

# Irina Artsimovitch

Professor

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## EDUCATION:

- 1990 M.S. in Biochemistry, Moscow State University, Advisor: Eugene Lukanidin. **M.S. thesis:** "Protein Mts-1 from mouse carcinoma cell lines CSML-0 and CSML-100".
- 1996 Ph.D. in Microbiology & Immunology, University of Tennessee-Memphis, Advisor: Martha M. Howe. **Ph.D. thesis:** "Activation of Middle Transcription of the Phage Mu".

## EMPLOYMENT:

- 2011– Professor, Department of Microbiology, The Ohio State University
- 2006–2011 Associate Professor, Department of Microbiology, The Ohio State University
- 2001–2006 Assistant Professor, Department of Microbiology, The Ohio State University
- 1996–2001 Postdoc, Department of Bacteriology, University of Wisconsin-Madison, Advisor: Robert Landick
- 1992–1996 Graduate Teaching Assistant, Department of Microbiology and Immunology, University of Tennessee-Memphis
- 1991–1992 Visiting Scientist, Russo-Finnish Biotechnological Laboratory, Leiras Pharmaceutical Co., Turku, Finland
- 1990–1991 Senior lab assistant at Laboratory of Mediators of Immunity and Haemopoiesis, Hematology Center, Moscow, Russia

## HONORS:

- 2022 Arts and Sciences Distinguished Professor, The Ohio State University
- 2017 Doctor Honoris Causa, University of Turku-Finland
- 2015 Fellow, American Association for the Advancement of Science
- 2014 Fellow, American Academy of Microbiology

## PROFESSIONAL SERVICE:

### Grant and program reviews

- 2019– **Ad-hoc member**, NIH "Topics in Bacterial Pathogenesis and Host Interactions" Review Panel
- 2019 National Cancer Institute Site Visit
- 2017 National Institute of Child Health and Human Development Site Visit
- 2014 NSF Committee of Visitors for the Division of Molecular & Cellular Biosciences
- 2009–2015 **Member**, NIH "Drug Discovery and Antimicrobial Resistance" Study Section
- 2005–2009 **Member**, NSF "Prokaryotic Molecular and Cellular Biology" Panel

- 2008– **Ad-hoc member**, NIH “Prokaryotic Cellular and Molecular Biology” Review Panel
- 2004– **Ad-hoc reviewer** for BBRSC, DFG, ERC, Irish Research Council, Israeli Science Foundation, Hong Kong Research Council, NSF, U.S. Department of Energy, U.S. Department of Defense, and Wellcome Trust

**Manuscript reviews**

- 2021 **Editor** of the “*Bacterial RNA polymerase*” special focus issue of Transcription
- 2017– **Editorial board** of Nucleic Acids Research
- 2017– **Editorial board** of Journal of Bacteriology
- 2002– **Ad-hoc reviewer** for ACS Reviews, Biochimie, Biochemistry, Cell Reports, eLife, EMBO Journal, EMBO Reports, Genes & Development, Journal of Bacteriology, Journal of Biological Chemistry, Journal of Molecular Biology, Molecular Cell, Molecular Microbiology, Methods, Nature, Nature Communications, Nature Microbiology, Nature Structural & Molecular Biology, Nucleic Acids Research, PLoS Biology, PLOS Genetics, PNAS, Proteins, Science, Scientific Reports, Structure, RNA, Transcription, Trends in Microbiology.

**ADMINISTRATIVE SERVICE**

**College & University:**

- 2019–2022 **Member**, The Ohio State Biochemistry Graduate Program Recruitment Committee
- 2019– **Member**, The Arts and Sciences Investigation Committee
- 2018– **Member**, The Radiation Safety Committee
- 2014–2017 **Member**, The University Senate
- 2014 **Member**, The Arts and Sciences Graduate Fellowship Committee
- 2013–2016 **Member**, The Arts and Sciences Promotion and Tenure Committee
- 2012–2013 **Member**, The Arts and Sciences Health & Well-Being Implementation Committee
- 2011– **Member**, CMB Predoctoral Training Program Steering Committee
- 2010– **Member**, OSU Center for Microbial Interface Biology
- 2010–2011 **Member**, The Arts and Sciences Faculty Advisory Council
- 2009–2011 **Member**, Center for RNA Biology Fellowship Committee
- 2009–2010 **Member**, The Arts and Sciences Senate Steering Committee
- 2006–2013 **Member**, The Mathematical Biology Institute Advisory Board
- 2002–2005 **Member**, The Federation of Arts and Sciences Faculty Senate
- 2007–2010 **Member**, The Federation of Arts and Sciences Faculty Senate

**Department:**

- 2022 **Chair**, Faculty Search Committee
- 2020– **Member**, Graduate Studies Committee
- 2013–2017 **Vice-Chair** for Research and Graduate Education

2014–2017 **Chair**, Graduate Studies Committee  
 2013–2015 **Chair**, Promotion and Tenure Committee  
 2009–2012 **Website Administrator**  
 2009–2012 **Member**, Graduate Curriculum Committee  
 2009–2011 **Chair**, Graduate Admissions Committee  
 2008–2009 **Chair**, Graduate Studies Committee  
 2006–2007 **Member**, Microbiology Unit Review Committee  
 2004–2008 **Website Co-Administrator**  
 2002–2007 **Member**, Graduate Studies Committee  
 2002–2005, 2010, 2012, 2013, 2015 **Member**, Faculty Search Committee

**PUBLICATIONS:** (\*, corresponding author; H-index 51)

### Primary Research Articles

96. Wang B, Svetlov D, Bartikofsky D, Wobus CE, **Artsimovitch I\*** (2022) Going retro, going viral: experiences and lessons in drug discovery from COVID-19. *Molecules*, doi: 10.3390/molecules27123815.
95. Molina AJ, Galaz-Davison P, Komives EA, **Artsimovitch I\***, Ramírez-Sarmiento CA\* (2022) Dynamic couplings upon binding of RfaH to transcription elongation complexes. *Nucleic Acids Res.* doi: 10.1093/nar/gkac453.
94. Janissen R, Eslami-Mossallam B, **Artsimovitch I\***, Depken M\*, Dekker NH\* (2022) A unifying mechanistic model of bacterial transcription with three interconnected pause states and non-diffusive recovery from backtracks. *Cell Rep.*, **39**, 110749. doi: 10.1016/j.celrep.2022.110749.
93. Wang B, Mittermeier M, **Artsimovitch I\*** (2022) RfaH may oppose silencing by H-NS and YmoA proteins during transcription elongation. *J Bacteriol.* **204**, e0059921. doi: 10.1128/jb.00599-21.
92. Xu W, Yan Y, Dunlap D, **Artsimovitch I**, Finzi L\* (2022) Positive supercoiling favors transcription elongation through *lac* repressor-mediated DNA loops. *Nucleic Acids Res.* **50**, 2826-35. doi: 10.1093/nar/gkac093.
91. Mittermeier M, Wang B, Said N, Gjorgjevikj D, Wahl MC, **Artsimovitch I\*** (2022) A non-native C-terminal extension of the  $\beta'$  subunit compromises RNA polymerase and Rho functions. *Mol Microbiol.* **117**, 871-885. doi: 10.1111/mmi.14879.
90. Wang B, Svetlov D, **Artsimovitch I\*** (2021) NMPylation and de-NMPylation of SARS-CoV-2 nsp9 by the NiRAN domain; *Nucleic Acids Res.* **49**, 8822-8835. doi: 10.1093/nar/gkab677.
89. Wang B, Svetlov V, Wolf YI, Koonin EV, Nudler E, **Artsimovitch I\*** (2021) Allosteric activation of SARS-CoV-2 RdRp by remdesivir triphosphate and other phosphorylated nucleotides. *mBio.* **12**, e0142321. doi: 10.1128/mBio.01423-21.
88. Chatterjee S, Chauvier A, Dandpat SS, **Artsimovitch I**, Walter NG\* (2021) A translational riboswitch coordinates transcription-translation coupling. *Proc Natl Acad Sci U S A.* **18**, e2023426118. doi: 10.1073/pnas.2023426118.
87. Said N, Hilal T, Sunday ND, Khatri A, Bürger J, Mielke T, Loll B, Sen R, Belogurov GA, **Artsimovitch I\***, Wahl MC\* (2021) Steps toward translocation-independent RNA polymerase inactivation by terminator ATPase  $\rho$ . *Science.* **371**, eabd1673. doi: 10.1126/science.abd1673.
86. Pei H-H, Hilal T, Chen Z, Huang Y-H, Said N, Gao Y, Loll B, Rappsilber Y, Belogurov GA, **Artsimovitch I**, Wahl MC\* (2020) The  $\delta$  subunit and NTPase HelD institute a two-pronged mechanism for RNA

