Revised: August 30, 2021

CURRICULUM VITAE

NAME: Vijayalakshmi (Viji) Santhakumar

PRESENT TITLE (S): Associate Professor level IV with Tenure,
Molecular Cell and Systems Biology, University of California at Riverside

Adjunct Associate Professor,
Pharmacology Physiology and Neurosciences, Rutgers, New Jersey Medical School, Newark

OFFICE ADDRESS: 3401 Watkins Drive, Rm 1308 Spieth Hall, Riverside, CA 92521

TELEPHONE NUMBER/E-MAIL ADDRESS: 951 827 2010, vijayas@ucr.edu

EDUCATION:

A. Undergraduate

MBBS (a direct 6-year MD Equivalent degree after high school: See below)

B. Graduate and Professional

University of California at Irvine
City, State: Irvine, CA
Degree (Discipline): PhD (Neuroscience) Date Awarded: Dec 2003

Kilpauk Medical College
City, State: Chennai, Tamil Nadu, India
Degree (Discipline): MBBS (Clinical Medicine) Date Awarded: Sep 1995

POSTGRADUATE TRAINING:

A. Internship and Residencies

Residency
Location: Madras Medical College, Chennai, India
Discipline: Otolaryngology (ENT)
Inclusive Date: Oct 1995-March 1997

Internship
Location: Kilpauk Medical College, Chennai, India
Discipline: Internship in Medicine
Inclusive Date: Aug 1994-Oct 1995

B. **Research Fellowships**

Location: **University of California at Los Angeles, CA.**
Discipline: Neuroscience Mentor: Dr. Istvan Mody
Inclusive Date: April 2006- Sep. 2008

Location: **University of California at Los Angeles, CA.**
Discipline: Neurobiology Mentor: Dr. Thomas S. Otis
Inclusive Date: March 2004- April 2006

Location: **University of California at Irvine, CA.**
Discipline: Computational Neuroscience Mentor: Dr. Ivan Soltesz

Inclusive Date: Dec 2003-Feb 2004

C. Professional Courses

1. OASIS leadership and professional development program for career development and advancement of academic women in STEM fields, Rutgers, Newark, 2013
2. Summer Course on Imaging Structure & Function in Neuroscience and Development at Cold Spring Harbor Laboratory. 2007
3. Workshop on Computational Methods for Spatially Realistic Microphysiological Simulations (M-Cell), Pittsburgh Supercomputing Center, Pittsburgh. 2006
4. Summer Course on NEURON Simulation Environment, University of California, San Diego, 2003

ACADEMIC APPOINTMENTS:

Associate Professor with Tenure
Molecular, Cell and Systems Biology,
University of California at Riverside
Inclusive Dates: February 2018- present

Adjunct Associate Professor
Pharmacology, Physiology and Neuroscience
Rutgers, New Jersey Medical School
Inclusive Dates: August 2017 – June 2019 (20% FTE); July 2019- present (0 FTE)

Acting Associate Professor
Neurology,
Cedars Sinai Health Sciences
Inclusive Dates: July 2017 – Jan 2018 (80% FTE)

Associate Professor in Tenure Track
Pharmacology, Physiology and Neuroscience
Rutgers, New Jersey Medical School
Inclusive Dates: July 2014 – July 2017
Award of Tenure: July 2017

Assistant Professor in Tenure Track
Department of Neurology and Neurosciences
Department of Pharmacology and Physiology
Rutgers, New Jersey Medical School
Inclusive Dates: July 2013 – June 2014

Assistant Professor in Tenure Track
Department of Pharmacology and Physiology
University of Medicine and Dentistry of New Jersey, Newark (New Jersey Medical School)
Inclusive Dates: July 2009 – July2014

Assistant Professor in Tenure Track
Department of Neurology and Neurosciences
University of Medicine and Dentistry of New Jersey, Newark (New Jersey Medical School)
Inclusive Dates: Oct 2008 – June 2013

HOSPITAL APPOINTMENTS:

Hospitalist
Emergency Care, Vasanthi Medical Center and Perinatology Research Foundation, Chennai, India
Years: Oct 1995- Apr 1996

Hospitalist
Emergency Cardiac Care, GG Hospital, Chennai, India
Years: Apr 1996- July 1997

OTHER EMPLOYMENT OR MAJOR VISITNG APPOINTMENTS:

Vice Chair,
Department: **Molecular, Cell and Systems Biology**
University of California at Riverside, Riverside CA Inclusive Dates:: July 2021-Present

Visiting Associate Professor
Department of Developmental and Cell Biology,
University of California at Irvine, Irvine CA Inclusive Dates: June 2016 – August 2016

Biomedical Engineering Track Co-Director
Graduate School of Biomedical Sciences
University: Rutgers, New Jersey Medical School Inclusive Dates: Jan 2016 – June 2019

Affiliated Associate Professor
Department of Biomedical Engineering,
New Jersey Institute of Technology, Newark NJ Inclusive Dates: June 2016 – January 2018

Research Assistant
University of California at Irvine, Irvine CA Years: 1997-1998

Adjunct Lecturer (part-time)
California State University at Long Beach Years: 2007

MEMBERSHIPS IN PROFESSIONAL SOCIETIES:

American Association for the Advancement of Science
Member Inclusive Dates: 2020- present

National Neurotrauma Society
Member Inclusive Dates: 2012- 2013

Society for Neuroscience
Member Inclusive Dates: 2000- present

American Epilepsy Society
Member Inclusive Dates: 2000- present

HONORS AND AWARDS:

National Research Service Award for Postdoctoral Training (Institutional).
Awarded By: University of California, Los Angeles Date: 2004-2006

Graduate Fellowship in Molecular Biology, Genetics and Biochemistry.
Awarded By: University of California -Regents Date: 1998

First Certificate in Community Medicine
Awarded By: Kilpauk Medical College Date: 1994

Gold Medal and Scholarship for outstanding performance in Biology.
Awarded By: Department of Biotechnology-Ministry of Science and Technology, Govt. of India.
Date: 1990

Merit Certificate and Prize for outstanding performance in All India
Senior School Certificate Examination.
Awarded By: Govt. of India. Date: 1990

SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:

SERVICE ON MAJOR COMMITTEES:

A. **International**

1. Neurological Foundation, New Zealand- Ad hoc grant reviewer 2019
2. Neurological Foundation, New Zealand- Ad hoc grant reviewer 2019
3. Elected Vice Chair, Gordon Research Conference on Epilepsy and Neuronal Synchronization, Barcelona, Spain 2018
4. Austrian Science Foundation- Ad hoc grant reviewer 2017
5. Israel Science Foundation- Ad hoc grant reviewer 2012

B. **National**

***American Epilepsy Society* (*AES*) Committee Assignments**

1. Chair, Scientific Program Committee, *American Epilepsy Society* 2021
2. Member, Dialogues to Transform Epilepsy organizing committee 2020.
3. Vice Chair, Scientific Program Committee, *American Epilepsy Society* 2019-2020
4. Member Awards Committee, American Epilepsy Society 2019-present
5. Member AES Basic Science Presidential Special Task Force 2017-2020
6. Chair, Investigator Workshop Committee, *AES* 2015-2016
7. Chair, AES Young Investigator s Workshop Committee 2015-2016
8. Contributing Editor, Epilepsy Currents- Journal of the *American Epilepsy Society* 2015-2020
9. Vice Chair, Investigator Workshop Committee of the *AES* 2014-2015
10. Vice Chair, AES Young Investigator's Workshop Committee 2014-2015
11. Member, AES Scientific Program Committee 2013-2015
12. Member, AES Investigator Workshop Committee 2013-2016
13. Member, AES Basic Science Committee 2013-2015

National Institute of Health (NIH)/ NINDS Reviews

14. Reviewer, National Institute of Health (NIH) - NIH NINDS ZNS1 SRB-A(29) CWOW 2020
15. Reviewer, National Institute of Health CSR Anonymous _BDCN 2020
16. Alternate Chair, National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS), Clinical Neuroplasticity and Neurotransmitters (CNNT) Oct 2018
17. Reviewer (permanent), National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS), Clinical Neuroplasticity and Neurotransmitters (CNNT) study sections, reviewed 7-9grants/cycle July 2017-2021
18. Reviewer National Institute of Health (NIH) - Neuroscience Assay, Diagnostics and Animal Model Development Small Business Panel for ETTN P(13) March 2017
19. Reviewer National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS), special emphasis panel, ZRG1 BDCN-W (91) March 2017
20. Reviewer National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS), special emphasis panel, ZRG1 BDCN-W (04) Nov 2016

21. Reviewer (Ad hoc), National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS), Clinical Neuroplasticity and Neurotransmitters (CNNT) study sections
    Jan-Feb 2012; Jan-Feb 2013; Jan-Feb 2015; Sep-Oct 2015

Other Grant and Panels

22. Oregon Partnership for Alzheimer's Research, Ad hoc grant reviewer 2020
23. *American Epilepsy Society,* Ad hoc grant reviewer 2016-2018
24. Citizens United for Research in Epilepsy (CURE) Foundation- Ad hoc grant reviewer 2006-present

