

Curriculum Vitae

Name: Thais Azevedo ENOKI

Place of Birth: Sao Paulo, SP, Brazil

Nationality: Brazilian

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Current Status: Postdoctoral Associate with the Department of Molecular Biology & Genetics at Cornell University, Ithaca, NY.

1. Education

Feb 2016 – Actual: Postdoctoral Associate, Department of Molecular Biology and genetics at Cornell University. (Group webpage: <http://feigensonlab.mbg.cornell.edu/>).

Dec 2010 – Jan 2016: Doctorate in Physics; Institute of Physics, field of Biophysics at the University of Sao Paulo (USP). Project with title “Interaction between antimicrobial peptides and model membranes”, under supervision of Prof. Maria Teresa Lamy and co-supervision Prof. Karin A. Riske (Group webpage: http://fig.if.usp.br/~biofisc/index_en.html).

Jun 2013 - Jun 2014: Exchange PhD student and researcher at Cornell University. Project with title “Partitioning of protein model peptides between Liquid-ordered and Liquid-disordered phases”, under supervision of Prof. Gerald. W. Feigenson (Group webpage: <http://feigensonlab.mbg.cornell.edu/>).

Feb 2008 - Dec 2010: Master degree in Physics; Institute of Physics, field of Biophysics at the University of Sao Paulo (USP). Dissertation with title: “Light scattering on the structural characterization of DMPG vesicles along the bilayer anomalous phase transition”, under supervision of Prof. Maria Teresa Lamy, and co-supervision of Prof. Vera B. Henriques.

Mar 2004 - Jan 2008: B.Sc. in Biological Physics, at the Sao Paulo State University (UNESP). Dissertation with title: “Electrostatic contributions in the interaction of antimicrobial peptides and model membranes”, under supervision of Prof. Joao Ruggiero Neto. Financial support from the National Council for Scientific and Technological Development (CNPq), Brazil.

2. Relevant training, skills, experience:

Research experience in lipid-dispersion preparation using Rapid Solvent Exchange, or dry film, and preparations of giant unilamellar vesicles using electroformation procedure; modeling partitioning of fluorescent probe or molecules in different phases. Experience in lipid phase transitions and interaction between antimicrobial peptides and model membranes. Experience in the following experimental techniques: steady state and time resolved fluorescence, microscopy, electron spin resonance (ESR), differential scanning calorimetry (DSC), dynamic and static light scattering (DLS – SLS), and small-angle X-ray scattering (SAXS). Another skills: Fortran, Latex, Mathematica, Python, ImageJ (macro) and html.

3. Publications

Shurer, C.R., Kuo, J.C.H., Roberts, L.M., Gandhi, J.G., Colville, M.J., **Enoki, T.A.**, Pan, H., Su, J., Noble, J.M., Hollander, M.J., O'Donnell, J.P., Yin, R., Pedram, K., Möckl, L., Kourkoutis, L.F., Moerner, W.E., Bertozzi, C.R., Feigenson, G.W., Reesink, H.L. and Paszek, M.J. Physical Principles of Membrane Shape Regulation by the Glycocalyx. *CELL*, *in press*, (2019).

<https://doi.org/10.1016/j.cell.2019.04.017>

Enoki, T. A., Heberle, F.A. and Feigenson, G.W. FRET detects the size of nanodomains for coexisting liquid-disordered + liquid-ordered phases. *Biophysical Journal* 114(8) (2108) 1921-1935.

Usery,¹ R.D., **Enoki,¹ T.A.**, Wickramasinghe S.P., Weiner, M.D., Tsai, W.C, Kim, M.B., Wang, S., Torng T.L., Ackerman, D.G., Heberle, F.A., Katsaras, J. and Feigenson, G.W., Line Tension Controls Liquid-Disordered D Liquid- Ordered Domain Size Transition in Lipid Bilayers. *Biophysical Journal* 112(7) (2017) 1431-1443.

Enoki, T. A., Lorenzon, E.N., Cili, E.M., Perez, K.R., Riske, K.A., and Lamy, T.M, The antimicrobial peptide K0-W6-Hyal induces stable structurally modified lipid domains in anionic membranes. *Langmuir* 34 (2018) 2014-2025.

Usery, R.D., **Enoki, T.A.**, Wickramasinghe SP, Nguyen VP, Ackerman DG, Greathouse D, Koeppe R, Barrera FN, Feigenson G.W. Membrane Bending Moduli of Coexisting Liquid Phases Containing Transmembrane Peptide. *Biophysical Journal* 114(9) (2018) 2152–2164.

Enoki, T. A., V. B. Henriques and M. T. Lamy, Light scattering on the structural characterization of DMPG vesicles along the bilayer anomalous phase transition. *Chemistry and Physics of Lipids* 165 (2012) 826-837.

Nomura, D.A. **Enoki, T.A.**, Goldman, C. Lamy, T.M. Espalhamento de luz dinamico em estudos de coloides “Dynamic light scattering applied in studies of colloids”. Booklet chapter, published in Portuguese (2014).

3.1. Publications (submitted)

Enoki, T. A. and Feigenson G.W. Asymmetric bilayers by hemifusion: method and leaflet behaviors. *Biophysical Journal* (2019).

