

Curriculum Vitae

DATE: January 11, 2016

I. PERSONAL

Name: Sapna Deo
Home Phone: 305-809-8036
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Home Office: n/a
Current Academic Rank: Associate Professor
Current Track of Appointment: Tenured
Primary Department: Biochemistry
Secondary or Joint Appointments: none
Citizenship: USA
Visa Type: n/a

II. HIGHER EDUCATION

Institutional

University of Kentucky, Lexington, KY.
Ph.D. in Bioanalytical Chemistry, 1996-2000
Thesis: Luminescent Proteins from *Aequorea Victoria*: Applications in Bioanalysis

University of Bombay, Bombay, India.
Bachelor of Pharmaceutical Sciences, 1992-1994

University of Bombay, Bombay, India.
Bachelor of Science (Chemistry), 1988-1992

Non-Institutional: none
Certification, Licensure: none

III. EXPERIENCE

Academic

- Associate Professor, University of Miami, Miami, FL, August 2010- present
- Biochemistry and Molecular Biology Graduate Program Director, University of Miami, 2012-present
- Director, Molecular Medicine Pathway, 2010-present
- Education Resource Director, BioNIUM, 2013-present
- Director, Executive PhD program, 2012-2013.
- Associate Professor, Indiana University-Purdue University Indianapolis, IN, July 2010
- Assistant Professor, Indiana University-Purdue University Indianapolis, IN, 2005-2010
- Assistant Research Professor, University of Kentucky, Lexington, KY, 2003-2005
- Research Assistant, University of Kentucky, 1998-2000
- Teaching Assistant, University of Kentucky, 1996-1998

Hospital Appointments: none
Non-Academic: none
Military: n/a

IV. PUBLICATIONS

Books and Monographs published

1. S. Bachas-Daunert, E. Diciki, S. K. Deo, "Biosensors: Design and Applications" Encyclopedia of Agricultural, Food and Biological Engineering, Editors: *D. Heldman and C. Moraru*, **2014**, in press
2. S. K. Deo, Fluorescent proteins II. Application of fluorescent protein technology, Gregor Jung (Ed.), **2013**, in press.

3. S. K. Deo, Chemiluminescence and Bioluminescence: past, present and future, Aldo Roda (Ed.), **2011**, Volume 401, Number 5, Pages 1461-1462.
4. D. A. Broyles, S. Deo, MicroRNA expression detection methods, Eds. Zhiqun Wang and Baofeng Yang: Analytical and Bioanalytical Chemistry: Volume 399, Issue 4, **2011**, Page 1575.
5. S. K. Deo Essentials of Nucleic acid analysis. A robust approach, Eds. J. T. Keer, L. Birsch, Analytical and Bioanalytical Chemistry: Volume 392, Issue 3, **2008**, Page 321.
6. S. K. Deo, K. A. Cissell, A. Goulding, Y. Rahimi, S. Shrestha, "Biochemistry, Structure, and Engineering of Red Fluorescent proteins" Chapter 6, "Luciferases and Fluorescent Proteins Technology: Principles and Advances in Biotechnology and Bioimaging" V. R. Viviani, Y. Ohmiya, eds., Research Signpost press, **2008**, 106-135.
7. Y. Rahimi, S. Shrestha, T. Banerjee, S. K. Deo "Study of Metal Binding to DsRed-Monomer", "Bioluminescence and Chemiluminescence: Chemistry, Biology and Applications", eds A. A. Szalay, P. J. Hill, L. J. Kricka, P. E. Stanley, World Scientific, Imperial Press, San Diego, **2006**, Part 5, 235-238.
8. Deo, S. K. et al., "Photoproteins and Instrumentation: Their availability and applications in bioanalysis", Photoproteins in Bioanalysis, Wiley-VCH, chapter 12, **2006**, 225-234.
9. L. Rowe; D. Scott, M. Ensor, S. K. Deo; M. Ensor, S. Daunert, "Genetically engineered luminescent proteins in biosensing", *Proc. of SPIE*, 6098, Feb. **2006**.
10. E. A. Moschou, L. G. Bachas, S. K. Deo, S. Daunert, "Stimuli-Responsive Hydrogels Based on the Genetically Engineered Proteins: Actuation, Drug Delivery and Mechanical Characterization" *Proceedings of the Materials Research Society*, **2007**.
11. L. Rowe; S. K. Deo; M. Ensor, S. Daunert "Bioluminescent Properties of an Obelin Mutant in Varying pH and Solvent Solutions", eds A. A. Szalay, P. J. Hill, L. J. Kricka, P. E. Stanley, World Scientific, Imperial Press, San Diego, **2006**.
12. S. Shrestha, S. K. Deo "Bioluminescence resonance energy transfer in bioanalysis" chapter 6, Photoproteins in Bioanalysis, Wiley-VCH, **2006**, 95-111.
13. E. A. Moschou, L. G. Bachas, S. Daunert, S. K. Deo, "Hinge-motion binding protein: unraveling their analytical potential" *Analytical Chemistry News & Features*, 78, **2006**, 6693-6700.
14. J. S. Feliciano, P. Pasini, S. K. Deo, S. Daunert "Photoprotein as reporters in whole cell sensing" chapter 8, Photoproteins in Bioanalysis, Wiley-VCH, **2006**, 131-154.
15. B. V. Sharma, S. K. Deo, L.G. Bachas, S. Daunert "Rapid, competitive assay for the detection of calmodulin antagonists" *Bioconjugate Chemistry*, **2005**, 16(5), 1257-1263
16. M. Mirasoli, E. Michelini S. K. Deo, E. C. Dikici, A. Roda, S. Daunert "Aequorin fusion proteins as bioluminescent tracers in competitive immunoassays" *Proceedings of the Society for Optical Engineering*, **2004**.
17. G. Jia, K. Ma, K. Kim, J. V. Zoval, M. J. Madou, S. K. Deo, S. Daunert, R. Peytavi, M. G. Bergeron "CD (compact disc) - Based DNA Hybridization and Detection" *Proceedings of SPIE International Symposium-Photonics Europe*, 26-30April, **2004**, Strasbourg, France
18. S. K. Deo, J. C. Lewis, and S. Daunert "Bioluminescence detection of proteolytic bond cleavage by using recombinant aequorin", in "In Luminescence Biotechnology: Instruments and Applications", ed. K. VanDyke, CRC Press, Boca Raton, Chapter 6, **2001**.
19. M. Mirasoli, S. K. Deo, J. C. Lewis, and S. Daunert "Development and application of a bioluminescent immunoassay using aequorin as a label" in Bioluminescence and Chemiluminescence **2001**, J. F. Case, P. J. Herring, B. H. Robinson, S. H. D. Haddock, L. J. Kricka, P. E. Stanley, eds., World Scientific Publishing Company, Singapore, 357-360

