

SUSAN A. MASINO

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ACADEMIC DEGREES & TRAINING

1997-2000: Postdoctoral training, University of Colorado Medical School, Pharmacology and Neuroscience

1996-1997: Postdoctoral training, University of California (Irvine, CA), Neurobiology and Behavior

1990-1996: Ph.D., University of California (Irvine, CA) in Biology (focus on Neuroscience)

1988-1990: Research Assistant: Boston University School of Medicine (Boston, MA)

1984-1988: B.S., Tufts University (Medford, MA) in Biopsychology, *cum laude*

PROFESSIONAL POSITIONS SINCE GRADUATING COLLEGE

2013-present Vernon Roosa Professor of Applied Science, Trinity College, Hartford, CT

2013-present Professor, Department of Psychology / Neuroscience Program, Trinity College

2006-present Adjunct, Neuroscience Department, University of Connecticut Health Center, Farmington, CT

2006-present Adjunct, Department of Pharmacology and Toxicology, University of Connecticut, Storrs, CT

2018-2019 Charles Bullard Fellow in Forest Research, Harvard Forest/Harvard Medical School

2007-2013 Associate Professor, Department of Psychology / Neuroscience Program, Trinity College

2009-2011 Charles A. Dana Research Associate Professor of Neuroscience and Psychology

2009-2010 Director, Neuroscience Program, Trinity College; Acting Director, 2008, 2021

2003-2007 Assistant Professor, Department of Psychology and Neuroscience Program, Trinity College

2001-2002 Adjunct, Neuroscience and Psychology, Regis University, Denver, CO

2000-2003 Instructor (Faculty), Dept. of Pharmacology / Neuroscience Program, Univ. Colorado Med. School

1996-1997: Instructor (Faculty), Neurobiology and Behavior, University of California, Irvine, CA

ACADEMIC PRIZES AND HONORS

Grants (selected, since becoming a PI):

2015-2025 National Center for Complementary and Integrative Health (*co-I; PI: D. Ruskin*)

AT008742 “*Metabolic Therapy to Relieve Pain: Ketogenic Diet and Adenosine*” “*Metabolic therapy to relieve pain in females: ketogenic diet and the estrous cycle*”

2010-2024 National Institute of Neurological Disease and Stroke (*PI and Lead institution on multi-PI grant with D. Boison and J. Geiger*) NS 065975 “*The Role of Adenosine in Ketogenic Diet Therapy*” “*Ketogenic Diet and Adenosine: Epigenetics and Anitpileptogenesis*”

2021-2022: National Park Service, Lower Farmington Wild and Science Watershed Working Group (PI)
“*Protecting Our Lifeline: Translational Ecology in a Wild and Scenic Watershed*”

2020-2021 Harvard Forest New England Landscape Futures (Research Lead) “*Exploring Lower Connecticut River Riparian Zone: Current and Future Connectivity - Strategic Watershed Conservation from Headwaters through Cities.*”

2018-2019 Charles Bullard Fellowship in Forest Research, “*Forests and Brain Health,*” Harvard University

2015-2018 National Institute of Neurological Disease and Stroke (*PI*)

NS 066392-2 “*Ketogenic diet-induced changes in the cerebrospinal fluid: biomarkers and mechanisms*”

2016-2017 National Institute of Neurological Disease and Stroke & National Center for Complementary and Integrative Health (*PI*) NS096938 *Fifth Global Symposium On Ketogenic Therapies*

2013-2014 Mellon Foundation, via Trinity College (*PI*) “*Fresh Food, New Connections*”

2009-2014 National Science Foundation RUI grant (*PI*) IOS-0843585 “*Physiological Regulation of ATP and Adenosine: Linking Metabolism to Neuronal Excitability*”

2010-2014 National Institute of Neurological Disease and Stroke (*PI; co-PI: H. Blaise*)
NS 066392 “*Effects of a Ketogenic Diet on Regional Brain Energy and Plasticity*”

2010-2014 National Institute of Neurological Disease and Stroke (*co-PI; PI: D. Ruskin*)

NS 065446 *“The Effects of Ketogenic Diets on Inflammation and Chronic Pain”*

2008-2010 Full salary fellowship for Masahito Kawamura, MD/PhD, Jikei University, visiting faculty

2008-2010 National Institute of Neurological Disease and Stroke grant supplement (\$38,400, PI)

