



Erik A. Rodriguez, Ph.D.

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Research and Teaching Experience


August 2017  Assistant Professor of Biophysical Chemistry, Department of Chemistry
The George Washington University, Washington, DC
Evolution of new fluorescent proteins, biosensors, and human imaging tools.

2009-2017  Postdoctoral Research with **Professor Roger Y. Tsien (2008 Nobel Laureate)**
University of California San Diego, La Jolla, CA
A far-red fluorescent protein evolved from a cyanobacterial phycobiliprotein.


Pioneered a novel fluorescent protein screen to select a new class of highly expressed, bright fluorescent proteins in *E. coli*. Expertise include organic synthesis of biliverdin analogs, extraction of phycocyanobilin from *Spirulina*, reverse phase high-performance liquid chromatography, mass spectrometry, molecular biology, DNA/RNA purification and manipulation (subcloning, random mutagenesis, and site-specific mutagenesis), PCR, native/denaturing gel electrophoresis, protein purification, antibody labeling, biophysical characterization of fluorescent proteins, cell culture (HEK293A, HeLa, PC3, HT1080, MDA, and JeKo-1 cell lines), lentiviral production, and fluorescence imaging of fluorescent proteins, dyes, and live cell antibody labeling (epifluorescence, confocal, time-lapse imaging (≥ 96 h), and mouse imaging). An undergraduate student, Geraldine Tran, performed research under my mentorship.

2003-2008  Graduate Research with **Professor Dennis A. Dougherty**
California Institute of Technology, Pasadena, CA
In vivo incorporation of multiple unnatural amino acids, development of improved suppressor tRNAs, and incorporation of fluorescent unnatural amino acids.

Developed novel tRNAs with enhanced efficiency for the incorporation of multiple unnatural amino acids. Expertise include organic synthesis of unnatural amino acids coupled to a dinucleotide, tRNA/mRNA transcription *in vitro*, enzymatic acylation of tRNA with unnatural amino acids, microinjection of *Xenopus* oocytes, Western blot analysis of ion channels expressed in oocytes, single molecule fluorescent imaging (TIRF microscopy), and high throughput electrophysiology.

2001-2002  Undergraduate Research with **Professor Dennis A. Dougherty**
California Institute of Technology, Pasadena, CA
In vivo incorporation of multiple unnatural amino acids.

Began independent research that would eventually be incorporated in my doctoral thesis.

2000  Undergraduate Research with **Professor Jacob Anglister**
Weizmann Institute of Science, Rehovot, Israel
NMR structure of an acetylcholine peptide with α -bungarotoxin.

Performed summer research to determine the structure of a snake venom protein in complex with an ion channel peptide. Skills include preparing samples, measuring two-dimensional NMR spectra with various pulse protocols, and assigning spectra.

2000-2002 **Teaching Assistant** for Undergraduate Organic & Inorganic Chemistry Labs
California Institute of Technology, Pasadena, CA




Maintained labs, checked pre-lab assignments, trained proper laboratory technique, and graded laboratory notebooks and reports. In the second year, I was the head-teaching assistant and gave assignments to other teaching assistants and organized grading.

Education

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|-----------|---|-----------|
| 2002-2008 | Ph.D., Chemistry with Professor Dennis A. Dougherty California Institute of Technology, Pasadena, CA | (GPA 4.1) |
| 1998-2002 | B.S., Chemistry, Graduation with Honors California Institute of Technology, Pasadena, CA | (GPA 3.6) |

Honors, Awards, and Fellowships

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|-----------|---|---|
| 2021 | Addgene Blue Flame Award. pLenti-smURFP sent to >100 labs. >600 plasmids shared with labs. | |
| 2020 | GW Postdoc Association's Postdoctoral Mentoring Award | |
| 2009-2012 | Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship, NIH | |
| 2009 | Demetriades-Tsafka-Kokkalis Prize in Biotechnology or Related Fields: This prize annually honors the best Caltech Ph.D. thesis submitted in the given category. |  |
| 2008 | Travel Grant from American Chemical Society Division of Biological Chemistry for ACS National Meeting, New Orleans, LA | |
| 2002-2005 | National Science Foundation Graduate Fellowship | |
| 2002 | Cambridge Scholars Program, University of Cambridge, England |  |
| 2002 | Benjamin A. Gilman Undergraduate Study Abroad Scholarship | |
| 2001-2002 | Mellon Mays Undergraduate Fellowship | |
| 1999-2002 | American Chemical Society's Scholars Program | |
| 1998-2001 | David & Lucile Packard Foundation Scholarship | |