Juried or refereed journal articles or exhibitions

1. V. P Andreev, T. Head, E. E Herderick, S. K. Deo, S. Daunert, P. J Goldschmidt-Clermont "Identification of a High Risk Population with Accelerated Atherosclerosis. Reanalysis of the PDAY Study Data" *Nature Scientific Review*, **2016**, submitted.
2. Z.-J. Liu, P. Daftarian, L. Kovalski, R. Tian, B. Wang, D. M. Castilla, S. K. Deo, S. Daunert, and O. C. Velazquez, "Targeted Cell Delivery Via Cell Surface Coating with Dendrimer-Adhesion Molecule(s) Nanocarriers", *Journal of Translational Medicine*, **2016**, submitted.
3. K. Turner, J. Feliciano, P. Pasini, S. Joel, S. K. Deo, and S. Daunert, "Transcriptional Regulatory Proteins as Biosensing Tools", *J. Am. Chem. Soc.*, to be submitted, **2016**.
4. L.D. Knecht, H. Anderson, M. Daftarian, B.V. Sharma, S.K. Deo, and S. Daunert, "Paper Strips for Arsenic Detection Based on Engineered Sensing Spores", to be submitted, **2016**.
5. L.D. Knecht, H. Anderson, G. O'Connor, B.V. Sharma, S.K. Deo, S. Daunert, "The Evolution of a Whole-Cell Biosensing System", to be submitted, **2016**.
6. T. Head, P. Daftarian, V. L. Perez, E. Dikici, L. Kovalski, Y. Tan, M. Urbeita, S. K. Deo, and S. Daunert, "Targeted Imaging of Apoptotic Cells in the Cornea of Live Host via Biocompatible Photoproteins-Molecular Recognition Element Conjugates", to be submitted, **2016**.
7. D. Zhang, E. Sarkar, M. Kim, M. Faridi, J. Abrahms, A. Farooq, D. J Segal, V. Gupta, S. Deo, "Rapid, inexpensive, multiplexed DNA detection using novel zinc finger protein tags and a paper-based microfluidic device", to be submitted, **2016**.
8. L. Knecht, P. Pasini, G. O'Connor, R. Mittal, X. Liu, S.K. Deo, S. Daunert, "The Janus Nature of Serotonin: Neurotransmitter and Bacterial Quorum Sensing Molecule", *Cell Reports*, submitted, **2016**.
9. D. Zhang, S. Jativa, D. Broyles, E. Hunt, S. Daunert, S. Deo, "A Flexible Paper-Based Platform for Point-of-Care Detection of Viral RNA", *Anal. Chem.*, to be submitted, **2016**.