- polymerase recycling, *Nat Commun.* **11**, 6418. doi: 10.1038/s41467-020-20159-3.
85. Wang B, Gumerov VM, Andrianova EP, Zhulin IB\*, **Artsimovitch I\*** (2020) Origins and molecular evolution of the NusG paralog RfaH. *mBio.* **11**, e02717-20. doi: 10.1128/mBio.02717-20.
  84. Ye J, Chu AJ, Lin L, Chan ST, Harper R, Xiao M, **Artsimovitch I**, Zuo Z, Ma C\*, Yang X\* (2020) Benzyl and benzoyl benzoic acid inhibitors of bacterial RNA polymerase-sigma factor interaction. *Eur J Med Chem.* **208**, 112671. doi: 10.1016/j.ejmech.2020.112671.
  83. Ye J, Chu AJ, Harper R, Chan S-T, Shek TL, Zhang Y, Ip M, Sambir M, **Artsimovitch I**, Zuo Z, Yang X, Ma C\* (2020) Discovery of Antibacterials that Inhibit Bacterial RNA Polymerase Interactions with Sigma Factors. *J. Med. Chem.* **63**, 7695-7720. doi: 10.1021/acs.jmedchem.0c00520.
  82. Galaz-Davison P, Molina J, Silletti S, Komives E, Knauer SH, **Artsimovitch I\***, Ramirez-Sarmiento C\* (2020) Differential local stability governs the metamorphic fold-switch of bacterial virulence factor RfaH. *Biophys J.* **118**, 96-104. doi: 10.1016/j.bpj.2019.11.014; **paper of the year prize**.
  81. Bergkessel M, Babin BM, VanderVelde D, Sweredoski MJ, Moradian A, Eggleston-Rangel R, Hess S, Tirrell DA, **Artsimovitch I\***, Newman DK\* (2019) The dormancy-specific regulator, SutA, is intrinsically disordered and modulates transcription initiation in *Pseudomonas aeruginosa*. *Mol Microbiol.* **112**, 992-1009. doi: 10.1111/mmi.14337.
  80. Zuber PK, Schweimer K, Rösch P, **Artsimovitch I\***, Knauer SH\* (2019) Reversible fold-switching of the antitermination factor RfaH. *Nat Commun.* **10**, 702; doi: 10.1038/s41467-019-08567-6.
  79. Widom JR, Nedialkov YA, Rai V, Hayes RL, Brooks CL III, **Artsimovitch I**, Walter NG\* (2018) Ligand modulates cross-coupling between riboswitch folding and transcriptional pausing. *Mol Cell.* **72**, 541-52. doi: 10.1016/j.molcel.2018.08.046.
  78. Lawson MR, Ma W, Bellecourt MJ, **Artsimovitch I**, Martin A, Landick R, Schulten K, Berger JM\* (2018) Mechanism for the regulated control of bacterial transcription termination by a universal adapter protein. *Mol Cell.* **71**, 911-22. doi: 10.1016/j.molcel.2018.07.014.
  77. Janissen R, Arens MMA, Vtyurina NV, Rivai Z, Sunday ND, Eslami-Mossallam B, Gritsenko AA, Laan L, de Ridder D, **Artsimovitch I**, Dekker NH\*, Abbondanzieri EA\*, Meyer AS\* (2018) Global DNA compaction in stationary-phase bacteria does not affect transcription. *Cell.* **174**, 1188-99. doi: 10.1016/j.cell.2018.06.049
  76. Svetlov D, Shi D, Twentyman J, Nedialkov Y, Rosen DA, Abagyan R\*, **Artsimovitch I\*** (2018) In silico discovery of small molecules that inhibit RfaH recruitment to RNA polymerase. *Mol Microbiol.* **110**, 128-142. doi: 10.1111/mmi.14093.
  75. Kang JY, Mooney RA, Nedialkov Y, Saba J, Mishanina TV, **Artsimovitch I**, Landick R, Darst SA\* (2018) Structural basis for transcript elongation control by NusG family universal regulators. *Cell.* **173**, 1650-62. doi.org/10.1016/j.cell.2018.05.017.
  74. Zuber PK, **Artsimovitch I**, NandyMazumdar M, Liu Z, Nedialkov Y, Schweimer K, Rösch P, Knauer SH\* (2018) The universally-conserved transcription factor RfaH is recruited to a hairpin structure of the non-template DNA strand. *eLife*. doi: 10.7554/eLife.36349.
  73. Nedialkov Y, Svetlov D, Belogurov GA, **Artsimovitch I\*** (2018) Locking the non-template DNA to control transcription. *Mol Microbiol.* **109**, 445-7. doi: 10.1111/mmi.13983.
  72. Shi D, Svetlov D, Abagyan R, **Artsimovitch I\*** (2017) Flipping states: a few key residues decide the winning conformation of the only universally conserved transcription factor. *Nucleic Acids Res.* doi: 10.1093/nar/gkx523.
  71. Strobel EJ, Watters KE, Nedialkov Y, **Artsimovitch I**, Lucks JB\* (2017) Distributed biotin-streptavidin transcription roadblocks for mapping cotranscriptional RNA folding. *Nucleic Acids Res.* doi: 10.1093/nar/gkx233.
  70. Hu K, **Artsimovitch I\*** (2017) Screen for *rfaH* suppressors reveals a key role for a connector region of the termination factor Rho. *mBio.* **8**, e00753-17. doi: 10.1128/mBio.00753-17.
  69. NandyMazumdar M, Nedialkov Y, Svetlov D, Sevostyanova A, Belogurov GA, **Artsimovitch I\*** (2016) RNA polymerase gate loop guides the nontemplate DNA strand in transcription complexes. *Proc Natl Acad Sci U S A.* **113**, 14994-9.
  68. Sreenivasan R, Heitkamp S, Chhabra M, Saecker R, Lingeman E, Poulos M, McCaslin D, Capp MW,

