

Walter Gabriel Gonzalez

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Link to publications

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

ACADEMIC APPOINTMENTS

Assistant Professor 01/2023-present

Department of Physiology

School of Medicine

University of California San Francisco

EDUCATION

Postdoctoral Scholar 2016-2022

Division of Biology and Biological Engineering

California Institute of Technology

Doctor of Philosophy in Chemistry 2011-2016

Chemistry Department

Florida International University

Bachelor in Physics 2006-2010

Physics Department

Florida International University

PUBLICATIONS

- 2020 Li, Y., Gonzalez, W.G., Andreev, A., Tang, W., Gandhi, S., Cunha, A., Prober, D., Lois, C. and Bronner, M.E. Macropinocytosis-mediated membrane recycling drives neural crest migration by delivering F-actin to the lamellipodium. *PNAS* 117 (44) 27400-27411.
- 2019 Gonzalez, W. G.; Zhang, H.; Harutyunyan, A.; Lois, C. Persistence of neuronal representations through time and damage in the hippocampus. *Science* 365 (6455) 821-825.
- 2019 *Li, Y.; *Viecelli, F. M.; *Gonzalez, W. G.; Li, A.; Tang, W.; Lois, C.; Bronner, M. E. In vivo quantitative imaging provides new insights into trunk neural crest migration. *Cell Reports* 26:6, 1489-1500. (*Equal contribution.)
- 2018 Molano-Arevalo, J. C.; Gonzalez, W. G.; Miksovskaja, J.; Maitre, P.; Fernandez-Lima, F. Insights from TIMS-MS, IR spectroscopy and molecular dynamics on Nicotinamide Adenine Dinucleotide structural Dynamics: NAD⁺ vs NADH. *Physical Chemistry Chemical Physics*, 20 (10) 7043-7052.
- 2016 Gu, Maxwell; Berrido, Andrea; Gonzalez, Walter G.; Miksovskaja, Jaroslava; Chambers, Jeremy; Leng, Fenfei. Fluorescently labeled DNA molecules for analysis of DNA topology and topoisomerases by fluorescence resonance energy transfer. *Scientific Reports*, 6, 36006.
- 2016 Kavoosi, S.; Rayala, R.; Walsh, B.; Barrios, M.; Gonzalez, Walter G.; Miksovskaja, J.; Wnuk, S. F.; Synthesis of 8-(1, 2, 3-triazol-1-yl)-7-deazapurine nucleosides by azide-