Societies

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|--------------|---|
| 2002-Present | American Chemical Society Member |
| 1998-2004 | Society for Advancement of Hispanics/Chicanos and Native Americans in Science (SACNAS) Member |

Publications & Patents

1. Maiti, A., Buffalo, CZ., Saurabh, S., Montecinos-Franjola, F., Hachey, JS., Conlon, WJ., Tran, GN., Drobizhev, M., Hughes, TE., Moerner, WE., Ghosh, P., Matsuo, H., Tsien, RY., Lin, JY., and **Rodriguez, EA.***. **2021** "Crystal structure and biophysical characterization of the small ultra-red fluorescent protein evolved from a phycobiliprotein." *Corresponding author. *Experiments are completed, and the paper is in preparation for submission to Science Advances. The author list contains two Chemistry Nobel Laureates.*
2. Chen, N., An, F., Guo, H., Kommidi, H., Yang, X., **Rodriguez, EA.***, & Ting, R.*. "pH paper for cells: a ratiometric fluorescent probe using a modified far-red fluorescent protein nanosensor." *Co-corresponding authors. *The paper is under review.*
3. Almogbil, HH., Montecinos-Franjola, F., Daszynski, C., Conlon, WJ., Hachey, JS., Corazzal, G., **Rodriguez, EA.**, and Zderic, V.. **2021** "Therapeutic ultrasound for improving topical corneal delivery of macromolecules." *The paper is under review.*

4. Mattson, S., Montecinos-Franjola, F., Csikai, N., Zitoun, L., & **Rodriguez, EA.** “Single PCR mammalian expression generated array (MEGA) directed evolution of biomolecules.” **2021** US Provisional Application No. 63/290,024. *Patent covers a faster directed evolution of biomolecules that removes most molecular biology.*
5. Mattson, S., Tran, GN., and **Rodriguez, EA.*** **2021** “Evolution of the small ultra-red fluorescent protein in bacteria.” *Corresponding author. *Accepted in Methods in Molecular Biology.*
6. Machado, JH., Ting, R., Lin, JY., & **Rodriguez, EA.*** **2021** “A self-labeling protein based on the small ultra-red fluorescent protein, smURFP.” *RSC Chemical Biology*. **2**: 1221-1226. *Corresponding author. PMID: 34458834, PMCID: PMC8341759. <https://doi.org/10.1039/D1CB00127B>
7. Montecinos-Franjola, F., Lin, JY., & **Rodriguez, EA.** **2020** “Fluorescent proteins for *in vivo* imaging, where’s the biliverdin?” *Biochemical Society Transactions*. **48**: 2657–2667. PMID: 33196077. <https://doi.org/10.1042/BST20200444>
8. Mo, GCH., Posner, C., **Rodriguez, EA.**, Sun, T., & Zhang, J.. **2020** “Rationally enhanced red fluorescent protein expands the utility of FRET biosensors.” *Nature Communications*. **11**: 1848. PMID: 32296061, PMCID: PMC7160135. <https://doi.org/10.1038/s41467-020-15687-x>