Conference Organizing

1. Session Chair, Nanosymposium on "Molecular Mechanisms of Synaptogenesis and Connectivity", Annual Meeting of the Society for Neuroscience 2020
2. Discussion Leader for session on Pathological Circuit Function in Epilepsy, Gordon Research Conference on Epilepsy and Neuronal Synchronization, Spain 2016
3. Session Organizer and Chair, Investigator Workshop on "Immune and Non-canonical roles of inflammatory mediators in epilepsy", *American Epilepsy Society,* 2015

C. **Editorial Boards:**

1. Reviewing Editor, Frontiers in Molecular Neuroscience: Section on Brain Disease Mechanisms 2020-present
2. Associate Editor, Journal of Neuroscience 2020-present
3. Handling Editor, eNeuro 2020-present
4. Handling Editor, Journal of Neuroinflammation- BMC Journals 2019-present
5. Contributing Editor, Epilepsy Currents- Journal of the American Epilepsy Society 2015-2020

D. **Journal Reviewer:** Ad hoc

1. Nature Medicine
2. Science Signaling
3. Nature Communications
4. Nature Scientific Reports
5. e-Life
6. Brain
7. PNAS
8. Cerebral Cortex
9. Cell Reports
10. Journal of Computational Neuroscience
11. Journal of Clinical Investigation
12. Journal of Neuroscience
13. eNeuro
    Reviewer Recognition 2017: for *"excellent insight, high standards; fair and excellent judgement."*
14. Journal of Neuroinflammation
15. Neuroscience
16. Brain Behavior and Immunity
17. Hippocampus
18. Neural Computation
19. Journal of Physiology
20. Journal of Neurophysiology
21. Neuropharmacology
22. Neurobiology of Disease
23. European Journal of Neuroscience
24. Neuroscience Letters

25. Journal of Neuroscience Research
26. Biological Cybernetics
27. NeuroReport
28. Journal of Comparative Neuroscience
29. Brain Structure and Function
30. PLOS-Computational Neuroscience
31. PLOS-Computational Biology
32. Epilepsia
33. Developmental Neuroscience
34. Chaos
35. Experimental Neurology

E. **University**

UC Riverside Campus

1. CGNI Cover Photo Selection Committee 2021
2. Member Committee on Scholarships & Honors 2020-present
3. Member, Microscopy and Imaging Core Advisory Committee 2020-present
4. Reviewer, Chancellor Research Fellowship 2020-2021
5. Reviewer, James & Margaret Lesley Annual Prize-Foundation 2020
6. Reviewer, The Charles W. Coggins, Jr. Endowed Scholarship Fund 2020
7. Reviewer, Myron Winslow Scholarship Fund 2020
8. Reviewer, The Homer and Daisy Chapman Endowed Scholarship Fund for Citrus/Soil and Plant Nutrition Research 2020
9. Reviewer, The James Merrill and Adeline Wallace Prize Fund 2020
10. UCR Strategic Planning Committee 2019-2020

New Jersey Medical School (Rutgers/UMDNJ):

1. Faculty Investigators Committee 2016-2017
2. Faculty Organization Panel for Review of Guidelines for Appointments and Promotions 2015-2017
3. Member Klein Endowed Chair Search Committee, Rutgers Brain Health Institute
   i. 2016-2017

F. **Department**

UC Riverside – MCSB Department

1. Department Vice Chair 2021-present
2. Member, Teaching Subcommittee-CMDB Undergrad 2020-present
3. Chair, Web Committee 2019-present
4. Member, Executive Committee 2018-present
5. Member, Proposal Advising Committee 2018-present

New Jersey Medical School (Rutgers/UMDNJ)

6. Director Departmental Neurolucida / StereoInvestigator Core 2015-2018
7. Director Neuroscience Seminar Series 2012-2014

SERVICE ON GRADUATE SCHOOL COMMITTEES:

1. UC Riverside, Biomedical Sciences Graduate Advisory Committee 2020-present
2. NJMS Biomedical Engineering Track Steering Committee 2015-2019
3. NJMS Biomedical Engineering Admissions Committee 2015-2017
4. NJMS MD/PhD Admissions Committee 2014-2017
5. NJMS CBNP Track Oversight Committee 2012-2016

6. Thesis Committees

Doctoral Thesis/Advisory Committee as Mentor

i.	Andrew Huang- UC Riverside Biomedical Science	2020-present
ii.	Laura Dovek- UC Riverside Biomedical Science	2019-present
iii.	Susan Nguyen – UC Riverside Neuroscience	2018-present
iv.	Lucas Corrubia – Rutgers Neuroscience	2017-present
v.	Milad Afrasiabi- Rutgers Neuroscience	2016-2021
vi.	Archana Proddutur- Rutgers Biomedical Engineering	2014-2017
vii.	Akshata Korgaonkar- Rutgers Biomedical Engineering	2012-2016
viii.	Erick Neuberger- Rutgers Interdisciplinary Program	2011-2016

Doctoral Thesis Committee- External

i.	Carol Eisenberg- Rutgers Newark	2021-present
ii.	Lyles Clark – UPenn	2021-2021
iii.	Jan Frankowski – UC Irvine Neuroscience	2018-present
iv.	Christopher Dengler – UPenn	2017
v.	Aswati Aravind – NJIT-NJMS, Newark	2017-2020
vi.	Bemin Ghobreal– NJIT-NJMS, Newark	2017-2020
vii.	ChangYaramothu - NJIT-NJMS, Newark	2016
viii.	Mathew Kuriakose –NJIT-NJMS, Newark	2016
ix.	Azam Shirrafiardekani– University of Otago, *New Zealand*	2015 – 2017
x.	Mathew Long –NJIT-NJMS, Newark	2015-2017
xi.	Gokhan Ordek - NJIT, Newark Biomedical Engineering	2014
xii.	Jonathan Groth - NJIT, Newark Biomedical Engineering	2013- 2014
xiii.	Ammar Abdo- NJIT, Newark Biomedical Engineering	2011- 2013
xiv.	Dongwook Kim – NJIT, Newark, Math Bio	2010-2011
xv.	Ann Mae Lionardi- Drexel University	2009-2012

Doctoral Thesis Committee- NJMS and UC Riverside

i.	Paula Da Silva Frost- UCR Neuroscience	2021-present
ii.	Alexander Bilas – UC Riverside Neuroscience	2020-present
iii.	Pamela Hirschberg, NJMS Pharm, Phys Neuro	2018-present
iv.	Catherine Rojvirat, NJMS MD/PhD program	2018-2021
v.	Jill Konowich – NJMS MD/PhD program	2015
vi.	Veronika Khariv- NJMS/Neurosurgery	2014- 2017
vii.	Alexandra Pallottie- NJMS/Neurosurgery	2015- 2017
viii.	Mat Long- NJMS Biomedical Engineering	2013- 2017
ix.	Swamini Sinha – NJMS, MD/PhD program	2013- 2014
x.	Pelin Avcu – NJMS Neuroscience	2013- 2015
xi.	Ammy Santiago – NJMS, Pharmacology and Physiology	2011- 2016
xii.	Radia Abdul-Wahab – NJMS Biomedical Engineering	2011- 2013
xiii.	Nolan Skope- NJMS, Biomedical Engineering	2011- 2014

Masters' Thesis Committee

i.	Nicholas Cuvelier – UC Riverside	2018
ii.	Suji Sampath- NJIT, Newark - Biomedical Engineering	2017
iii.	Bogumila Swietek- NJIT, Newark - Biomedical Engineering	2016
iv.	Mahamaya Bhattacharyya – NJMS	2015

Qualifying Committee

i.	Samantha Sutley - UCR Biomedical Sciences	2021
ii.	Paula Da Silva Frost- UCR Neuroscience	2020
iii.	Mawaheb Kassir- UCR Neuroscience	2020
iv.	Jennifer Yang- UCR Biomedical Engineering	2020-2021

v. Zhoran Zhang- UCR Neuroscience 2020
vi. Jordan Donohue- UCR Neuroscience 2020
vii. Jerry Chavez- UCR CMDB 2020
viii. Jordan Lillibridge- UCR CMDB 2020
ix. Jamiela Kokask- UCR Neuroscience 2020
x. Joel Kowalewski- UCR Neuroscience 2019
xi. Aswati Aravind –NJIT-NJMS, Newark 2017
xii. Bemin Ghobreal–NJIT-NJMS, Newark 2017
xiii. Juan Manuel Inclan Rico, I3 NJMS Newark 2016
xiv. Jessica Ma, NJIT-NJMS BME, Newark 2016
xv. Luipa Khander –CBNP, NJMS, Newark 2016
xvi. Danielle Greggor Rutgers NJMS 2015
xvii. Ferhat Erdogan–NJIT-NJMS, Newark 2015
xviii. Mathew Kuriakose – 2015 NJIT-NJMS, Newark 2015
xix. Sian Gok –NJIT-NJMS, Newark - Biomedical Engineering 2015
xx. Keerthana D. Karunakaran – NJIT-NJMS, Newark 2015
xxi. Ektha Kumari -Rutgers NJMS 2014
xxii. Charu Garg-UMDNJ -Pharmacology and Physiology 2013
xxiii. Stephanie Veerasammy, UMDNJ - Neurology and Neurosciences 2013
xxiv. Pelin Avcu - UMDNJ - Neurology and Neurosciences 2012
xxv. Nora Ko -UMDNJ - Neurology and Neurosciences 2012
xxvi. Swamini Sinha- UMDNJ - Neurology and Neurosciences 2012
xxvii. Ammy Santiago - UMDNJ -Pharmacology and Physiology 2012
xxviii. Lihong Hao – UMDNJ - Pharmacology and Physiology 2011

