

Marija Kundakovic, Ph.D.

(*she/her/hers*)

Assistant Professor

Department of Biological Sciences

Fordham University

441 E. Fordham Road, Larkin Hall 160

Bronx, NY 10458

E-mail: mkundakovic@fordham.edu

Phone: 718-817-3662

Website: <https://kundakoviclab.com/>

EDUCATION

2003-2009 Ph.D. in Biochemistry and Molecular Genetics

College of Medicine, University of Illinois at Chicago, Chicago, IL;

Thesis: *Epigenetic mechanisms in the regulation of the reelin and glutamic acid decarboxylase 67 genes.*

Advisor: Dennis R. Grayson

2001-2003 M.Sc. in Experimental Pharmacology

School of Medicine, University of Belgrade, Belgrade, Serbia;

Thesis: *Serotonergic and dopaminergic activity of several novel heterocyclic arylpiperazines*

Advisors: Mirko Tomic and Milica Prostran

1995-2001 Pharm.D.

School of Pharmacy, University of Belgrade, Belgrade, Serbia.

PROFESSIONAL EXPERIENCE

09/15- Assistant Professor (tenure-track)

Department of Biological Sciences, Fordham University, Bronx, NY.

10/16- Adjunct Assistant Professor

Department of Genetics, Albert Einstein College of Medicine, Bronx, NY

09/14-08/15 Instructor

Division of Psychiatric Epigenomics, Department of Psychiatry,

The Friedman Brain Institute, Icahn School of Medicine at Mount Sinai, New York, NY;

01/14-08/14 Associate Research Scientist

Department of Psychology, Columbia University, New York, NY;

04/10-01/14 Postdoctoral Research Scientist

Department of Psychology, Columbia University, New York, NY;

Advisor: Dr. Frances A. Champagne

09/11-05/13 Lecturer

Department of Psychology, Columbia University, New York, NY;

- 02/09-04/10 Postdoctoral Research Fellow**
Gene Regulation Program, Centre for Genomic Regulation, Barcelona, Spain;
Advisor: Miguel Beato
- 08/03-12/08 Graduate Research Assistant**
Departments of Psychiatry and Pharmacology, University of Illinois at Chicago;
- 04/01-08/03 Research Assistant**
Dept. of Biochemistry, Inst. for Biological Research "Sinisa Stankovic", Belgrade, Serbia.

HONORS AND AWARDS

- 2019 ACNP Travel Award**
American College of Neuropsychopharmacology;
- 2014 NARSAD Young Investigator Award**
Brain & Behavior Research Foundation;
- 06/2012 Junior Investigator Award**
Children's Environmental Health Network 2012 research conference: The Contribution of Epigenetics in Pediatric Environmental Health;
- 2009-2010 Postdoctoral Fellowship in Genomics**
"Novartis"/Centre for Genomic Regulation, Spain;
- 2006-2007 Graduate College Travel Award**
University of Illinois at Chicago;
- 2003-2008 Graduate College Fellowship**
University of Illinois at Chicago;
- 2003 Federation of European Biochemical Societies (FEBS) Travel Award**
- 07-08/2002 Yugoslav Student Summer Research Program Fellowship;**
University of Illinois at Chicago.

RESEARCH SUPPORT

External Funding

Active research support:

R01MH123523-01A1 (PI: Kundakovic) 03/01/2021 - 12/31/2025
National Institute of Health Entire period: **\$1,897,020**
Direct costs: \$1,249,999 Indirect costs: \$647,021
"Epigenetic regulation of brain and behavior by the estrous cycle"

Completed research support:

NARSAD Young Investigator Grant (PI: Kundakovic) 01/15/2015 - 01/14/2018
Brain & Behavior Research Foundation Entire period: \$70,000
"Two-hit Epigenetic Model of Stress-induced Anxiety and Depression"

Internal Funding

Active research support:

Interdisciplinary Research Award 04/15/2020-12/31/2021
 Fordham University (PI: Kundakovic)
 "Sex-specific effects of early-life stress on cocaine addiction vulnerability"

Completed research support:

Faculty Research Grant 07/01/2020-06/30/2021
 Fordham University (PI: Kundakovic)
 "Chromatin Remodeling and Sex-specific Risk for Anxiety and Depression"

Interdisciplinary Research Award 02/15/2018-12/31/2019
 Fordham University (PI: Kundakovic)
 "Enhancing the Integration of Research and Education in the Area of Neuroscience"

Pilot Cloud Based Research Computing Project 06/01/2017-08/31/2018
 Fordham University (PI: Kundakovic)
 "Epigenomic profiling of the human and mouse brain"

Interdisciplinary Research Award 02/17/2016-12/31/2017
 Fordham University (Co-PIs: Kundakovic/Roy)
 "Integrating Epigenetic and Neural Mechanisms Associated with Severe Emotion Dysregulation in Youth"

Faculty Research Grant 07/01/2016-03/31/2017
 Fordham University (PI: Kundakovic)
 "Transcriptional and Epigenetic Mechanisms Underlying Sexual Dimorphism in Anxiety-related Behavior"

Fellowships

Centre for Genomic Regulation/Novartis Postdoctoral Fellowship 02/01/2009 - 04/14/2010
 Novartis, Spain
 "The role of DNA methylation and DNA methyltransferases in the regulation of progesterone target genes"

PUBLICATIONS

(**H index=28**; 4685 citations; *Google Scholar*; October 1, 2021)

1. Rocks D, Shukla M, Finnemann SC, Kalluchi A, Rowley MJ, **Kundakovic M** (2021). Sex-specific multi-level 3D genome dynamics in the mouse brain. **bioRxiv**. doi: <https://doi.org/10.1101/2021.05.03.442383>. (under revision in *Nature Communications*).
2. Girdhar K, Hoffman GE, Bendl J, Rahman S, Dong P, Liao W, Brown L, Devillers O, Kassim BS, Wiseman JR, Park R, Zharovsky E, Jacobov R, Flatow E, Kozlenkov A, Gilgenast T, Johnson JS, Couto L, Peters MA, Phillips-Cremens JE, Hahn C, Gur RE, Tamminga CA, Lewis DA, Haroutunian V, Psychencode Consortium, Dracheva S, Lipska BK, Marenco S, **Kundakovic M**, Fullard JF, Jiang Y, Roussos P, Akbarian S (2021). Acetylated Chromatin Domains Link Chromosomal Organization to Cell- and Circuit-level Dysfunction in Schizophrenia and Bipolar Disorder. **bioRxiv**. doi: <https://doi.org/10.1101/2021.06.02.446728>.