9. An, F., Chen, N., Conlon, WJ., Hachey, JS., Xin, J., Aras, O., **Rodriguez, EA.***, & Ting, R.*. **2020** “Small ultra-red fluorescent protein nanoparticles as exogenous probes for noninvasive tumor imaging *in vivo*.” *International Journal of Biological Macromolecules*. **153**: 100-6. PMID: 32105698, PMCID: PMC7493049. *Co-corresponding authors. <https://doi.org/10.1016/j.ijbiomac.2020.02.253>
10. **Rodriguez, EA.***, Tran, GN., Lin, JL, Ting, R., & Tsien, RY.. **2019** “Allophycocyanin alpha-subunit evolved labeling proteins (smURFPs).” *US Patent*. No.: US20180201655A1. *Corresponding author. *Patent covers variants of smURFP and synthesis of biliverdin analogues.* <https://patents.google.com/patent/US20180201655A1> <https://pubchem.ncbi.nlm.nih.gov/patent/US20180201655>
11. Sadegh, S., Yang, MH., Ferri, CGL., Thunemann, M., Saisain, PA., Wei, Z., **Rodriguez, EA.**, Adams, SR., Kilic, K, Boas, DA., Sakadzic, S., Devor, A., & Fainman, Y.. **2019** “Efficient non-degenerate two-photon excitation for fluorescence microscopy.” *Optics Express*. **27(20)**: 28022-35. PMID: 31684560, PMCID: PMC6825618. <https://doi.org/10.1364/oe.27.028022>
12. Guo, H., Kommidi, H., Vedvyas, Y., McCloskey, JE., Zhang, J., Chen, N., Nurili, F., Wu, AP., Sayman, H., Akin, O., **Rodriguez, EA.**, Aras, O., Jin, MM., & Ting, R.. **2019** “A fluorescent, [¹⁸F]-positron-emitting agent for imaging PMSA allows genetic reporting in adoptively-transferred, genetically-modified cells.” *American Chemical Society Chemical Biology*. **14(7)**: 1449-59. PMID: 31120734, PMCID: PMC6775626. <https://doi.org/10.1021/acscchembio.9b00160>
13. Almogbil, H., Daszynski, C., **Rodriguez, EA.**, Singh, T., Stepp, MA., & Zderic, V.. **2019** “Therapeutic ultrasound for improving the topical corneal delivery of macromolecules.” *The Journal of the Acoustical Society of America*. **145(3)**: 1894. <https://doi.org/10.1121/1.5101867>
14. Smith, M., Burgos, M., & McCoy, F.. **2019** Science of the Sea: A Hawai’i-Based Perspective of Oceanography. Chapter 5 Chemistry of the Ocean. *Pueo Press*. ISBN-10: 179843038X. <https://www.amazon.com/Science-Sea-Hawaii-Based-Perspective-Oceanography/dp/179843038X> **EA. Rodriguez’s turtle image created with E. coli expressing CFP and mTangerine is featured in Ch. 5.**
15. Wang, Y., An, FF., Chan, M., Friedman, B., **Rodriguez, EA.**, Tsien, RY., Aras, O., & Ting, R.. **2017** “¹⁸F-positron-emitting/fluorescent labeled erythrocytes allow imaging of internal hemorrhage in