- Artsimovitch I**, Record MT Jr\* (2016) Fluorescence resonance energy transfer characterization of DNA wrapping in closed and open Escherichia coli RNA polymerase- $\lambda$ P(R) promoter complexes. *Biochemistry*. **55**, 2174-86.
67. Elgamal S, **Artsimovitch I\***, Ibba M\* (2016) Maintenance of transcription-translation coupling by elongation factor P. *mBio*. **7**, e01373-16.
  66. Furman R, Danhart EM, NandyMazumdar M, Yuan C, Foster MP, **Artsimovitch I\*** (2015) pH dependence of the stress regulator DksA. *PLoS One*, **10**(3), e0120746.
  65. Ruff EF, Record MT Jr\*, **Artsimovitch I\*** (2015) Initial events in bacterial transcription initiation. *Biomolecules*. **5**, 1035-62.
  64. Ruff EF, Drennan AC, Capp MW, Poulos MA, **Artsimovitch I**, Record MT Jr\* (2015) *E. coli* RNA polymerase determinants of open complex lifetime and structure. *J Mol Biol*. **427**, 2435-50.
  63. Ramírez-Sarmiento CA\*, Noel JK, Valenzuela SL, **Artsimovitch I\*** (2015) Interdomain contacts control native state switching of RfaH on dual-funneled landscape. *PLoS Comput Biol*. **11**(7), e1004379.
  62. Miropolskaya N, Esyunina D, Klimašauskas S, Nikiforov V, **Artsimovitch I** & Kulbachinskiy A\* (2014) Interplay between the trigger loop and the F loop during RNA polymerase catalysis. *Nucleic Acids Res*. **42**, 544-52
  61. Malinen AM, NandyMazumdar M, Turtola M, Malmi H, Grocholski T, **Artsimovitch I** & Belogurov GA\* (2014) CBR antimicrobials alter coupling between the bridge helix and the  $\beta$  subunit in RNA polymerase. *Nat Commun*. **5**, 3408.
  60. Svetlov V, **Artsimovitch I\*** (2014) Purification of bacterial RNA polymerase: tools and protocols. *Methods Mol Biol*. **1276**, 13-29.
  59. Liu Z, **Artsimovitch I\*** (2014) Mapping the Escherichia coli transcription elongation complex with exonuclease III. *Methods Mol Biol*. **1276**, 1-12.
  58. Biswas T, Resto-Roldán E, Sawyer SK, **Artsimovitch I** & Tsodikov OV\* (2013) A novel non-radioactive primase-pyrophosphatase activity assay and its application to the discovery of inhibitors of *Mycobacterium tuberculosis* primase DnaG. *Nucleic Acids Res*. **41**, e56.
  57. Nedialkov YA, Opron K, Assaf F, **Artsimovitch I**, Kireeva ML, Kashlev M, Cukier RI, Nudler E, Burton ZF\* (2013) The RNA polymerase bridge helix YFI motif in catalysis, fidelity and translocation. *Biochim Biophys Acta*. **829**, 187-98.
  56. Furman R, Biswas T, Danhart EM, Foster MP, Tsodikov OV & **Artsimovitch I\*** (2013) DksA2, a zinc-independent structural analog of the transcription factor DksA. *FEBS Lett*. **587**, 614-9.
  55. Tomar SK, Knauer SH, Nandy Mazumdar N, Rösch P & **Artsimovitch I\*** (2013) Interdomain contacts control folding of transcription factor RfaH. *Nucleic Acids Res*. **41**, 10077-85.
  54. Perdrizet GA, **Artsimovitch I**, Furman R, Sosnick TR & Pan T\* (2012) Transcriptional pausing coordinates folding of the aptamer domain and the expression platform of a riboswitch. *Proc Natl Acad Sci U S A*. **109**, 3323-8.
  53. Deaconescu AM, Sevostyanova A, **Artsimovitch I** & Grigorieff N\* (2012) NER machinery recruitment by the transcription-repair coupling factor involves unmasking of a conserved intramolecular interface. *Proc Natl Acad Sci U S A*. **109**, 3353-8.
  52. Burmann BM, Knauer SH, Sevostyanova A, Schweimer K, Mooney RA, Landick R, **Artsimovitch I\*** & Rösch P\* (2012) An  $\alpha$ -helix to  $\beta$ -barrel domain switch transforms the transcription factor RfaH into a translation factor. *Cell*. **150**, 291-303.
  51. Drennan AC, Kraemer M, Capp MW, Gries TJ, Ruff E, Sheppard C, Wigneshweraraj S, **Artsimovitch I** & Record MT\* (2012) Key roles of the downstream mobile jaw of *Escherichia coli* RNA polymerase in transcription initiation. *Biochemistry*. **51**, 9447-59.
  50. Furman R, Tsodikov OV, Wolf YI & **Artsimovitch I\*** (2012) An insertion in the catalytic trigger loop gates the secondary channel of RNA polymerase. *J Mol Biol*. **425**, 82-93.
  49. Svetlov V, **Artsimovitch I**, Nudler E\* (2012) Response to Klyuyev and Vassylyev: on the mechanism of tagetitoxin inhibition of transcription. *Transcription*. **2**, 51-55.
  48. Blaby-Haas CE, Furman R, Rodionov DA, **Artsimovitch I\*** & de Crécy-Lagard V\* (2011) Role of a Zn-