3. Hu B, Won H, Mah W, Park RB, Kassim B, Spiess K, Kozlenkov A, Crowley CA, Pochareddy S; **PsychENCODE Consortium**, Li Y, Dracheva S, Sestan N, Akbarian S, Geschwind DH (2021). Neuronal and glial 3D chromatin architecture informs the cellular etiology of brain disorders. **Nat Commun** 12(1):3968.
4. Rocks D, Jaric I, Tesfa L, Grealley JM, Suzuki M, **Kundakovic M** (2021). Cell Type-Specific Chromatin Accessibility Analysis in the Mouse and Human Brain. **Epigenetics**. Mar 29:1-18.
5. Jaric I, Rocks D, Grealley JM, Suzuki M, **Kundakovic M** (2019). Chromatin organization in the female mouse brain fluctuates across the oestrous cycle. **Nat Commun** 10(1):2851.
6. Jaric I*, Rocks D*, Cham H, Herchek A, **Kundakovic M** (2019). Sex and Estrous Cycle Effects on Anxiety- and Depression-related Phenotypes in Two-hit Developmental Stress Model. **Front Mol Neurosci** 12:74 (*equal contribution).
7. PsychENCODE Consortium. Ashley-Koch AE, Crawford GE, Garrett ME, Song L, Safi A, Johnson GD, Wray GA, Reddy TE, Goes FS, Zandi P, Bryois J, Jaffe AE, Price AJ, Ivanov NA, Collado-Torres L, Hyde TM, Burke EE, Kleiman JE, Tao R, Shin JH, Akbarian S, Girdhar K, Jiang Y, **Kundakovic M**, Brown L, [...] Sestan N, Skarica M, Li Z, Sousa AMM, Santpere G, Choi J, Zhu Y, Gao T, Miller DJ, Cherskov A, Yang M, Amiri A, Coppola G, Mariani J, Scuderi S, Szekely A, Vaccarino FM, Wu F, Weissman S, Roychowdhury T, Abyzov A (2018). Revealing the brain's molecular architecture. **Science** 362(6420):1262-1263.
8. Li M, Santpere G, Imamura Kawasawa Y, Evgrafov OV, Gulden FO, Pochareddy S, Sunkin SM, Li Z, Shin Y, Zhu Y, Sousa AMM, Werling DM, Kitchen RR, Kang HJ, Pletikos M, Choi J, Muchnik S, Xu X, Wang D, Lorente-Galdos B, Liu S, Giusti-Rodríguez P, Won H, de Leeuw CA, Pardiñas AF; BrainSpan Consortium; **PsychENCODE Consortium**; PsychENCODE Developmental Subgroup, Hu M, Jin F, Li Y, Owen MJ, O'Donovan MC, Walters JTR, Posthuma D, Reimers MA, Levitt P, Weinberger DR, Hyde TM, Kleinman JE, Geschwind DH, Hawrylycz MJ, State MW, Sanders SJ, Sullivan PF, Gerstein MB, Lein ES, Knowles JA, Sestan N (2018). Integrative functional genomic analysis of human brain development and neuropsychiatric risks. **Science** 362(6420). pii: eaat7615.
9. Wang D, Liu S, Warrell J, Won H, Shi X, Navarro FCP, Clarke D, Gu M, Emani P, Yang YT, Xu M, Gandal MJ, Lou S, Zhang J, Park JJ, Yan C, Rhie SK, Manakongtreecheep K, Zhou H, Nathan A, Peters M, Mattei E, Fitzgerald D, Brunetti T, Moore J, Jiang Y, Girdhar K, Hoffman GE, Kalayci S, Gümüş ZH, Crawford GE; **PsychENCODE Consortium**, Roussos P, Akbarian S, Jaffe AE, White KP, Weng Z, Sestan N, Geschwind DH, Knowles JA, Gerstein MB (2018). Comprehensive functional genomic resource and integrative model for the human brain. **Science** 362(6420). pii: eaat8464.
10. Gandal MJ, Zhang P, Hadjimichael E, Walker RL, Chen C, Liu S, Won H, van Bakel H, Varghese M, Wang Y, Shieh AW, Haney J, Parhami S, Belmont J, Kim M, Moran Losada P, Khan Z, Mleczko J, Xia Y, Dai R, Wang D, Yang YT, Xu M, Fish K, Hof PR, Warrell J, Fitzgerald D, White K, Jaffe AE; **PsychENCODE Consortium**, Peters MA, Gerstein M, Liu C, Iakoucheva LM, Pinto D, Geschwind DH (2018). Transcriptome-wide isoform-level dysregulation in ASD, schizophrenia, and bipolar disorder. **Science** 362(6420). pii: eaat8127.
11. Girdhar K, Hoffman GE, Jiang Y, Brown L, **Kundakovic M**, Hauberg ME, Francoeur NJ, Wang Y, Shah H, Kavanagh DH, Zharovsky E, Jacobov R, Wiseman JR, Park R, Johnson JS, Kassim BS, Sloofman L, Mattei E, Weng Z, Sieberts SK, Peters MA, Harris BT, Lipska BK, Sklar P, Roussos P, Akbarian S (2018). Cell-specific histone modification maps link schizophrenia risk to the neuronal epigenome. **Nat Neurosci** 21(8):1126-1136.
12. **Kundakovic M** (2017). Sex-specific Epigenetics: Implications for Environmental Studies of Brain and Behavior. **Curr Environ Health Rep** 4(4):385-391.