murine intracranial hemorrhage model.” *Journal of Cerebral Blood Flow and Metabolism*. **37(3)**: 776-86. PMID: 28054494, PMCID: PMC5363488. <https://doi.org/10.1177/0271678x16682510>

16. **Rodriguez, EA.***, Campbell*, RE., Lin, JY.*, Lin, MZ.*, Miyawaki, A.*, Palmer, AE.*, Shu, X.*, Zhang, J.*, & Tsien, RY.*. **2017** “The growing and glowing toolbox of fluorescent and photoactive proteins.” *Trends in Biochemical Sciences*. **42(2)**: 111-29. PMID: 27814948, PMCID: PMC5272834. *Co-corresponding authors. <https://doi.org/10.1016/j.tibs.2016.09.010> This paper has been tweeted to >500,000 people. This paper is in the top 99th percentile of all papers tracked by Altmetric. **EA. Rodriguez** designed the cover. Chosen as one of the Best of Trends 2017. Paper cited 353 times as of June 9, 2021.
17. **Rodriguez, EA.***, Shaner, NC.*, Lin, MZ.*, & Campbell, RE.*. **2016** “Roger Y. Tsien (1952-2016).” *Nature Methods*. **13(11)**: 893. *Co-corresponding authors. <https://doi.org/10.1038/nmeth.4044>
18. **Rodriguez, EA.***, Tran, GN., Gross, LA., Crisp, JC., Shu, XS., Lin, JY., & Tsien, RY.. **2016** “A far-red fluorescent protein evolved from a cyanobacterial phycobiliprotein.” *Nature Methods*. **13(9)**: 763-9. PMID: 27479328, PMCID: PMC5007177. *Corresponding author. <https://doi.org/10.1038/nmeth.3935> This paper has been tweeted to >300,000 people. smURFP constructs have been requested >700 times in >25 countries from Addgene. smURFP has a Wikipedia page. This paper is in the top 99th percentile of all papers tracked by Altmetric. **EA. Rodriguez** designed the cover. Dedicated to the memory of Roger Y. Tsien. Paper cited 125 times as of June 9, 2021.
19. **Rodriguez, EA.**, Wang, Y., Crisp, JL., Vera, DR., Tsien, RY., & Ting, R.. **2016** “New dioxaborolane chemistry enables ¹⁸F-positron-emitting, fluorescent ¹⁸F-multimodality biomolecule generation from the solid phase.” *Bioconjugate Chemistry*. **27(5)**: 1390-9. PMID: 27064381, PMCID: PMC4916912. <https://doi.org/10.1021/acs.bioconjchem.6b00164> The technology has been tested in humans without toxicity or death. Fully funded companies are started in New York, New York to test the technology in the FDA clinical trials.
20. Li, Y., Barber, Q., Paproski, R.J., Enterina, J.R., **Rodriguez, EA.**, Tsien, RY., Campbell, RE., & Zemp, R.J.. **2016** “Engineering a near-infrared dark chromoprotein optimized for photoacoustic imaging.” *Proc. SPIE 9708, Photons Plus Ultrasound: Imaging and Sensing 2016*. 97081Z. <https://doi.org/10.1117/12.2209150>
21. **Rodriguez, EA.**, Ngo, J.T., Palida, S.F., Adams, S.R., Mackey, M.R., Ramachandra, R., Ellisman, M.H., & Tsien, RY.. **2015** “New molecular tools for light and electron microscopy.” *Microscopy and Microanalysis*. **21(Suppl 3)**: 1-2. <https://doi.org/10.1017/s143192761500080x>
22. Pantoja, R., **Rodriguez, EA.**, Dibas, M.I., Dougherty, D.A., & Lester, H.A.. **2009** “Single-molecule imaging of a fluorescent unnatural amino acid incorporated into nicotinic receptors.” *Biophysical Journal*. **96(1)**: 226-37. PMID: 19134478, PMCID: PMC2710013. <https://doi.org/10.1016/j.bpj.2008.09.034>
23. **Rodriguez, EA.**, Lester, H.A., & Dougherty, D.A.. **2007** “Improved amber and opal suppressor tRNAs for incorporation of unnatural amino acids *in vivo*. Part 1: Minimizing misacylation.” *RNA*. **13**: 1703-14. PMID: 17698638, PMCID: PMC1986802. <https://doi.org/10.1261/rna.666807>
24. **Rodriguez, EA.**, Lester, H.A., & Dougherty, D.A.. **2007** “Improved amber and opal suppressor tRNAs for incorporation of unnatural amino acids *in vivo*. Part 2: Evaluating suppression efficiency.” *RNA*. **13**: 1715-22. PMID: 17698637, PMCID: PMC1986817. <https://doi.org/10.1261/rna.667607>
25. **Rodriguez, EA.**, Lester, H.A., & Dougherty, D.A.. **2006** “*In vivo* incorporation of multiple unnatural amino acids through nonsense and frameshift suppression.” Direct submission to the *Proceedings of*

26. Samson, AO., Chill, JH., **Rodriguez, E.**, Scherf, T., & Anglister, J.. **2001** “NMR mapping and secondary structure determination of the major acetylcholine receptor α -subunit determinant interacting with α -bungarotoxin.” *Biochemistry*. **40(18):** 5464-73. PMID: 11331011. <https://doi.org/10.1021/bi0022689>

All publications can be found at the following links:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/erik.rodriguez.1/bibliography/40787605/public/>

<http://orcid.org/0000-0001-9143-2535>

<https://scholar.google.com/citations?user=RdwYA90AAAAJ&hl=en>

Patents

1. Mattson, S., Montecinos-Franjola, F., Csikai, N., Zitoun, L., & **Rodriguez, EA.** “Single PCR mammalian expression generated array (MEGA) directed evolution of biomolecules.” **2021** US Provisional Application No. 63/290,024. *Patent covers a faster directed evolution of biomolecules that removes most molecular biology.*
2. **Rodriguez, EA.**, Tran, GN., Lin, JL, Ting, R., & Tsien, RY.. “Allophycocyanin alpha-subunit evolved labeling proteins (smURFPs).” **2019** US Patent. No.: US20180201655A1. *Patent covers variants of smURFP and synthesis of biliverdin analogues.*

