

H.R. Sagara Wijeratne

EDUCATION

RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

Bachelor's in Molecular Biology & Biochemistry and Chemistry & Chemical Biology

New Brunswick NJ

09/2008 – 01/2013

SCIENTIFIC EXPERIENCE

RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY | SCHOOL OF ARTS & SCIENCES

DEPARTMENT OF GENETICS

New Brunswick NJ

- **Research Associate/Lab Technician**

05/2017 – Present

- Interrogating dynamic protein translation via ribosome profiling and RNA-seq data using R coding.

RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY | ROBERT WOOD JOHNSON MEDICAL SCHOOL

DEPARTMENT OF NEUROSCIENCE & CELL BIOLOGY

New Brunswick NJ

- **Research Associate/Lab Technician**

09/2011 – 05/2015

- Investigated the mechanisms of mRNA translation and the pathological effects of an adverse intrauterine environment in development of the brain's neocortex in the laboratory of Mladen-Roko Rasin MD, PhD
- Researched the effects of RNA binding protein HuR and thalamocortical morphogen WNT3 on the neocortical polysome assembly. Assessed neuronal types, cell cycles, and stem cell.

CLINICAL EXPERIENCE

WOODBIDGE TOWNSHIP AMBULANCE & RESCUE SQUAD

Woodbridge, NJ

- **Trainer**

09/2015 – 05/2017

- Trained new EMTs and cadets in medical protocols, transportation, communication, and documentation on Emscharts

- **Crew Chief**

06/2015 – 06/2016

- Responsible for coordinating with Woodbridge Police Headquarters for coverage of emergency medical services for the Woodbridge Township for the shift.
- Maintained current records on all incidents and medical calls for the shift

- **Emergency Medical Technician**

08/2013 – Present

- Responded to emergency calls to provide pre-hospital care for the critically ill and injured and fast transportation to the emergency departments.

CITYMD URGENT CARE

New York, NY

- **Medical Scribe Specialist**

05/2015 – 06/2016

- Elicited patient's vitals, medical history, and history of present illness
- Briefed physicians and physician assistants on patient's history, status, and chief complaint
- Detailed provider's physical exams and diagnosis in electronic systems eCW and Aprima
- Ordered physician-directed medical imaging and prescriptions
- Performed point-of-care tests such as urinalysis, EKG, and Rapid tests
- Assisted in medical procedures & prepared basic laboratory cultures.
- Coordinated specialist referrals for follow-up care and managed patient discharge instructions per physician advice and answered patient questions within scope

MOUNT SINAI HOSPITAL**DEPARTMENT OF EMERGENCY MEDICINE***New York, NY*

- ***Sinai Research Associates Program Chief of Research*** **05/2014 – 08/2016**
 - Liaised between the program and the principal investigators, ensured quality data acquisition and good clinical practice, optimized studies in-hospital with patients and physicians.
 - Managed the Sinai Research Associate and Academic Associate programs merger between Mount Sinai Hospital, St. Luke's Hospital, and Roosevelt Hospital.
- ***Sinai Research Associates Program Chief of Training*** **05/2013 – 05/2014**
 - Trained research program members in clinical research, ongoing research support and study management, optimized studies in-hospital with patients and physicians.
- ***Sinai Research Associate*** **08/2012 – 08/2016**
 - Collected patient data in collaboration with research clinicians. Study types included randomized controlled trials, observational cohort, chart reviews, and surveys.
 - Familiarized with the electronic health record Epic in the setting of a high volume urban emergency department
 - Topics included, among others, the use of early palliative care, use of ultrasound to aid differential diagnosis and treatment shock, the co-morbidity of sickle-cell anemia and asthma, and the nasal microbiome of asthma patients.
 - Conducted a retrospective chart review of 315 patients that presented to the Mt Sinai Emergency Department with upper gastrointestinal bleeding.

INSTITUTIONAL & COMMUNITY SERVICE**NEW YORK ROAD RUNNERS***New York, NY*

- ***Medical Volunteer: EMT-B*** **09/2013 – Present**
 - Treated injured NYC marathon, half-marathon runners for dehydration, hyponatremia, muscle cramping and fall injuries.
 - Coordinating with MDs, DOs, nurses, PAs, paramedics, EMTs, physical therapists, and massage therapists, provided comprehensive care to the athletes. The NYC Marathon finishing line medical team saw a record 2000 patients

RNA CLUB, RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY*New Brunswick, NJ*

- ***Member*** **09/2013 – 05/2015**
 - Discussed current research in RNA molecular biology & biochemistry. Topics included, among others, basic research on the RNA binding protein of neocortical development, RNA-seq, microarray techniques, and post-transcriptional mechanisms in yeast.