13. **Kundakovic M** and Jaric I (2017). The Epigenetic Link between Prenatal Adverse Environments and Neurodevelopmental Disorders. **Genes** 8, 104.
14. **Kundakovic M** (2017). Fearing the Mother's Virus: The Lasting Consequences of Prenatal Immune Activation on the Epigenome and Brain Function. **Biol Psychiatry**. 81(3):e23-e25.
15. **Kundakovic M**, Jiang Y, Kavanagh D, Dincer A, Brown L, Pothula V, Zharovsky E, Park R, Jacobov R, Magro I, Kassim B, Wiseman J, Dang K, Sieberts SK, Roussos P, Fromer M, Harris B, Lipska BK, Peters MA, Sklar P, and Akbarian S (2017). Practical Guidelines for High-resolution Epigenomic Profiling of Nucleosomal Histones in Postmortem Human Brain Tissue. **Biol Psychiatry** 81(2):162-170.
16. Peter CJ*, Fischer LK*, **Kundakovic M***, Garg P*, Jakovcevski M, Dincer A, Amaral AC., Ginns EI, Galdzicka M, Bryce CP, Ratner C, Waber DP, Mokler D, Medford G, Champagne FA, Rosene DL, McGaughy JA, Sharp AJ, Galler JR, Akbarian S (2016). DNA methylation signatures of early childhood malnutrition associated with impairments in attention and cognition. **Biol Psychiatry** 80(10):765-774.
*equal contribution
17. PsychENCODE Consortium, Akbarian S, Liu C, Knowles JA, Vaccarino FM, Farnham PJ, Crawford GE, Jaffe AE, Pinto D, Dracheva S, Geschwind DH, Mill J, Nairn AC, Abyzov A, Pochareddy S, Prabhakar S, Weissman S, Sullivan PF, State MW, Weng Z, Peters MA, White KP, Gerstein MB, Amiri A, Armoskus C, Ashley-Koch AE, Bae T, Beckel-Mitchener A, Berman BP, Coetzee GA, Coppola G, Francoeur N, Fromer M, Gao R, Grennan K, Herstein J, Kavanagh DH, Ivanov NA, Jiang Y, Kitchen RR, Kozlenkov A, **Kundakovic M**, Li M, Li Z, Liu S, Mangravite LM, Mattei E, Markenscoff-Papadimitriou E, Navarro FC, North N, Omberg L, Panchision D, Parikshak N, Poschmann J, Price AJ, Purcaro M, Reddy TE, Roussos P, Schreiner S, Scuderi S, Sebra R, Shibata M, Shieh AW, Skarica M, Sun W, Swarup V, Thomas A, Tsuji J, van Bakel H, Wang D, Wang Y, Wang K, Werling DM, Willsey AJ, Witt H, Won H, Wong CC, Wray GA, Wu EY, Xu X, Yao L, Senthil G, Lehner T, Sklar P, Sestan N. (2015). The PsychENCODE Project. **Nat Neurosci**. 18(12):1707-1712..
18. Nestler EJ, Pena CJ, **Kundakovic M**, Mitchell A, and Akbarian S (2016). Epigenetic basis of mental illness. **Neuroscientist** 22(5):447-63.
19. Akbarian S and **Kundakovic M** (2015). CHRNA7 and CHRFAM7A: Psychosis and Smoking? Blame the Neighbors! **Am J Psychiatry** 172(11):1054-6.
20. Braithwaite EC, **Kundakovic M**, Ramchandani PG, Murphy SM, and Champagne FA (2015). Maternal prenatal depressive symptoms predict infant NRC31 1F and BDNF IV DNA methylation. **Epigenetics**. 10(5):408-17.
21. Morishita H, **Kundakovic M**, Bicks L, Mitchell A, and Akbarian S (2015) Interneuron epigenomes during the critical period of cortical plasticity: Implications for schizophrenia. **Neurobiol Learn Mem**. 124:104-10.
22. **Kundakovic M**, Gudsnuk K, Herbstman JB, Tang D, Perera FP, and Champagne FA (2015). DNA methylation of BDNF as a biomarker of early life adversity. **Proc Natl Acad Sci U S A**. 112(22):6807-13.
23. **Kundakovic M** and Champagne FA (2015) Early Life Experience, Epigenetics, and the Developing Brain. **Neuropsychopharmacology** 40(1):141-53.
24. **Kundakovic M** (2014) Postnatal risk environments, epigenetics, and psychosis: putting the pieces together. **Soc Psychiatry Psychiatr Epidemiol**. 49(10):1535-6.
25. **Kundakovic M** (2013) Prenatal programming of psychopathology: the role of epigenetic mechanisms. **J Med Biochem** 32 (4): 313–324.