7. Admissions Committee
   i. UCR Neuroscience Graduate Program / 2021 Interviews: 3 candidates
   ii. UCR Biomedical Sciences Graduate Program / 2021 Interviews: 3 candidate
   iii. UCR Neuroscience Graduate Program / 2020 Interviews: 4 candidates
   iv. UCR Biomedical Sciences Graduate Program / 2020 Interviews: 4 candidate
   v. UCR Neuroscience Graduate Program / 2019 Interviews: 4 candidates
   vi. UCR Biomedical Sciences Graduate Program / 2019 Interviews: 1 candidate
   vii. NJMS MD/PhD Admissions committee 2017: 2 candidates
   viii. NJMS Graduate School of Biomedical Sciences / Biomedical Engineering 2017 Interviews: 3 candidates
   ix. NJMS MD/PhD Admissions committee 2016: 2 candidates
   x. Graduate School of Biomedical Sciences / Biomedical Engineering 2015 Interviews: 5 candidates
   xi. NJMS MD/PhD Admissions committee 2015: 4 candidates
   xii. NJMS Graduate School of Biomedical Sciences / Biomedical Engineering 2015 Interviews: 3 candidates
   xiii. NJMS MD/PhD Admissions committee 2014: 5 candidates
   xiv. NJMS Graduate School of Biomedical Sciences / Biomedical Engineering 2014 Interviews: 5 candidates
   xv. NJMS MD/PhD Admissions committee: 5 candidates
   xvi. NJMS Graduate School of Biomedical Sciences / Biomedical Engineering 2013 Interviews: 3 candidates
   xvii. NJMS MD/PhD Admissions committee 2013: 5 candidates
   xviii. Graduate School of Biomedical Sciences / Biomedical Engineering 2012 Interviews: 3 candidates
   xix. NJMS Graduate School of Biomedical Sciences / Biomedical Engineering 2011 Interviews: 5 candidates
   xx. NJMS Graduate School of Biomedical Sciences / Biomedical Engineering 2010 Interviews: 3 candidates
   xxi. NJMS Graduate School of Biomedical Sciences/Biomedical Engineering 2009 Interviews: 4 candidates

SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE:

Masters (with Thesis)

1. Alexander Crane- Neuroscience Masters' Program, Rutgers NJMS-2016
2. Archana Proddutur, MS New Jersey Institute of Technology – 2010

Doctoral

1. Milad Afrasiabi, PhD Rutgers NJMS – 2021
2. Archana Proddutur, PhD Rutgers NJMS – 2017
   **Awarded Rutgers School of Graduate Studies, 2018 Stanley S. Bergen Medal of Excellence Award*
   **2015 Awarded Dean Morris Schaffer Award Rutgers*
3. Akshata Korgaonkar, PhD Rutgers NJMS – 2016
4. Eric J. Neuberger, PhD Rutgers NJMS – 2016

RESEARCH MENTORSHIP:

Post-Doctoral Fellows/ Project Scientists

1. Kelly Hamilton, PhD — May 2019- 2021
   *****Current:*** *Medical Writer, AlphaGroup Medical Communications*
   **Received UCI Epilepsy T32 award 2019-2020*
2. Archana Proddutur, PhD — 2018-2019
   *****Current:*** *Postdoctoral Fellow, University of California at Irvine*
   **Mightex Travel award for SFN meeting*
   **2019 Grass Young Investigator Award from American Epilepsy Society*
   **2018 Selected for NanoSymposium Talk at SFN Meeting*
3. Akshata Korgaonkar, PhD — 2016
   *****Current:*** *Scientist-Immuno Neurology at Alector*
4. Eric Neuberger, PhD — Sep 2016-2017
   *****Current:*** *Senior Instructor & Educational Specialist, Students2Science*
5. Deepak Subramanian, PhD — Feb 2016-present
   2021 Awarded a 3-year **DoD level II IDEA development Award $466,000.*
6. Ying Li, MD, PhD — Feb 2012-2018
   *****Current:*** *Research Professor, New Jersey Institute of Technology, Newark NJ*
7. Jiandong Yu, PhD — March 2010-Feb 2015
   *****Current:*** Associate Professor *at Guangdong-Hongkong-Macau Institute of CNS Regeneration, Jinan University, Guangdong, China*
   Awarded a 1-year **Epilepsy Foundation Postdoctoral Fellowship 2012 $50,000*
8. Akshay Gupta, MD — 2009-2021
   **Invited to Present NanoSymposium at 2019 Society for Neuroscience Meeting*
   **American Epilepsy Society Young Investigator Award 2017*
   Awarded a 3-year **NJCBIR Postdoctoral Research Fellowship 2011-2013 $210,000.*

Pre-Doctoral Student Mentorship:

PhD Candidates:

1. Andrew Huang-UCR School of Biomedical Science — 2020-Present
2. Laura Dovek-UCR School of Biomedical Science — 2019-Present
   Awarded 3-year **F31 NIH/NRSA (F31NS124290 2021-2024)*
   Awarded **AES Predoctoral Research Fellowship 2021- Declined*

*Awarded ***UCR BioMed Departmental Fellowship*** *2021*

3. Susan Nguyen-UCR Neuroscience 2018-current
*Awarded 2.5-year ***F31 NIH/NRSA*** *(F31NS120620 2021-2024)*
*Awarded ***AES Predoctoral Research Fellowship*** *2020*
*Awarded UCR ***Graduate Research Mentorship Fellowship*** *2019*

4. Lucas Corrubia-Rutgers Graduate School of Biomedical Science 2017-current
*Awarded and Declined ***NJCBIR predoctoral research fellowship*** *(CBIR19FEL014) 2019-2022*
*Awarded a 3-year ***F31 NIH/NRSA*** *(F31NS110220, 2019-2022)*

5. Milad Afrasiabi-Rutgers Graduate School of Biomedical Science 2015-2021
Awarded American Epilepsy Society Grass Young Investigator Travel Award 2016
****Current:*** *Postdoctoral Fellow, Rutgers, Newark NJ*

6. Archana Proddutur MS. Graduate School of Biomedical Science- UNDNJ 2012-2018
****Current:*** *Postdoctoral Fellow, University of California at Irvine*
Awarded Rutgers School of Graduate Studies, 2018 Stanley S. Bergen Medal of Excellence Award
Invited to Present at Epilepsy MiniSymposium at 2016 Society for Neuroscience Meeting
Recipient: 2015 Dean Morris Schaffer Award

7. Eric J. Neuberger – Interdisciplinary Program 2011-2016
****Current:*** *Senior Instructor & Educational Specialist, Students2Science*

8. Akshata Korgaonkar – Biomedical Engineering Program 2011-2016
****Current:*** *Scientist-Immuno Neurology at Alector*
Awarded a 3-year predoctoral research fellowship from NJCBIR 2015-2018 $100,500.

PhD Rotation Student Mentorship:

1. Crisylle Blanton - Neuroscience, UCR 2021
2. Nina Juan-Singh - Biomedical Sciences UCR 2021
3. Andrew Huang - Biomedical Sciences UCR 2020
4. Laura Dovek - Biomedical Sciences UCR 2019
5. Susan Nguyen - Neuroscience, UCR 2018
6. Pamela Hirshberg- Rutgers Neuroscience 2018
7. John Palmieri- Rutgers MD/PhD 2017
8. Lucas Corrubia- Rutgers GSBS 2016
9. Ersilia Mirabelli- Rutgers GSBS 2016
10. Millie Swietek – Biomedical Engineering 2012-2013
11. Milad Afrasiabi-Rutgers GSBS 2014
12. Gokhan Ordek - Biomedical Engineering, NJMS/NJIT 2014
13. Matt Long – Biomedical Engineering, NJMS/NJIT 2012-2013
14. Akshata Korgaonkar – Biomedical Engineering Program NJMS/NJIT 2011-2012
15. 11. Matt Gielow- Graduate School of Biomedical Science, UMDNJ 2011
16. 12. Kurt Fakira – Graduate School of Biomedical Science- UMDNJ 2009

Masters Students:

1. Alexander Crane- Neuroscience Masters' Program, May 2014- 2015
Current: a MD candidate at Rutgers NJMS
2. Ogechukwu Chika-Nwosuh- Neuroscience Masters' Program 2013
Current: Pulmonary and Critical Care Fellow at Newark Beth Israel Medical Center
3. Archana Proddutur (MS) New Jersey Institute of Technology 2010

Current: Postdoctoral Fellow, UC-Irvine

4. Archana Jayakumar- Neuroscience Masters' Program 2011-2012
   **Current: Resident Physician at Atlantic Health System*

Undergraduate Students:

1. Agneesh Kumar, UC Riverside April -July 2021
   ***RISE Summer Fellowship**
2. Michael Aasaf, UC Riverside Sep 2020-present
   *Mentor B2B Exchange Student Internship Mentor Research Internship
3. Anh-Tho Nguyen, UC Riverside Sep 2020-present
4. Ernesto Gonzalez, UC Riverside April 2020-present
   ***RISE Summer Fellowship**
5. Prachi Kapadia, UC Riverside Feb 2020-May 2020
6. Fareed Rehman, UC Riverside May 2019-2020
   *Mentor for Capstone Project - UC Riverside
   **Current: MD Candidate Touro University, California*
7. Marcus Gutierrez, UC Riverside May 2019-2020
8. Andrea Terrance Raj, UC Riverside May 2019-2020
9. Ashley Dawson, UC Riverside Jan 2019-2020
   *Mentor for Capstone Project - UC Riverside
   ***2020 LURAP award by local members of the American Physiological Society (APS)** for presentations submitted to the 2020 UCR Undergraduate Research Symposium
10. Aayma Irfan, UC Riverside Jan 2019-2021
    *Capstone Research
    ***Awarded Honors Excellence in Research (HEIR) Scholarship** 2020-2021**Current:*
    **Accepted to UCR Medical School through Early Assurance Program, starting Fall 2022*
11. Yash Shah, TCNJ BS/MD March 2016-2017
12. Kruthi Kella, U Pitt 2015 2016
    *Thesis advisor
13. Samik Shah, TCNJ BS/MD July-Sep 2011

Research Assistants:

1. Erick Conrreras 2021-current
2. Aayma Irfan 2020-current
3. Dipika Sekar, MS 2017-2021
4. Ghazal Rashidi, MS NJMS 2016
   Current: MD Candidate San Antonio Tx
5. Jenieve Guevarra, BS, Columbia 2014-2016
   Current: Resident in Rehabilitation Medicine NJMS
6. Millie Swietek, MS, New Jersey Institute of Technology 2012-2014
   Current: PhD candidate at NJMS
7. Fatima S. Elgammal BS, New Jersey Institute of Technology 2011-2014
   Current: Resident in Surgery NJMS
8. Archana Proddutur, MS New Jersey Institute of Technology 2010-2011
   Current: Postdoctoral Fellow UC Irvine
9. Takahiro Ito, MS Rutgers 2009-2010
   Current: Senior Scientist II at Scorpion Therapeutics

Summer High School Interns:

1. Ananya Karthi, Woodbridge High School, Irvine June 2021
2. Aileen Wu, Princeton High School July-Aug 2016
3. Arielle Kasnetz July-Sep 2015
   Current: Recruiting Assistant at Lowenstein Sandler LLP
4. Aashna Reddy, Robbinsville High School July-Aug 2014

5. Vaishali Ravikumar, Stevens High School July-Sep 2014
   Current: MD Candidate at Rutgers New Jersey Medical School
6. Niyathi Chakrapani, Sammamish High, WA July-Aug 2014
7. Rashika Verma, Plainsboro High School July-Sep 2013
8. Anagha Prasanna, Union County Academy July-Sep 2013
9. Manny Rachikonda, Lawrence High School July-Sep 2012 July-Sep 2013
   Current: Software Developer at Infosys
10. Kruthi Kella, Ridgewood High School July-Sep 2012

Other Professional Mentorship

1. Mentor American Epilepsy Society Fellows Program – ad hoc 2020
2. Mentor, Society for Neuroscience Reviewer mentoring Program 2020- present

SERVICE TO THE COMMUNITY:

Riverside Scientific Community

1. Presentation at 2019 UCR STEM Faculty-Student Mixer
2. Presentation at 2019 Brain Awareness Day for High School Students
3. Reviewer 2019 Chancellor's Research Fellowship, UC Riverside
4. Presentation at 2018 Brain Awareness Day for High School Students
5. Reviewer 2018 Chancellor's Research Fellowship, UC Riverside

NJ Scientific Community

6. Career Panel 2017 Rutgers NJMS Postdoctoral Office, Newark, NJ
7. Career Panel 2014 Rutgers Annual Postdoctoral Appreciation Day Symposium, RWJMS-Rutgers, Piscataway, NJ
8. Poster Presentation Judge: 2014 Rutgers Annual Postdoctoral Appreciation Day Symposium, RWJMS-Rutgers, Piscataway, NJ
9. Poster Presentation Judge: 2012 Annual Postdoctoral Appreciation Day Symposium, RWJMS-Rutgers, Piscataway, NJ

MAJOR TEACHING EXPERIENCE:

Undergraduate Teaching (UC Riverside)

1. Cell Biology and Neuroscience CBNS 240
   Course Name: Topics in Research Rigor
   Date (s): Spring 2021

2. Cell Biology and Neuroscience CBNS 130L
   Course Name: Introduction to Brain Modeling Techniques (Lab)
   Date (s): Spring 2021

3. Cell Biology and Neuroscience CBNS 101
   Course Name: Cell Biology
   Date (s): Winter 2019, 2020, 2021 (100%) and Spring 2020 (50%)

4. NASC 093
   Course Name: Cell Biology Freshman Advising Seminar
   Date (s): Fall 2019

Graduate Teaching (New Jersey Medical School)

1. School: Graduate School of Biomedical Science
   Course Name: Advanced Topics in Immunology
   Lecture Title: Non-Immune functions of Immune mediators

Date: May 18, 2015

2. School: Graduate School of Biomedical Science
   Course Name: Molecular Physiology of Cell Communication
   Course #: CBNP 5036Q
   Lecture Title: Central Synapses: Physiology and Integration
   Date: Feb 25, 2013; Feb 24, 2014; Feb 23, 2015; Feb 17, 2016, Feb 20, 2017

3. School: Graduate School of Biomedical Science
   Course Name: Molecular Physiology of Cell Communication
   Lecture Title: Membranes and Channels: Review of how they function.
   Date: Feb 5, 2013

4. School: Graduate School of Biomedical Science
   Course Name: Foundations of Neuroscience II
   Lecture Title: Cerebellum: Motor Coordination and the little brain
   Date (s): March 17, 2011; Feb 1, 2012; and March 20, 2013; March 17, 2014; May 19, 2015, May 17, 2016

5. School: Graduate School of Biomedical Science
   Course Name: Behavioral Cognitive and Clinical Neuroscience
   Lecture Title: Epilepsy and Seizure Disorders
   Date (s): April 25, 2012, May 28, 2013

6. School: Graduate School of Biomedical Science
   Course Name: Behavioral Cognitive and Clinical Neuroscience
   Lecture Title: Computational neuroscience
   Date (s): April 10, 2012, May 28, 2013, Dec 10, 2015; June 1, 2016

Medical School Teaching (New Jersey Medical School)

1. Lecture: Gross Brain Lab I
   Course Name: Second Year Neuro Behavioral Science
   Date: Jan 24, 2017

2. Lecture: Neurotransmitters
   Course Name: Second Year Neuro Behavioral Science
   Date: Jan 24, 2017

3. Lecture: Gross Brain Lab I
   Course Name: Mind Brain and Behavior
   Lecture Title: Gross Brain I: Surface Anatomy
   Date(s): April 2010, April 2011, April 2012, April 2013, April 2014, May 2015

4. Lecture: Gross Brain Lab II
   Course Name: Mind Brain and Behavior
   Lecture Title: Gross Brain II: Gray Matter
   Date(s): April 2010, April 2011, May 2012, April 2013

5. Lecture: Gross Brain Lab III
   Course Name: Mind Brain and Behavior
   Lecture Title: Gross Brain III: Pathways
   Date: May 2010, May 2011, May 15, 2012

GRANT SUPPORT:
ACTIVE

Principal Investigator (PI and CO-PI)

1. Funding Organization: National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS)
PI: Santhakumar Role: PI
Title: Contribution of innate immune receptors to neurological dysfunction after traumatic brain injury: Mechanisms and therapeutic implications
Award Number: 2R01NS097750-06
Inclusive Dates: July 1, 2016-April 30, 2026
Award Amount: 2016-2021: $1,740,809.00
2021-2026: $2,305,500.00

2. Funding Organization: National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS)
PI: Santhakumar Role: PI
Title: Inhibitor Network Plasticity in Neurological Disease
Award Number: 5 R01 NS069861-11
Inclusive Dates: Oct 2011- June 2023
Award Amount: Oct 2011- 2016 + NCE to June 2018: $1,667,540.00
Jul 2018 - June 2023: $1,700,000.00

Co-Investigator: N/A

Mentor on Training Grants

1. Funding Organization: National Institute of Health (NIH)
PI: Buckley-Nieves Role: Mentor
Title: Integration of Research, Mentoring and Professional Skill Building for Master's Students to Bridge to a Ph.D. Program In Biomedical Science (B2D)
Award Number: T32GM137812
Inclusive Dates: Aug 2021- July 2026

2. Funding Organization: National Institute of Health (NIH)
PI: Ford, Isaac Role: Mentor
Title: Riverside Bridges to the Baccalaureate Program (B2B)
Award Number: R25GM119975
Inclusive Dates: Aug 2017- May 2022

3. Funding Organization: National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS)
PI: Baram Role: Mentor
Title: Epilepsy Research Training Program (UC Irvine)
Award Number: 5T32NS045540-18
Inclusive Dates: July 2019- June 2024

Mentor or Co-Mentor on Extramural Grants Awards

1. Funding Organization: Department of Defense, Idea Development - Research Partnership - 1
PI: Subramanian Role: Mentor
Title: Role of TLR4-Driven MMP-9 Activity in Functional Deficits and Epileptogenesis in Hippocampal Dentate Gyrus Following Traumatic Brain Injury

Award Number: EP200042
Inclusive Dates: July 2021-June 2024
Award Amount: $466,000.00