10. L. Kovalski, E. Dikici, S. Deo, and S. Daunert, "Biototoxicity Studies of Photoproteins for In vivo Imaging Applications", **2016**, *Protein Science*, to be submitted.
11. E. A. Hunt, K. Ahern, S. Iouannou, K. Woodward, A. Moutsopoulos, S. K. Deo "Truncated high-activity variants of *Gussia luciferase* expressed in *Escherichia coli*." *Nature Sci. Rep.*, *submitted*, **2016**.
12. E. A. Hunt, K. Ahern, S. Iouannou, K. Woodward, S. K. Deo SK "Expression of a soluble truncated *Vargula luciferase* in *Escherichia coli*." *Biochem. Biophys. Res. Commun.* *To be submitted*, **2016**.
13. E. Dikici, S. K. Deo, S. Daunert, "Non-Natural Aequorins with Red-Shifted Emission Wavelengths", in preparation.
14. J. Klaus, V. H. Kourafalou, A. Reniers, H. Kang, N. Kumar, E. M. Zahran, L. G. Bachas, A. Fernandez, P. Gardinali, M. Toborek, S. Daunert, S. Deo, and H. M. Solo-Gabriel, Potential Impacts of Marine PCBs on Sediment Microbiomes in a Tropical Marine Environment", *Journal of Marine Science and Engineering*, 2016, accepted.
15. M. Kumar, L. Kovalski, D. Broyles, E. A. Hunt, E. Dikici, P. Daffarian, S. Daunert, Sapna K. Deo, "Self-Assembled Hybrid Imaging Construct Based on Bioluminescence Resonance Energy Transfer (BRET)", *Anal. Biochem.* **2016**, in press.
16. N. Kumar, D. Ramirez, O. Carrasquillo, M. Toborek, J. Szapocznik, S. Deo, H. M. Solo-Gabriele, J. Klaus, L. G. Bachas, D. Whittall, S. Daunert, Environmental PCBs in Guánica Bay, Puerto Rico: implications for community health, **2015**, DOI: 10.1007/s11356-015-4913-9.
17. E. Hunt, D. Broyles, T. Head, S. Deo, "MicroRNA detection: current technology and research strategies", *Annual Review of Analytical Chemistry*, *Annual Review of Analytical Chemistry*, **2015**, 8(3): 3.1-3.21.
18. Daffarian, P. M., Stone, G. W., Kovalski, L., Kumar, M., Vasoughi, A., Urbeita, M., Blackwelder, P., Dikici, E., Serafini, P., Duffort, S., Boodoo, R., Rodriguez-Cortes, A., Lemmon, V., Deo, S., Alberola, J., Perez, V.L., Daunert, S., Ager, A.L., "A targeted and adjuvanted nanocarrier lowers the effective dose of liposomal amphotericin B and enhances adaptive immunity in murine cutaneous leishmaniasis." *J. Infect. Dis.* **2013**, 208 (11), 1914-22.
19. B T. Head, V. Andreev, N. Johnson, S. K. Deo, S. Daunert, and P. Goldschmidt-Clermont, "Discrete Event Simulation Model of Sudden Cardiac Death Predicts High Impact on Preventive Interventions", *Nature Scientific Reports* **2013**, 3, Article number: 1771 doi:10.1038/srep01771.
20. Adam Clouse, Sapna Deo, Evadnie Rampersaud, Jeff Farmer, Pascal J. Goldschmidt-Clermont, and Sylvia Daunert, Defining a Molecular Portrait of Physical Fitness, *Analytical and Bioanalytical Chemistry*, **2013**, 405:21–26.
21. Rampersaud, Evadnie; Nathanson, Lubov; Farmer, Jeffrey; Meshbane, Karyn; Belton, Richard; Cuccaro, Michael; Musto, Anthony; Daunert, Sylvia; Deo, Sapna; Vance, Jeffery; Seo, David; Mendez, Armando; Dykxhoorn, Derek; Pericak-Vance, Margaret; Goldschmidt-Clermont, Pascal, Genomic signatures of a global fitness index in a multi-ethnic cohort of women, *Annals of Human Genetics*, **2013**, Jan 7. doi: 10.1111/ahg.12006, PMID:23289938 .
22. D. Broyles, K. A. Cissell, M. Kumar, S. K. Deo, "Solution-phase detection of dual microRNA biomarkers in serum", *Analytical and Bioanalytical Chemistry*, **2012**, 402 (1), 543-550.
23. E. A. Hunt, S. K. Deo, "Bioluminescent stem-loop probes for highly sensitive nucleic acid Detection", **2011**, 47, 9393-9395.
24. M. Kumar, D. Zhang, D. Broyles, S. K. Deo, "A rapid, sensitive, and selective bioluminescence resonance energy transfer (BRET)-based nucleic acid sensing system" *Biosensors and Bioelectronics*, **2011**, 30, 133-139.
25. S. K. Deo "Affinity Chromatography Module" *Journal of Analytical Science Digital Library*, **2009**, available electronically www.asdlib.org
26. K. A. Cissell, S. K. Deo, Trends in microRNA detection. *Analytical and Bioanalytical Chemistry*, **2009**, 394(4), 1109-1116.
27. S. Deo, Editorial, Focus on RNA analysis, *Analytical and Bioanalytical Chemistry*, **2009**, 394:1107–1108.
28. E. A. Hunt, A. M. Goulding, Sapna K. Deo, "Quantitative miRNA Detection", *Analytical Biochemistry*, **2009**, 387, 1-12.
29. E. A. Hunt, Sapna K. Deo "Board-game gel filtration and affinity chromatography" *Journal of Chemical Education*, **2009**, 86 (1), 19-20.
30. K. A. Cissell, S. K. Deo "Reassembly of bioluminescent protein *Renilla luciferase* directed through DNA hybridization", *Bioconjugate Chemistry*, **2009**, 20(1), 15-19. (highlighted on the [Bioconjugate Chemistry webpage](#))
31. K. A. Cissell, E. A. Hunt, S. K. Deo "Resonance energy transfer methods of RNA detection", *Analytical and Bioanalytical Chemistry*, **2009**, 393(1), 125-135.
32. Y. Rahimi, A. Goulding, S. Shrestha, S. K. Deo "Dual function labeling of biomolecules based on DsRed-Monomer", *Bioconjugate Chemistry*, **2008**, 19 (11), 2113-2119.
33. K. A. Cissell, S. K. Deo "Rapid single-step nucleic acid detection", *Analytical and Bioanalytical Chemistry*, **2008**, 391 (7), 2577-2581.
34. S. Daunert, S. Deo, X. Morin and A. Roda, The genetically modified foods debate: demystifying the controversy through analytical chemistry , *Analytical and Bioanalytical Chemistry* **2008**, **392(3)**, 327-331.
35. S. Bachas, S. K. Deo "Should genetically modified foods be abandoned on the basis of allergenicity?" *Analytical and Bioanalytical Chemistry*, Feature Article, **2008**, 392 (3), 341-346.
36. Y. Rahimi, A. Goulding, S. Shrestha, S. Mirpuri, S. K. Deo "Investigations into the mechanism of fluorescence quenching of DsRed induced by copper binding", *Biochemical & Biophysical Research communication*, **2008**, 370(1), 57-61.
37. E. C Dikici, S. K. Deo, S. Daunert "A Whole-Cell Assay for the High Throughput Screening of Calmodulin Antagonists" *Analytical & Bioanalytical Chemistry*, **2008**, 390, 2073-2079.
38. K. A. Cissell, Y. Rahimi, S. Shrestha, E. A. Hunt, L. Armes, A. Ault, S. K. Deo "Bioluminescent Detection of miRNA, miR21 in breast cancer cells" *Analytical Chemistry*, **2008**, Accelerated Article, 80, 2319-2325. (**Research focus in Analytical Chemistry**).

