

Nipun Chopra

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Education

Ph.D. Medical Neuroscience

Indiana University School of Medicine (2017)

M.S. Life Sciences

Indiana State University (2009)

B.A. Biology

DePauw University (2006)

Work Experience

Assistant Professor of Biology, DePauw University	2019-current
Founder and Principal, Chopra Scientific Consultancy, LLC.	2022-current
Chief Scientific Officer, Movement Interactive, Inc.	2021-current
Director of Scientific Strategy, Biz Mathematica	2023-current
Scientific Advisor, Axiobionics, Inc.	2022-current
Post-doctoral researcher, Indiana University School of Medicine	2017-2019
Biology Instructor, Butler University	2018
Graduate Assistant for Track and Field, DePauw University	2007-2009
Teacher, Honors Biology, Heritage Hall Upper School	2006-2007

Courses Taught (DePauw University)

BIO 101 – Cells, Molecules and Genes.

BIO 235 – Organismal Biology.

BIO 241 – Intermediate Cellular Biology.

BIO 335 – Animal Physiology.

BIO 390 – Brain and disease.

BIO 390 - Spillover and Pandemics.

HONR 401 – Honor Scholar Tutorial

UNIV 183 – The Industrial Roots of Soccer.

UNIV 190 – Leadership and Liberal Arts (Section on Biology and Neuroscience)

UNIV 291 – Prindle Reading – Animal Behavior

UNIV 291 – Prindle Reading – Race-Based Science

UNIV 291 – Prindle Reading – Human behavior

UNIV 291 – Prindle Reading – Case Studies in Biomedical Ethics

NEUR 480 – Neuroscience Capstone

Other Courses Taught

BIO 140 – Intro to Cellular and Molecular Biology, Butler University.

NEUR 540 – Methods in Neurobiology (Section on Western Blotting and Transfection), Indiana University School of Medicine.

BIOM 612 – Cellular Biology (Section on Neuroscience), Indiana University School of Medicine.

Scholarly and Artistic Work

Publications

- Deju B, Chopra N. *Assessing the Usage of Accelerometers in the Detection and Diagnosis of Head Impacts in soccer*. Health Sciences Review (under review).
- Muccio P, Salama R, Chopra N, Scheuller J, Durrant D, Dabrowski E. *Longitudinal Retrospective Study of Wearable Neuromuscular Electrical Stimulation Shows Significant Improvement of Arm Usage in Hemiplegic Patients*. Journal of Neurorehabilitation and Engineering (under review).
- Wang R, Chopra N, Nho K, Maloney B, Obukhov AG, Counts SE, Nelson PT, Lahiri DK. *A human microRNA (miR-20b-5p) modulates Alzheimer's disease pathways and neuronal function, and a specific polymorphism close to the MIR20B gene influences Alzheimer's biomarkers*. Molecular Psychiatry (2021).
- Perez FP, Chopra N, Morisaki JJ, Maloney B, Lahiri DK. *Repeated electromagnetic field stimulation lowers amyloid-beta peptide levels in primary human neuron-rich brain tissue cultures*. Scientific Reports (2021).
- Chopra N, Wang R, Maloney B, Nho K, Beck J, Pourshafie N, Niculescu A, Saykin A, Rinaldi C and Lahiri DK. *MicroRNA-298 reduces levels of human amyloid- β precursor protein (APP), β -site APP-converting enzyme 1 (BACE1) and a specific tau protein moiety*. Molecular Psychiatry (2020).
- Maloney BA, Balaraman Y, Liu Y, Chopra N, Edenberg, HJ, Kelsoe J, Nurnberger JI, Lahiri DK. *Lithium alters gene expression of RNAs in a type-specific manner in differentiated human neuroblastoma cultures, including specific genes involved in Alzheimer's disease*. Scientific Reports (2019).
- Srinivasan M, Bayon B, Chopra N, Lahiri DK. *Novel nuclear factor-kappa B targeting peptide suppresses Beta-amyloid induced inflammatory and apoptotic responses in neuronal cells*. Plos One (2016): 11 (10).
- Lahiri DK, Maloney B, Bayon BL, Chopra N, White FA, Greig NH, Nurnberger JI. *Transgenerational latent early-life associated regulation unites environment and genetics across generations*. Epigenomics (2016): 8 (2) 373-87.
- Baranello RJ, Bharani KL, Padmaraju V, Chopra N, Lahiri DK, Greig NH, Pappolla MA, Sambamurti K. *Amyloid-Beta Protein Clearance and Degradation (ABCD) Pathways and their Role in Alzheimer's Disease*. Curr Alzheimer Res. (2015); 12(1):32-46.
- Ray B, Chopra N, Long JM, Lahiri DK. *Human primary mixed brain cultures: preparation, long-term maintenance, characterization and application to neuroscience research*. Mol Brain (2014) Sep 16; 7(1):63.

