

Presentations and Publications

Invited Talks

2020	“The Neuroscience Gateway” at the Workshop on Tools and resources for developing and sharing models in computational neuroscience, CNS 2020; Virtual https://neuralensemble.github.io/Networks_SIG/CNS2020
2019	“Open Science Chain – A Novel Distributed Ledger-Based Framework for Protecting Integrity and Provenance of Research Data”, at the 2019 NSF Campus Cyberinfrastructure and Cybersecurity Innovation for Cyberinfrastructure PI Workshop. Minneapolis; https://www.thequilt.net/public-event/2019-nsf-campus-cyberinfrastructure-and-cybersecurity-innovation-for-cyberinfrastructure-pi-workshop-agenda/
2018	“Enabling computational modeling and big data analysis through Neuroscience Gateway”, at Neural Interfaces Conference, Minneapolis; https://www.neuralinterfacesconference.org/scientific-program
2017	“Neuroscience Gateway”, at the Neuro Informatics Framework (NIF) webinar; Virtual https://neuinfo.org/about/UpcomingWebinars/959

Peer-reviewed Journal Publications

2019	Ramon Martinez-Cancino, Arnaud Delorme, Dung Truong, Fiorenzo Artoni, Kenneth Kreutz-Delgado, Subhashini Sivagnanam, Kenneth Yoshimoto, Amitava Majumdar, Scott Makeig, “The Open EEGLAB Portal Interface: High-Performance Computing with EEGLAB,” <i>NeuroImage</i> , 2020, 116778, ISSN 1053- 8119, https://doi.org/10.1016/j.neuroimage.2020.116778 .
2019	Padraig Gleeson, Matteo Cantarelli, Boris Marin, Adrian Quintana, Matt Earnshaw, Sadra Sadeh, Eugenio Piasini, Justas Birgiolas, Robert C. Cannon, N. Alex Cayco-Gajic, Sharon Crook, Andrew P. Davison, Salvador Dura-Bernal, Andra´s Ecker, Michael L. Hines, Giovanni Idili, Frederic Lanore, Stephen D. Larson, William W. Lytton, Amitava Majumdar, Robert A. McDougal, Subhashini Sivagnanam, Sergio Solinas, Rokas Stanislovas, Sacha J. van Albada, Werner van Geit, and R. Angus Silver1, "Open Source Brain: A Collaborative Resource for Visualizing, Analyzing, Simulating, and Developing Standardized Models of Neurons and Circuits", 2019 (June), <i>Neuron</i> 103, 1-17
2018	Gleeson P, Cantarelli M, Marin B, Quintana A, Earnshaw M, Piasini E, Birgiolas J, Cannon RC, N Cayco-Gajic A, Crook S et al.. 2018. Open Source Brain: a collaborative resource for visualizing, analyzing, simulating and developing standardized models of neurons and circuits. <i>bioRxiv</i> . :229484.

2017	Dura-Bernal S, Neymotin SA, Kerr CC, Sivagnanam S, Majumdar A, Francis JT, Lytton WW (2017) Evolutionary algorithm optimization of biological learning parameters in a biomimetic neuroprosthesis. IBM Journal of Research and Development (Computational Neuroscience special issue) 61(2/3):6:1-6:14.
2013	Shi, F and Sivagnanam, S and Folkerts, M and Gautier, Q and Jia, X and Majumdar, A and Jiang, S, "A Gateway for GPU Computations in Radiotherapy", Medical Physics, 40, 260-260 (2013), http://dx.doi.org/10.1118/1.4814677
1999	S. Sivagnanam, S. Jagdish, B. Muthukumaran, Medical Image Indexing - Content-Based Retrieval, Computer Methods in Biomechanics and Biomedical Engineering 3,1999;pp.471-474

Book Chapter

2015	Sivagnanam, S., Majumdar, A., Yoshimoto, K., Astakhov, V., Bandrowski, A., Martone, M., & Carnevale, N. (2015). Early experiences in developing and managing the neuroscience gateway. <i>Concurrency and Computation: Practice and Experience</i> , 27(2), 473-488.
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Conference Papers and Abstracts (peer-reviewed)