Abstracts and Presentations

1. **Rodriguez, EA.** **2021** “Tools to Image in Animals and Humans.” Oral presentation. Pacificchem, Biological Symposium #58 Chemical Tools for Imaging Biology Beyond the Culture Dish, Honolulu, HI.
2. **Rodriguez, EA.** **2021** “Tools to Image in Animals and Humans.” Oral presentation. Pacificchem, Organic Symposium #353 Probe Design Guided Research for Multimodal Molecular Imaging, Honolulu, HI.
3. **Rodriguez, EA.** **2021** “Tools to Image in Animals and Humans.” Oral presentation. Pacificchem, Nanotechnology Symposium #332 Chemistry and Applications of Protein and Virus-Based Nanotechnologies, Honolulu, HI.
4. **Rodriguez, EA.** **2021** “Tools to Image Single Molecules to Human Disease.” Invited seminar talk, GW Dept. of Biochemistry & Molecular Medicine in the School of Medicine & Health Sciences, Virtual Meeting.
5. **Rodriguez, EA.** **2021** “Evolution of Novel Fluorescent Proteins to Develop Imaging Tools For Cellular & Human Disease.” Invited seminar talk, Vassar College Dept. of Chemistry, Virtual Meeting.
6. Almogbil, H., Daszynski, C., **Rodriguez, EA.**, Singh, T., Stepp, MA., & Zderic, V.. **2020** “Therapeutic ultrasound for improving the topical corneal delivery of macromolecules.” Abstract submitted, Biomedical Engineering Society Annual Meeting, Virtual Meeting.
7. **Rodriguez, EA.** **September 2020** “My experience as a postdoctoral scholar in a Nobel Laureate’s laboratory.” Invited Speaker Award. GW Postdoc Association's Annual Postdoc Appreciation Day, Virtual Meeting.

8. Lin, J., Zbela, A., Devenish, E., Lockyer, J., Reading, A., Gell, D., & **Rodriguez, EA.. 2020** “Optogenetic Manipulation of Synaptic Plasticity and Intracellular Signaling.” Abstract selected for poster, Sixth Annual BRAIN Initiative Investigators Meeting, Virtual Meeting.
9. **Rodriguez,EA.. 2019** “Tools to image single molecules to human disease.” Invited speaker, NIH BRAIN Initiative® Chemogenetics Workshop, Rockville, MD. Permanent link to all presentations: <https://videocast.nih.gov/watch=34961>
10. **Rodriguez,EA.. 2019** “Tools to image single molecules to human disease.” Invited speaker, The Menzies Institute for Medical Research in Hobart, Tasmania.
11. **Rodriguez,EA.. 2019** “Tools to image single molecules to human disease.” Invited speaker, 14th International Conference on Tetrapyrrole Photoreceptors of Photosynthetic Organisms (ICTPPO), Sydney, Australia.
12. **Rodriguez, EA.. 2019** “Using fluorescent proteins and genetically encoded sensors.” Invited speaker. GW Nanofabrication & Imaging Center (GWNIC) Correlative Light and Electron Microscopy Workshop, Washington, DC.
13. Almogbil, H., Daszynski, C., **Rodriguez, EA.,** Singh, T., Stepp, MA., & Zderic, V.. **2019** “Therapeutic ultrasound for improving the topical corneal delivery of macromolecules.” Abstract selected for presentation by H. Almogbil. Acoustical Society of America Meeting, Louisville, KY.
14. Lin, J., Zbela, A., Devenish, E., Lockyer, J., Reading, A., Gell, D., & **Rodriguez, EA.. 2019** “Optogenetic Manipulation of Synaptic Plasticity and Intracellular Signaling.” Abstract selected for poster, Fifth Annual BRAIN Initiative Investigators Meeting, Washington, DC.
15. **Rodriguez, EA.. 2018** “Tools to image single molecules to human disease.” Abstract selected for presentation, International Meeting on Optical Biosensors, Ghent, Belgium.
16. **Rodriguez, EA.. 2018** “Tools to image single molecules to human disease.” Invited speaker, Janelia Research Campus, Fluorescent Proteins and Biological Sensors VI, Ashburn, VA.
17. **Rodriguez, EA.. 2018** “Using fluorescent proteins and genetically encoded sensors.” Invited speaker. GW Nanofabrication & Imaging Center (GWNIC) Correlative Light and Electron Microscopy Workshop, Washington DC.
18. **Rodriguez, EA., 2018** “Developing Tools to Image and Treat Cancer.” Invited speaker. GW Cancer Center Basic Sciences Scientific Retreat, Washington, DC.
19. **Rodriguez, EA.. 2018** “Developing Tools to Image and Treat Cancer.” GW Cancer Center Research in Progress: What Are Our Faculty Currently Researching? Invited speaker. Washington, DC.
20. **Rodriguez, EA.. 2018** “Developing Tools to Image Single Molecules to Human Disease.” GW Nanofabrication & Imaging Center (GWNIC) Lunch & Learn. Invited speaker. Washington, DC.
21. **Rodriguez, EA.. 2017** “Developing Tools to Image Single Molecules to Human Disease.” Invited speaker. GW Biomedical Engineering Day: Innovations in Biomedical Engineering, Department of Biomedical Engineering, The George Washington University, Washington, DC.
22. Yang, MH., Ferri, CGL., Thunemann, M, Sadegh, S., Saisan, PA., **Rodriguez, EA.,** Adams, SR., Vinogradov, SA., Devor, A., & Fainman, Y. **2017** “Non-degenerative two-photon excitation for increased fluorophore brightness and deep tissue imaging.” Abstract selected for poster. Society for Neuroscience, Washington, DC.