26. **Kundakovic M**, Lim S, Gudsnuk K, and Champagne FA (2013) Sex-specific and strain-dependent effects of early life adversity on behavioral and epigenetic outcomes. **Front Psychiatry** 4:78.
27. **Kundakovic M**, Gudsnuk K, Franks B, Madrid J, Miller RL, Perera FP, and Champagne FA (2013) Sex-specific epigenetic disruption and behavioral changes following low-dose in utero bisphenol A exposure. **Proc Natl Acad Sci U S A** 110(24): 9956-61.
* Recommended by Faculty of 1000
28. Kirkbride JB, Susser E, **Kundakovic M**, Kresovich JK, Davey Smith G, and Relton CL (2012) Testing epigenetic factors as mediating prenatal nutritional influences on schizophrenia risk. **Epigenomics** 4: 303-15.
29. **Kundakovic M** and Champagne FA (2011) Epigenetic perspective on the developmental effects of bisphenol A. **Brain, Behavior, and Immunity** 25: 1084-93.
30. Grayson DR, **Kundakovic M**, and Sharma RP (2010) Is there a future for histone deacetylase inhibitors in the pharmacotherapy of psychiatric disorders? **Mol Pharmacol** 77: 126-35.
31. **Kundakovic M**, Chen Y, Guidotti A, and Grayson DR (2009) The reelin and GAD67 promoters are activated by epigenetic drugs that facilitate the disruption of local repressor complexes. **Mol Pharmacol** 75: 342-54.
* Recommended by F1000Prime
32. Grayson DR, Chen Y, Dong E, **Kundakovic M**, and Guidotti A (2009) From trans-methylation to cytosine methylation: evolution of the methylation hypothesis of schizophrenia. **Epigenetics** 4:144-9.
33. Guidotti A, Dong E, **Kundakovic M**, Satta R, Grayson DR, and Costa E (2009) Characterization of the action of antipsychotic subtypes on valproate-induced chromatin remodeling. **Trends Pharmacol Sci** 30:55-60.
34. Costa E, Chen Y, Dong E, Grayson DR, **Kundakovic M**, Maloku E, Ruzicka W, Satta R, Veldic M, Zhubi A, and Guidotti A (2009) GABAergic promoter hypermethylation as a model to study the neurochemistry of schizophrenia vulnerability. **Expert Rev Neurother** 9:87-98.
35. **Kundakovic M**, Chen Y, Costa E, and Grayson DR. (2007) DNA Methyltransferase Inhibitors Coordinately Induce Expression of the Human Reelin and Glutamic Acid Decarboxylase 67 Genes. **Mol Pharmacol** 71: 644-53.
* featured in the March 2007 issue of Molecular Pharmacology; (commentary by Levenson JM: *DNA (Cytosine-5) Methyltransferase Inhibitors: A Potential Therapeutic Agent for Schizophrenia*. **Mol Pharmacol** 71: 635-37).
36. Chen Y, **Kundakovic M**, Agis-Balboa RC, Pinna G, and Grayson DR. (2007) Induction of the reelin promoter by retinoic acid is mediated by Sp1. **J Neurochem** 103: 650-65.
37. Grayson DR, Chen Y, Costa E, Dong E, Guidotti A, **Kundakovic M**, and Sharma RP. (2006) The human reelin gene: transcription factors (+), repressors (-) and the methylation switch (+/-) in schizophrenia. **Pharmacol Ther** 111:272-86.
38. Mitchell CP, Chen Y, **Kundakovic M**, Costa E, and Grayson DR (2005) Histone deacetylase inhibitors decrease reelin promoter methylation in vitro. **J Neurochem** 93:483-92.
39. Tomic M, **Kundakovic M**, Butorovic B, Janac B, Andric D, Roglic G, Ignjatovic D, and Kostic-Rajacic S. (2004) Pharmacological evaluation of selected arylpiperazines with atypical antipsychotic potential. **Bioorg Med Chem Lett** 14:4263-6.
40. Tomic M, **Kundakovic M**, Butorovic B, Vasilev V, Dragovic D, Roglic G, Ignjatovic DJ, Soskic V, and Kostic-Rajacic S (2003) Pharmacological evaluation of 5-[2-[4-(2-methoxy-phenyl)-piperazin-1-yl]-ethyl]-1,3-dihydro-benzimidazole-2-thione as a potential atypical antipsychotic agent. **Pharmazie** 58:677-8.

BOOK CHAPTERS

1. **Kundakovic M** (2021). DNA Methyltransferase Inhibitors and Psychiatric Disorders, In Peedicayil J, Avramopoulos D, and Grayson D (eds), **Epigenetics in Psychiatry 2nd Ed.** Elsevier, in press.
2. **Kundakovic M** (2016). Epigenetics of Psychiatric Disorders. In Tollefsbol (ed) **Medical Epigenetics.** Elsevier. p 335-350.
3. **Kundakovic M**, Peter C, Roussos P, and Akbarian S (2016). Epigenetic approaches towards the molecular and genetic risk architectures of schizophrenia. In Abel (ed) **The Neurobiology of Schizophrenia.** Elsevier. p 61-82.
4. **Kundakovic M** (2016). *In utero* Bisphenol A exposure and epigenetic programming of neurobehavioral outcomes. In Hollar D (ed), **Epigenetics, the Environment, and Children's Health across Lifespans.** Springer. p 67-92.
5. **Kundakovic M** (2014). DNA Methyltransferase Inhibitors and Psychiatric Disorders, In Peedicayil J, Avramopoulos D, and Grayson D (eds), **Epigenetics in Psychiatry.** Elsevier, p 497-514.
6. Grayson DR, **Kundakovic M**, Chen Y, Dong E, and Guidotti A (2011) Epigenetic regulation of GABAergic targets in psychiatry, In Petronis A & Mill J (eds) **Brain, Behavior & Epigenetics.** Springer, p 23-40.

EDITORIAL/REVIEW ACTIVITIES

- 2021-** Associate Editor for *Frontiers in Pharmacology* (section Neuropharmacology)
Guest Editor for *PLOS Genetics*
- 2021-** *Ad hoc* Grant Reviewer for *Sir Henry Dale Fellowship*
- 2019-** *Ad hoc* Grant Reviewer for the *Human Frontier Science Program (HFSP)*
- 2018-19** Guest Editor, Special Issue "Epigenetics, Environment, and Brain Disorders", *Genes*
- 2011-** Review Editor for *Frontiers in Neuroscience and Pharmacology*;
- 2010-** *Ad hoc* Journal Reviewer for *Nature Communications*, *Molecular Psychiatry*; *Biological Psychiatry*; *Genome Research*; *Neuropsychopharmacology*; *Schizophrenia Bulletin*; *Hormones and Behavior*; *PLOS Genetics*; *Environmental Health Perspectives*; *Epigenetics*; *Journal of Neurochemistry*; *PLOS ONE*; *Frontiers in Pediatrics*; *Scientific Reports*; *FASEB Journal*; *Genes*; *Int. J. of Molecular Sciences*; *Psychiatry Research*; *Psychoneuroendocrinology*; *Neurobiology of Disease*; *Developmental Psychobiology*; *Genes, Brain and Behavior*; *Progress in Neuro-Psychopharmacology and Biological Psychiatry*; *Translational Psychiatry*; *Frontiers in Behavioral Neuroscience*; *Epigenetics & Chromatin*; *Neurobiology of Stress*.