39. K. A. Cissell, S. Shrestha, J. L. Purdie, D. Kroodsmas, S. K. Deo, "Development of a molecular biosensing system based on binding-induced conformational changes observed in intrinsically disordered proteins" Analytical & Bioanalytical Chemistry, **2008**, 391, 1721-1730.
40. A. M. Goulding, S. Shrestha, E. A. Hunt, K. Dria, S. K. Deo "Biochemical and spectroscopic characterization of non-natural variants of DsRed-monomer", Protein Engineering Design & Selection, **2008**, 21, 101 - 106.
41. S. K. Deo, "functional Protein microarrays in drug discovery" editor, P. F. Predki, Analytical & Bioanalytical Chemistry, **2007**, 389, 1655-1656.
42. Y. Rahimi, S. Shrestha, T. Banerjee, S. K. Deo "Copper Sensing system based on the far-red fluorescent protein, HcRed from *Heteractis crispa*", Analytical Biochemistry, **2007**, 370, 60-67.
43. K. A. Cissell, S. Shrestha, S. K. Deo, "microRNA detection: challenge for Analytical Chemists", Analytical Chemistry, **2007**, 79 (13), 4754-4761. **(Featured on the cover page of Analytical Chemistry)**
44. Y. Rahimi, S. Shrestha, S. K. Deo "Metal Affinity-Based Purification of a Red Fluorescent Protein", Chromatographia, **2007**, 65, 429-433.
45. S. Shrestha, S. K. Deo, "Anthozoa Red Fluorescent Protein in Biosensing", Analytical and Bioanalytical Chemistry, **2006**, 386 (3), 515-524.
46. Deo, S. "High Throughput Screening in Drug Discovery" Analytical and Bioanalytical Chemistry, Springer Berlin Heidelberg, **2006**, vol. 385, no. 4, pp. 661-662
47. L. A. Rowe, A. Rotherth, C. Logue, C. M. Ensor, S. K. Deo, and S. Daunert, "Spectral Tuning of Ca²⁺-Regulated Photoproteins Using Site-Directed Mutagenesis and Chromophore Analogues", Protein Engineering Design & Selection, **2008**, 21, 73 - 81
48. L. A. Rowe, S. K. Deo, J. Shofner, M. Ensor, and S. Daunert, S. K. Deo, " Aequorin-Based Homogeneous Cortisol Immunoassay for Analysis of Saliva Samples", Bioconjugate Chemistry, **2007**, 18, 1772-1777.
49. J. D. Ehrick, S. M. Stokes, S. Bachas-Daunert, E. A. Moschou, S. K. Deo, L. G. Bachas, and S. Daunert, "Chemically Tunable Lensing of Stimuli-Responsive Hydrogel Microdomes", Advanced Materials **2007**, 19, 4024-4027.
50. X. Qu, S. K. Deo, E. Dikici, C. M. Ensor, M. D. Poon and S. Daunert, "Bioluminescence Immunoassays for Angiotensin II Using Aequorin as a Label", Analytical Biochemistry, **2007**, 371, 154-161.
51. L. A. Doleman, L. L. Davies, L. A. Rowe, E. A. Moschou, S. K. Deo, and S. Daunert "Bioluminescence DNA Hybridization Assay for *Plasmodium falciparum*", Analytical Chemistry, **2007**, 79, 4149-4153.
52. S. Daunert, L. G. Bachas, K. Gregory, S. K. Deo, V. Vukasinovic, G. Shrift "calmodulin mediated reversible immobilization of enzymes" Colloids and Surfaces : Biointerfaces, **2007**, 58, 20-27.
53. J. D. Ehrick, S. Bachas-Daunert, S. M. Stokes, E. A. Moschou, S. K. Deo, L. G. Bachas, M. J. Madou and S. Daunert, "Stimuli-Responsive Hydrogels Based on Hinge-Motion Binding Proteins as Recognition Elements", Polymer Preprints **2006**, 47, 1106-1107.
54. A. Kumari, P. Pasini, S. K. Deo, D. Flomenhoff, H. Shashidhar, S. Daunert, "Biosensing Systems for the Detection of Bacterial Quorum Signaling Molecules" Analytical Chemistry, **2006**, 78 (22), 7603 -7609
55. B. V. Sharma, S. Shrestha, S. K. Deo and S. Daunert "Sensors Based on Periplasmic Binding Proteins" Chapter in "Fluorescence Sensors and Biosensors" edited by Richard Thompson, **2006**, chapter 3, 45-67.
56. E. C. Dikici, L. Rowe, a. Rotherth, S. K. Deo, S. Daunert "Photoprotein in miniaturized microfluidics Systems" chapter 10, Photoproteins in Bioanalysis, Wiley-VCH, **2006**, 179-198.
57. S. Xu, E. D'Angelo, D. Ghosh, J. Feliciano, S. K. Deo, and S. Daunert, "Detection of Polychlorinated Biphenyls Employing Chemical Dechlorination Followed by a Biphenyl Whole Cell Sensing System", Toxicology & Environmental Chemistry, **87**, 287-298, **2006**.
58. Rotherth, S. K. Deo, R. S. Shetty, L. Puckett,, L. Millner, M. J. Madou, S. Daunert "Whole cell based assay for antimonite and arsenite on a compact disc microfluidic platform" Analytical Biochemistry, **2005**, 342, 11-19.
59. J. D. Ehrick, S. K. Deo, T. W. Browning, L.G. Bachas, M. J. Madou, S. Daunert, "Stimuli-sensitive hydrogels with tailored response characteristics: integration of genetically engineered proteins within synthetic networks", Nature Materials, **2005**, 4, 298-302.
60. S. K. Deo, M. Mirasoli, S. Daunert "Bioluminescence resonance energy transfer from aequorin to a fluorophore: an artificial jellyfish for applications in multianalyte detection" Analytical Bioanalytical Chemistry, **2005** 381 (7), 1387-1394
61. R. S. Shetty, S. K. Deo, Y. Liu, S. Daunert "Fluorescence-based sensing system For copper using genetically engineered living yeast cells" Biotechnology & Bioengineering, **2004**, 5:88(5):664-70.
62. E. A. Moschou, B. V. Sharma, S. K. Deo, S. Daunert "Fluorescence Glucose Detection: Advances toward the Ideal in vivo Biosensor" Journal of Fluorescence, **2004**, 14 (5): 535-547.
63. S. K. Deo "Exploring bioanalytical applications of assisted reassembly of proteins" Analytical and Bioanalytical Chemistry, **2004**, 379(3), 383-390.
64. L. L. E. Salins, S. K. Deo, S. Daunert "Phosphate binding protein as the biorecognition element in a biosensor for phosphate" Sensors & Actuators B: Chemical **2004**, 97(1), 81-89
65. E. C. Dikici, S. K. Deo, S. Daunert "Drug detection based on the conformational changes of calmodulin and the fluorescence of its enhanced green fluorescent protein fusion partner" Analytica Chimica Acta **2003**, 500(1-2), 237-245.
66. R. S. Shetty, S. K. Deo, P. Shah, Y. Sun, B. P. Rosen, S. Daunert "Luminescence-based whole-cell-sensing systems for cadmium and lead using genetically engineered bacteria" Analytical and Bioanalytical Chemistry, **2003**, 376(1), 11-17