2007-2010 National Institute of Neurological Disease and Stroke (PI)

NS 061290 *“Modulation of Adenosine by Temperature, Oxygen and Glucose”*

2008-2009 CHDI Research Discovery Award (PI)

2008 Howard Hughes Medical Institute Trinity College Institutional Grant, Faculty Sub-Award

2006-2007 Connecticut EpSCOR Grant (co-PI w/ C. Swart)

2005 Connecticut EpSCOR Grant (PI), Kellogg Educational Fund (PI)

2001-2007 National Institute of Neurological Disease and Stroke (PI)

NS 29173 *“Adenosine and Modulation of Synaptic Transmission”*

Honors, Awards, Service (selected from recent, elected, invited, or appointed)

- 2020-present** Science and Technology Working Group, Governor’s Council on Climate Change (GC3); co-chair phase 1 report, 2020
- 2021-present** International Neurological Ketogenic Society, Founding Member
- 2019-present** Legislative Liaison, CT State Grange
- 2018-present** Open Space Committee, Simsbury, CT
- 2018-present** Board member, Pinchot Institute for Conservation; Executive Committee: 2023-Old Growth Forest Coordinator, Hartford County; Forest Advocate Award, 2019
- 2017-present** Program Committee, Global Symposium on Dietary Therapies for Epilepsy & other Neurological Disorders, Liverpool; Fifth Global Symposium on Ketogenic Therapies. Banff; Seventh Global Symposium, San Diego
- 2013-present** Vice President, Simsbury Grange, #197
- 2012-present** IACUC, Trinity College; Chair 2012-2014; 2018-2022
- 2021-2023** Faculty Secretary, Trinity College (elected)
- 2021-2023** Tri-chair of “Place” subcommittee, Trinity College Bicentennial
- 2019-2023** President, Connecticut State Grange Foundation
- 2019-2022** International League Against Epilepsy/American Epilepsy Society Omics Task Force
- 2020** Presidential Commission, Trinity College
- 2018-2019** Charles Bullard Fellowship in Forest Research, Harvard Forest/Harvard Medical School
- 2016-2022** Lennox-Gastaut Syndrome Foundation Board
- 2016 -2018** Ombud, Trinity College (elected)
- 2016-2018** Bicentennial Strategic Planning Committee, Trinity College
- 2015-2017** Scientific Standing Review Panel: Citizens United for Research in Epilepsy (CURE)
- 2015-2016** Appointment and Promotions Appeal, Trinity College
- 2005-2015** Steering Committee, NorthEast Under/graduate Research Organization for Neuroscience (NEURON)
- 2013-2014** Presidential Search Committee, Trinity College
- 2013** Hometown Hero, Simsbury, CT
- 2012-2014** Co-chair, Ketogenic Diet Special Interest Group, American Epilepsy Society
- 2012** Trustee Award for Faculty Excellence, Trinity College
- 2011** National Society of the Daughters of the American Revolution Conservation Committee Award, (Recognition of Outstanding Achievement for Environmental Awareness)
- 2011** Invited presentation, CT Conference for Women in Transportation: “Future Transportation” (based on Safe Routes to School Program)
- 2010-2015** Founder and Chair - Safe Routes to School – Tootin’ Hills Elementary School
- 2010** Kavli Fellow, US Kavli Frontiers of Science Symposium
- 2009-2013** Faculty Research Committee, Trinity College

- 2009-2012** Program Committee, Society for Neuroscience
- 2009** Mary Simone Erskine Award for Excellence in Mentoring, Research Training and Scholarship
- 2009** Finalist, Connecticut Woman of Innovation, Community Innovation
- 2009-2011** Outreach Chair, (N.E.U.R.O.N.)
- 2008** Invited public lecture, Lifelong Learning Series, McLean Care, Simsbury, CT:
"Food for Thought"
- 2008** Annette and Kingsbury Browne Leadership in Conservation Award
- 2008** Finalist, Connecticut Woman of Innovation, Academic Innovation
- 2007-2009** Charles A. Dana Research Professor, Trinity College
- 2007** Finalist, Connecticut Woman of Innovation, Research Innovation
- 2007** Farmington River Watershed Association Volunteer of the Year
- 2007** Farmington Valley Trout Unlimited, Chapter High Honor Society
- 2007** CT State General Assembly Citation "Keep the Woods"
- 2005-2011** Board Member, Biomedical Engineering Alliance and Consortium (BEACON) Foundation
- Ongoing, Ad hoc or Special Emphasis grant reviewer (selected):** Wellcome Trust, Canadian Institutes of Health Research, Health Research Board of Ireland, Medical Research Council (UK), National Institute for Aging, National Institute for Drug Abuse, National Institute for Neurological Disorders and Stroke (EUREKA, R35, R13, ANIE, CNNT, ZNS1 SRB-K 01, NSD-A ZRG1), National Science Foundation, Department of Defense, Citizens United for Research in Epilepsy (CURE), Thrasher Research Fund, Volkswagen Foundation, Lennox-Gastaut Syndrome Foundation;
- Ongoing** Review Editor: *Frontiers in Neurology/Epilepsy*; *Frontiers in Pharmacology*
Associate Editor: *Frontiers in Molecular Neuroscience - Metabolic Control of Brain Homeostasis*