23. **Rodriguez, EA.. 2017** “smURFP, a far-red fluorescent protein evolved from a cyanobacterial phycobilisome.” Invited speaker. NIH Future Research Leaders Conference, Bethesda, MD.
24. **Rodriguez, EA.. 2017** “smURFP, a far-red fluorescent protein evolved from a cyanobacterial phycobilisome.” Invited speaker. 13th International Conference on Tetrapyrrole Photoreceptors of Photosynthetic Organisms (ICTPPO), Chicago, IL.
25. **Rodriguez, EA.. 2017** “A far-red fluorescent protein evolved from a cyanobacterial phycobiliprotein.” Invited seminar speaker. University of California, Riverside, CMDB/GGB Course, Riverside, CA.
26. **Rodriguez, EA., Lin, JY. & Tsien, RY.. 2016** “A far-red fluorescent protein evolved from a cyanobacterial phycobiliprotein.” Invited speaker. Janelia Research Campus, Fluorescent Proteins and Biological Sensors V, Ashburn, VA.
27. Li, Y., Barber, Q., Paproski, R., Enterina, JR., **Rodriguez, EA.,** Tsien, RY., Campbell, RE., & Zemp, R.. **2016** “Engineering a near-infrared dark chromoprotein optimized for photoacoustic imaging.” Abstract for poster. SPIE, Photons Plus Ultrasound: Imaging and Sensing, San Francisco, CA.
28. **Rodriguez, EA., Lin, JY. & Tsien, RY.. 2016** “A far-red fluorescent protein evolved from a cyanobacterial phycobiliprotein.” Invited speaker. Janelia Research Campus, Junior Scientist Workshop on Protein Engineering, Ashburn, VA.
29. **Rodriguez, EA., Tran, GN., & Tsien, RY.. 2015** “A far-red fluorescent protein evolved from the phycobilisome of a cyanobacteria.” Invited speaker. Pacificchem, Symposium #180 Fluorescent and Luminescent Proteins: New Chemistries and Functions, Honolulu, HI.
30. **Rodriguez, EA.. 2015** “A far-red fluorescent protein evolved from the phycobilisome of a cyanobacteria.” Invited speaker. 25th Annual Cytometry Development Workshop, San Diego, CA.
31. **Rodriguez, EA., Ngo, JT., Palida, SF., Adams, SR., Mackey, MR., Ramachandra, R., Ellisman, MH., & Tsien, RY.. 2015** “New molecular tools for light and electron microscopy.” Roger Y. Tsien was invited as plenary speaker. Microscopy & Microanalysis, Portland, OR.
32. **Rodriguez, EA., Tran, GN., Lin, JY., Gross, LA., & Tsien, RY.. 2014** “A photostable, far-red fluorescent protein evolved from cyanobacteria.” Abstract selected for oral presentation after keynote speaker, WE. Moerner (2014 Chemistry Nobel Laureate), FB³ Fluorescent Biomolecules & Their Building Blocks: Design & Applications, La Jolla, CA.
33. Pantoja, R., **Rodriguez, EA., Tzlil, S., Wade, L., Dougherty, DA., & Lester, HA.. 2009** “Characterizing the architecture of nicotinic receptors with quantum dot-based fluorescence microscopy.” Abstract selected for poster presentation. Biophysical Society Annual Meeting, Boston, MA.
34. **Rodriguez, EA., Lester, HA., & Dougherty, DA.. 2008** “Multiple unnatural amino acid incorporation *in vivo*: Development of improved suppressor tRNAs.” Abstract selected for poster presentation. American Chemical Society national meeting, New Orleans, LA.
35. Pantoja, R., **Rodriguez, EA., Dibas, MI., Dougherty, DA., & Lester, HA.. 2007** “Detection of fluorescent unnatural amino acids, ligands, and GFP moieties incorporated into single nicotinic receptor molecules.” Abstract selected for poster presentation. Biophysical Society annual meeting, Baltimore, MD.