- alkyne click reactions and direct C-H bond functionalization. *Tetrahedron Letters*, 57(39), 4364-4367.
- 2016 Gonzalez Walter G; Ramos, Victoria; Diaz, Maurizio; and Miksovskaja, J.; Photophysics, thermodynamics and structural properties of the Terbium(III)-KChIP3 complex. *Biochemistry*; 55 (12), 1873-86.
- 2015 Gonzalez, Walter G; Andres S. Arango; Miksovskaja, Jaroslava; Amphiphilic residues 29-44 of DREAM N-termini mediate the calmodulin:DREAM complex formation. *Biochemistry*; 54 (28), 4391-4403.
- 2015 Jessica Zayas, Marie Annoual, Jayanta Kumar Das, Quentin Felty, Walter G. Gonzalez, Jaroslava Miksovskaja, and Stanislaw F. Wnuk; Strain Promoted Click Chemistry of 2- or 8-Azidopurine and 5-Azidopyrimidine Nucleosides and Nucleotides with Cyclooctynes. *Bioconjugate Chemistry*; 26 (8), 1519-1532.
- 2015 Haiyang Liu, Richard Lantz, Patrick Cosme, Nelson Rivera, Carlos Andino, Walter G. Gonzalez, Andrew C. Terentis, Ewa P. Wojcikiewicz, Rolando Oyola, Jaroslava Miksovskaja and Deguo Du; Site-Specific Dynamics of Amyloid Formation and Fibrillar Configuration of A β 1-23 Using an Unnatural Amino Acid. *Chemistry Communications*; 51(32): 7000-3.
- 2015 Khoa Pham, Gangadhar Dhulipala, Walter G. Gonzalez, Bernard S. Gerstman. Chola Regmi, Prem P. Chapagain, and Jaroslava Miksovskaja; Ca²⁺ and Mg²⁺ modulate conformational dynamics and stability of Downstream Regulatory Element Antagonist Modulator. *Protein Science*; 24(5): 741-51.
- 2014 Gonzalez, Walter G; Pham, Khoa; Miksovskaja, Jaroslava; Modulation of the Voltage-gated Potassium Channel (Kv4. 3) and the Auxiliary Protein (KChIP3) Interactions by the Current Activator NS5806. *Journal of Biological Chemistry*; 289 (46): 32201-32213.
- 2014 Molano-Arevalo, Juan Camilo; Hernandez, Diana R.; Gonzalez, Walter G; Miksovskaja, Jaroslava; Ridgeway, Mark E.; Park, Melvin A.; Fernandez-Lima, Francisco; Flavin Adenine Dinucleotide structural motifs: from solution to gas-phase. *Analytical Chemistry*, 86 (20): 10223–10230
- 2014 Gonzalez, Walter G; Miksovskaja, Jaroslava; Application of ANS fluorescent probes to identify hydrophobic sites on the surface of DREAM. *Biochimica et Biophysica Acta-Proteins and Proteomics*; 1844 (9): 1472-1480.
- 2014 Gonzalez, Walter G; Miksovskaja, Jaroslava; Submillisecond Conformational Changes in Proteins Resolved by Photothermal Beam Deflection. *Journal of Visualized Experiments*; 8; e50969-e50969.
- 2014 Dhuguru, Jyothi; Liu, Wenjun; Gonzalez, Walter G; Babinchak, William Michael; Miksovskaja, Jaroslava; Landgraf, Ralf; Wilson, James N; Emission Tuning of Fluorescent Kinase Inhibitors: Conjugation Length and Substituent Effects. *Journal of organic Chemistry*; 79 (11): 4940–4947.
- 2012 Li, Shanghao; Aphale, Ashish N; Macwan, Isaac G; Patra, Prabir K; Gonzalez, Walter G; Miksovskaja, Jaroslava; Leblanc, Roger M; Graphene Oxide as a Quencher for Fluorescent Assay of Amino Acids, Peptides, and Proteins. *ACS applied materials & interfaces*; 4 (12): 7069-7075.
- 2012 Adjaye-Mensah, Edward; Gonzalez, Walter G; Bussé, David R; Captain, Burjor; Miksovskaja, Jaroslava; Wilson, James N; Emission Switching of 4, 6-Diphenylpyrimidones: Solvent and Solid State Effects. *The Journal of Physical Chemistry A*; 116 (34): 8671-8677.
- 2012 Adjaye-Mensah, Edward; Gonzalez, Walter G; Miksovskaja, Jaroslava; Wilson, James N; Photophysical Characterization of a Benzo-Fused Analogue of Brooker's Merocyanine: Solvent Polarity and pH Effects. *The Journal of Physical Chemistry A*; 116 (51): 12470-12475.

2012 Gantar, M; Simovic, D; Djilas, S; Gonzalez, Walter, G; Miksovska, J; Isolation, characterization and antioxidative activity of C-phycoerythrin from *Limnospira* sp strain 37-2-1. *Journal of Biotechnology*; 159 (1-2): 21-26.

FELLOWSHIPS AND GRANTS

2024 - 2029 Freeman Hrabowski Scholar, (\$2M) Howard Hughes Medical Institute.
2023 - 2028 Biohub Investigator, (\$1M) Chan Zuckerberg Biohub.
2018 - 2026 Career Award at the Scientific Interface (\$500k), Burroughs Wellcome Fund.
2017 - 2019 Postdoctoral Fellowship (\$180k), American Heart Association.
2016 - 2018 Della Martin Fellowship in Mental Illness (\$90k), Caltech.
2016 - 2019 Postdoctoral Enrichment Program (\$60k), Burroughs Wellcome Fund.
2015 - 2016 MBRS RISE Graduate Fellowship (\$60k), Florida International University.