INVITED TALKS

(Completed; Scheduled)

1. *Symposium Speaker.* 3D genome dynamics in the mouse brain across the estrous cycle. American Society for Neurochemistry Annual Meeting. Roanoke, VA. April 9-14, 2022.

2. **Invited Speaker.** Sex-specific chromatin dynamics in the brain: Implications for anxiety disorders and depression. 3rd Munich Conference on Stress. Organized by Max Planck Institute of Psychiatry & Weizmann Institute of Science. Garmisch-Partenkirchen, Germany. March 12-16, 2022.
3. **Symposium Speaker.** Epigenetic regulation of brain and behavior by the estrous cycle. 11th International Meeting on Steroids and Nervous System, Torino, Italy. February 19-23, 2022.
4. **Seminar Speaker.** Sex-specific chromatin dynamics in the brain: Implications for anxiety disorders and depression. Neuroscience Seminar Series. McLean Hospital. February 8, 2022. Online talk.
5. **Invited Speaker.** Epigenetic regulation of brain and behavior by the estrous cycle. Neuroepigenetics Series on World Wide Neuro. September 15, 2021. Online talk.
6. **Symposium Speaker.** 3D genome dynamics in the mouse brain across the estrous cycle. Society for Behavioral Neuroendocrinology Annual Meeting. July 2, 2021. Online talk.
7. **Seminar Speaker.** Epigenetic regulation of brain and behavior by the estrous cycle. Department of Animal Sciences Seminar Series. Rutgers, The State University of New Jersey. April 2, 2021. Online talk.
8. **Seminar Speaker.** Sex-specific chromatin dynamics in the brain: Implications for anxiety disorders and depression. Department of Neuroscience Seminar Series. Albert Einstein College of Medicine. January 27, 2021. Online Zoom talk.
9. **Seminar Speaker.** Epigenetic regulation of brain and behavior by the estrous cycle. UCLA Laboratory of Neuroendocrinology seminar series. University of California, Los Angeles. Brain Research Institute. November 13, 2020. Online Zoom talk.
10. **Honorary Speaker.** Molecular insights into dynamic female brain. The Sigma Xi Induction Ceremony. Fordham University. April 30, 2020. Online Zoom talk.
11. **Seminar Speaker.** Chromatin dynamics and behavioral plasticity across the estrous cycle. CUNY Neuroscience Collaborative Colloquium, CUNY Graduate Center. April 3, 2020. Online WebEx talk.
12. **Guest Lecturer.** Histone modifications and chromatin remodeling. Environmental Epigenetics Course. Department of Environmental Health Sciences, Mailman School of Public Health, Columbia University. February 11, 2020.
13. **Symposium Speaker and Chair.** Sex-specific Epigenetic Regulation and Psychiatric Disorders. Federation of European Neuroscience Societies (FENS) Regional Meeting 2019. Belgrade, Serbia. July 10-13, 2019.
14. **Symposium Speaker.** Sex-specific Chromatin Organization and Anxiety-related Phenotypes. The Organization for the Study of Sex Differences (OSSD) Annual Meeting. Washington, DC. May 5-8, 2019.
15. **Guest Lecturer.** Histone modifications and chromatin remodeling. Environmental Epigenetics Course. Department of Environmental Health Sciences, Mailman School of Public Health, Columbia University. February 11, 2019.
16. **Invited Lecturer.** Sex-specific Epigenetic Regulation and Psychiatric Disorders. Psychiatric Epidemiology Training Program Seminar Series. Department of Epidemiology, Mailman School of Public Health, Columbia University. November 15, 2018.
17. **Seminar Speaker.** Sex-specific Epigenetic Regulation in the Brain: Implications for Anxiety Disorders and Depression. Department of Psychiatry, Yonsei University College of Medicine, Seoul, Republic of Korea. November 8, 2018.
18. **Symposium Speaker.** Transgenerational effects of early life stress on addiction vulnerability. The 20th International Society of Addiction Medicine (ISAM) Annual Meeting. Busan, Republic of Korea.

November 3-6, 2018.

19. **Symposium Speaker.** Sex-specific Neuroepigenomics: Implications for Anxiety Disorders and Depression. The 31st International College of Neuropsychopharmacology (CINP) World Congress. Vienna, Austria. June 16-19, 2018.
20. **Symposium Speaker.** Neuronal Chromatin Dynamics and Anxiety-Related Phenotypes Across the Estrous Cycle. 2018 Society for Biological Psychiatry 73rd Annual Meeting. New York, NY; May 10-12, 2018.
21. **Symposium Speaker.** Changes in Neuronal Chromatin Organization and Anxiety-related Phenotypes across the estrous cycle. Neuroepigenetics and Neuroepitranscriptomics Conference. Cancun, Mexico. February 24-27, 2018.
22. **Seminar Speaker.** Sex-specific Epigenetics: Implications for Environmental Studies of Brain and Behavior. Department of Environmental Health Sciences, Mailman School of Public Health, Columbia University. January 2018.
Symposium Speaker. The Epigenetics of Behavior and Mental Disorders. The 7th Congress of the Serbian Neuroscience Society. Belgrade, Serbia. October 25-27, 2017.
23. **Symposium Speaker.** Prenatal and postnatal epigenetic risk factors: implications for bipolar disorder. The 19th Annual Conference of the International Society for Bipolar Disorder. Washington DC, USA. May 4-7, 2017.
24. **Invited Speaker.** Developing epigenetic biomarkers for behavioral and psychiatric disorders. Neuroendocrinology Division. Rockefeller University. July 2016.
25. **Seminar Speaker.** PsychENCODE: Cis-regulatory epigenome mapping in schizophrenia. Psychiatric Genomics Club. Department of Genetics and Genomic Sciences, Icahn School of Medicine at Mount Sinai, New York. May 2015.
26. **Guest Lecturer.** Sex-specific epigenetic and behavioral effects of prenatal bisphenol A exposure. Topics in Neurobiology & Behavior (PSYC G4440); Department of Psychology, Columbia University. November 2014.
27. **Symposium Speaker.** Prenatal epigenetic effects on markers of brain plasticity. Biennial New York Sackler-Sackler Meeting. Weill Cornell Medical College. April 2014.
28. **Invited Speaker.** Sex-specific epigenetic disruption and behavioral changes following low-dose in utero Bisphenol A exposure. Neuroendocrinology Division. Rockefeller University. March 2013.
29. **Mini-Symposium Speaker.** Prenatal BPA: epigenetic disruption, brain and behavior. Children's Environmental Health Network 2012 research conference. The Contribution of Epigenetics in Pediatric Environmental Health, San Francisco, CA. May 2012.
30. **Seminar Speaker.** Epigenetic Mechanisms and Psychopathology. Psychiatric Epidemiology Training Program Seminar Series. Department of Epidemiology, Mailman School of Public Health, Columbia University. February 2012.
31. **Invited Lecturer.** Epigenetic techniques in neuroscience. Boot Camp Neurobiology and Behavior Graduate Program. Columbia University. August 2011 and August 2012.
32. **Mini-Symposium Speaker.** DNA methyltransferase inhibitors and histone deacetylase inhibitors activate the human reelin and GAD67 gene promoters through converging mechanisms. 2007 Neuroscience Meeting, San Diego, CA. November 2007;
33. **Mini-Symposium Speaker.** Epigenetic mechanisms in the coordinate regulation of the human reelin and GAD67 genes. 2006 Neuroscience Meeting. Atlanta, GA. October 2006.