4. Peer Reviews

Langmuir, *Biophysical Journal*, *Soft Mater*, *Journal of Medicinal Chemistry* and *RSC Advances*.

5. Financial Support & Awards

Post-doctoral fellowship from the National Council for Scientific and Technological Development (CNPq)

Recipient of a Brazilian fellowship for post-doctoral research.

Graduate Research Fellowship from the Sao Paulo Research Foundation (FAPESP)

Recipient of a Brazilian fellowship for graduate research.

Graduate Exchange Visitor Fellowship from Sao Paulo Research Foundation (FAPESP)

Recipient of a Brazilian fellowship for graduate research in a foreign institution.

Graduate Research Fellowship from the National Council for Scientific and Technological Development (CNPq)

Recipient of a Brazilian fellowship for graduate research.

Undergraduate Research Fellowship from the National Council for Scientific and Technological Development (CNPq)

Recipient of a Brazilian fellowship that supports undergraduate students in Science.

Travel Award from Biophysical Society Educational Committee

Biophysical Society 2014

Recipient of competitive travel award that provides funding for travel expenses to present research at the annual Biophysical Society meeting in San Francisco, CA, USA.

6. Teaching and Teaching assistant (TA)

1. Institute of Physics - University of Sao Paulo, Course title: “Laboratório de Física para Engenharia IV”. Term: Aug-Dec 2009 and Aug-Dec 2010. Level: undergraduate.
2. Institute of Physics - University of Sao Paulo. Course title: “Transições de fases em bicamadas lipídicas: modelos teóricos e experimentos”. Aug-Dec 2014. Level: graduate (TA)
3. Institute of Physics - University of Sao Paulo. Course title: “Técnicas experimentais no estudo de biomoléculas”. Term: 25-31Jan 2009. Level: graduate.
4. 3. Institute of Physics - University of Sao Paulo. Course title: “Técnicas espectroscópicas em biofísica molecular”. Term: Aug-Dec 2008 and Aug-Dec 2011. Level: undergraduate.
5. 4. Institute of Physics - University of Sao Paulo. Course title: “Introdução às medidas físicas para farmácia”. Term: Feb-Jun 2008 and Feb-Jun 2011. Level: undergraduate.

6. International Conferences and Schools

1. **Biophysical Society Meeting 2019**, Baltimore, MA, United States, March 2019

Poster with the title: A New Method to Prepare Asymmetric Unilamellar Vesicles: Hemifusion

DOI: <https://doi.org/10.1016/j.bpj.2018.11.474>

2. **Biophysical Society Meeting 2018**, San Francisco, CA, United States, February 2018.

Poster with the title: Measuring Partition Coefficient between Liquid-Disordered and Liquid-Ordered Phases. Why are Phase Diagrams Important to Know?

DOI: <https://doi.org/10.1016/j.bpj.2017.11.2484>

3. **Biophysical Society Meeting 2017**, New Orleans, LA, United States, February 2017.

Poster with the title: Probe Partition between Liquid-Disordered (Ld) and Liquid ordered (Lo) Phases and Investigation of Nanodomain Sizes.

DOI: <https://doi.org/10.1016/j.bpj.2016.11.2040>

Poster with the title (co-author): FWGWALP partitioning, orientation, and effect on bending moduli in models of the plasma membrane

DOI: <https://doi.org/10.1016/j.bpj.2016.11.2051>

4. **Biophysical Society Meeting 2016**, Los Angeles, CA, United States, February 2016.

Poster with the title: Partition coefficient of a Transmembrane Peptide, between Lo and Ld Phases: Does the Peptide Distinguish Macro from Nano Domains?

DOI: <https://doi.org/10.1016/j.bpj.2015.11.514>

5. **Biophysical Society Meeting 2015**, Baltimore, MA, United States, February 2015.

Poster with the title: Partitioning of the Transmembrane Peptide GWALP23 between Lo and Ld Phases in Macro and Nanoscale Domains. Nanometer-Scale Domains can be treated as a Phase.

DOI: <https://doi.org/10.1016/j.bpj.2014.11.504>

Poster with the title (co-author): Effect of electrostatic repulsion on DMPG bilayers.

DOI: <https://doi.org/10.1016/j.bpj.2014.11.1321>

6. **Biophysical Society Meeting 2014**, San Francisco, CA, United States, February 2014.

Poster with the title: The Interaction Between the Antimicrobial Peptide K-Hya1 and Model Membranes: Distinct Action in Neutral or Negatively Charged Bilayers

DOI: <https://doi.org/10.1016/j.bpj.2013.11.543>

7. **Biophysical Society Meeting 2013**, Philadelphia, PA, United States, February 2013.

Poster with the title: Light Scattering on the Structural characterization of DMPG vesicles along the bilayer anomalous phase transition.

DOI:<https://doi.org/10.1016/j.bpj.2012.11.489>

8. **Third South American Workshop, International Gregorio Weber Conference**, Buenos Aires, Argentina, December 2011.
9. **Workshop on Physics of Biological Membranes and Cell Shapes**, Natal, RN, Brazil, November 2010.
10. **VII Iberoamerican Congress of Biophysics**, Buzios, RJ, Brazil, July 2009.
11. **Summer School on Soft Matter Physics**, Sao Paulo, SP, Brazil, February 2006.