Maria Ninova

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EDUCATION & RESEARCH

Assistant Professor July 2021 - present
Department of Biochemistry, University of California Riverside, USA

Postdoctoral Fellow 2015 - June 2021
Division of Biology and Biological Engineering, Caltech, Pasadena CA, USA
Advisor: Dr Alexei Aravin

PhD Bioinformatics (Wellcome Trust 4-Year PhD program) 2010 - 2014
Faculty of Life Sciences, University of Manchester, UK
Advisors: Dr Sam Griffiths-Jones & Dr Matthew Ronshaugen

MRes Biological Sciences 2009 - 2010
Faculty of Life Sciences, University of Manchester, UK

BSc Molecular Biology 2004 - 2008
Faculty of Biology, Sofia University 'St Kliment Ohridski', Bulgaria

FELLOWSHIPS AND AWARDS

NIH K99/R00 Pathway to Independence Award 2019 - PRESENT
Caltech BBE Postdoctoral Fellowship 2016 - 2018
Wellcome Trust PhD Scholarship 2010 - 2014

TEACHING

Demonstrator (TA) for the "Introduction to Bioinformatics" course 11/2012 - 12/2012
Faculty of Life Sciences, University of Manchester, UK
Instructor, Bi 23. Biology Tutorial "Small RNAs" 01/2019 - 04/2019
Division of Biology and Biological Engineering, Caltech, Pasadena CA, USA

PUBLICATIONS

RESEARCH ARTICLES

Luo, Y, Fefelova E, **Ninova M**, Chen YA, Aravin A (2020) Repression of interrupted and intact rDNA by the SUMO pathway in Drosophila melanogaster. *eLife* 9, e52416

Kuzmenko A, Oguienko A, Esyunina D, Yudin D, Petrova M, Kudinova A, Maslova O, **Ninova M**, Ryazansky S, Leach D, Aravin AA, Kulbachinskiy A. (2020) DNA targeting and interference by a bacterial Argonaute nuclease. *Nature* 587 (7835), 632-637

Olina A, Kuzmenko A, **Ninova M**, Aravin AA, Kulbachinskiy A, Esyunina D. Genome-wide DNA sampling by Ago nuclease from the cyanobacterium *Synechococcus elongatus*. *RNA Biol. 2020* (5):677-688

Herndon N, Shelton J, Gerischer L, Ioannidis P, **Ninova M**, (...) Bucher G. (2020) Enhanced genome assembly and a new official gene set for Tribolium castaneum. *BMC Genomics.*21(1):47.

Ninova M, Godneeva B, Chen YA, Luo Y, Prakash SJ, Jankovics F, Erdélyi M, Aravin AA, Fejes Tóth K. (2020) The SUMO Ligase Su(var)2-10 Controls Hetero- and Euchromatic Gene Expression via Establishing H3K9 Trimethylation and Negative Feedback Regulation. *Mol Cell.* ;77(3):571-585.e4.

Ninova M*, Chen YA*, Godneeva B, Rogers AK, Luo Y, Fejes Tóth K, Aravin AA. (2020) Su(var)2-10 and the SUMO Pathway Link piRNA-Guided Target Recognition to Chromatin Silencing. *Mol Cell.* 77(3):556-570.e6. 2.

Kotov A, Adashev V, Godneeva B, **Ninova M**, Shatskikh A, Bazylev, S, Aravin, AA, Olenina, L. (2019) piRNA silencing contributes to interspecies hybrid sterility and reproductive isolation in Drosophila. *Nucleic Acids Research*, gkz130

Ciabrelli F, Comoglio F, Fellous S, Bonev B, **Ninova M** et al. (2017) Stable Polycomb-dependent transgenerational inheritance of chromatin states in Drosophila. *Nature Genetics* 49 (6), 876-886

Ninova M, Griffiths-Jones S., Ronshaugen M. (2017) Abundant piRNA and transposable element expression during *Tribolium castaneum* embryogenesis. *Genome Biology* 26;18(1):184.

Chen YCA*, Stuwe E*, Luo Y*, **Ninova M***, A Le Thomas, E Rozhavskaya et al. (2016) Cutoff Suppresses RNA Polymerase II Termination to Ensure Expression of piRNA Precursors *Molecular Cell* 63 (1), 97-109

Hur KJ, Luo Y, Moon S, **Ninova M**, Marinov GK, Chung YD, Aravin, AA. (2016) Splicing-independent loading of TREX on nascent RNA is required for efficient expression of dual-strand piRNA clusters in *Drosophila. Genes and Development* 30(7):*840-55*

Cheloufi S, Elling U, Hopfgartner B, Jung YL, Murn J, **Ninova M**, Hubmann M, Badeaux A, Euong Ang CE, Tenen D et al. (2015) The histone chaperone CAF-1 safeguards somatic cell identity. *Nature* 528 (7581), 218-224

Ninova M, Ronshaugen M, Griffiths-Jones S. (2016) MicroRNA evolution, expression and function during short germband development in Tribolium castaneum. *Genome Research* 26 (1), 85-96

Leite DJ, **Ninova M**, Hillbrant M, Arif S, Griffiths-Jones S, Ronshaugen M, McGregor A. (2016) Pervasive microRNA duplication in chelicerates: insights from the embryonic microRNA repertoire of the spider *Parasteatoda tepidariorum*. *Genome Biology & Evolution* 8 (7), 2133-2144

Gardner PP, Burge SW, **Ninova M**, Hertel J, Kehr S, Fasold M, Steeves TE, Griffiths-Jones S. and Stadler PF. (2015) Conservation and losses of avian non-coding RNA loci. *PLoS One* 10(3): e0121797

Ninova M, Ronshaugen M, Griffiths-Jones S. (2014) Fast-evolving microRNAs are highly expressed in the early embryo of *Drosophila virilis. RNA* 20: 360-372

Ninova M, Ronshaugen M, Griffiths-Jones S. (2014) Conserved Temporal Patterns of MicroRNA Expression in Drosophila Support a Developmental Hourglass Model. *Genome Biology and Evolution* 6(9):2459-67

Kozomara A, Hunt S, **Ninova M**, Griffiths-Jones S, Ronshaugen M. (2014) Target repression induced by endogenous microRNAs: large differences, small effects *PLoS One* 9 (8): e104286

Centipede Genome Consortium. (2014) Prototypical Arthropod Gene Content and Genome Organisation in the Centipede *Strigamia maritima*. *PLoS Biology* 12(11): e1002005

Marco A, **Ninova M**, Griffiths-Jones S. (2013) Clusters of microRNAs emerge by new hairpins in existing transcripts. *Nucleic Acids Research* 41 (16): 7745-7752

*first co-author

REVIEWS & OTHERS ARTICLES

Ninova M, Fejes Tóth K. (2020) New players on the piRNA field. *Nat Struct Mol Biol* 27, 777–779

Ninova M, Aravin, AA, and Fejes Tóth, K. (2019) The control of gene expression and cell identity by H3K9 trimethylation. *Development* 146 (19), dev181180

Marco A, **Ninova M**, Griffiths-Jones S. (2013) Multiple products from microRNA transcripts. *Biochemical Society transactions* 41 (4), 850-854