SELECTED ABSTRACTS

1. Rocks D, Shukla M, Finnemann SC, Kalluchi A, Rowley MJ, **Kundakovic M** (2021). Female-specific 3D genome dynamics in the brain: Implications for anxiety disorders and depression. American College of Neuropsychopharmacology (ACNP) Annual Meeting. San Juan, Puerto Rico; December 5-8, 2021.
2. Rocks D, Jaric I, Grealley JM, Suzuki M, **Kundakovic M**. Epigenetic effects of sex and early-life stress on cocaine addiction vulnerability. 2021 Society for Neuroscience Annual Meeting. Chicago, IL; November 13-16, 2021.
3. Rocks D, Jaric I, Purisic E., Gallo E, Grealley JM, Suzuki M, **Kundakovic M**. Sex-specific effects of ventral hippocampal Egr1 expression on neuronal transcriptional programs and behavior. 2021 Society for Neuroscience Annual Meeting. Chicago, IL; November 13-16, 2021.
4. Rocks D*, Jaric I, Purisic E., Gallo E, Grealley JM, Suzuki M, **Kundakovic M**. The role of Egr1 in regulating an estrous cycle-dependent behavioral phenotype and ventral hippocampal transcriptional signature. Society for Behavioral Neuroendocrinology (SBN) 2021 Virtual Meeting; June 28-July 2, 2021.
5. Rocks D*, Jaric I, Gallo E, Grealley JM, Suzuki M, **Kundakovic M**. Sex-specific effects of ventral hippocampal Egr1 expression on neuronal transcriptional programs and behavior. Organization for the Study of Sex Differences (OSSD) 2021 Virtual Meeting; May 3-6, 2021.
** D. Rocks was featured as a speaker in the Elizabeth Young New Investigator Symposium.*
6. Rocks D, Jaric I, Grealley JM, Suzuki M, **Kundakovic M**. Epigenetic Effects of Sex and Early-life Stress on Cocaine Addiction Vulnerability. Organization for the Study of Sex Differences (OSSD) 2021 Virtual Meeting; May 3-6, 2021.
7. Rocks D*, Jaric I, Gallo E, Grealley JM, Suzuki M, **Kundakovic M**. The role of Egr1 in a cyclic transcriptional program and behavioral plasticity across the estrous cycle. Steroids and Nervous System Virtual meeting; February 25-26, 2021.
**the abstract was selected to be presented by D. Rocks as a short talk in the Young Researcher Session*
8. Rocks D*, Jaric I, Gallo E, Grealley JM, Suzuki M, **Kundakovic M**. Ventral hippocampal Egr1 expression is mechanistically implicated in mediating the role of ovarian hormone fluctuations on sex-specific psychiatric risk. Society for Neuroscience (SfN) Global Connectome. Virtual meeting; January 11-13, 2021.
9. Rocks D, Jaric I, Grealley JM, Suzuki M, **Kundakovic M**. Epigenetic effects of sex and early-life stress on cocaine addiction vulnerability. American College of Neuropsychopharmacology (ACNP) Annual Meeting. Virtual meeting; December 6-9, 2020.
10. Rocks D, Jaric I, Gallo E, Grealley JM, Suzuki M, **Kundakovic M**. The Role of Egr1 in Driving Ventral Hippocampal Gene Expression Patterns Underlying Sex Hormone-Dependent Changes in Anxiety-Like Behavior Within Females, *Biological Psychiatry* 87 (9), S453 (*cancelled due to Covid-19*).
11. Rocks D, Jaric I, Shoshan D, Grealley JM, Suzuki M, **Kundakovic M**. Neuroepigenomic effects of sex and early-life stress in cocaine addiction. Fusion 2nd Neuroepigenetics & Neurotranscriptomics conference. Nassau, Bahamas; March 3-6, 2020.
12. Rocks D, Jaric I, Gallo E, Grealley JM, Suzuki M, **Kundakovic M**. Dynamic Chromatin Remodeling and Sex-specific Risk for Anxiety and Depression. Poster T6. American College of Neuropsychopharmacology (ACNP) Annual Meeting. Orlando, FL; December 8-11, 2019.
13. Rocks D, Jaric I, Shoshan D, Grealley JM, Suzuki M, **Kundakovic M**. Epigenetic effects of sex and early-

life stress on cocaine addiction vulnerability. *Program No. 598.14. 2019 Neuroscience Meeting Planner*. Chicago, IL; Society for Neuroscience, 2019. Online.