67. S. K. Deo, P. E. Eisenhardt, E. A. Moschu, S. F. Peteu, L. G. Bachas, M. J. Modu, S. Daunert "Responsive drug delivery system: New challenges to analytical chemists" *Analytical Chemistry*, **2003**, 75(9), 206A-213A
68. M. Mirasoli, S. K. Deo, J. C. Lewis, A. Roda, S. Daunert "Bioluminescence immunoassay for cortisol using recombinant aequorin as a label" *Analytical Biochemistry* **2002**, 306(2), 204-211.
69. V. Schauer-Vukasinovic Vesna; S. K. Deo, S. Daunert "Purification method for recombinant proteins based on a fusion between the target protein and the C-terminus of calmodulin" *Analytical & Bioanalytical Chemistry* **2002**, 373(6), 501-507.
70. U. A. Desai, S. K. Deo, K. V. Hyland, M. Poon, S. Daunert "Determination of prostacyclin in plasma through a bioluminescent immunoassay for 6-keto-prostaglandin F1 α : Implication of dosage in patients with primary pulmonary hypertension" *Analytical Chemistry* **2002**, 74(15), 3892-3898.
71. S. Shrestha, I. R. Paeng, S. K. Deo, and S. Daunert "Cysteine-Free Mutant of Aequorin as a Photolabel in Immunoassay Development", *Bioconjugate Chemistry* **2002**, 13(2), 269-275.
72. S. K. Deo, S. Daunert "Luminescent proteins from *Aequorea victoria*: applications in drug discovery and in high throughput analysis" *Fresenius' Journal of Analytical Chemistry* **2001**, 369(3-4), 258-266.
73. S. K. Deo, S. Daunert "An immunoassay for Leu-enkephalin based on a C-terminal aequorin-peptide fusion" *Analytical Chemistry* **2001**, 73(8), 1903-1908.
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75. S. K. Deo, S. Daunert "Green fluorescent protein mutant as label in homogeneous assays for biomolecules" *Analytical Biochemistry* **2001**, 289(1), 52-59.
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Other work, publications and abstracts