Posters

- Dali A, Basnayak B, Passarelli R, Chopra N. *Inhibiting S100B in vitro*. Science Research Fellows Posters Session, October 2022, Greencastle, IN.
- Chopra N, Mordan-McCombs S, Archer A, Balasubramaniam S, Johnson A. *Centering Equity in STEM courses*. HHMI Inclusive-Excellent Poster Day, May 2022, Greencastle, IN.
- Koch A, Bynagari V, Tan Y, Chopra N. *MiR-4705 regulates S100B in cell culture*. Science Research Fellows Posters Session, October 2021, Greencastle, IN.
- Delancey R, Deju B, Hansen J, Chopra N. *The effect of Hexylamine Derivative on Cancer Cell Viability*. Science Research Fellows Posters Session, October 2021, Greencastle, IN.
- Ruggles M and Chopra N. *Hsa-MiR-4520-2-3p: A potential modulator of COVID19-Related ACE2 protein*. National Council for Undergraduate Research (NCUR), April 2021, virtual.

- Ruggles M and Chopra N. *Hsa-MiR-4520-2-3p: A potential modulator of COVID19-Related ACE2 protein*. Science Research Fellows Poster Session, October 2020, Greencastle, IN.

Supervised Theses

- Perry, Madeline. Adeno-Associated Virus Gene Therapy as a Model for Metachromatic Leukodystrophy. DePauw University, 2022.
- Bennett, Ayden Maverick. Creating an Early-Detection CTE Diagnostic. DePauw University, 2022.
- McClellan, Yasmin. The Use of Wharton’s Jelly as an Effective Treatment for Traumatic Brain Injuries. DePauw University, 2022.
- Conn, Sydney. L-Theanine and Memory Loss due to Non-Pathological Aging. DePauw University, 2022.
- Collins, Brandon. Exercise Interventions for Alzheimer’s Disease Prevention. DePauw University, 2022.
- Childs, Aaniyah. Does the Study and Proficiency of a Second Language Enhance Inhibition in Preschool Children? DePauw University, 2023.
- Gonzalez, Samuel. The Link Between mTBI and Alzheimer’s Disease: A Longitudinal in-vivo Study of Pathophysiology and Genetic Vulnerability. DePauw University, 2023.
- Upadhyay, Rudrayani. Endocannabinoid System Disruption Due to Acetaminophen Use, and Resulting Autism-like Behaviors in Mice.