14. Rocks D, Jaric I, Cham H, Herchek A, Grealley JM, Suzuki M, **Kundakovic M**. Exploring the role of Egr1 in regulating hormone-dependent transcriptional programs and anxiety- and depression-related behavior in female mice. *Program No. 767.07. 2019 Neuroscience Meeting Planner*. Chicago, IL; Society for Neuroscience, 2019. Online.
15. Rocks D*, Jaric I, Cham H, Herchek A, **Kundakovic M**. Exploring the molecular basis of female-specific risk for anxiety and depression. Poster *P418*. Federation of European Neuroscience Societies (FENS) Regional Meeting 2019. Belgrade, Serbia. July 10-13, 2019.

*D. Rocks was selected for a Blitz presentation.
16. Jaric I, Rocks D, Grealley JM, Suzuki M, **Kundakovic M**. Estrous cycle effects on neuronal chromatin organization and anxiety-like behavior. Poster *P300*. Federation of European Neuroscience Societies (FENS) Regional Meeting 2019. Belgrade, Serbia. July 10-13, 2019.
17. Jaric I, Rocks D, Grealley JM, Suzuki M, **Kundakovic M**. Dynamic changes in neuronal chromatin organization across the estrous cycle are linked to anxiety-related phenotypes. *Program No. 74.09. 2017 Neuroscience Meeting Planner*. Washington, DC; Society for Neuroscience, 2017. Online.
18. **Kundakovic M**, Jaric I, and Rocks D. Epigenetic Effects of Sex Hormones on Anxiety-related Behaviors. 2017 Society for Biological Psychiatry Annual Meeting. San Diego, CA; May 18-20.
19. **Kundakovic M**, Jiang Y, Pothula V, Brown L, Zharovsky E, Dincer A, Jacobov R, Magro I, Kavanagh D, Fromer M, Peters M, Sieberts S, Johnson JS, Sklar P, and Akbarian S. PsychENCODE: cis-regulatory epigenome mapping in schizophrenia. *Program No. 227.07. 2015 Neuroscience Meeting Planner*. Chicago, IL; Soc for Neurosci online.
20. **Kundakovic M**, Franks B, Gudsnuk K, Champagne FA. Bisphenol A-induced fetal programming of cognitive (dys)function. *Program No. 81.15. 2013 Neuroscience Meeting Planner*. San Diego, CA; Soc for Neurosci online.
21. **Kundakovic M**, Gudsnuk K, Perera FP, Miller RL, Champagne FA. Sex-specific epigenetic disruption and behavioral changes following low-dose *in utero* Bisphenol A exposure. *Program No. 384.20. 2012 Neuroscience Meeting Planner*. New Orleans, LA; Soc for Neurosci online.
22. **Kundakovic M**, Gudsnuk K, Perera FP, Miller RL, Champagne FA. Epigenetic effects and behavioral consequences of low-dose *in utero* bisphenol A exposure. *Program No. 499.23. 2011 Neuroscience Meeting Planner*. Washington, DC; Soc for Neurosci online.
23. Grayson DR, **Kundakovic M**, Dong E, Chen Y, Guidotti A, Costa E. Methylation and the regulation of reelin and GAD67 in schizophrenia. 2007 Keystone symposia conference; Epigenetics: Regulation of Chromatin Structure in Development and Disease. Breckenridge, CO: Keystone symposia online.
24. **Kundakovic M**, Chen Y, Costa E, Grayson DR. Doxorubicin, acting as a DNMT1 inhibitor, induces reelin gene expression in neuronal precursor cells. *Program No. 912.7. 2005 Abstract Viewer/Itinerary Planner*. Washington, DC: Soc for Neurosci online.
25. Chen Y, Jia X, **Kundakovic M**, Costa E, Guidotti A, Grayson DR. Reelin promoter hypermethylation in schizophrenia. *Program No. 912.8. 2005 Abstract Viewer/Itinerary Planner*. Washington, DC: Soc for Neurosci online.
26. **Kundakovic M**, Tomic M, Butorovic B (2003) Activity of 5-[2-(4-naphtalen-1-yl)-ethyl]-1H-benzoimidazole at dopamine and serotonin receptors: implication for its atypical antipsychotic action. *Eur J Biochem* **270** (Supp. 1): 43.

TEACHING

At Fordham University

- Fall 2016-** **BISC 8710 - Seminar in Genetics (Grant and Proposal Writing)**
Co-Developer and Co-Instructor
Graduate-level seminar course;
Department of Biological Sciences, Fordham University.
- Spring 2016-** **BISC 4532 - Neuroscience**
Developer and Instructor
Advanced undergraduate-level lecture course;
Department of Biological Sciences, Fordham University.

At Columbia University

- Fall 2012** **PSYC G4498 - Behavioral Epigenetics**
Developer and Instructor
Graduate/advanced undergraduate-level seminar course;
Department of Psychology, Columbia University.
- 2011-2013** **PSYC G4499 - Behavioral Psychopharmacology**
Developer and Instructor
Graduate/advanced undergraduate-level seminar course;
Department of Psychology, Columbia University.