2. Funding Organization: National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS)
PI: Tiwari-Woodruff Role: Co-mentor
Title: Diversity Training Supplement, Demyelination is coupled to neuronal hyperexcitability leading to seizures
Award Number: R01NS111552-03S1
Inclusive Dates: July 2021-Aug 2025
Award Amount: $213,043.00

3. Funding Organization: National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS)
PI: Dovek Role: Mentor
Title: Cellular and circuit mechanisms of hippocampal dentate engram formation and seizure-induced alterations
Award Number: F31NS124290
Inclusive Dates: July 2021-Aug 2024
Award Amount: $138,000.00

4. Funding Organization: National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS)
PI: Nguyen Role: Mentor
Title: Role of TLR4 in Neuronal Excitability and Memory Function
Award Number: F31NS120620
Inclusive Dates: July 2021-Feb 2024
Award Amount: $115,000.00

5. Funding Organization: National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS)
PI: Hirshberg Role: Co-Mentor
Title: Glucose inhibited neurons in the control of brown and white adipose tissue
Award Number: F31DK126433-01
Inclusive Dates: July 2020-June 2023
Award Amount: $111,000

6. Funding Organization: National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS)
PI: Corrubia Role: Mentor
Title: The Role of Adult-Born Neurons in Traumatic Brain Injury Induced Neuropathology
Award Number: 5F31NS110220 - 02
Inclusive Dates: September 2019-August 2022
Award Amount: $111,000

PENDING

Principal Investigator (PI and CO-PI):

1. Funding Organization: National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS)
PI: Binder Role: Co-PI
Title: Multielectrode array analysis of posttraumatic epileptogenesis
Award Number: R01NS125691
Inclusive Dates: Oct 2021- Sep 2026

Co-Investigator: N/A

Mentor or Co-Mentor on Extramural Grants Awards:

1. Funding Organization: National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS)
   PI: Zhang Role: Co-Mentor (Primary Mentor: Zagha)
   Title: Probing Cortical Top-down Modulations of Sensory Processing As Changes in Excitatory-Inhibitory Spike Modulation (F31 Zhaorang Zhang)
   Inclusive Dates: April 2022-March 2024
   Award Amount: $94,864.00

Mentor on Training Grants

1. Funding Organization: California Institute for Regenerative Medicine (CIRM)
   PI: Talbot Role: Participating Core Faculty Mentor
   Title: TRANSCEND – Training Program to Advance Interdisciplinary Stem Cell Research, Education, and Workforce Diversity
   Inclusive Dates: Jan 2022-Dec 2027
   Funds requested: $4,993,000.00

2. Funding Organization: Department of Education
   PI: Razak Role: Participating Faculty Mentor
   Title: Graduate Assistance in Areas of National Need (GAANN)
   Inclusive Dates: Jan 2022-Dec 2027
   Funds requested: $4,993,000.00

COMPLETED

Principal Investigator (PI and CO-PI)

1. Funding Organization: NJCBIR
   PI: Santhakumar Role: PI
   Award Type: Individual Research Grant
   Title: Contribution of early exuberant post-traumatic neurogenesis to long-term functional deficits after concussive brain injury
   Grant Number: CBIR16IRG017
   Inclusive Dates: June 1, 2016-May 31, 2019 NCE to May 31, 2021
   Award Amount: $553,000

2. Funding Organization: NJCBIR
   PI: Chandra Role: Dual-PI
   Award Type: Pilot Grant
   Title: Divergent mechanisms of early cellular injury in high-rate blast and slow impact TBI determine long-term neurological outcomes
   Grant Number: CBIR17PIL020
   Inclusive Dates: Jan 2017-Dec 2019 NCE Dec 2020
   Award Amount: $180,000

3. Funding Organization: New Jersey Governor's Council for Medical Research and Treatment of Autism, Pilot Project
   PI: Santhakumar, Role: Dual-PI
   Title: Developmental Dysregulation of Inhibitory Neuron Migration as an Experimental Model to Analyze Mechanisms of Pediatric Autism-Epilepsy Syndromes
   Inclusive Dates: July 1, 2016-June 31, 2019 NCE to June 30, 2021
   Award Amount: $400,000

4. Funding Organization: Kirby Foundation
   PI: Townes-Anderson Role: Co-PI
   Title: Synaptic and network plasticity following neurological insults
   Award Number: N/A
   Award Amount: $50,000 (Total)

5. Funding Organization: Rutgers Brain Health Initiative
   PI: Chandra Role: Dual-PI
   Award Type: Pilot Grant
   Title: Biomechanical differences in injury rate determine neurological outcomes after blast and impact TBI
   Grant Number: NA
   Inclusive Dates: Dec 2015-Nov 2016
   Award Amount: $40,000

6. Funding Organization: Rutgers Brain Health Initiative
   PI: Santhakumar Role: Dual-PI
   Award Type: Pilot Grant
   Title: Role of Semaphorin-Neuropilin signaling in interneuronal dysfunction in epilepsy
   Grant Number: NA
   Inclusive Dates: Dec 2015-Nov 2017
   Award Amount: $40,000

7. Funding Organization: Kirby Foundation
   PI: Townes-Anderson Role: Co-PI
   Title: Synaptic and network plasticity following neurological insults
   Award Number: N/A
   Inclusive Dates: June 2015-May 2016
   Award Amount: $25,000 for Santhakumar Subproject

8. Funding Organization: New Jersey Commission on Brain Injury Research
   PI: Santhakumar, Role: PI
   Title: Role of Toll-Like Receptors in Neuronal Dysfunction after Brain Injury: Mechanisms and Translational Potential
   Grant Number: CBIR14IRG024
   Inclusive Dates: June 2014-May 2017
   Award Amount: $534,981

9. Funding Organization: New Jersey Commission on Brain Injury Research (Multi-Investigator Award)
   PI: Pfister, New Jersey Institute of Technology Role: Co-PI
   Title: Effect of mild, high rate and repetitive brain injury on hippocampal circuits
   Award Number: CBIR11PJT003
   Inclusive Dates: June 2011-May 2014, NCE until Dec 2015
   Award Amount: $1,639,522 total $450,000 (direct cost for Santhakumar sub-project)

10. Funding Organization: Kirby Foundation
    PI: Townes-Anderson Role: Co-PI
    Title: Synaptic and network plasticity following neurological insults
    Award Number: N/A
    Inclusive Dates: June 2013-May 2014
    Award Amount: $37,500 for Santhakumar Subproject

11. Funding Organization: Citizens United for Research in Epilepsy (CURE) Foundation
    PI: Santhakumar Role: PI
    Title: Modulation of toll-like receptors to decrease post-traumatic epileptogenicity
    Award Number: CF 259051

Inclusive Dates: July 2011-May 2014 NCE until May 2015
Award Amount: $250,000

12. Funding Organization: Epilepsy Foundation
PI: Santhakumar Role: PI
Title: Proton Modulation of Perisomatic Interneurons in Epilepsy
Award Number: N/A
Inclusive Dates: Jan 2010-Dec2010
Award Amount: $50,000

13. Funding Organization: New Jersey Commission on Brain Injury Research
PI: Santhakumar Role: PI
Title: Tonic GABAergic Inhibition after Traumatic Brain Injury: Role in Epileptogenicity
Award Number: 09-003-BIR1
Inclusive Dates: June 2009-May 2013
Award Amount: $451,124

Co-Investigator and Collaborator

1. Funding Organization: National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS)
PI: Sahin Role: Co-Investigator
Title: Underlying Mechanisms of Cerebellar tDCS
Award Number: 5R21NS101386-02
Inclusive Dates: Jan 2018-Dec 2019
Award Amount: $450,000.00

2. Funding Organization: New Jersey Commission on Brain Injury Research Grant
PI: Chitravanshi, Neurology-New Jersey Medical School Role: Co-Investigator
Title: Traumatic Brain Injury: Functional Alterations in the Brain Cardiovascular Regulatory Areas
Inclusive Dates: June 2015-2019
Award Amount: $ 540,000

3. Funding Organization: New Jersey Commission on Brain Injury Research Grant
PI: Kannurpatti, Radiology-New Jersey Medical School Role: Co-Investigator
Title: Mitochondrial Facilitation Treatment in Mild Traumatic Brain Injury and its Integrated Translatable Monitoring
Award Number: CBIR15IRG10
Inclusive Dates: June 2015-2019
Award Amount: $ 514,057

4. Funding Organization: New Jersey Commission on Brain Injury Research Grant
PI: Calderon, Neurology and Neurosciences, New Jersey Medical School Role: Co-Investigator
Title: Enhancement of Neural Stem Cell Survival and Transplantation Efficacy by Docosahexaenoic Acid and its Derivative NPD1 in Traumatic Brain Injury
Award Number: CBIR13IRG015
Inclusive Dates: June 2013-May 2016
Award Amount: $539,733

5. Funding Organization: New Jersey Commission on Brain Injury Research, Pilot Project,
PI: Kannurpatti, Radiology-New Jersey Medical School Role: Co-Investigator
Title: Mitochondrial function and translational markers of reorganization in Traumatic Brain Injury
Award Number: CBIR12PIL028
Inclusive Dates: June 2012-May 2014 NCE May 2015
Award Amount: $180,000

Mentor on Extramural Grants Awards

1. Funding Organization: American Epilepsy Society
   PI: Dovek Role: Mentor
   Title: Circuit mechanisms of dentate engram disruption in acquired epilepsy
   Award Number: Declined
   Inclusive Dates: July 2021-June 2022