- independent DksA in Zn homeostasis and stringent response. *Mol Microbiol.* **79**, 700-15.
47. Sevostyanova A, Belogurov GA, Mooney RA, Landick R & **Artsimovitch I\*** (2011). The  $\beta$  subunit gate loop is required for RNA polymerase modification by RfaH and NusG. *Mol Cell.* **43**, 253-62.
  46. **Artsimovitch I\***, Svetlov V, Nemetski SM, Epshtein V, Cardozo T & Nudler E\* (2011). Tagetitoxin inhibits RNA polymerase through trapping of the trigger loop. *J Biol Chem.* **286**, 40395-400.
  45. Furman R, Sevostyanova A & **Artsimovitch\*** (2011) Transcription initiation factor DksA has diverse effects on RNA chain elongation. *Nucleic Acids Res.* **40**, 3392-402.
  44. Belogurov GA, Sevostyanova A, Svetlov V & **Artsimovitch I\*** (2010). Functional regions of the N-terminal domain of the antiterminator RfaH. *Mol Microbiol.* **76**, 286-301.
  43. Pupov D, Miropolskaya N, Sevostyanova A, Bass I, **Artsimovitch I\*** & Kulbachinskiy A\* (2010). Multiple roles of the RNA polymerase  $\beta'$  SW2 region in transcription initiation, promoter escape, and RNA elongation. *Nucleic Acids Res.* **38**, 5784-96.
  42. Miropolskaya N, Nikiforov V, Klimašauskas S, **Artsimovitch I\*** & Kulbachinskiy A\* (2010). Modulation of RNA polymerase activity through trigger loop folding. *Transcription*, **1**, 89-94.
  41. Sevostyanova A & **Artsimovitch I\*** (2010). Functional analysis of *Thermus thermophilus* transcription factor NusG. *Nucleic Acids Res.* **38**, 7432-45.
  40. **Artsimovitch I\*** & Henkin TM\* (2009). In vitro approaches to analysis of transcription termination. *Methods.* **47**, 37-43.
  39. Belogurov GA, Vassilyeva MN, Sevostyanova A, Xiang A, Lira R, Webber S, Klyuyev S, **Artsimovitch I\*** & Vassilyev DG\* (2009). Transcription inactivation through local refolding of the RNA polymerase structure. *Nature.* **457**, 332-335.
  38. Kulaeva OI, Gaykalova DA, Pestov NA, Golovastov VV, Vassilyev DG, **Artsimovitch I** & Studitsky VM\* (2009). Mechanism of chromatin remodeling and recovery during passage of RNA polymerase II. *Nat Struct Mol Biol.* **16**, 1272-1278.
  37. Miropolskaya N, **Artsimovitch I**, Klimašauskas S, Nikiforov V & Kulbachinskiy A\* (2009). Allosteric control of catalysis by the F-loop of RNA polymerase. *Proc Natl Acad Sci U S A.* **106**, 18942-18947.
  36. Sevostyanova A, Svetlov V, Vassilyev DG & **Artsimovitch I\*** (2008). The elongation factor RfaH and the initiation factor sigma bind to the same site on the transcription elongation complex. *Proc Natl Acad Sci U S A.* **105**, 865-870.
  35. Belogurov GA, Mooney RA, Svetlov V, Landick R & **Artsimovitch I\*** (2008). Functional specialization of transcription elongation factors. *EMBO J.* **28**, 112-122.
  34. Belogurov GA, Vassilyeva MN, Svetlov V, Klyuyev S, Grishin N, Vassilyev DG & **Artsimovitch I\*** (2007). Structural basis for converting a general transcription factor into a dedicated virulence regulator. *Mol Cell.* **26**, 117-129.
  33. Vassilyev DG\*, Vassilyeva MN, Perederina A, Tahirov TH & **Artsimovitch I** (2007). Structural basis for transcription elongation by bacterial RNA polymerase. *Nature.* **448**, 157-162.
  32. Vassilyev DG\*, Vassilyeva MN, Zhang J, Palangat M, **Artsimovitch I** & Landick R (2007). Structural basis for substrate loading in bacterial RNA polymerase. *Nature.* **448**, 163-168.
  31. Svetlov V, Belogurov GA, Shabrova E, Vassilyev DG & **Artsimovitch I\*** (2007) Allosteric control of the RNA polymerase by the elongation factor RfaH. *Nucleic Acids Res.* **35**, 5694-5705.
  30. Vassilyeva MN, Svetlov V, Dearborn A, Klyuyev S, **Artsimovitch I\*** & Vassilyev DG\* (2007). The carboxy-terminal coiled-coil of the RNA polymerase  $\beta'$ -subunit is the main binding site for Gre factors. *EMBO Rep.* **8**, 1038-1043.
  29. Symersky J, Perederina A, Vassilyeva MN, Svetlov V, **Artsimovitch I** & Vassilyev DG\* (2006). Regulation through the RNA polymerase secondary channel. Structural and functional variability of the coiled-coil transcription factors. *J Biol Chem.* **281**, 1309-1312.
  28. Perederina A, Vassilyeva MN, Berezin I, Svetlov V, **Artsimovitch I** & Vassilyev DG\* (2006). Cloning, expression, purification, crystallization and initial crystallographic analysis of transcription elongation factors GreB from *Escherichia coli* and Gfh1 from *Thermus thermophilus*. *Acta Crystallogr F.* **62**, 44-46.

27. Vassilyeva MN, Svetlov V, Klyuyev S, Devedjiev YD, **Artsimovitch I\*** & Vassilyev DG\* (2006). Crystallization and preliminary crystallographic analysis of the transcriptional regulator RfaH from *Escherichia coli* and its complex with *ops* DNA. *Acta Crystallogr F*. **62**, 1027-1030.
26. **Artsimovitch I**, Vassilyeva MN, Svetlov D, Svetlov V, Perederina A, Igarashi N, Matsugaki N, Wakatsuki S, Tahirov TH & Vassilyev DG\* (2005). Allosteric modulation of the RNA polymerase catalytic reaction is an essential component of transcription control by rifamycins. *Cell*. **122**, 351-363.
25. Toulme F, Mosrin-Huaman C, **Artsimovitch I** & Rahmouni AR\* (2005). Transcriptional pausing *in vivo*: a nascent RNA hairpin restricts lateral movements of RNA polymerase in both forward and reverse directions. *J Mol Biol*. **351**, 39-51.
24. Vassilyev DG, Svetlov V, Vassilyeva MN, Perederina A, Igarashi N, Matsugaki N, Wakatsuki S & **Artsimovitch I\*** (2005). Structural basis for transcription inhibition by tagetitoxin. *Nat Struct Mol Biol*. **12**, 1086-1093.
23. Vicari D & **Artsimovitch I\*** (2004). Virulence regulators RfaH and YaeQ do not operate in the same pathway. *Mol Genet Genomics*. **272**, 489-496.
22. Vassilyeva MN, Perederina AA, Svetlov V, Yokoyama S, **Artsimovitch I** & Vassilyev DG\* (2004). Cloning, expression, purification, crystallization and initial crystallographic analysis of transcription factor DksA from *Escherichia coli*. *Acta Crystallogr D*. **60**, 1611-1613.
21. **Artsimovitch I**, Patlan V, Sekine S, Vassilyeva MN, Hosaka T, Ochi K, Yokoyama S & Vassilyev DG\* (2004). Structural basis for transcription regulation by alarmone ppGpp. *Cell*. **117**, 299-310.
20. Svetlov V, Vassilyev DG & **Artsimovitch I\*** (2004). Discrimination against deoxyribonucleotide substrates by bacterial RNA polymerase. *J Biol Chem*. **279**, 38087-38090.
19. Perederina A, Svetlov V, Vassilyeva MN, Tahirov TH, Yokoyama S, **Artsimovitch I** & Vassilyev DG\* (2004). Regulation through the secondary channel—structural framework for ppGpp-DksA synergism during transcription. *Cell*. **118**, 297-309.
18. Carter HD, Svetlov V & **Artsimovitch I\*** (2004). Highly divergent RfaH orthologs from pathogenic proteobacteria can substitute for *Escherichia coli* RfaH both *in vivo* and *in vitro*. *J Bacteriol*. **186**, 2829-2840.
17. **Artsimovitch I**, Chu C, Lynch AS & Landick R\* (2003). A new class of bacterial RNA polymerase inhibitor affects nucleotide addition. *Science*. **302**, 650-654.
16. McDaniel BA, Grundy FJ, **Artsimovitch I** & Henkin TM\* (2003). Transcription termination control of the S box system: direct measurement of S-adenosylmethionine by the leader RNA. *Proc Natl Acad Sci U S A*. **100**, 3083-3088.
15. **Artsimovitch I**, Svetlov V, Murakami KS & Landick R\* (2003). Co-overexpression of *Escherichia coli* RNA polymerase subunits allows isolation and analysis of mutant enzymes lacking lineage-specific sequence insertions. *J Biol Chem*. **278**, 12344-12355.
14. Yuzenkova J, Delgado M, Nechaev S, Savalia D, Epshtein V, **Artsimovitch I**, Mooney RA, Landick R, Farias RN, Salomon R & Severinov K\* (2002). Mutations of bacterial RNA polymerase leading to resistance to microcin j25. *J Biol Chem*. **277**, 50867-50875.
13. Ederth J, **Artsimovitch I**, Isaksson LA & Landick R\* (2002). The downstream DNA jaw of bacterial RNA polymerase facilitates both transcriptional initiation and pausing. *J Biol Chem*. **277**, 37456-37463.
12. **Artsimovitch I** & Landick R\* (2002). The transcriptional regulator RfaH stimulates RNA chain synthesis after recruitment to elongation complexes by the exposed nontemplate DNA strand. *Cell*. **109**, 193-203.
11. Gruber TM, Markov D, Sharp MM, Young BA, Lu CZ, Zhong HJ, **Artsimovitch I**, Geszvain KM, Arthur TM, Burgess RR, Landick R, Severinov K & Gross CA\* (2001). Binding of the initiation factor  $\sigma^{70}$  to core RNA polymerase is a multistep process. *Mol Cell*. **8**, 21-31.
10. Touloukhonov I, **Artsimovitch I** & Landick R\* (2001). Allosteric control of RNA polymerase by a site that contacts nascent RNA hairpins. *Science*. **292**, 730-733.
9. **Artsimovitch I**, Svetlov V, Anthony L, Burgess RR & Landick R\* (2000). RNA polymerases from *Bacillus subtilis* and *Escherichia coli* differ in recognition of regulatory signals *in vitro*. *J Bacteriol*.