2020	A. Majumdar, S. Sivagnanam, K. Yoshimoto, T. Carnevale, "Neuroscience Gateway Enabling Large Scale Modeling and Data Processing", Poster 6th Annual BRAIN Initiative Investigators Meeting, June 1- 2, 2020, Virtual Conference.
2020	Amitava Majumdar, Scott Makeig, Arnaud Delorme, Dave Nadeau, Dung Truong, Kenneth Yoshimoto, Ramon Martinez-Cancino, Subhashini Sivagnanam, Russell A. Poldrack, "NEMAR: A Human Neuroelectrophysiological Data, Tools, and Compute Resource", Poster 6th Annual BRAIN Initiative Investigators Meeting, June 1-2, 2020, Virtual Conference.
2020	Subhashini Sivagnanam, Wyatt Gorman, Donald Doherty, Samuel A Neymotin, Stephen Fang, Hermine Hovhannisyan, William W Lytton, and Salvador Dura-Bernal. 2020. Simulating Large-scale Models of Brain Neuronal Circuits using Google Cloud Platform. In <i>Practice and Experience in Advanced Research Computing (PEARC '20)</i> . Association for Computing Machinery, New York, NY, USA, 505–509. DOI: https://doi.org/10.1145/3311790.3399621
2020	V. Nandigam, K. Lin, M. Shantharam, S. Sakai, and S. Sivagnanam. 2020. Research Workflows - Towards reproducible science via detailed provenance tracking in Open Science Chain. In <i>Practice and Experience in Advanced Research Computing</i>

	(PEARC '20). Association for Computing Machinery, New York, NY, USA, 484–486. DOI: https://doi.org/10.1145/3311790.3399619
2020	S. Sivagnanam, K. Yoshimoto, T. Carnevale, D. Nadeau, M. Kandes, T. Petersen, D. Troung, R. Martinez, A. Delorme, S. Makeig, and A. Majumdar. “Neuroscience Gateway Enabling Large Scale Modeling and Data Processing in Neuroscience Research”, Poster Paper, July 26-30, 2020, PEARC Virtual Conference
2019	Viswanath Nandigam, Kai Lin and Subhashini Sivagnanam. 2019. Protecting integrity and provenance of research data with the Open Science Chain. Gateways 2019. San Diego, CA, USA.
2019	Decommissioning a Large Data Archive: Lessons Learned from Cleaning out the Attic,” R. L. Moore, D. Minor, S. Sivagnanam, M. Tatineni, W. S. Young, August 2019
2019	NSGPORTAL: High-Performance Computing with EEGLAB. Martínez-Cancino, M., Delorme, A., Truong, D., Artoni, F., Kreutz-Delgado, K., Sivagnanam, S., Yoshimoto, K., Majumdar, A., Makeig, S. Brain, Mind, and Body: Cognitive Neuroengineering for Health and Wellness An IEEE EMBS Symposium and Workshop, Dec. 19-20, 2019, UC San Diego, La Jolla CA.
2019	S. Sivagnanam, V. Nandigam, K. Lin, S. Sakai; San Diego Supercomputer Ctr., UCSD, San Diego, CA. Enabling data reproducibility with open science chain. Program No. 432.01. 2019 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience, 2019. Online.
2019	A. Majumdar , S. Sivagnanam, K. Yoshimoto, N. T. Carnevale, The Neuroscience Gateway Enabling Large Scale Modeling and Data Processing in Neuroscience on Supercomputers, Society for Neuroscience Annual Meeting Poster, October 18-23, 2019, Washington D.C.
2019	S. Sivagnanam, V. Nandigam, K. Lin, "Introducing the Open Science Chain -- Protecting Integrity and Provenance of Research Data," PEARC19 Proceedings, PEARC19 Chicago, IL, July 28 – August 1, 2019
2019	K. K. Yoshimoto, N. T. Carnevale, S. Sivagnanam, A. Majumdar, M. A. Miller, "Web of Trust Tool for Gateway User Vetting," PEARC19 Proceedings, PEARC19 Chicago, IL, July 28 – August 1, 2019
2019	A. Delorme, A. Majumdar, S. Sivagnanam, R. Martinez-Cancino, K. Yoshimoto, S. Makeig, "The Open EEGLAB Portal," 9th International IEEE EMBS Conference on Neural Engineering, San Francisco, CA, March 20-23, 2019
2018	P. S. Kumbhar, S. Sivagnanam, K. Yoshimoto, M. Hines, T. Carnevale and A. Majumdar, "Performance Analysis of Computational Neuroscience Software NEURON on Knights Corner Many Core Processors", Software Challenges to Exascale Computing, Dec 13-14, 2018, Delhi, India, Springer Communications in Computer and Information Science (CCIS)
2018	Graham, J. W., Angulo S., Gao P. P., Dura-Bernal S., Sivagnanam S., Hines M., et al , "Embedded ensemble encoding: A hypothesis for reconciling cortical coding strategies" Society for Neuroscience 2018 (SFN '18).
2018	Doherty, D., Sivagnanam S., Dura-Bernal S., & Lytton W. W. (2018). Simulation of avalanches in mouse primary motor cortex (M1). Computational Neuroscience Meeting (CNS 18'), July 13- 18, 2018, Seattle