AWARDS AND HONORS

2023 HHMI Freeman Hrabowski Semifinalist, HHMI.
2016 Outstanding Graduate, Chemistry & Biochemistry Department, FIU.
2016 Best Graduate Student, South Florida American Chemical Society.
2016 Worlds Ahead Graduate, Florida International University.
2015 LFD Workshop Award, 10th LFD workshop, University of California Irvine.
2015 Graduate Presentation 1st place, 2015 MBRS RISE Symposium.
2015 Summer Research Award, NIH Biomedical Research Initiative.
2015 13th Raymond N. Castle Conference Graduate Presentation award, USF.
2015 Biophysical Society Travel Award, Biophysical Society.
2014 Summer Research Award, NIH Biomedical Research Initiative.
2013 12th Raymond N. Castle Conference Presentation Award, USF.
2013 Summer Research Award, NIH Biomedical Research Initiative.
2013 ACS South Florida travel award, American Chemical Society.
2012 Graduate Research Award, FIU Dept. of Chemistry and Biochemistry.
2011 Graduate Presentation 2nd prize, ACS Florida Annual Meeting and Exposition.

INVITED TALKS

2019 Gonzalez, G. Walter. The Signal in the Noise. Integrative Center for Learning and Memory, University of California Los Angeles.
2019 Gonzalez, G. Walter. Persistence of neuronal representations through time and damage in the hippocampus. Integrative Center for Learning and Memory, University of California Los Angeles.
2015 Gonzalez G. Walter. Protein interactions and allosteric control in calcium binding proteins. Undergraduate Senior Seminar, Florida International University.

PRESENTATIONS

2019 BRAIN Initiative Alliance Toolmakers Social; Chicago, Illinois.
2019 49th Meeting of the Society for Neuroscience; Chicago, Illinois.
2018 New Dimensions in Computational Neuroscience Symposium; Caltech.
2016 Biomedical & Comparative Immunology (BCI) Symposium. Miami, Florida.
2016 Biophysical Society 60th Annual Meeting; San Francisco, California.

- 2015 Laboratory of Fluorescence Dynamics Workshop, UC Irvine. (Poster)
- 2015 MARC U*STAR & MBRS RISE Biomedical Research Mini-Symposium
- 2015 250th ACS National Meeting and Exposition; Boston, Massachusetts.
- 2015 91st Florida Annual Meeting and Exposition of the ACS; Tampa, Florida.
- 2015 13^h Raymond N. Castle Student Research Conference; Tampa, Florida.
- 2015 17th Comparative Immunology Symposium; Miami, Florida. (Poster)
- 2015 Biophysical Society 59th Annual Meeting; Baltimore, Maryland. (Poster)
- 2015 South East Regional Meeting of the ACS; Nashville, Tennessee.
- 2015 16th Comparative Immunology Symposium. Miami, Florida.
- 2014 Biophysical Society 58th Annual Meeting; San Francisco, California. (Poster)
- 2013 Biophysical Society 57th Annual Meeting; Philadelphia, Pennsylvania.(Poster)
- 2013 245th ACS National Meeting and Exposition; New Orleans, Louisiana. (Poster)
- 2012 South East Regional Meeting of the ACS; Raleigh, North Carolina.
- 2012 89th Florida Annual Meeting and Exposition of the ACS; Tampa, Florida. (Poster)
- 2012 11th Raymond N. Castle Student Research Conference; Tampa, Florida. (Poster)
- 2012 Biophysical Society 56th Annual Meeting; San Diego, California. (Poster)
- 2012 South East Regional Meeting of the ACS; Richmond, Virginia.
- 2011 88th Florida Annual Meeting and Exposition of the ACS; Tampa, Florida. (Poster)
- 2011 FIU Graduate symposium; Miami, Florida. (Poster)