- 182, 6027-6035.
8. Anthony LC, **Artsimovitch I**, Svetlov V, Landick R & Burgess RR\* (2000). Rapid purification of His(6)-tagged *Bacillus subtilis* core RNA polymerase. *Protein Expr Purif.* **19**, 350-354.
  7. **Artsimovitch I** & Landick R\* (2000). Pausing by bacterial RNA polymerase is mediated by mechanistically distinct classes of signals. *Proc Natl Acad Sci U S A.* **97**, 7090-7095.
  6. Yin H, **Artsimovitch I**, Landick R & Gelles J\* (1999). Nonequilibrium mechanism of transcription termination from observations of single RNA polymerase molecules. *Proc Natl Acad Sci U S A.* **96**, 13124-13129.
  5. Pan T\*, **Artsimovitch I**, Fang XW, Landick R & Sosnick TR\* (1999). Folding of a large ribozyme during transcription and the effect of the elongation factor NusA. *Proc Natl Acad Sci U S A.* **96**, 9545-9550.
  4. **Artsimovitch I** & Landick R\* (1998). Interaction of a nascent RNA structure with RNA polymerase is required for hairpin-dependent transcriptional pausing but not for transcript release. *Genes Dev.* **12**, 3110-3122.
  3. **Artsimovitch I**, Murakami K, Ishihama A & Howe MM\* (1996). Transcription activation by the bacteriophage Mu Mor protein requires the C-terminal regions of both  $\alpha$  and  $\sigma^{70}$  subunits of *Escherichia coli* RNA polymerase. *J Biol Chem.* **271**, 32343-32348.
  2. **Artsimovitch I**, Kahmeyer-Gabbe M & Howe MM\* (1996). Distortion in the spacer region of P<sub>m</sub> during activation of middle transcription of phage Mu. *Proc Natl Acad Sci U S A.* **93**, 9408-9413.
  1. **Artsimovitch I** & Howe MM\* (1996). Transcription activation by the bacteriophage Mu Mor protein: analysis of promoter mutations in P<sub>m</sub> identifies a new region required for promoter function. *Nucleic Acids Res.* **24**, 450-457.

#### Book Chapters, Reviews, and Perspectives

28. **Artsimovitch I\*** and Ramírez-Sarmiento CA\* (2022) Metamorphic proteins under a computational microscope: lessons from a fold-switching RfaH protein. *Comp Struct Biotech J.*; **20**, 5824-5837. <https://doi.org/10.1016/j.csbj.2022.10.024>
27. Sunday ND, Svetlov D, **Artsimovitch I\*** (2021) Rho Termination Factor: One Ring to Bind Them All. Royal Society of Chemistry "RNA Polymerase as a Molecular Motor" book, 2<sup>nd</sup> edition; pp. 100-131.
26. **Artsimovitch I\*** (2021) Bacterial RNA synthesis: back to the limelight. *Transcription.* **12**, 89-91. doi: 10.1080/21541264.2021.2001236.
25. Svetlov D, **Artsimovitch I\*** (2021) Reductionism ad absurdum: the misadventures of structural biology in the time of coronavirus. *ACS Infect Dis.* **7**, 2948-52. doi.org/10.1021/acsinfectdis.1c00492.
24. Wang B, **Artsimovitch I\*** (2021) NusG, an ancient yet rapidly evolving transcription factor. *Frontiers Microbiol.* **11**, 619618. doi.org/10.3389/fmicb.2020.619618.
23. Wang B, **Artsimovitch I\*** (2020) A growing gap between the RNAP and the lead ribosome. *Trends Microbiol.* **29**, 4-5. doi: 10.1016/j.tim.2020.09.011.
22. **Artsimovitch I\*** (2019) RNA synthesis is a team effort. *Nat Microbiol.* **4**, 1776-7. doi: 10.1038/s41564-019-0600-9.
21. Belogurov GA, **Artsimovitch I\*** (2019) The mechanisms of substrate selection, catalysis and translocation by the elongating RNA polymerase. *J Mol Biol.* **431**, 3975-4006. doi: 10.1016/j.jmb.2019.05.042.
20. **Artsimovitch I\***, Knauer SH (2019) Ancient transcription factors in the news. *mBio*, **10**, e01547-18.
19. **Artsimovitch I\*** (2018) Rebuilding the bridge between transcription and translation. *Mol Microbiol.* **108**, 467-72. doi: 10.1111/mmi.13964.
18. **Artsimovitch I\***, Belogurov GA (2018) Uneven braking spins RNA polymerase into a pause. *Mol Cell.* **69**, 723-4. doi: 10.1016/j.molcel.2018.02.013.
17. NandyMazumdar M, **Artsimovitch I\*** (2015) Ubiquitous transcription factors display structural plasticity and diverse functions. *Bioessays.* **37**, 324-34.