1. Stefania Goncalves ; Chunhui Chen; Esperanza Bas; Emre Dikici; Chunlei Wang; Sapna Deo, Sylvia Daunert; Fred Telischi Development of a Poly(lactic-co-glycolic acid) (PLGA) Microneedles for the Sustained Delivery of Drugs in Cochlea, ARO 2016.
2. D. Wynn, L. Knecht, S. Deo, S. Daunert, "Development of a Paper-Based Assay for Hazardous Pollutants Based on Genetically Engineered Bacterial Cells", NanoFlorida 2014, Miami, FL, September 24-26, 2014.
3. T. Head, P. Dao, S. Deo, S. Daunert, "A Chimeric Protein Sensor for Bioluminescence-based Apoptosis Detection", NanoFlorida 2014, Miami, FL, September 24-26, 2014.
4. S. D. Jativa, P. Daffarian, S. Deo, S. Daunert, "A Novel Hybrid Vector for the Delivery of DNA Vaccines into Skeletal Muscle Cells" NanoFlorida 2014, Miami, FL, September 24-26, 2014.
5. D. Broyles, K. Cissell, M. Rice, and S.K. Deo, "Luminescence-based detection of miRNA biomarkers", Miami Winter Symposium, February 8, 2011
6. E. A. Hunt, S. K. Deo. "Bioluminescent stem-loop probes: novel molecular beacons", Miami Winter Symposium, February 8, 2011.
7. M. Kumar, D. Zhang, D. A. Broyles, S. K. Deo, "Modified quantum dots for application in bioluminescence resonance energy transfer-based nucleic acid sensing", University of Miami, 2nd Annual BioNium retreat, 2010, December 9-10.
8. E. A. Hunt, S. K. Deo, "Novel bioluminescent molecular beacons", University of Miami, 2nd Annual BioNium retreat, 2010, December 9-10.
9. Editorial: S. K. Deo, Focus on RNA analysis. *Analytical and Bioanalytical Chemistry*, June 2009.
10. E. A. Hunt, S. K. Deo "Quantum dot based detection of cellular ribosomal RNA" PITTCO 2009, March 7-12, Chicago.
11. A. Goulding, K. A. Cissell, S. K. Deo "MicroRNA Detection by *Renilla* Luciferase Protein-Fragment- Complementation Assay" PITTCO 2009, March 7-12, Chicago.
12. K. A. Cissell, S. K. Deo "Bioluminescence resonance energy transfer-based detection of *E. coli* 16srRNA", PITTCO 2009, March 7-12, Chicago.
13. S. K. Deo "Luminescence-based MicroRNA Detection", Midwestern Universities Analytical Chemistry Conference (MUACC), Indiana University, November 14th, 2008.
14. E. C. Hunt, K. A. Cissell, and S. K. Deo "Bioluminescence-based detection of microRNA, miR21 in breast cancer cells", Local ACS Meeting, Ball State University, October 16th 2008.
15. A. Goulding, Y. Rahimi, S. Shrestha, S. K. Deo "DsRed-based protein labeling system: application in affinity purification and fluorescent analysis" Local ACS Meeting, Ball State University, October 16th 2008.
16. K. A. Cissell, S. Campbell, and S. K. Deo "Nucleic Acid Detection Based on Bioluminescence Resonance Energy Transfer Between *Renilla* Luciferase and Quantum Dots" Local ACS Meeting, Ball State University, October 16th 2008.
17. K. A. Cissell, Y. Rahimi, S. K. Deo "Detection of nucleic acids based on bioluminescence resonance energy transfer between *Renilla* luciferase and quantum dots", PITTCO 2008, March 2-6, New Orleans.
18. A. Goulding, Y. Rahimi, S. Shrestha, S. K. Deo "DsRed-based protein labeling system: application in affinity purification and fluorescent analysis" PITTCO 2008, March 2-6, New Orleans.
19. E. C. Hunt, Y. Rahimi, S. Shrestha, T. Banerjee, and S. K. Deo "Reagentless Biosensing of copper based on a far-red fluorescent protein, HcRed", Local ACS Meeting, Eli Lilly, October 10th 2007.