2. Funding Organization: American Epilepsy Society
   PI: Nguyen Role: Mentor
   Title: TLR4 Modulation of Dentate Inhibition and its Effect on Pattern Separation
   Award Number: 695548
   Inclusive Dates: July 2020-June 2021
   Award Amount: $30,000

3. Funding Organization: National Institute of Health (NIH) - National Institute of Neurological Disorders and Stroke (NINDS)
   PI: Baram (Awardee) Role: Co-I/Mentor
   Title: The Role of Adult-Born Neurons in Traumatic Brain Injury Induced Neuropathology
   Award Number: T32NS045540
   Inclusive Dates: September 2019-August 2022
   Award Amount: $111,000

4. Funding Organization: New Jersey Commission on Brain Injury Research, Pre-doctoral Fellowship
   PI: Corrubia Role: Mentor
   Title: The Role of Adult-Born Neurons in Traumatic Brain Injury Induced Neuropathology
   Award Number: CBIR19FEL014
   Inclusive Dates: April 2019-March 2022 (Relinquished September 2019)
   Award Amount: $100,500

5. Funding Organization: New Jersey Commission on Brain Injury Research, Pre-doctoral Fellowship
   PI: Korgaonkar Role: Mentor
   Title: Differential toll-like receptor 4 modulation of dentate excitability in the normal and injured brain
   Inclusive Dates: June 2015-May 2018
   Award Amount: $100,500

2. Funding Organization: Epilepsy Foundation, Postdoctoral Fellowship
   PI: Jiandong Yu, Role: Mentor
   Title: Plasticity of perisomatic interneurons in Epilepsy
   Award Number: N/A
   Inclusive Dates: Jan 2012-Dec2012
   Award Amount: $50,000

3. Funding Organization: New Jersey Commission on Brain Injury Research, Postdoctoral Fellowship
   PI: Akshay Gupta, Role: Mentor
   Title: Role of Semilunar Granule Cells in Post-traumatic Hyperexcitability
   Award Number: 11-3223-BIR-E-O
   Inclusive Dates: June 2011-May 2013
   Award Amount: $209,808

ADMINISTRATIVE RESPONSIBILITIES:

- Vice-Chair, Department of Molecular Cell and Systems Biology, UC Riverside July 2021-Present
- Co-Director for NJMS Biomedical Engineering Track Jan 2016 – 2020

- Management and maintenance of the Neuroscience Departmental Imaging Core Neurolucida/StreoInvestigator System Jan 2016 – 2020

PUBLICATIONS: H-index: 23 (based on Google Scholar), I-10: 35

Journal Articles (JA)

1. **Santhakumar V**, Bender R, Frotscher M, Ross ST, Hollrigel GS, Toth Z, Soltesz I (2000) Granule cell hyperexcitability in the early post-traumatic rat dentate gyrus: the 'irritable mossy cell' hypothesis. *Journal of Physiology* (London) 524 Pt 1: 117-134. Citations: 203

2. **Santhakumar V**[#], Ratzliff AD, Jeng J, Toth K, Soltesz I (2001) Long-term hyperexcitability in the hippocampus after experimental head trauma. *Annals of Neurology* 50: 708-717. [#]*Corresponding Author*. ***Published with an editorial focus.*** Citations: 246

3. Aradi I, **Santhakumar V**, Chen K, Soltesz I (2002) Postsynaptic effects of GABAergic synaptic diversity: regulation of neuronal excitability by changes in IPSC variance. *Neuropharmacology* 43: 511-522. Citations: 46

4. **Santhakumar V**[#], Voipio J, Kaila K, Soltesz I (2003) Post-traumatic hyperexcitability is not caused by impaired buffering of extracellular potassium. *Journal of Neuroscience* 23(13):5865-76. [#]*Corresponding Author.* Citations: 38

5. Ratzliff AH, Howard A, **Santhakumar V**, Osapay I, Soltesz I (2004) Rapid Deletion of Mossy Cells Does Not Result in a Hyperexcitable Dentate Gyrus: Implications for Epileptogenesis. *Journal of Neuroscience* 24(9):2259 –2269. Citations: 123

6. Aradi I*, **Santhakumar V***[#], Soltesz I (2004) Simple Rules Govern the Impact of Heterogeneous Perisomatic IPSC Populations on Pyramidal Cell Firing Rates. *Journal of Neurophysiology* 91: 2849–2858. * *Equal Contribution* [#]*Corresponding Author.* Citations: 24

7. **Santhakumar V**[#], Aradi I, Soltesz I (2005) Role of Mossy Fiber Sprouting and Mossy Cell Loss in Hyperexcitability: A Network Model of the Dentate Gyrus Incorporating Cell Types and Axonal Topography. *Journal of Neurophysiology* 93(1):437-53. [#]*Corresponding Author.* Citations: 246

8. **Santhakumar V**, Hanchar HJ, Wallner M, Olsen RW & Otis TS (2006) Contributions of the $GABA_A$ Receptor Subunit α6 to Phasic and Tonic Inhibition Revealed by a Naturally Occurring Polymorphism in the α6 Gene. *Journal of Neuroscience* 26(12):3357 –3364. Citations: 94

9. Dyhrfjeld-Johnsen J*, **Santhakumar V*,** Morgan R, Huerta R, Tsimring L, Soltesz I (2007) Topological Determinants of Epileptogenesis in Large-Scale Structural and Functional Models of the Dentate Gyrus Derived from Experimental Data. *Journal of Neurophysiology* 97(2):1566-1587. * *Equal Contribution.* Citations: 232

10. **Santhakumar V**, Wallner M, Otis TS, (2007) Ethanol acts Directly on Extrasynaptic Subtypes of GABAa Receptors to Increase Tonic Inhibition. *Alcohol* 41(3):211-221. Citations: 170

11. **Santhakumar V**, Jones RT., Mody I (2010) Developmental Regulation and Neuroprotective Effects of Striatal Tonic GABAa Currents. *Neuroscience* 167(3):644-55. Citations: 87

12. Gupta A, Elgammal F, Proddutur A, Shah S, **Santhakumar V**[#] (2012) Decreased Tonic Inhibition Contributes to Increase in Dentate Semilunar Granule Cell Excitability after Brain Injury. *Journal of Neuroscience* 32(7): 2523-2537. [#]*Corresponding Author.* Citations: 100
Highlighted as key research article in Psychology Progress.

13. Yu J*, Proddutur A*, Elgammal F, Ito T, **Santhakumar V**[#]. (2013) Depolarizing shift in GABA reversal limits network effects of enhanced basket cell tonic GABA currents after status epilepticus. *Journal of Neurophysiology*. 109(7):1746-63. [#]*Corresponding Author * Equal Contribution*. Highlighted as key research article in Global Medical Discovery. Citations: 52

14. **Santhakumar V**[#], Meera P, Karakossian MK, Otis TS, (2013) A reinforcing circuit action of extrasynaptic $GABA_A$ receptor modulators in the cerebellum. *PLoS ONE* 8(8): e72976. doi:10.1371/journal.pone.0072976 [#]*Corresponding Author*. Citations: 13

15. Proddutur A, Yu J, Elgammal FS, **Santhakumar V**[#]**.** (2013) Seizure-induced plasticity of fast-spiking basket cell GABA currents modulates frequency and coherence of gamma oscillation in network simulations. *Chaos:* Dec;23(4):046109 [#]*Corresponding Author*. Citations: 14

16. Neuberger EJ, Abdul-Wahab R, Jayakumar A, Pfister BJ, **Santhakumar V**. (2014) Distinct effect of impact rise times on immediate and early neuropathology after brain injury in juvenile rats. *Journal of Neuroscience Research* Oct;92(10):1350-61, DOI: 10.1002/jnr.23401. Citations: 24

17. Ordek G, Proddutur A, **Santhakumar V**, Pfister BJ, Sahin M (2014) Electrophysiological Monitoring of Injury Progression in the Rat Cerebellar Cortex. *Frontiers in Systems Neuroscience* Oct 9;8:197. DOI: 10.3389/fnsys.2014.00197. eCollection 2014. Citations: 10

18. Li Y*, Korgaonkar A*, Swietek B , Wang J, Elgammal FS, Elkabes, S, **Santhakumar V**. (2015) Toll-like receptor 4 augments mossy cell AMPA currents and contributes to NMDA receptor-independent increase in dentate excitability after brain injury. *Neurobiology of Disease.* Feb;74:240-53 DOI: 10.1016/j.nbd.2014.11.021* *Equal Contribution*. Citations: 45

19. Pang KCH, Sinha S, Avcu P, Roland JJ, Nadpara N, Pfister BJ, Long M, **Santhakumar V**, Servatius RJ. (2015) Long-lasting suppression of acoustic startle response following mild traumatic brain injury. *Journal of Neurotrauma.* 32:801–810 (June 1) DOI:10.1089/neu.2014.3451. Citations: 20

20. Wahab RA, Neuberger EJ**,** Lyeth BG, **Santhakumar V**, Pfister BJ (2015) Percussion Injury Device for the Precise Control of Injury Parameters. *Journal of Neuroscience Methods.* Jun 15;248:16-26. DOI: 10.1016/j.jneumeth.2015.03.010. Citations: 18