MENTORING

At Fordham University

- 04/16-06/18** **Postdoctoral Researcher Advisor;**
Ivana Jaric, Department of Biological Sciences, Fordham University.
- 08/17-** **PhD Student Advisor;**
Devin Rocks; Biological Sciences, Fordham University;
- 01/21-** **PhD Student Advisor;**
Laila Ouldibbat; Biological Sciences, Fordham University;
- 08/17-08/18** **PhD Student Advisor;**
Snezana Stankovic; Biological Sciences, Fordham University;
- 01/21-** **Master's Student Advisor;**
Michelle Lam; Biological Sciences, Fordham University;
- 05-12/16** **Master's Student Advisor;**
Xu Liu; Biological Sciences, Fordham University;
- 06/20-05/21** **Master's Student Advisor;**
Isabella Mascio; Biological Sciences, Fordham University;

- 05/16-05/17 Undergraduate Student Advisor;**
Devin Rocks; Integrative Neuroscience Program, Fordham University;
- 08/16-05/17 Undergraduate Student Advisor;**
Alice Herchek; Biological Sciences Program, Fordham University;
- 09/16-05/18 Undergraduate Student Advisor**
Helene Leonard; Integrative Neuroscience Program, Fordham University;
- 01-07/18 Undergraduate Student Advisor;**
April Rich; Biological Sciences, Fordham University;
- 01-05/18 Undergraduate Student Advisor;**
Christina Caviasco; Integrative Neuroscience Program, Fordham University;
- 01/18-05/20 Undergraduate Honors Program Student Advisor;**
Isabella Mascio; Biological Sciences, Fordham University;
- 01/18-05/19 Undergraduate Student Advisor;**
David Shoshan; Integrative Neuroscience Program, Fordham University;
- 02/19- Undergraduate Student Advisor;**
Olivia Doll; Integrative Neuroscience Program, Fordham University;
- 06/19- Undergraduate Student Advisor;**
Eric Purisic; Integrative Neuroscience Program, Fordham University;
- 09/19- Undergraduate Student Advisor;**
Sydney Drager; Integrative Neuroscience Program, Fordham University;
- 06/20- Undergraduate Student Advisor;**
Sonola Burtja; Biological Sciences, Fordham University;
NSF ASPIRES Scholar;
- 12/20- Undergraduate Student Advisor;**
Diego Perez; Integrative Neuroscience Program, Fordham University;
- 07/21- Undergraduate Student Advisor;**
Raymond Rigat; Integrative Neuroscience Program, Fordham University;

At Columbia University

- 05-06/2014 Visiting PhD Student Advisor;**
Elizabeth Braithwaite, Oxford University, UK;
- 2012-2014 Undergraduate Student Advisor;**
Sean Lim; Department of Biological Sciences, Columbia University;
- 2012 Master's Thesis Mentor;**
Jason Buchel; Master's Program in Biotechnology, Department of Biological Sciences, Columbia University;
- 2011-2012 Undergraduate Honors Program Student Advisor;**
Colleen Platt; Department of Psychology, Columbia University.

TRAINEE AWARDS

PhD Students

Devin Rocks

- 2021 recipient of the **Organization for the Study of Sex Differences Elizabeth Young New Investigator Award**
- 2021 recipient of the **Society for Behavioral Neuroendocrinology Welcome Initiative Award**
- 2020 recipient of the **Society for Neuroscience Trainee Professional Development Award**
- 2019 recipient of the **Federation of European Neuroscience Societies Regional Meeting Travel Grant**
- 2019 recipient of Fordham's **Ludwig and Paula Altman Travel Endowed Scholarship**
- 2019 recipient of Fordham's **Robert Hawthorne and Edward Benedict Scholarship**
- 2019 recipient of Fordham's **Graduate Student Support Grant (Spring)**

Undergraduate Students

Fordham's Undergraduate Research Grants

Helene Leonard, Summer 2017;

April Rich, Summer 2018;

Isabella Mascio, Summer 2019;

Olivia Doll, Summer 2020;

Eric Purisic, Fall 2019, Summer 2020, and Summer 2021;

Sydney Drager, Summer 2021;

Sonola Burrja, Summer 2021;

Diego Perez, Summer 2021.

GRADUATE STUDENTS ADVISORY COMMITTEES

06/20-

PhD Committee Chair;

Devin Rocks, Department of Biological Sciences, Fordham University

11/19-

PhD Committee Member;

Saathwika Rajamani; Biological Sciences, Fordham University;

10/18-04/21

PhD Committee Member;

Deborah Lew, Department of Biological Sciences, Fordham University.

05/21-

PhD Committee Member;

Allison Burns, Swiss Federal Institute of Technology, Lausanne, Switzerland.

SERVICE

2020-

Faculty Advisor, Undergraduate Research Advisory Group, Fordham University;

2019-

Evaluator, Instructor/Non-tenure-track Faculty Teaching Evaluation, Department of Biological Sciences, Fordham University;

- 2018-** **Member**, Faculty Policy & Resources Committee, Fordham University;
- 2017-** **Faculty Mentor and Review Committee Member, Clare Boothe Luce Program for Women in STEM, Fordham University;**
- 2016-2018** **Member**, Faculty Search Committee, Department of Biological Sciences, Fordham University;
- 2016-** **Member**, Graduate Admissions Committee, Department of Biological Sciences, Fordham University;
- 2016-2019** **Member**, Science Education Committee, Fordham University;
- 2015-2019** **Member**, Undergraduate Curriculum Committee, Department of Biological Sciences, Fordham University;
- 2015-** **Affiliated Member**, Integrative Neuroscience Program Executive Committee, Fordham University.

MEMBERSHIPS

- 2021-** Society for Behavioral Neuroendocrinology;
- 2021-** Federation of European Neuroscience Societies;
- 2020-** Sigma Xi, The Scientific Research Honor Society;
- 2019-** Organization for the Study of Sex Differences;
- 2017-** Serbian Neuroscience Society;
- 2016-** Society for Biological Psychiatry;
- 2012-2014** Multigenerational Transmission of Health Group, Columbia University;
- 2011-2014** Imprints Center for Genetic and Environmental Lifecourse Studies, Columbia University;
- 2010-2014** Columbia's Center for Children Environmental Health;
- 2007-2010** Epigenetics Society;
- 2004-** Society for Neuroscience;
- 2003-** Federation of European Biochemical Societies.

IN MEDIA

NeurOnAir podcast Episode 6: Demystifying the Female Brain – From Genes to Behavior (Guest: Dr. Marija Kundakovic)

https://neuronair.org/episode6/?fbclid=IwAR2xhArEwp1Xmse5zfKjXdPBC_7BlxT997u70BRm1ncPnzdKzcUrGot80M0

BRAINCAST webinar series by Maudsley Learning with Dr. Marija Kundakovic on the Female Brain:

https://youtu.be/OGe_JuOZO4s