16. **Artsimovitch I\***, Belogurov GA (2015) Creative math of RNA Polymerase III termination: sense plus antisense makes more sense. *Mol Cell*. **58**, 974-976.
15. Ruff EF, Record MT Jr\*, **Artsimovitch I\*** (2015) Initial events in bacterial transcription initiation. *Biomolecules*. **5**, 1035-62.
14. Belogurov GA & **Artsimovitch I\*** (2015) Regulation of transcript elongation. *Annu Rev Microbiol*. **69**, 49-69.
13. **Artsimovitch I\*** (2014) The tug of DNA repair. *Nature*. **505**, 298-9.
12. Tomar SK & **Artsimovitch I\*** (2013) NusG-Spt5 proteins — universal tools for transcription modification and communication. *Chem Rev*. **113**, 8604-19.
11. Deaconescu AM\*, **Artsimovitch I** & Grigorieff N (2012) Interplay of DNA repair with transcription: from structures to mechanisms. *Trends Biochem Sci*. **37**, 543-52.
10. Knauer SH\*, **Artsimovitch I** & Rösch P\* (2012) Transformer proteins. *Cell Cycle*. **11**, 4289-90.
9. Knauer SH\*, Rösch P & **Artsimovitch I\*** (2012) Transformation — the next level of regulation. *RNA Biol*. **9**, 1418-23.
8. Santangelo TJ & **Artsimovitch I\*** (2011). Termination and antitermination: RNA polymerase runs a stop sign. *Nat Rev Microbiol*. **9**, 319-29.
7. **Artsimovitch I\*** (2010). A processive riboantiterminator seeks a switch to make biofilms. *Mol Microbiol*. **76**, 535–539.
6. **Artsimovitch I\*** (2008) Post-initiation control by the initiation factor  $\sigma$ . *Mol Microbiol*. **68**, 1-3.
5. **Artsimovitch I\*** & Vassilyev DG\* (2007) Merging the RNA and DNA worlds. *Nat Struct Mol Biol*. **14**, 1122-1123.
4. **Artsimovitch I** & Vassilyev DG\* (2006). Is it easy to stop RNA polymerase? *Cell Cycle*. **5**, 399-404.
3. **Artsimovitch I\*** (2005). Control of transcription termination and antitermination. In *The Bacterial Chromosome*, pp. 311-326. Edited by N. P. Higgins. Washington, D. C. American Society for Microbiology.
2. Vassilyev DG & **Artsimovitch I\*** (2005). Tracking RNA polymerase, one step at a time. *Cell*. **123**, 977-979.
1. Mooney RA, **Artsimovitch I** & Landick R\* (1998). Information processing by RNA polymerase: recognition of regulatory signals during RNA chain elongation. *J Bacteriol*. **180**, 3265-3275.

## PRESENTATIONS SINCE JOINING OSU IN 2001:

### Presentations at scientific meetings:

- |      |  |
|------|--|
| 2022 | Gordon Conference / Microbial Stress Response, Mount Holyoke, MA (talk).                         |
| 2022 | ASM Microbe, Washington, DC (talk).  |
| 2021 | Rustbelt RNA Meeting, Columbus, OH (virtual; talk).  |
| 2021 | RNA polymerase workshop, Birmingham, UK (virtual; talk and 2 posters).                           |
| 2021 | IAS Focused Program on Mechanisms of Transcription, Hong Kong (virtual; talk and session chair). |
| 2020 | Biophysical Society Meeting, San Diego, CA (3 posters).  |
| 2019 | Gordon Conference / Microbial Transcription, Lewiston, ME (talk and 1 poster).                   |
| 2018 | Postinitiation Activities of RNA Polymerases, Mountain Lake, VA (2 talks and 1 poster).          |
| 2018 | IAS Focused Program on Mechanisms of Transcription, Hong Kong (talk and session chair).          |
| 2018 | HKPT Symposium on Drug Discovery, Hong Kong (talk).  |
| 2018 | ASM Microbe, Atlanta, GA (talk).   |
| 2017 | FASEB Conference / Control of Transcription in Prokaryotes, Saxtons River, VT (talk).            |

2017 15<sup>th</sup> International Congress of Bacteriology, IUMS, Singapore (talk).

2016 Postinitiation Activities of RNA Polymerases, Mountain Lake, VA (talk and 2 posters).

2016 IAS Focused Program on Mechanisms of Transcription, Hong Kong (talk and session chair).

2015 Rustbelt RNA Meeting, Huron, OH (poster).

2015 FASEB Conference / Control of Transcription in Prokaryotes, Saxtons River, VT (talk and poster).

2015 ASBMB / Gene Regulation, Saint Louis, MO (talk).

2014 Total Transcription, Cambridge, England (talk).

2014 Postinitiation Activities of RNA Polymerases, Mountain Lake, VA (talk and poster).

2014 EMBL Molecular Machines Meeting, Heidelberg, Germany (talk).

2014 ASBMB Meeting, San Diego, CA (talk).

2013 XII PAMBM Congress, Puerto Varas, Chile (talk).

2013 Rustbelt RNA Meeting, Cleveland, OH (3 posters).

2013 Molecular Genetics of Bacteria and Phage Meeting, Madison, WI (session chair).

2013 FASEB Conference / Control of Transcription in Prokaryotes, Saxtons River, VT (session chair).

2013 ASM Meeting, Denver CO (talk).

2012 Symposium on Lead Structures of Cell Function, Bayreuth, Germany (talk).

2011 Symposium on Transcriptional Dynamics, Evolution, and Systems Biology, East Lansing, MI (talk).

2011 Symposium on Lead Structures of Cell Function, Bayreuth, Germany (talk).

2011 Molecular Genetics of Bacteria and Phage Meeting, Madison, WI (talk).

2011 ICGEB Symposium on Gene Expression and RNA processing, Iguazú Falls, Argentina (talk).

2011 Gordon Conference / Nucleic Acids, Biddeford, ME (poster).

2011 FASEB Conference / Control of Transcription in Prokaryotes, Saxtons River, VT (talk & 2 posters).

2010 Postinitiation Activities of RNA Polymerases, Mountain Lake, VA (2 talks).

2010 Gordon Conference / Stress Response, Mount Holyoke, MA (2 posters).

2010 Goldschmidt Conference, Knoxville, TN (talk).

2010 ASM Meeting, San Diego, CA (poster).

2010 ASBMB Meeting, Anaheim, CA (2 posters).

2010 69<sup>th</sup> Harden Conference / RNAP, Cambridge, UK (talk).

2009 Molecular Genetics of Bacteria and Phage Meeting, Madison, WI (talk & poster).

2009 International Symposium on Antimicrobial Peptides, Saint Malo, France (talk).

2009 FASEB Conference / Control of Transcription in Prokaryotes, Saxtons River, VT (talk & 4 posters).

2008 Postinitiation Activities of RNA Polymerases 2008, Mountain Lake, VA (talk & 2 posters).

2008 Gordon Research Conference / Antibacterial Discovery & Development, Lucca, Italy (poster).

2008 FASEB Conference / Nucleic Acid Enzymes, Saxtons River, VT (3 posters).

2008 8th EMBL Transcription Meeting, Heidelberg, Germany (talk).

2007 FASEB Conference / Control of Transcription in Prokaryotes, Saxtons River, VT (talk & 4 posters).

2006 Postinitiation Activities of RNA Polymerases, Mountain Lake, VA (session chair).

2006 Keystone Meeting / Nucleic Acid Enzymes, Taos, NM (talk & 2 posters).

- 2005 FASEB Conference / Control of Transcription in Prokaryotes, Saxtons River, VT (talk & poster).
- 2004 Postinitiation Activities of RNA Polymerases, Mountain Lake, VA (session chair).
- 2004 Molecular Genetics of Bacteria and Phage Meeting, Cold Spring Harbor, NY (talk & poster).
- 2004 FASEB Conference / Nucleic Acid Enzymes, Saxtons River, VT (talk & 3 posters).
- 2003 Rustbelt RNA Meeting, Deer Creek, OH (3 posters).
- 2003 Molecular Genetics of Bacteria and Phage Meeting, Madison, WI (poster).
- 2003 FASEB Conference / Control of Transcription in Prokaryotes, Saxtons River, VT (talk).