Sharing Technology:

Plasmid DNA of fluorescent proteins were requested >600 times in >25 countries from Addgene. I received the Addgene Blue Flame Award in January 2021 for pLenti-smURFP being shared >100 times. I provide advice and answer questions of any researcher using my material by email or Twitter. A Wikipedia page was created for detailed help and protocols: <https://en.wikipedia.org/wiki/SmURFP>.

Manuscript Reviews:

I have reviewed papers for Nature Biotechnology, Nature Methods, Journal of the American Chemical Society, Angewandte Chemie, Proceedings of the National Academy of Sciences of the United States of America, Scientific Reports, and Cellular and Molecular Life Sciences.

Reviewed Grants:

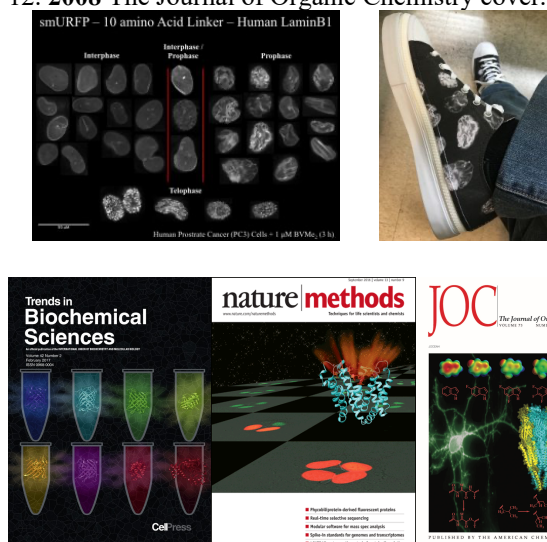
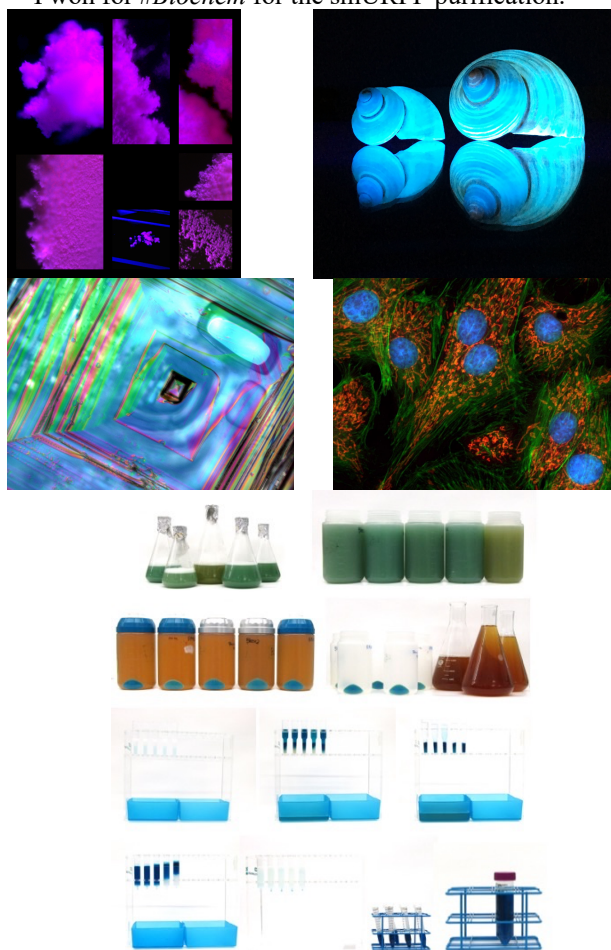
I have reviewed grants for National Science Foundation.