THE KURT HIRSCHHORN SOCIETY FOR PEDIATRIC RESEARCH**MOUNT SINAI HOSPITAL, DEPARTMENT OF PEDIATRICS***New York, NY*

- ***Member*** **09/2013 – 09/2015**
 - Discussed current research in the pediatrics. Topics included, among others, basic research on the cell biology of albinism and molecular mechanism of optical nerve growth and clinical genome-wide association studies on allergies.

STUDENT SOCIETY FOR STEM CELL RESEARCH, RUTGERS CHAPTER*Piscataway, NJ*

- ***Executive Board Member (06/2011 - 06/2012), Member*** **09/2009 – 01/2013**
 - Advocated for the advancement of stem cell research. Planned and managed fundraising events for stem-cell based treatments for spinal cord injury.
 - Organized an educational trip to the NIH Stem Cell Task Force in Bethesda, Maryland.
 - Designed flyers and posters announcing club events
 - Wrote the constitution that directs the organization

ENGINEERS WITHOUT BORDERS*New Orleans, LA*

- ***Member*** **06/2009 - 07/2009**
 - Partnered with local humanitarian group Common Ground Relief to rehabilitate hurricane damaged homes of low income people in the Lower Ninth Ward, New Orleans.

HONORS & AWARDS

- Aresty Research Fellowship, Rutgers University 08/2012 – 01/2013
- 1st Place Poster Prize in Cellular & Molecular Biology, William Paterson University 05/2013
- 2nd Place Poster Prize in Cellular & Molecular Biology, William Paterson University 05/2012
- Rutgers Scarlet Scholarship, Rutgers University 08/2008 – 08/2012

CERTIFICATIONS

- New Jersey State Emergency Medical Technician (EMT-B) Certification 01/2013 – Present
- American Heart Association Basic Life Support (BLS) Certification 10/2012 – Present
- Health Insurance Portability and Accountability Act (HIPAA) Certification 08/2012 – Present
- Good Clinical Practice (GCP) Certification 08/2012 – Present
- FEMA Incident Command System (ICS) 100, 200 01/2014 – Present
- American College of Medical Scribe Specialists Certification 08/2015 – Present
- Coaching the Emergency Vehicle Operator III: Fire/Ambulance 06/2016 – Present

PUBLICATIONS & PREPRINTS

- Gu Z, Kalambogias J, Yoshioka S, Han W, Li Z, Kawasaki YI, Pochareddy S, Li Z, Liu F, Xu X, **Wijeratne HRS**, Ueno M, Blatz E, Salomone J, Kumanogoh A, Rasin MR, Gebelein B, Weirauch MT, Sestan N, Martin JH, Yoshida Y. "Control of species-dependent cortico-motoneuronal connections underlying manual dexterity." *Science* 357.6349 (2017): 400-404.
- Viljetic B, Diao L, Liu J, Krsnik Z, **Wijeratne HRS**, Kristopovich R, Dutra-Clarke M, Kraushar ML, Song J, Xing J, Chen K, Rasin MR. "Multiple Roles of PIWIL1 in Mouse Neocortogenesis." *bioRxiv* (2017): 1-22. **(PREPRINT)**
- Goldberg SA, Porat A, Strother CG, Lim NQ, **Wijeratne HRS**, Sanchez G, Munjal KG. "Quantitative Analysis of the Content of EMS Handoff of Critically Ill and Injured Patients to the Emergency Department." *Prehospital Emergency Care* 21.1 (2016): 14-17.
- Kraushar ML, Thompson K, **Wijeratne HRS**, Viljetic B, Hart RP, Rasin MR. "Developmental heterogeneity of the neocortical ribosome is regulated by timed WNT3 secretion from in-growing thalamocortical axons." *Journal of Neuroscience* 35.31 (2015): 10911-0926.
- Brooker JA, Hastings JW, Major-Monfried H, Maron CP, Winkel M, **Wijeratne HRS**, Fleischman, W, Weingart S, Newman DH. "The Association between Medicolegal and Professional Concerns and Chest Pain Admission Rates." *Academic Emergency Medicine* 22.7 (2015): 883-86.
- Kraushar ML, Thompson K, **Wijeratne HRS**, Viljetic B, Sakers K, Marson JW, Kontonyiannis DL, Hart RP, Rasin MR. "Temporally defined neocortical translation and polysome assembly is determined by the RNA-binding protein, Hu antigen R." *Proceedings of the National Academy of Sciences* 111.36 (2014): E3815-824.
- Sandhu S, Kraushar ML, **Wijeratne HRS**, Rasin MR. "Transient intrauterine ischemia during mid-gestation results in postnatal abnormalities in formation of neocortical circuit elements." *The FASEB Journal* 28.1 (2014). **(ABSTRACT)**