21. Yu J, Swietek B, Proddutur A, **Santhakumar V** (2015) Dentate total molecular layer interneurons mediate cannabinoid-sensitive inhibition. *Hippocampus.* Jan 20. DOI: 10.1002/hipo.22419. Citations: 15

22. Yu J, Proddutur A, Swietek B, Elgammal F, **Santhakumar V** (2015) Functional reduction in Cannabinoid-Sensitive Heterotypic Inhibition of Dentate Basket Cells in Epilepsy: Impact on Network Rhythms. *Cerebral Cortex.* 26(11):4229-4314. DOI: 10.1093/cercor/bhv199. Citations: 24

23. Swietek B, Gupta A, Proddutur A, **Santhakumar V** (2016). Immunostaining of biocytin-filled and processed sections for neurochemical markers. *JoVE.* Citations: 13

24. Murugan M, **Santhakumar V**, Kannurpatti S (2016) Activation-induced spatiotemporal cerebral blood flow changes and behavioral deficit after mTBI in immature rats can be favorably altered by facilitating mitochondrial calcium uptake. *Frontiers in Systems Neuroscience.* Mar 8;10:19. DOI: 10.3389/fnsys.2016.00019. Citations: 14

25. Yu J, Swietek B, Proddutur A, **Santhakumar V** (2016). Dentate cannabinoid-sensitive interneurons undergo unique and selective strengthening of mutual synaptic inhibition in experimental epilepsy. *Neurobiology of Disease.* May;89: 23-35. DOI: 10.2016/j.nbd.2016.01.013.

26. Abdul-Muneer PM, Long M, Conte AA, **Santhakumar V**, Pfister BJ (2016) Blockade of Ca2+ influx by tetrodotoxin ameliorates caspase-1 dependent neuroinflammation and cell death in traumatic brain injury. *Molecular Neurobiology.* DOI 10.1007/s12035-016-9949-4. Citations: 27

27. Neuberger EJ, Swietek B, Corrubia L, Prasanna A, **Santhakumar V** (2017). Enhanced Dentate Neurogenesis after Brain Injury Undermines Long-Term Neurogenic Potential and Promotes Seizure Susceptibility. *Stem Cell Reports.* 9 (3), 972-984. Citations: 53

28. Abdul-Muneer P, Conte AA, Haldar D, Long M, **Santhakumar V**, Overall, CM, Pfister BJ (2017) Traumatic brain injury induced matrix metalloproteinase2 cleaves CXCL12α (stromal cell derived factor 1α) and causes neurodegeneration *Brain Behavior and Immunity*. DOI: 10.1016/j.bbi.2016.09.002. Citations: 28

29. Chitturi J, Li Y, **Santhakumar V**, Kannurpatti SS (2018) Early behavioral and metabolomic change after mild to moderate traumatic brain injury in the developing brain. *Neurochem. Int.* Aug 9;120:75-86. DOI: 10.1016/j.neuint.2018.08.003.

30. Parent M, Li Y, **Santhakumar V**, Hyder F, Sanganahalli BG, Kannurpatti SS (2019) Alterations of parenchymal microstructure, neuronal connectivity and cerebrovascular resistance at adolescence following mild to moderate traumatic brain injury in early development. *J. Neurotrauma* DOI: 10.1089/neu.2018.5741

31. Chitturi J, Li Y, **Santhakumar V**, Kannurpatti SS (2019) Consolidated biochemical profile of subacute stage traumatic brain injury in early development *Frontiers in Neuroscience.* 2019;13:431. doi: 10.3389/fnins.2019.00431. eCollection 2019

32. Chitturi J, Li Y, **Santhakumar V**, Kannurpatti SS (2018) Beneficial effects of Kaempferol after developmental TBI is through protection of mitochondrial function, oxidative metabolism and neural viability. *J. Neurotrauma* Apr 15;36(8):1264-1278. doi: 10.1089/neu.2018.6100.

33. Zanin JP, Verpeut, J, Li Y, Shiflett M, Wang S, **Santhakumar V,** Friedman WJ (2019), Absence of the p75 neurotrophin receptor from developing cerebellar granule cell progenitors leads to dysregulated proliferation, altered circuitry and increased anxiety. *J Neurosci.* Nov 13;39(46):9119-9129. doi: 10.1523/JNEUROSCI.0990-19.2019.

34. Parent M, Chitturi J, **Santhakumar V**, Hyder F, Sanganahalli BG, Kannurpatti SS (2020) Kaempferol treatment after TBI during early development mitigates brain parenchymal microstructure and neural functional connectivity deterioration at adolescence. *J. Neurotrauma* Apr 1;37(7):966-974. doi: 10.1089/neu.2019.6486. Epub 2020 Feb 6.

35. Korgaonkar AA, Li Y, Sekhar D, Subramanian D, Guevarra J, Palotti A, Singh S, Kella K, Subramanian D, Swietek B, Elkabes S, **Santhakumar V** (2020), TLR4 signaling in neurons enhances calcium permeable AMPAR currents and drives post-traumatic epileptogenesis. *Annals of Neurology, Apr;87(4):497-515.* DOI: 10.1002/ANA.25698.

36. Korgaonkar AA, Nguyen S, Sekhar D, Subramanian D, Li Y, Guevarra J, Pang KCH, **Santhakumar V** (2020). Distinct cellular mediators drive the Janus Faces of Toll-like Receptor 4 regulation of network excitability which impacts working memory performance after brain Injury. *Brain Behav Immun.* Apr 4:S0889-1591(19)31078-5. DOI: 10.1016/j.bbi.2020.03.035.

37. Gupta A, Subramanian D, Proddutur A, Elgammal FS, Shah Y, **Santhakumar V** (2020). Dendritic Morphology and Inhibition Distinguish Dentate Semilunar Granule Cells through Postnatal Development: Implications for Heightened Inhibitory Regulation During Adolescence. *Brain Structure and Function*. Dec;225(9):2841-2855. DOI: 10.1007/s00429-020-02162-y.

38. Chitturi J, **Santhakumar V**, Kannurpatti SS (2021) Traumatic brain injury metabolome and mitochondrial impact after early stage Ru360 treatment. *Mitochondrion*, 57, 192–204.

39. Eisenberg C*,Subramanian D*, Afrasiabi M*, Ziobro P, DeLucia J, Hirschberg PR, Shiflett MW, **Santhakumar V**#, Tran T# (*in Press*), Reduced Hippocampal Inhibition and Enhanced Autism-Epilepsy Comorbidity in Mice Lacking Neuropilin 2. *Equal Contribution, #Corresponding Authors. *Nature Translational Psychiatry.* bioRxiv 2021.06.11.448071; DOI: 10.1101/2021.06.11.448071

40. Ubina, T., Vahedi-Hunte, T., Agnew-Svoboda, W., Wong, W., Gupta, A., **Santhakumar, V**., Riccomagno, M. M., (*Accepted*) ExBoX: a simple Boolean exclusion strategy to drive expression in neurons. *Journal of Cell Science*. bioRxiv: 10.1101/2020.07.28.224691v2

Journal Articles (Submitted/ Preprint)

1. Afrasiabi M, Gupta, A., Xu, K. H., Swietek B, **Santhakumar V** (*Revision under review for Journal of Neuroscience*), Differential Contribution of Parvalbumin Interneurons to "Sustain-Pedal" feedback inhibition of Dentate Gyrus Granule Cells and Semilunar Granule Cells. https://www.biorxiv.org/content/10.1101/2021.05.18.444756v1

2. Gupta, A., Proddutur, A., Elgammal, F.S., **Santhakumar V** (*submitted*), Long-term effects of moderate concussive brain injury during adolescence on synaptic and tonic GABA currents in dentate projection neurons. bioRxiv 2021.08.15.456415; DOI: 10.1101/2021.08.15.456415

Conference And Symposia Proceedings

1. Abdul-Wahab R, Swietek B, Mina S, Sampath S, **Santhakumar V**, Pfister BJ (2011) Precisely controllable traumatic brain injury devices for rodent models. *Bioengineering Conference (NEBEC)*, 2011 IEEE 37th Annual Northeast, 1-2. Citations: 2

2. Swietek B, **Santhakumar V**, Pfister BJ. (2012) Table-top air pressure-driven shock tube to induce a blast traumatic brain injury. *Bioengineering Conference (NEBEC)*, 2012 38th Annual Northeast, 51-52.

