



Gunilla Jacobson

Deputy Director, Molecular Imaging Program at Stanford (MIPS), Rad/Molecular Imaging Program at Stanford

Bio

CURRENT ROLE AT STANFORD

Director of Translational Medicine, DeSimone Lab

EDUCATION AND CERTIFICATIONS

- Postdoctoral Fellow, Los Alamos National Laboratory , Chemistry (1998)
- Postdoctoral Fellow, University of Texas , Chemical Engineering (1997)
- PhD, Uppsala University, Sweden , Organic Chemistry (1996)

PATENTS

- Gunilla Jacobson, W. Tumas, K. Johnston. "United States Patent 6,479,708 Biphasic Catalysis in Water/Carbon Dioxide Micellar Systems.", Los Alamos National Laboratory
- Glenn Gale, Joe T. Hillman, Gunilla Jacobson, Bentley Palmer,. "United States Patent 7,250,374 System and Method for Processing a Substrate Using Supercritical Carbon Dioxide Processing.", TEL Ltd.
- Gunilla Jacobson, Deborah Yellowaga. "United States Patent 7,387,868 Treatment of a Dielectric Layer Using Supercritical Carbon Dioxide.", TEL Ltd
- Tatsiana Lobovkina, Richard N, Gunilla B Jacobson, Ramin E. Beygui, Evgenios Neofytou.. "United States Patent US 20130243848 A1 Nanoparticles, Nanoparticles Delivery Methods, and Systems of Delivery.", Stanford University, Mar 13, 2013
- Gunilla Jacobson, R.N. Zare, K. E. Markides, C. Contag. "United States Patent US 2008/0095856 A1 Encapsulated Nanoparticles for Drug Delivery.", Stanford University, May 14, 2007
- Gunilla Jacobson, Subramanyam A Iyer. "United States Patent US 2007/0000519 A1 Removal of Residues from Low-k Dielectric Material in Wafer Processing.", Supercritical Systems Inc., Jun 30, 2005
- Gunilla Jacobson, Robert Kevwitch, Deborah Yellowaga. "United States Patent US 2006/0255012 A1 Removal of Particles from Substrate Surface Using Supercritical Processing", Supercritical Systems Inc., May 10, 2005
- Gunilla Jacobson. "United States Patent US 2006/0219268 Neutralization of Systemic Poisoning in Wafer Processing", Supercritical Systems Inc., Mar 30, 2005
- Gunilla Jacobson, Robert Kevwitch, Marie Lowe. "United States Patent US 2006/0186088 A1 Etching and Cleaning BPSG Material Using Supercritical Processing", Supercritical Systems Inc., Feb 23, 2005
- Gunilla Jacobson, Robert Kevwitch, Deborah Yellowaga. "United States Patent US 2006/0180572 A1 Removal of Post Etch Residue for a Substrate With Open Metal Surfaces", Supercritical Systems Inc., Feb 15, 2005
- Gunilla Jacobson, Bentley Palmer, Shan C. Clark, Vijayakumar S. Ramachandrarao, Subramanyam A. Iyer, Robert Turkot,. "United States Patent US 2006/0102204 A1 Method For Removing A Residue From A Substrate Using Supercritical Carbon Dioxide Processing", Supercritical Systems Inc., Nov 12, 2004
- Gunilla Jacobson, Bentley Palmer. "United States Patent US 2006/0102208 A1 System For Removing A Residue From A Substrate Using Supercritical Carbon Dioxide Processing", Supercritical Systems Inc., Nov 12, 2004
- Gunilla Jacobson, Marie Lowe, Robert Kevwitch, Brandon Hansen. "United States Patent US 2006/0102591 A1 Method and System For Treating A Substrate Using A Supercritical Fluid", Supercritical Systems Inc., Nov 12, 2004

LINKS

- MIPS: <http://mips.stanford.edu>

Professional

WORK EXPERIENCE

- Visting Associate Professor - Department of Pediatrics, Stanford School of Medicine (2014 - 2016)
- Docent - Faculty of Science and Technology, Uppsala University (2014 - present)
- Senior Scientist - Department of Neuroscience, Karolinska Institutet (2011 - 2013)
- Senior Research Associate - Department of Chemistry, Stanford University (2004 - 2011)
- Process Development Manager - Supercritical Systems / Tokyo Electron, Ltd, (2002 - 2004)
- Technical Staff Member - Los Alamos National Laboratory (2000 - 2002)
- Research Engineer - Uppsala University PET Center