**Invited seminars:**

- 2022 Millennium Institute for Integrative Biology, Santiago, Chile.
- 2022 Ohio State University, Dept. of Microbiology, Columbus, OH.
- 2022 Brown University, Dept. of Molecular Biology, Cell Biology and Biochemistry, Providence, RI.
- 2021 NIH "Lambda Lunch", Bethesda, MD; virtual.
- 2021 Penn State University, Dept. of Biochemistry and Molecular Biology, State College, PA; virtual.
- 2021 Colorado State University, Dept. of Biochemistry, Fort Collins, CO; virtual.
- 2020 Ohio State University, Dept. of Chemistry and Biochemistry, Columbus, OH; virtual.
- 2020 NCBI, Bethesda, MD.
- 2019 USCD, School of Pharmacy, San Diego, CA.
- 2019 University of Michigan, Dept. of Biological Chemistry, Ann Arbor, MI.
- 2019 University of Chile, Dept. of Microbiology, Santiago, Chile.
- 2019 Kenyon College, Dept. of Biology, Gambier, OH.
- 2019 Columbia University, Dept. of Biochemistry, New York, NJ.
- 2019 Caltech, Dept. of Biology, Pasadena, CA.
- 2018 Ohio State University, Dept. of Pharmacy, Columbus, OH.
- 2018 Medical College of Wisconsin, Dept. of Biochemistry, Milwaukee, WI.
- 2017 University of Turku, Dept. of Biochemistry, Turku, Finland.
- 2017 University of Maryland, Dept. of Cell Biology and Molecular Genetics, College Park, MD.
- 2017 University of Chile, Dept. of Microbiology, Santiago, Chile.
- 2017 St Louis University, Dept. of Biochemistry, St Louis, MO.
- 2017 OSU Center for RNA Nanobiotechnology and Nanomedicine, Columbus, OH.
- 2017 National Institutes of Health, Bethesda, MD.
- 2017 Institute for Biological and Medical Engineering, Santiago, Chile.
- 2016 Brigham Young University, Dept. of Microbiology & Molecular Biology, Provo, UT.
- 2015 University of Nebraska, Dept. of Pathology and Microbiology, Omaha, NE.
- 2014 University of Arizona, Dept. of Chemistry and Biochemistry, Tucson, AZ.
- 2014 Miami University, Dept. of Microbiology, Oxford, OH.
- 2013 University of Minnesota, Dept. of Microbiology, Minneapolis, MN.
- 2013 University of Chile, Dept. of Microbiology, Santiago, Chile.

2013 Ohio State University, Dept. of Biochemistry, Columbus, OH.  
2013 Ohio State University, Center for Microbial Interface Biology, Columbus, OH.  
2012 University of Pittsburgh, Pittsburgh, PA.  
2012 Nankai University, Tianjin, China.  
2012 Columbia University, Dept. of Microbiology, New York, NJ.  
2012 Carnegie Mellon University, Pittsburgh, PA.  
2011 University of Cincinnati, Dept. of Chemistry, Cincinnati, OH.  
2011 University of Chicago, Dept. of Biochemistry and Molecular Biology, Chicago, IL.  
2011 Cornell University, Dept. of Microbiology, Ithaca, NY.  
2011 Brandeis University, Dept. of Biology, Boston, MA.  
2011 Biochemical Genetics Section, NIH, Bethesda, MD.  
2010 University of Turku, Dept. of Biochemistry and Food Chemistry, Turku, Finland.  
2010 Ohio State University, Dept. of Microbiology, Columbus, OH.  
2010 Imperial College of London, Dept. of Microbiology, London, UK.  
2009 University of Bern, Institute of Cell Biology, Bern, Switzerland.  
2009 École Normale Supérieure de Cachan, Paris, France.  
2009 Denison University, Dept. of Chemistry and Biochemistry, Granville, OH.  
2008 Youngstown State University, Dept. of Chemistry, Youngstown, OH.  
2008 University of Illinois, Dept. of Biochemistry, Urbana-Champaign, IL.  
2008 University of Florida, Dept. of Microbiology and Cell Science, Gainesville, FL.  
2008 Texas A&M University, Dept. of Biochemistry and Biophysics, College Station, TX.  
2008 Moscow State University, Dept. of Molecular Biology, Moscow, Russia.  
2008 Institute of Molecular Genetics, Moscow, Russia.  
2007 University of Michigan, Dept. of Medicinal Chemistry, Ann Arbor, MI.  
2007 UMDNJ, Dept. of Pharmacology, Piscataway, NJ.  
2007 Ohio State University, Dept. of Biochemistry, Columbus, OH.  
2005 University of Georgia, Dept. of Microbiology, Athens, GA.  
2005 St. Louis University, Dept. of Biochemistry, St. Louis, MO.  
2005 Ohio State University, Dept. of Chemistry, Columbus, OH.  
2005 NCBI, Evolutionary Genomics Research Group, Bethesda, MD.  
2004 University of Alabama, Dept. of Biochemistry and Mol. Genetics, Birmingham, AL.  
2003 Tokyo Institute of Technology, Yokohama, Japan.  
2003 RIKEN Institute, Harima, Japan.  
2003 Ohio State University, Dept. of Biochemistry, Columbus, OH.  
2003 Kenyon College, Dept. of Biology, Gambier, OH.  
2003 Genomic Sciences Center, Yokohama, Japan.  
2003 Case Western Reserve University, Dept. of Biochemistry, Cleveland, OH.

## TEACHING:

Molecular Basis for Microbial Biodiversity (Micro 720, 4 credit hours), Ohio State University, 2001, lecturer (5%), graduate level.

Special Topics in Biochemistry (Biochem 795, 3 credit hours), Ohio State University, 2002 - 2003, (25%), supervisor of seminar course, graduate level.

Seminar in Advanced Biochemistry (Biochem 796, 1 credit hour), Ohio State University, 2002, supervisor of seminar course (25%), graduate level.

Microbial Genetics (Micro 580, 3 credit hours), Ohio State University, 2002 - 2007, lecturer (100%), undergraduate level.

Microbial Genetics (Micro 580, 2 credit hours), Ohio State University, 2003 - 2007, supervisor of the laboratory course (100%), undergraduate level.

Advanced Microbial Genetics (Micro 680, 3 credit hours), Ohio State University, 2009 - 2012, lecturer (100%), undergraduate level.

Advanced Bacterial Physiology (Micro 760, 3 credit hours), Ohio State University, 2010 - 2011, lecturer (25%), undergraduate level.

Seminar in Microbiology (Micro 8899, 2 credit hours), Ohio State University, 2012 - 2014, supervisor of seminar course (50%), graduate level.

Advanced Microbial Genetics (Micro 6080, 3 credit hours), Ohio State University, 2013 - 2021, lecturer (100%), graduate level.

Principles of Microbiology (Micro 6010, 2 credit hours), Ohio State University, 2013- 2015, 2017-2018, lecturer (10%), graduate level.

First Year Orientation (MCDB 7060, 1 credit hour), Ohio State University, 2013 - 2015, lecturer (10%), graduate level

Graduate Student Seminar (Biochem 6701, 2 credit hours), Ohio State University 2014 - 2016, lecturer (10%), graduate level.