Presentations

- Invited Guest, “Traumatic Brain Injuries: from big to small”, Wabash College, Crawfordsville, IN 2022.
- Speaker, “The healthy brain”, The conference on healing aging communities, Fort Wayne, IN 2022.
- Speaker, “Traumatic Brain Injuries – the big and the small.” Alumni Reunion Weekend, 2022.
- Speaker, “Traumatic Brain Injuries.” Alumni Reunion Weekend, virtual. 2021.
- Speaker, “COVID19 in IN: A Failure of Hard- and Soft- Policy,” during the Central Indiana Science Outreach talk. April 2021.
- Speaker, “COVID101”, Youth Speak Up. December 2020.
- Invited guest, “Here We Are” podcast on brain injuries. August 2020.
- Invited guest on “Social Discasting” to discuss COVID19. July 2020.
- Guest lecturer, “Working with HeLa cells.” DePauw University, Greencastle, IN. September 2019.
- Speaker, “The secret to a healthy aging brain.” The conference on aging, Columbus, IN. September 2019.
- Speaker, “MicroRNA-298: a triple regulator of proteins involved in Alzheimer’s disease.” Indiana State University, Terre Haute, IN. 2019.
- Speaker, “MicroRNA-298: a triple regulator of proteins involved in Alzheimer’s disease.” Butler University, Indianapolis, IN. 2019.

Research Grants

“Usage of Wearable sensors in the detection of brain injuries.” Weartech Foundation. Awarded to Movement Interactive, Inc.	2022
HHMI Inclusive Excellence: Community Building Grant. DePauw University.	2021
Science Research Fellows Faculty-Student Fellowship. DePauw University.	2020-2022
Faculty-Student Research Fellowship. DePauw University.	2020-2023
Inclusive Pedagogy Award (co-awardee). “Black Scientists and Scientists of and Microscopy.” URM groups in Biomedical Imaging. DePauw University.	2020
Tenzer Technology Center Grant for Course Development. DePauw University.	2020

Service

- Faculty Advisor, Dharma 2021-present
- Organizer, Summer Journal Club. 2021-present
- Member, BIO 101 group to develop remote labs. 2020
- Student Representative, Graduation for class of 2020 2021
- Member, Summer Working Group: Flourishing University. 2021
- Lecturer, “Ethics and Pandemics”. 2020-2021
- Honor Scholar Thesis Committee. 2020-2022
- Member, Medical Humanities Reading Group at DePauw. 2020
- Member, DePauw Collaborative. 2019
- Organizer, Faculty-Staff Pickup Soccer 2019-2020
- Reviewer, NSF – Small Business Innovation Research grants. 2021–present
- Writer, “Soccer in Indy is a vehicle for Community”,
Life in Indy. 2021
- Writer, “WPSL players to use HiJi bands to detect brain injuries,”
Soc Takes. 2020
- Vice President, National Association of Soccer Reporters. 2020 – 2021

Previous First- Author Abstracts

- Chopra N, Bemiller SM, Kokiko-Cochran ON, Katsumoto A, McCray TJ, Xu G, Lamb BT. *TREM2 deficiency results in exacerbated traumatic injury induced tau pathology in a mouse model of tauopathy*. Society for Neuroscience Annual Meeting, November 2017, Washington, DC.
- Chopra N, Maloney B, McAllister TW, White FA, Lahiri DK. *Roles of amyloid- β precursor protein and metabolites in acute traumatic brain injury*. Society for Neuroscience Annual Meeting, November 2017, Washington, DC.
- Chopra N, Nho K., Bayon BL, Lahiri DK. *MicroRNA-20b reduces levels of APP and A β in human cells*. Society for Neuroscience, November 2016, San Diego, CA.
- Chopra N, Nho K, Long JM, Maloney B, Saykin AJ, Lahiri DK. *MicoRNA-298: a dual regulator of proteins involved in AD*. Indianapolis Society for Neuroscience, October 2016,

Indianapolis, IN.

- Chopra N, Long JM, Nelson PT, Reddy P, Vassar R, Greig NH, Obukhov AG, Lahiri DK. *Novel microRNAs regulate specific genes important for AD*. Society for Neuroscience, October 2015, Chicago, IL.
- Chopra N, Nho K, Bhartur A, Long, JM, Sambamurti K, Greig NH, Saykin AJ, Lahiri DK. *Role of Neprilysin in Alzheimer's disease*. Drug discovery and therapy world congress, July 2015, Boston MA.