20. K. A. Cissell, S. Shrestha, and S. K. Deo "microRNA Detection Based on Protein Reassembly" Local ACS Meeting, Eli Lilly, October 10th 2007.
21. Y. Rahimi, A. Goulding, S. Shrestha, and S. K. Deo "DsRed-Monomer as Bifunctional Tag" Local ACS Meeting, Eli Lilly, October 10th 2007.
22. D. Kroodsma, S. K. Deo "Development of a Biosensing System Based on the Intrinsically Unstructured Protein BRCA1" July 10th, McNair Program, University of Illinois.
23. K. A. Cissell, S. Shrestha, and S. K. Deo "microRNA Detection Based on Protein Reassembly" 234th ACS National Meeting, September 9-14, 2007, Boston, MA.
24. A. Goulding, E. Hunt, Y. Rahimi, S. Shrestha, and S. K. Deo "DsRed-Monomer as Bifunctional Tag" 234th ACS National Meeting, September 9-14, 2007, Boston, MA.
25. E. Hunt, Y. Rahimi, S. Shrestha, T. Banerjee, and S. K. Deo "Reagentless Biosensing of copper based on a far-red fluorescent protein, HcRed", Central Region ACS, Covington, KY, May 20-23, 2007
26. A. Goulding, E. Hunt, S. Shrestha, and S. K. Deo "Variants of DsRed-monomer with Differing Emission Wavelengths" Central Region ACS, Covington, KY, May 20-23, 2007
27. A. Goulding, S. Shrestha, and S. K. Deo "Spectral Evaluation of Red Fluorescent Protein Variants" 2007 In Vitro Biology Meeting, June 9-13, 2007
28. K. A. Cissell, S. Shrestha, and S. K. Deo "Design of a Biosensing System Based on an Intrinsically Unstructured Protein as a Biological Recognition Element" PITTCON February 2007.
29. Y. Rahimi, S. Shrestha, T. Banerjee, and S. K. Deo "Red Fluorescent Protein: Dual Function as a Fluorescent Probe and an Affinity Tag" PITTCON February 2007
30. D. Kroodsma, K. A. Cissell, S. Shrestha, S. K. Deo "Development of a Biosensing System Based on the Intrinsically Unstructured Protein BRCA1" The Analytical Science Digital Library, 2006, e-poster.
31. S. Deo, S. Daunert "Quo vadis? Leading the way with the younger generation of scientists" Analytical and Bioanalytical Chemistry, **2006**, 386 (3), 401-402.1
32. D. Kroodsma, K. A. Cissell, S. Shrestha, S. K. Deo "Development of a Biosensing System Based on the Intrinsically Unstructured Protein BRCA1" The Analytical Science Digital Library, 2006, e-poster.
33. L. Rowe, K. Teasley, S. K. Deo, C. M. Ensor, S. Daunert "Molecular tuning of aequorin for bioanalytical applications" 14th ISBC Meeting, San Diego, CA, October 15-19.
34. S. K. Deo, S. Shrestha, Y. Rahimi, T. Banerjee, A. M. Goulding "Anthozoa red fluorescent protein in biosensing" 14th ISBC Meeting, San Diego, CA, October 15-19.
35. A. M. Goulding, S. Shrestha, and S. K. Deo "Biochemical Characteristics of Red Fluorescent Protein Variants with Incorporated Non-natural Amino Acid Analogues" 232nd ACS National Meeting, September 9-14, San Francisco, CA.
36. Y. Rahimi, S. Shrestha, T. Banerjee, and S. K. Deo "Mapping of Loops in Red Fluorescent Protein for Application in Single-Step Assays" 232nd ACS National Meeting, September 9-14, San Francisco, CA.
37. K. A. Cissell, S. Shrestha, and S. K. Deo "microRNA detection based on in-situ activation of a bioluminescent enzyme through protein reassembly" 232nd ACS National Meeting, September 9-14, San Francisco, CA.
38. Y. Rahimi, S. Shrestha, T. Banerjee, S. K. Deo "Biosensing applications of red fluorescent protein" Sigma Xi Graduate Research Competition, March 2006
39. D. Kroodsma, S. K. Deo "Development of a Biosensing System Based on the Intrinsically Unstructured Protein BRCA1" July 10th, McNair Program, University of Illinois.
40. T. Banerjee, Y. Rahimi, S. Shrestha, and S. K. Deo "Expression, purification and metal binding studies of dimeric red fluorescent protein, HcRed", IUPUI Undergraduate Research Symposium, July 23rd, 2006.
41. Y. Rahimi, S. Shrestha, T. Banerjee, S. K. Deo "Biosensing applications of red fluorescent protein" Sigma Xi Graduate Research Competition, March 2006
42. K. A. Cissell, S. K. Deo "Development of a Biosensing System Based on Interaction between Intrinsically Unstructured Protein BRCA1 and Tumor suppressor Protein p53" Sigma Xi Graduate Research Competition, March 2006
43. T. Banerjee, Y. Rahimi, S. Shrestha, and S. K. Deo "Detection of copper using monomeric and dimeric red fluorescent protein", IUPUI Undergraduate Research Symposium, April 24th, 2006
44. S. K. Deo, S. Shrestha, S. Daunert, "Photoproteins in bioanalysis" Pacificchem Conference, December 14-20, 2005.
45. K. Cissell, A. Goulding, T. Banerjee, S. Shrestha, "Red fluorescent protein in bioanalysis" ACS Local conference, Dow Agrosciences, October 29th, 2005.
46. J. D. Ehrick, S. Bachas-Daunert, S. Stokes, E. A. Moschou, S. K. Deo, L. G. Bachas, S. Daunert "Stimuli-responsive hydrogels based on hinge motion binding proteins as recognition elements" 232nd ACS National Meeting, September 9-14, San Francisco, CA.
47. A. Kumari, P. Pasini, S. K. Deo, D. Flomenhoff, H. Shashidhar, S. Daunert, "Biosensing Systems for the Detection of Bacterial Quorum Signaling Molecules" 232nd ACS National Meeting, September 9-14, San Francisco, CA.
48. S. K. Deo, P. Pasini, A. Kumari, H. Shashidhar, S. Daunert, "Non-invasive biosensor for self-management of Crohn's disease", 228th National Meeting of the American Chemical Society, March 12-March 17th, 2005, San Diego, CA.
49. L. Rowe, E. C. Dikici, C. Logue, D. Scott, S. K. Deo, L.G. Bachas, S. Daunert, "Spectral tuning of the bioluminescent photoprotein Aequorin", 229th National Meeting of the American Chemical Society, March 12-March 17th, 2005, San Diego, CA.
50. B. V. Sharma, A. Gass, S. K. Deo, L.G. Bachas, S. Daunert, "Monitoring interactions of calmodulin with target peptides using fluorescence resonance energy transfer", 228th National Meeting of the American Chemical Society, March 12-March 17th, 2005, San Diego, CA.