Media Coverage:

1. MatTek Life Sciences. Sharing Your Science! **Erik A. Rodriguez** was a featured researcher. **February 2021**. <https://us11.campaign-archive.com/?u=1c4d6df528dfadd7709bd6d70&id=d8ec78bfc6>
2. The 2020 #RealTimeChem Week Awards. Chemistry & Engineering News (C&EN), **December 2020**. *Theme was #ChemAtHome and **Erik A. Rodriguez** won for #EverydayFluorescence. Article featured online and in print.* <https://cen.acs.org/education/outreach/Best-ChemAtHome/98/web/2020/12>
3. **Erik A. Rodriguez** wins the 2020 Optical Society and Optics & Photonics News International Photo Contest! **December 2020**. *Article featured online and in print.* https://www.osa-opn.org/home/gallery/photo_contests/photo_contest_2020/
4. Worldwide, live broadcast and permanent video on NIH website. **Rodriguez, EA.. December 2019** "Tools to image single molecules to human disease." Invited speaker, NIH BRAIN Initiative® Chemogenetics Workshop, Rockville, MD. (Presented after Mikhail Shapiro (Caltech), 6 h: 42 min.) Permanent link to all presentations: <https://videocast.nih.gov/watch=34961>
5. Periodic table inspired chemistree competition winners crowned. **December 2018**. The International Chemistree Competition is sponsored by the Royal Society of Chemistry, UK. *Lab won most 'chemified' Christmas tree with strontium aluminate, europium, & anthracene thread.* <https://www.chemistryworld.com/news/periodic-table-inspired-chemistree-competition-winners-crowned/3009936.article>
6. The 2018 #RealTimeChem Week Awards. Chemistry & Engineering News (C&EN), **November 2018**. *I won for #BioChem and runner up for #AnalyticalChem. Article featured online and in print.* <https://cen.acs.org/people/awards/2018-RealTimeChem-Week-Awards/96/web/2018/11>
7. Living Art: When a Chemistry Lab Doubles as an Art Studio, CCAS Spotlight, **April 2018**. <https://www.gwhatchet.com/2018/04/23/chemistry-professor-crafts-fluorescent-art-using-lab-materials/>
8. Chemistry professor crafts fluorescent art using lab materials, The GW Hatchet, **April 2018**. <https://columbian.gwu.edu/living-art-when-chemistry-lab-doubles-art-studio>
9. Chemistry in Pictures: Brilliant bacteria, Chemistry & Engineering News (C&EN), **January 2018**. <https://cen.acs.org/articles/96/web/2018/01/Chemistry-Pictures-Brilliant-bacteria.html>
10. Chemistry in Pictures: An eye for dye, Chemistry & Engineering News (C&EN), **December 2017**. <https://cen.acs.org/articles/95/web/2017/12/Chemistry-Pictures-eye-dye.html>

Image Awards, Cover Art, & Competitions

1. **2021** Elemental Art Contest by the ACS & the Division of History of Chemistry. I won 1st place for "Europium".
2. **2020** #RealTimeChem Week, C&EN News. I won for #EverydayFluorescence of shells.
3. **2020** Optical Society and Optics & Photonics News International Photo Contest winner for table salt polarization microscopy image.
4. **2020** Wiki Science Competition winner in the United States for fluorescent coral movie, polarization microscopy of black ink, and fluorescence microscopy of cells.
5. **2018** #RealTimeChem Week, C&EN News. I won for #Biochem for the smURFP purification.
6. **2017** Wiki Science Competition winner in the United States for birth of a multi-nucleated cell & green fluorescent protein structure movies.
7. **2017** Thermo Fisher Scientific Cell Imaging Competition. I won for smURFP-LaminB1 fusion and received custom printed shoes.
8. **2017** Eppendorf CELLebrate Your Experiment Contest. I won for purification of smURFP.
9. **2017** Trends in Biochemical Sciences cover.
10. **2016** Nature Methods cover.
11. **2015** MatTek Image Contest. I won for the far-red and near-infrared cell cycle movie.
12. **2008** The Journal of Organic Chemistry cover.



Social Media, Internet, & Obtaining DNA



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