## LAB TRAINEES: female\*; URM#

Bruce Yao	Research Assistant		2022-
Maura Mittermeier*	Research Assistant		2021-2022
Livia Fitzgerald*	PhD student	OSU Biochemistry	2020-2021
Bing Wang	Postdoc		2019-
Yuri Nedialkov	Research Associate		2015-2019
Nicholas Sunday	MS student	OSU Microbiology	2015-2021
Jacob Posner	MS student	OSU Molecular Genetics	2013-2015
Sushil Tomar	Postdoc		2012-2015
Monali NandyMazumdar*	PhD student	OSU Microbiology	2010-2017
Kalyani Mondal*	Postdoc		2009-2010
Zhaokun Liu	MS student	OSU Microbiology	2011-2014
Ran Furman	PhD student	OSU Microbiology	2010-2013
Anastasia Sevostyanova*	PhD student	OSU Microbiology	2007-2010
Elena Shabrova*	Postdoc		2006-2007
Georgy Belogurov	Postdoc		2006-2009

Daniele Vicari**	MS student	OSU Microbiology	2002-2004
Heather Carter*	MS student	OSU Microbiology	2002-2004
Vladimir Svetlov	Research Associate		2001-2008

***Visiting researchers***

Javiera Reyes**	PhD student	Catholic University of Chile	2019
Michael Bellecourt	PhD student	University of Wisconsin	2017
Megan Bergkessel*	Postdoc	CalTech	2017
Julia Widom*	Postdoc	University of Michigan	2016
Cesar Ramirez#	Assistant Professor	University of Chile	2016
Pablo Lobos-Ruiz#	PhD student	University of Chile	2014
Gidi Pelchovich	PhD student	Tel Aviv University	2012
Elizabeth Barrat*	PhD student	University of Alabama	2007
Natalia Miropolskaya*	PhD student	Inst. of Molecular Genetics, Russia	2007
Yangzhong Tang*	Postdoc	Dept. of Chemical Engineering, OSU	2006
Rachel Mooney*	PhD student	University of Wisconsin	2004
Ruth Saecker*	Research Scientist	University of Wisconsin	2004
Anna Perederina*	Research Scientist	RIKEN, Japan	2004

***Undergraduate and high school students***

Mark Finazzio	Undergraduate	OSU Microbiology	2022-
Angelina Baishnab*	Undergraduate	OSU Molecular Genetics	2021
Julie Suparnekar*	Undergraduate	OSU Microbiology	2021
Jenna Trainer*	Undergraduate	OSU Biology	2020-2021
Pranali Mistry*	High school student	OSU Academy	2020-
Anabelle Tolley*	Undergraduate	Oberlin University Biochemistry	2020
Alexis Mossing*	Undergraduate	OSU Biomedical Engineering	2019
Christian Popovski	Undergraduate	OSU Microbiology	2019
Jamal Mohamed#	Undergraduate	OSU Microbiology	2018-2019
Maya Dennis**	Undergraduate	OSU Molecular Genetics	2017-2018
Max Gilliland	Undergraduate	OSU Microbiology	2017-2018
Ross Glendinning	Undergraduate	OSU Microbiology	2017
Vladimir Dolzhnikov	Undergraduate	Moscow State University, Russia	2016
Allison Howell*	Undergraduate	OSU Microbiology	2016
Kuang Hu	Undergraduate	OSU Microbiology	2016-2017
Steven Tomasi	Undergraduate	OSU Microbiology	2015-2016
Reuven Gonzalez#	Undergraduate	OSU Microbiology	2014-2015
Shuyang Li	Undergraduate	OSU Microbiology	2014-2016
Azwar Iqbal#	Undergraduate	OSU Microbiology	2013-2014
Ayrron Lynn Sisley*	Undergraduate	OSU Microbiology	2012-2013
Gamze Cağatay*	Undergraduate	İzmir Institute of Technology, Turkey	2011
Abeba Zewdu**	Undergraduate	OSU Biology	2009-2010

Zach Kozel	Undergraduate	OSU Microbiology	2008-2010
Olga Borodulin*	Undergraduate	OSU Biology/English	2007
Adrian Lange	Undergraduate	OSU Microbiology	2005-2006
Ryan Powell	Undergraduate	OSU Microbiology	2005-2006
Rufaro Patience Mboko*#	Undergraduate	OSU Microbiology	2005
Dmitri Svetlov	High school student	OSU Academy	2004-2005
Joanna Liu*	Undergraduate	OSU Biology	2004
Prakash Verpamaulli	Undergraduate	OSU Microbiology	2004
Mercedes Prudencio-Alvarez*	Undergraduate	University of Extremadura, Spain	2003
Timothy Barrow	Undergraduate	University of Bath, UK	2003

## RESEARCH SUPPORT:

### Present

- 06/21–05/23 **National Institutes of Health (NIAID) R21 AI156441** "Post-initiation control of conjugation by plasmid-encoded H-NS and NusG homologs", PI: Irina Artsimovitch.
- 02/02–5/23 **National Institutes of Health (NIGMS) R01 GM067153** "*Mechanism of transcript elongation control by RfaH*"; PI: Irina Artsimovitch.

### Pending

- National Institutes of Health (NIGMS) R01** "Cellular factors maintaining and reversing silencing of bacterial chromatin"; PI: Irina Artsimovitch. Impact score 22, 5%.
- National Institutes of Health (NIAID) R01** "Developing the rifamycin scaffold into a SARS-CoV-2 polymerase inhibitor". Multi-investigator grant, to be reviewed in October 2022.

### Past

- 1/21-12/21 **Pittsburgh Supercomputer Center Anton-2 MCB180078P** "*Metamorphic transitions of RfaH*"; PI: Xiaolin Cheng, co-PI: Irina Artsimovitch.
- 04/20–11/20 **The Ohio State University Office of Research** "*Molecular mechanism of RNA synthesis by SARS-CoV-2 RdRp*"; PI: Irina Artsimovitch.
- 06/15–05/16 **The Ohio State University Center for RNA Biology** "*Reversible m6A methylation of HIV-1 RNA regulates viral replication*"; PIs: Irina Artsimovitch and Li Wu.
- 02/10–12/12 **Optimer Pharmaceuticals, Inc.** "*Functional analysis of antibiotic OPT-80*"; PI: Irina Artsimovitch.
- 01/10–12/12 **National Science Foundation.** MCB-0949569. "*Molecular mechanism of DksA*"; PI: Irina Artsimovitch
- 07/05–06/09 **National Institutes of Health (NIGMS) R01 GM074840** "*Transcription regulation through RNAP secondary channel*"; Co-PI: Irina Artsimovitch, PI: Dmitry Vassylyev.
- 04/05–06/09 **National Institutes of Health (NIGMS) R01 GM074252** "*Molecular mechanism of transcription elongation*"; Co-PI: Irina Artsimovitch, PI: Dmitry Vassylyev.
- 04/05–03/07 **National Institutes of Health (NIAID) R21 AI064819** "*Molecular mechanism of antibiotic rifampicin action*"; PI: Irina Artsimovitch.
- 01/04 **National Institutes of Health (NIGMS) Equipment supplement** "*Mechanism of transcript elongation control by RfaH*"; Co-PIs: Irina Artsimovitch & Michael Ibba, The Ohio State University.
- 07/02–06/04 **American Heart Association 0265013B** "*Genomic targets of RfaH, a transcriptional activator of virulence and fertility operons*"; PI: Irina Artsimovitch.