Books Chapters

1. **Santhakumar V** (2008), Modeling mossy cell loss and mossy fiber sprouting in epilepsy in: Computational Neuroscience in Epilepsy edited by Soltesz I and Staley K.J. *Academic Press*. 89-111. Citations:

2. Veerasammy S, Kumari E, Goodus MT, Neuberger EJ, **Santhakumar V** and Levison SW (2017) Consequences of inflammation within neural stem cell niches on development and regeneration in the immature brain. *2nd edition of the Frontiers in Stem Cell and Regenerative Medicine Research E-Book*, edited by Drs. Atta-Ur-Rahman and Anjum. Vol. 7, 43-91

Review Articles

1. Ratzliff AH, **Santhakumar V**, Howard A, Soltesz I (2002) Mossy cells in epilepsy: rigor mortis or vigor mortis? *Trends in Neuroscience* 25: 140-144. Citations: 170

2. Chen K, Aradi I, **Santhakumar V**, Soltesz I (2002) H-channels in epilepsy: new targets for seizure control? *Trends in Pharmacological Sciences* 23: 552-557. Citations: 50

3. **Santhakumar V** and Soltesz I (2004) Heterogeneity on the Move: Plasticity of Interneuronal Species Diversity and Parameter Variance in Neurological Diseases. *Trends in Neuroscience* 27(8):504-10. Citations: 43

4. Morgan R, **Santhakumar V**, Soltesz I (2007), Modeling the Dentate Gyrus In: The Dentate Gyrus edited by Scharfman H. Elsevier press. Progress in Brain Research 163C:639-658. Citations: 42

5. Neuberger EJ, Gupta A, Subramanian D, Korgaonkar AA, **Santhakumar V** (2017). Converging early responses to brain injury pave the road to epileptogenesis. *J. Neurosci Res.* DOI: 10.1002/jnr.24202. Citations: 11

6. Hamilton, K. A., & **Santhakumar, V**. (2020). Current ex Vivo and in Vitro Approaches to Uncovering Mechanisms of Neurological Dysfunction after Traumatic Brain Injury. Current Opinion in Biomedical Engineering. (Invited) https://doi.org/10.1016/j.cobme.2020.05.001

Commentary

1. Proddutur A, **Santhakumar V** (2015). Marching towards a seizure: Spatio-temporal evolution of preictal activity. *Epilepsy Currents Invited Commentary*. Sep-Oct; 15(5):267-8. DOI: 10.5698/1535-7511-15.5.267.

2. Proddutur A, **Santhakumar V** (2016). Fingerprints of interictal spikes: Can imprints deliver a verdict on their role in epilepsy? *Epilepsy Currents Invited Commentary* Jan-Feb;16(1):41-2. DOI: 10.5698/1535-7597-16.1.41.

3. Gupta A, **Santhakumar V** (2016). Illuminating the role for chloride dysregulation in network activity *Epilepsy Currents Invited Commentary*, Jul-Aug;16(4):258-60. doi: 10.5698/1535-7511-16.4.258

4. Subramanian D, **Santhakumar V** (*2017*). Taming the beast: Breaking the unpredictability of seizures. *Epilepsy Currents Invited Commentary,* May-Jun;17(3):174–176.

5. Gupta A, **Santhakumar V** (2017). Reefer to the Rescue: The Dope on Cannabidiol as a Multi-Symptom Panacea for Dravet Syndrome. *Epilepsy Currents Invited Commentary*, Mar-Apr;18(2):118-120. doi: 10.5698/1535-7597.18.2.118.

6. Subramanian D, **Santhakumar V** (*2019*). Goldilocks zone of ictal onset: Partially recovered synapses provide the kindling to fuel ictal activity. *Epilepsy Currents Invited Commentary* DOI: 10.1177/1535759719869670

7. Corrubia L, **Santhakumar V** (*2019*). Born to be wild: A case for targeting ectopic adult born granule cells for seizure control. *Epilepsy Currents Invited Commentary,20(1), 57–60.*

8. Nguyen, S., & **Santhakumar, V**. (2020). From Plugging the Dam to Fueling the Firing: Platelets Breach the Barrier to Seize the Brain. *Epilepsy Currents Invited Commentary,*20(5), 300–302.

INVITED SPEAKER:

A. Scientific:

2021 Cell-type specific alteration in hippocampal dentate interneuronal circuits in acquired epilepsy. Univ of California, Irvine, CA

2021 Moderator, Breakout session on Animal Models of epilepsies NIH/NINDS Curing the Epilepsies 2021. NIH

2020 Invited Speaker, Investigator Workshop on Neurogenesis. Fast and Furious: Accelerated Maturation of Adult Born Granule Cells after Traumatic Brain Injury, 2020 American Epilepsy Society Meeting, Virtual

2020 Distinguished Speaker, International Symposium for Networking in Neuroscience 2020, Physiological Analysis of Inhibitory Circuit Plasticity in Epilepsy

2021 Converging Early Responses to Brain Insults Pave the Road to Epilepsy. UCR Biomedical Sciences Seminar, Riverside, CA

2019 Janus-Faced Effects of TLR4 on Hippocampal Dentate Excitability and their Long-Term Impact on Network Function After Traumatic Brain Injury. Univ of Virginia, Charlottesville, VA

2019 Speaker Spring Hippocampal Research Conference, Taormina, Sicily

2019 Role of Immune Regulation of Neuronal Excitability in Acquired Epilepsy, GCNI symposium, UC Riverside.

2018 Immune Regulation of Synaptic Plasticity in Acquired Epilepsy. Iowa State University, Ames, Iowa

2018 EpiCenter Symposium, Immune Regulation of Synaptic Plasticity in Acquired Epilepsy. University of California, Irvine CA

2017 Villany Neuroscience Workshop, How Seizures Modify Interneuronal Inhibition, Villany Hungary

2017 Glial-Neuronal Interactions in Epileptogenesis at the American Society for Neurochemistry (ASN)Meeting in Little Rock, AK

2016 Discussion Leader for session on Pathological Circuit Function in Epilepsy, Gordon Conference on Epilepsy and Neuronal Synchronization , Girona, Spain (*Invited Speaker at International Conference*)

2016 Epi Symposium presentation, Role of inhibition and inflammation in epilepsy, August 2016. University of California, Irvine CA

2016 Role of inhibition and inflammation in Acquired Epilepsies. August 2016, University of California, Riverside, CA

2016 Grand Rounds, Role of inhibition and inflammation in dentate network dysfunction in injury and epilepsy. July 2016, Cedars-Sinai Hospital, Los Angeles CA

2016 Invited seminar on Role of neuroimmune plasticity in posttraumatic epilepsy, National Neurotrauma Conference, Taormina, Lexington, KY

2016 Data Blitz Presentation: Early increase in neurogenesis after brain injury precipitates long-term decline in neurogenic potential. National Neurotrauma Conference, Lexington, KY

2016 Role of inhibition and inflammation in dentate network dysfunction in injury and epilepsy. Western University of Health Sciences, Pomona, CA

2016 Inhibition and Inflammation in epileptogenesis, Rutgers University Women in Neuroscience Seminar Series, Rutgers University, New Brunswick, NJ

2015 Moderator, Investigator Workshop on Immune and Non-canonical roles of inflammatory mediators in epilepsy, American Epilepsy Society Meeting, Philadelphia, PA

2015 Speaker Spring Hippocampal Research Conference, Taormina, Sicily (*Invited Speaker at International Conference*)

2015 Rutgers University, Federated Department of Biology, Newark, NJ

2014 Basic Mechanisms Special Interest Group, American Epilepsy Society, Seattle

2014 Gordon Conference on Epilepsy and Neuronal Synchronization (*Invited Speaker at International Conference*).

2014 College of Staten Island, CUNY. Department of Neuroscience.

2013 Spring Hippocampal Research Conference, Taormina, Sicily (*Invited Speaker at International Conference*)

2013 Digital Reconstruction of Neuronal Morphology: Recognizing the Breakthroughs. George Mason University, Krasnow Institute, Fairfax, VA (*Invited Speaker at International Conference*)

2013 Epilepsy Center of Excellence and Neurology Service, VA Puget Sound, University of Washington, WA

2012 University of Medicine and Dentistry of New Jersey, MD-PhD Program, Newark, NJ

2012 New Jersey Institute of Technology, Department of Biomedical Engineering, Newark, NJ

2011 Tufts University Neuroscience Seminar Series, Tufts University, Boston, MA

2010 University of Medicine and Dentistry of New Jersey, Department of Pharmacology and Physiology, Newark NJ.

2009 Drexel University College of Medicine, Department of Neurobiology and Anatomy, Philadelphia PA.

2009 New Jersey Institute of Technology, Department of Mathematical Biology, Newark, NJ.

2008 Texas A&M University, Department of Neuroscience and Experimental Therapeutics, College Station, TX

2007 George Mason University, Krasnow Institute, Fairfax, VA.

2007 University of Connecticut, Department of Physiology and Neurobiology, Storrs, CT.

2007 Basic Mechanisms Special Interest Group, American Epilepsy Society, Philadelphia

2007 Epilepsy Grand Rounds, Cleveland Clinical Foundation, Cleveland, OH

2006 Gordon Conference on Epilepsy and Neuronal Synchronization.

2005 Guest Lecturer, National Institute of Mental Health and Neurosciences, India, Invited by the Association of Physiologists and Pharmacologists of India.

2004 Speaker, Finnish Graduate School of Neuroscience and the Graduate School in Computational Methods of Information Technology, University of Helsinki Finland.

2001 Platform Presentation at the American Epilepsy Society Annual Meeting. Philadelphia.

B. Professional :

2019 Brain Awareness Day for High School Students at UC Riverside, Riverside CA
2019 Student Mixer at UC Riverside, Riverside CA
2019 Recruitment day 2019 at UC Riverside, Riverside CA
2018 Brain Awareness Day for High School Students at UC Riverside, Riverside CA
2014 Career Panel 2014 Rutgers Annual Postdoctoral Appreciation Day Symposium, RWJMS-Rutgers, Piscataway, NJ

2011 Postdoctoral Association University of Medicine and Dentistry of New Jersey - New Jersey Medical School, Newark

2009 Career Development Forum, MGPA, Office for Research Career Development, Massachusetts General Hospital, Boston MA