2017	S. Sivagnanam, K. Yoshimoto, T. Carnevale, A. Majumdar, "The Neuroscience Gateway – Enabling Large Scale Modeling and Data Processing in Neuroscience," Practice & Experience in Advanced Research Computing – PEARC18, Pittsburgh, PA, July 22-26, 2018
2017	Supun Nakandala, Suresh Marru, Marlon Pierce, Sudhakar Pamidighantam, Kenneth Yoshimoto, Terri Schwartz, Subhashini Sivagnanam, Amit Majumdar and Mark Miller, "Apache Airavata Sharing Service: A Tool for Enabling User Collaboration in Science Gateways," PEARC17, July 09-13, 2017, new Orleans, LA, USA. ACM ISBN 978-1-4503-5272-7/17/07
2017	T.Carnevale, A. Majumdar, S. Sivagnanam, K. Yoshimoto, The Neuroscience Gateway Portal–High Performance Computing for Neuroscientists, CNS 2017, BMC Neuroscience 2017, 18 (Suppl 1):P297
2016	N.T. Carnevale, P.Gleeson, R.A. Silver, S. Sivagnanam, K. Yoshimoto, A. Majumdar, NSG-R: seamlessly integrating neuroscience tools with high performance computing, Society for Neuroscience 2016, San Diego
2016	Majumdar A, Sivagnanam S, Carnevale NT, Yoshimoto K, Gleeson P, Quintana A and Silver RA, Neuroscience Gateway - Cyberinfrastructure Providing Supercomputing Resources for Large Scale Computational Neuroscience Research. Front. Neuroinform. Conference Abstract: Neuroinformatics 2016. doi: 10.3389/conf.fninf.2016.20.00008
2016	Majumdar A, Sivagnanam S, Yoshimoto, K, and Carnevale, N.T, "Understanding the Evolving Cyberinfrastructure Needs of the Neuroscience Community", XSEDE 2016, Miami FL
2016	S. Sivagnanam, A. Majumdar, K. Yoshimoto, N.T.Carnevale, "NSG-R: Programmatic Access to Neuroscience Applications", XSEDE16 Poster, Miami FL
2015	S. Dura-Bernal, S. A. Neymotin, W. L. Lytton, A. Majumdar, and S. Sivagnanam, "A Dynamic Data-Driven Approach to Closed-loop Neuroprosthetics Based on Multiscale Biomimetic Brain Models," Dynamic data Driven Application Systems Workshop, IEEE International Conference on High Performance Computing, Dec. 16-19, 2015, Bengaluru, India.
2015	S. Sivagnanam, A. Majumdar, P. Kumbhar, M. Hines, K. Yoshimoto, T. Carnevale, Neuroscience Gateway- Enabling HPC for Computational Neuroscience, Supercomputing 2015, Austin, TX, November, 2015.
2015	T. Carnevale, A. Majumdar, S. Sivagnanam, K. Yoshimoto, P. Gleeson, R.A. Silver. Seamless integration of neuroscience models and tools with high performance computing. Society for Neuroscience Annual Meeting, Chicago, IL, Oct. 17 - 21, 2015.
2015	M. Miller, T. Schwartz, P. Hoover, K. Yoshimoto, S. Sivagnanam, A. Majumdar, "The CIPRES Workbench: A Flexible Framework for Creating Science Gateways", Proceedings XSEDE15, St. Louis, MO, July 26-30, 2015.
2015	A.Majumdar, S.Sivagnanam, K.Yoshimoto, N.T. Carnevale, "Neuroscience Gateway - Seamless Access to XSEDE High Performance Computing Resources for the Computational Neuroscience Community", XSEDE15, St. Louis, MO, July 26-30, 2015.
2014	Ted Carnevale, Amit Majumdar, Subhashini Sivagnanam, Kenneth Yoshimoto, Vadim Astakhov, Anita Bandrowski, Maryann Martone, " High performance