SELECTED: RECENT/SIGNIFICANT BOOKS, ARTICLES, REPORTS

Full Biomedical Record on Pub Med: <https://pubmed.ncbi.nlm.nih.gov/?term=masino+sa&sort=date>

Full record on Google Scholar: <https://scholar.google.com/citations?user=RoCG0KIAAAAJ&hl=en>

Profile at Trinity College: <https://internet3.trincoll.edu/facprofiles/default.aspx?fid=1117011>

Kellett, M.J., Maloof, J.E., **Masino, S.A.**, Frelich, L.E., Faison, E.K., Brosi, S.L., Foster, D.R. (2023) Forest-clearing to create early-successional habitats: Questionable benefits, significant costs. *Frontiers in Forests and Global Change*, 5: 274. <https://www.frontiersin.org/articles/10.3389/ffgc.2022.1073677/full>

Bindila, L., Eid, T., Mills, J.D., Hildebrand, M.S., Brennan, G., **Masino, S.A.**, Vicky Whittemore, V., Perucca, P., Reid, C.A., Patel, M., Wang, K.K., van Vliet, V.A (2023) A companion to the preclinical common data elements for proteomics, lipidomics and metabolomics data in rodent epilepsy models: A Report of the TASK3 Omics Working Group of the ILAE/AES Joint Translational Task Force. *Epilepsia Open*.

Masino, S.A. (Senior Editor), Boison, D., D'Agostino D., Kossoff, E., Rho, J.M. (Associate Editors) (2022) *Ketogenic Diet and Metabolic Therapies: Expanded Roles in Health and Disease*, 2nd Edition. Oxford University Press, New York, USA.

Boison, D., **Masino, S.A.**, Lubin, F.D., Guo, K., Lusardi, T., Sanchez, R., Ruskin, D.N., Ohm, J., Geiger, J.D., & Hur, J. (2022). The impact of methodology on the reproducibility and rigor of DNA methylation data. *Sci Rep* 12, 380.

Masino, S.A. (2021) Nature and Our Best Future: A Neuroscientists Perspective. *the Thinking Republic*, <https://www.thethinkingrepublic.com/3-seconds/nature-and-our-best-future-a-neuroscientists-perspective>

Ruskin, D.N., Sturdevant, I.C., Wyss, L.S. & **Masino, S.A.** (2021) Ketogenic diet effects on inflammatory allodynia and ongoing pain in rodents *Scientific Reports* Jan 12. doi: [10.1038/s41598-020-80727-x](https://doi.org/10.1038/s41598-020-80727-x)

Leverett, R.T., **Masino, S.A.**, Moomaw, W.R. (2021) Older eastern white pine trees and stands sequester carbon for many decades and maximize cumulative carbon. *Frontiers in Forests and Global Change: Special Research Topic: Intact Forests*: <https://www.frontiersin.org/articles/10.3389/ffgc.2021.620450>

Masino, S.A., Ruskin, D.N., Freedgood, N.R., Lindefeldt, M. & Dahlin, M. (2021) Differential ketogenic diet-induced shift in CSF lipid/carbohydrate metabolome of pediatric epilepsy patients with optimal vs. no anticonvulsant response: a pilot study. *Nutrition and Metabolism* <https://doi.org/10.1186/s12986-020-00524-1>

Governor's Council On Climate Change, Science And Technology Working Group Phase 1 Report (**Masino, Co-Chair**, 2020) <https://portal.ct.gov/-/media/DEEP/climatechange/GC3/GC3-working-group-reports/GC3-Science-and-Technology-Working-Group-Final-Report-11-19-20.pdf>