POSTERS & PRESENTATIONS

- Kraushar ML, **Wijeratne HRS**, Yaros K, Arikala H, Sandhu S, Titus K, Krznik Z, Kostovic I, Rasin MR. (2013) *Transient intrauterine ischemia during mid-neurogenesis disrupts neocortical development and behavior associated with neurodevelopmental disorders*. Wiring the Brain Conference, Cold Spring Harbor Laboratory; Cold Spring Harbor, NY.
- Arikala H, Dutra-Clarke M, **Wijeratne HRS**, Kraushar ML, Rasin MR. (2013) *MIWI in neocortical development and in transient intrauterine ischemia*, Aresty Research Symposium; New Brunswick, NJ.
- Sandhu S, Kraushar ML, **Wijeratne HRS**, Rasin MR. (2013) *Mid-neurogenic transient intrauterine ischemia results in postnatal abnormalities in neocortical circuit elements*, Aresty Research Symposium; New Brunswick, NJ.
- Yaros K, Kraushar ML, **Wijeratne HRS**, Rasin MR. (2013) *Neocortical neural stem cell cycle dynamics are disrupted by transient intrauterine ischemia*, Aresty Research Symposium; New Brunswick, NJ.
- Arikala H, Dutra-Clarke M, **Wijeratne HRS**, Kraushar ML, Rasin MR. (2013) *Role of PIWI-like protein Miwi in regulation of neocortical development and radial glia self-renewal*, William Paterson University Research Symposium; Wayne, NJ.
- Sandhu S, Kraushar ML, **Wijeratne HRS**, Rasin MR. (2013) *Transient intrauterine ischemia disrupts neuronal morphology*, William Paterson University Research Symposium; Wayne, NJ.
- Kraushar ML, **Wijeratne HRS**, McGowan H, Sandhu S, Dutra-Clarke M, Viljetic B, Rasin MR (2012) *Mid-gestation transient intrauterine ischemia disrupts postnatal neocortical development associated with multiple neurodevelopmental disorders*, Brain Health Institute Symposium; Piscataway, NJ.
- **Wijeratne HRS**, Sandhu S, Kraushar ML, Rasin MR. (2012) *Mid-gestation transient intrauterine ischemia dysregulates postnatal neocortical development of projection neurons and expression of FMRP and nNOS*, Aresty Research Symposium; New Brunswick, NJ.
- **Wijeratne HRS**, Sandhu S, Kraushar ML, Rasin MR. (2012) *Postnatal FMRP expression and development of neocortical projection neurons are interrupted at mid-gestation by transient intrauterine ischemia*, William Paterson University Research Symposium; Wayne, NJ.
- Kraushar ML, **Wijeratne HRS**, McGowan H, Sandhu S, Dutra-Clarke M, Viljetic B, Rasin MR (2012) *Transient intrauterine ischemia dysregulates functional gene expression in neocortical development and neurological disorders*, Robert Wood Johnson Medical School; Piscataway, NJ.
- **Wijeratne HRS**, Sandhu S, Kraushar ML, Rasin MR. (2012) *Transient intrauterine ischemia at mid-gestation disrupts FMRP and differentiation of neocortical projection neurons postnatally*, Molecular Biology & Biochemistry Undergraduate Research Symposium; Piscataway, NJ.

SKILLS

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| ▪ Bacterial culturing & cell culturing | ▪ Mouse brain dissection |
| ▪ Confocal and light microscopy | ▪ Mouse husbandry |
| ▪ Fixation perfusion & sectioning | ▪ Mouse ultrasonic vocalization assay |
| ▪ Golgi staining | ▪ PCR |
| ▪ Image analysis and quantification using ImageJ, Adobe Photoshop, MetaMorph, Neurolucida | ▪ qRT-PCR |
| ▪ Immunohistochemistry with antigen retrieval | ▪ R programming |
| ▪ Luciferase assay | ▪ Python programming |
| | ▪ Statistical analysis |
| | ▪ Western blot |