	computing in neuroscience via the Neuroscience Gateway Portal", Society for Neuroscience Annual Meeting, Washington D.C, Nov. 15 - 19, 2014.
2014	Ted Carnevale, Amit Majumdar, Subhashini Sivagnanam, Kenneth Yoshimoto, Vadim Astakhov, Anita Bandrowski, Maryann Martone, "The Neuroscience Gateway Portal - High Performance Computing Made Easy," Computational Neuroscience (CNS) 2014 Annual Meeting, Quebec City, Canada, July 26-31, 2014.
2013	Sivagnanam, S., Majumdar, A., Yoshimoto, K., Astakhov, V., Bandrowski, A., Martone, M. E., & Carnevale, N. T. (2013, June). Introducing the Neuroscience Gateway. In Proceedings International Workshop on Science Gateways.
2013	S. Sivagnanam, K. Yoshimoto, A. Majumdar, N. T. Carnevale, V. Astakhov, M. Martone, A. Bandrowski, "A Neuroscience Gateway: Software and Implementation," Proceedings XSEDE13 Gateway to Discovery, San Diego, CA, July 22-25, 2013.
2013	N.T. Carnevale, A. Majumdar, S. Sivagnanam, K. Yoshimoto, V. Astakhov, A. Bandrowski, M. Martone, "The Neuroscience Gateway Portal: facilitating access to high performance computing resources," Society for Neuroscience Annual Meeting, San Diego, Nov. 9-13, 2013.
2012	N.T. Carnevale, S. Sivagnanam, K. K. Yoshimoto, V. Astakhov, A. E. Bandrowski, M. E. Martone, A. Majumdar, "A Neuroscience Gateway for High Performance Computing," Poster, Society for Neuroscience Annual Meeting, New Orleans, October 13-17, 2012.
2011	A. E. Bandrowski, S. Sivagnanam, K. Yoshimoto, V. Astakhov, A. Majumdar, "Performance of parallel neuronal models on the Triton cluster," Poster, Society for Neuroscience Annual Meeting, Washington D.C., Nov 12-16, 2011.
2010	S. Sivagnanam, K. Yoshimoto, TeraGrid resource selection tools: a road test, Proceedings of the 2010 TeraGrid Conference. ACM, 2010.

Training and related activities:

1. Presented numerous tutorials and talks at various conferences and universities on topics relevant to HPC resources and applications, Open Science Chain and Neuroscience Gateway.
2. Serves as a reviewer of conference papers for PEARC, XSEDE, and TeraGrid and has served as the Editor for SDSC's HPC technical newsletter from 2006-2008.
3. Served as a committee member for Gateways 2019, 2020 conference
4. Served as a committee member for NSF CC* PI meeting
5. Serves as mentor for many undergraduate and high school students in summer projects involving data reproducibility, science gateways, software engineering, and HPC

6. Served as the Chair of SDSC's national EOT annual workshop - SDSC HPC Summer Institute - for the years of 2006 and 2007.

Students Mentored:

2013 – present: mentoring 1-2 high school student every summer as a part of SDSC's Research Experience for High School (REHS) program.

2018 – 2019 Brian Rojas, undergraduate student, UCSD Computer Science.

2017 – David Paz-ruiz, undergraduate student, UCSD Computer Science and Engineering;
Emily Le, undergraduate student, UCSD Mathematics

2011 - Prithvi Sundararaman, undergraduate student, Mechanical Engineering, UCSD

Honors/Awards:

SDSC Excellence Award 2006, 2020

Article about my work in [SDSC Innovators](#) Newsletter