CONFERENCE ABSTRACTS

- 2015 Gonzalez, Walter G; Miksovskaja, Jaroslava; Characterization of the photophysical, thermodynamic and structural properties of the Terbium(III)-KChIP3 complex. Biophysical Journal; 108 (2), pp 218a.
- 2015 Gonzalez, Walter G; Arango, Andres; Miksovskaja, Jaroslava; The N- terminal extension of KChIP-3 is responsible for KChIP-3: calmodulin complex formation. Biophysical Journal; 108 (2), pp 279a.
- 2015 Gonzalez, Walter G; Andres S. Arango; Miksovskaja, Jaroslava; Interaction-based analysis of the mechanism by which the extended amphiphilic N-terminus of DREAM mediates calmodulin binding. Abstracts, 66th Southeast Regional Meeting of the American Chemical Society, Nashville, TN, United States, October 16-19, Pages SERMACS-566.
- 2014 Gonzalez, Walter G; Miksovskaja, Jaroslava; Study of the Dynamic and Thermodynamic Calcium Induced Transition in the Downstream Regulatory Element Antagonist Modulator (DREAM) using Photothermal Beam Deflection (PBD). Biophysical Journal; 106 (2), pp 659a.
- 2013 Gonzalez, Walter; Miksovskaja, Jaroslava; Modulation of the K_v4. 3-KchIP3 Interactions by Ca²⁺ and NS5806. Biophysical Journal; 104 (102)
- 2012 Gonzalez, Walter; Miksovskaja, Jaroslava; Ca²⁺ and Mg²⁺ Induced Conformational Changes in Downstream Regulatory Antagonist Modulator (DREAM) Measured by Extrinsic Hydrophobic Probes. Biophysical Journal 102 (3), pp 507a.
- 2011 Gonzalez, Walter; Miksovskaja, Jaroslava; Ca²⁺ and Mg²⁺ induced conformational changes on DREAM (Downstream Regulatory Element Antagonist Modulator) measured by extrinsic hydrophobic probes. Abstracts, 63rd Southeast Regional Meeting of the American Chemical Society, Richmond, VA, United States, October 26-29, Pages SERM-484.

TRAINING WORKSHOPS

2017 Summer Program in Neuroscience, Excellence and Success, Univ. of Chicago .
2015 10th LFD Workshop in Advanced Imaging, UC Irvine, California.
2015 12th Advanced Imaging Methods Workshop, UC Berkeley, California.
2014 Principles of Fluorescence Technique Course, Champaign, Illinois.

PROFESSIONAL MEMBERSHIPS

2020 – present Society for Advancement of Chicanos and Native Americans in
Science (SACNAS)
2016 – present Society for Neuroscience
2011 – 2020 Biophysical Society
2012 – 2018 American Heart Association
2011 – 2018 American Chemical Society

TEACHING/SUPERVISING STUDENTS

Technicians

Jonathan Barnett (05/2019 to 09/2021)
Anna Harutyunyan (07/2018 to 02/2019)

Undergraduates

Jessica Ye (01/2018 to 01/2020)
Hanwen Zhang (01/2017 to 2019)
Joseph Hernandez (06/2015 to 03/30/2016) – MARC fellow
Andres Arango (06/2012 to 03/30/2016) – MBRS fellow, **UIUC 2016**
Ana Vila (12/2014 to 07/01/2015)
Victoria Ramos (09/2014 to 03/30/2016) – **BU, 2016**
Antonio Santana (12/2014 to 08/31/2015)
Dorian Delgado (06/2015 09/2015)
David Perez (04/2015 to 07/21/2015) – visiting REU student, **UF 2016**
Norman Mayorga (05/2013 to 04/2014)

High School

Maurizio Diaz (04/2014 to 03/30/2016) - Bill and Melinda Gates Fellow – MIT 2016
Anna Rondon (04/2013 to 08/2013)

COURSES TAUGHT

Florida International University

Summer 2014

CHM1046L – General chemistry laboratory II (two sections enrollment: 30)

Fall 2014

CHM1046L – General chemistry laboratory II (two sections enrollment: 35)

Spring 2015

CHM1046L – General chemistry laboratory II (two sections enrollment: 27)