Publications

PUBLICATIONS

- **Proceedings: Pathways for Successful Translation of New Imaging Agents and Modalities-Phase III Studies** *JOURNAL OF NUCLEAR MEDICINE*
Gambhir, S. S., Shankar, L. K., Rosenthal, E., Warram, J. M., Ghesani, M., Hope, T. A., Jacobs, P. M., Jacobson, G. B., Wilson, T., Siegel, B. A.
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- **Proceedings - Pathways for Successful Translation of New Imaging Agents and Modalities: Phase III Studies.** *Journal of nuclear medicine : official publication, Society of Nuclear Medicine*
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2019
- **Electrochemically triggered release of acetylcholine from scCO₂ impregnated conductive polymer films evokes intracellular Ca(2+) signaling in neurotypic SH-SY5Y cells.** *Journal of controlled release*
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- **Scaffold-mediated BMP-2 minicircle DNA delivery accelerated bone repair in a mouse critical-size calvarial defect model** *JOURNAL OF BIOMEDICAL MATERIALS RESEARCH PART A*
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2016; 104 (8): 2099-2107
- **Swedish Medical Nanoscience Center at Karolinska Institutet** *NANOTECHNOLOGY REVIEWS*
Jacobson, G. B., Richter-Dahlfors, A.
2012; 1 (3): 273-279
- **In Vivo Sustained Release of siRNA from Solid Lipid Nanoparticles** *ACS NANO*
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- **Biodegradable Nanoparticles With Sustained Release of Functional siRNA in Skin** *JOURNAL OF PHARMACEUTICAL SCIENCES*
Jacobson, G. B., Gonzalez-Gonzalez, E., Spittler, R., Shinde, R., Leake, D., Kaspar, R. L., Contag, C. H., Zare, R. N.
2010; 99 (10): 4261-4266
- **Nanoparticle Formation of Organic Compounds With Retained Biological Activity** *JOURNAL OF PHARMACEUTICAL SCIENCES*
Jacobson, G. B., Shinde, R., McCullough, R. L., Cheng, N. J., Creasman, A., Beyene, A., Hickerson, R. P., Quan, C., Turner, C., Kaspar, R. L., Contag, C. H., Zare, R. N.
2010; 99 (6): 2750-2755
- **Sustained release of nucleic acids from polymeric nanoparticles using microemulsion precipitation in supercritical carbon dioxide** *CHEMICAL COMMUNICATIONS*
Ge, J., Jacobson, G. B., Lobovkina, T., Holmberg, K., Zare, R. N.
2010; 46 (47): 9034-9036

- **Sustained release of drugs dispersed in polymer nanoparticles** *ANGEWANDTE CHEMIE-INTERNATIONAL EDITION*
Jacobson, G. B., Shinde, R., Contag, C. H., Zare, R. N.
2008; 47 (41): 7880-7882
- **Subcritical water extraction and beta-glucosidase-catalyzed hydrolysis of quercetin glycosides in onion waste** *GREEN CHEMISTRY*
Turner, C., Turner, P., Jacobson, G., Almgren, K., Waldeback, M., Sjöberg, P., Karlsson, E. N., Markides, K. E.
2006; 8 (11): 949-959
- **Organic synthesis in water carbon dioxide emulsions** *JOURNAL OF ORGANIC CHEMISTRY*
Jacobson, G. B., Lee, C. T., daRocha, R. P., Johnston, K. P.
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- **Organic synthesis in water carbon dioxide microemulsions** *JOURNAL OF ORGANIC CHEMISTRY*
Jacobson, G. B., Lee, C. T., Johnston, K. P.
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- **Biphasic Catalysis in Water/Carbon Dioxide Emulsions**, *Journal of the American Chemical Society*
Jacobson, G. B., Lee, C. T., Johnston, K. P., Tumas, W. B.
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Kuratsune, H., Yamaguti, K., Watanabe, Y., Takahashi, M., Nakamoto, I., Machii, T., Jacobson, G. B., Onoe, H., Matsumura, K., Valind, S., Långström, B., Kitani, T.
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- **Synthesis of 11 C-Labeled Guanidines in Supercritical Ammonia** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
Jacobson, G. B., Westerberg, G., Markides, K. E., Långström, B.
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- **High Uptake of [2-11C]Acetyl-L-Carnitine into the Brain: A Pet Study** *Biochemical and Biophysical Research Communications*
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- **Supercritical Fluid Synthesis and On-line Preparative Supercritical Fluid Chromatography of 11C-Labelled Compounds in Supercritical Ammonia.** *ACTA CHEM. SCAND.*
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- **Methodological aspects for in vitro characterization of receptor binding using 11C-Labelled receptor ligands: a detailed study with the benzodiazepine receptor antagonist [11C]Ro 15-1788** *NUCL. MED. BIOL.*
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- **PET and parathyroid L-[carbon-11]methionine accumulation in hyperparathyroidism** *JOURNAL OF NUCLEAR MEDICINE*
Sundin, A., Johansson, C., Hellman, P., Bergstrom, M., Ahlstrom, H., Jacobson, G. B., Langstrom, B., Rastad, J.
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- **Levodopa-induced changes in synaptic dopamine in patients with Parkinson's disease as measured by [C-11]raclopride displacement and PET** *NEUROLOGY*
Tedroff, J., PEDERSEN, M., Aquilonius, S. M., Hartvig, P., Jacobsson, G., Langstrom, B.

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● **IN-VITRO POSITRON EMISSION TOMOGRAPHY (PET) - USE OF POSITRON EMISSION TRACERS IN FUNCTIONAL IMAGING IN LIVING BRAIN-SLICES** *NEUROSCIENCE RESEARCH*

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● **Synthesis of [11C]Acetyl-CoA and [11C]Acetyl-L-Carnitine.** *Synth. Appl. Isot. Labelled Compounds*

Jacobson, G. B., Watanabe, Y., Kuratsune, H., Yamaguchi, K., Onoe, , Kittani, Valind ,

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● **Synthesis of [C-11]acetyl-CoA and [C-11]acetyl-L-carnitine** *5th International Symposium on Synthesis and Applications of Isotopically Labelled Compounds 1994*

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● **Synthesis of C-11-labelled compounds in supercritical ammonia** *5th International Symposium on Synthesis and Applications of Isotopically Labelled Compounds 1994*

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● **SUPERCRITICAL-FLUID SYNTHESIS IN THE PREPARATION OF BETA(+)-EMITTING LABELED COMPOUNDS** *ACTA CHEMICA SCANDINAVICA*

Jacobson, G. B., Markides, K. E., Langstrom, B.

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