Ruskin, D.N., Sacchetti, P., **Masino, S.A.** (2020) A unifying mechanism of ketogenic diet action: The multiple roles of nicotinamide adenine dinucleotide. *Epilepsy Research* [doi:10.1016/j.eplepsyres.2020.106469](https://doi.org/10.1016/j.eplepsyres.2020.106469)

Leverett, R. T., **Masino, S.A.**, Ruskin, D.N. (2020) Direct Measurement of Trunk Volume in Forest Trees: Focus on White Pine and Comparison to a Statistical Method <https://www.biorxiv.org/content/10.1101/2020.03.18.995985v1>

Moomaw, W.R., **Masino, S.A.**, & Faison, E.K. (2019) Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good. *Frontiers in Forests and Global Change; Special Research Topic: Intact Forests*. Viewed more than 99% of articles published in Frontiers <https://doi.org/10.3389/ffgc.2019.00027>

Ten other significant works:

1. **Masino, S.A.** (Senior Ed.), Boison, D., D'Agostino D., Kossoff, E., Rho, J.M. (Assoc. Eds) (2017) *Ketogenic Diet and Metabolic Therapies: Expanded Roles in Health and Disease*, Oxford Univ. Press, New York, NY USA. First major academic book on basic and clinical research on metabolic therapies.

2. Cheng, N., Rho, J.M., **Masino, S.A.** (2017). Metabolic dysfunction underlying autism spectrum disorder and potential treatment approaches. *Frontiers in Molecular Neuroscience* 10:34

3. Boison, D. & **Masino, S.A.** (2016) *Homeostatic Control of Brain Function*, Oxford Univ. Press, New York.

4. Boison, D., Sandau, U.S., Ruskin, D.N., Kawamura, M. Jr. & **Masino, S.A.** (2013) Homeostatic control of brain function - new approaches to understand epileptogenesis. *Frontiers in Cellular Neuroscience* 7 (109):

5. **Masino, S.A.** & Boison, D. eds., (2012) *Adenosine: A Key Link Between Metabolism and Neuronal Activity*, Springer-Verlach Press, New York, USA.

6. **Masino S.A.**, Kawamura M. Jr., Plotkin L.M., Svedova J., Dimario F.J. Jr. & Eigsti I.-M. (2011) The relationship between the neuromodulator adenosine and behavioral symptoms of autism. *Neuroscience Letters*, 500(1):1-5. (highlighted as a "Plenary Article")

7. **Masino, S.A.**, Li, T., Theofilas, P., Sandau, U.S., Ruskin D.N., Fredholm, B.B., Geiger, J.D., Aronica, E. & Boison D. (2011) A ketogenic diet suppresses seizures in mice through adenosine A₁ receptors. *Journal of Clinical Investigation*, 121(7): 2679-2683. Featured on the cover and in accompanying commentary: <http://www.jci.org/articles/view/58391>

8. Hoffman A.F., Laaris N., Kawamura M., **Masino S.A.** & Lupica C.R. (2010) Control of cannabinoid CB1 receptor function on glutamate axon terminals by endogenous adenosine acting at A₁ receptors. *Journal of Neuroscience*, 30(2):545-55. ("Hot Paper" March 2010 at National Institute on Drug Abuse)

9. Dulla, C.G., Dobelis, P., Pearson, T., Frenguelli, B.G., Staley, K.J. & **Masino, S.A.** (2005) Adenosine and ATP link P_{CO2} to cortical excitability. *Neuron*, 48: 1011-1023. ("Editor's choice," highlighted by *Science*)

10. Dunwiddie T.V. & **Masino S.A.** (2001) The role and regulation of adenosine in the central nervous system. *Annual Reviews of Neuroscience*, 24: 31-55. (cited by over 1900 peer-reviewed journal articles)

SELECTED TRAINEES:

In recent years former undergraduate honors thesis students received NIH fellowships (Jessica Ross (first generation student), Jessica Cote) and one received an NSF predoctoral diversity fellowship (Tracey Suter); two undergraduate honors thesis students were Fulbright Scholars (Jessica Cote (again!), Alex Suarez (underrepresented) and one was a Fulbright finalist (Julia Duggan). Of these 5 students four are women and three are underrepresented. I currently have four students in my laboratory: three are women and two are underrepresented.