH
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