51. J. D. Ehrick, M. Lockett, S. K. Deo, L.G. Bachas, S. Daunert, "Dimeric Protein Integrated Stimuli-Responsive Hydrogels for Biomedical and Sensing Applications", 229th National Meeting of the American Chemical Society, March 12-March 17th, 2005, San Diego, CA.
52. S. K. Deo, J. Zoval, S. Daunert "Bacterial-based whole cell sensing systems: Applications in field studies and miniaturized analytical systems",
53. J. D. Ehrick, T. W. Browning, S. K. Deo, L.G. Bachas, S. Daunert, "Stimuli-Sensitive Hydrogel Microspots for Sensing and High-Throughput Drug Screening", 227th National Meeting of the American Chemical Society, March 28-April 1, 2004, Anaheim, CA.
54. S. K. Deo, E. C. Dikici, A. Rothert, L. Rowe, X. Chu, S. Daunert, "Genetically engineered photoproteins in bioanalysis", 7th Annual European Conference on Micro & Nanoscale Technologies for the Biosciences, (NanoTech 2003), November 25-27, 2003, Montreux, Switzerland.
55. A. Rothert, S. K. Deo, L. G. Puckett, L. Millner, M. Madou, and S. Daunert "Adaptation of a Whole-Cell Based Reporter Gene Assay for Arsenite and Antimonite to a Compact Disc Centrifugal Microfluidics Platform" SERMACS: Atlanta, GA; Nov. 16, 2003.
56. E. Dikici, S. K. Deo, S. Daunert, "Whole-Cell Based Assay for the High-Throughput Screening of Calmodulin Antagonists", 225th ACS National Meeting, New Orleans, LA, 2003.
57. S. Xu, D. Ghosh, J. Feliciano, S. K. Deo, E. D'Angelo, S. Daunert, "Development of a whole-cell sensing system for PCBs detection" Superfund Basic Research Program Annual Meeting 2003, Hanover, NH, November 9-12.
58. J. Feliciano, A. Rothert, S. K. Deo, L. Puckett, L. Millner, J. R. Van der Meer, M. J. Madou, S. Daunert "Bacterial biosensing systems for arsenic detection: from the laboratory to the field" Superfund Basic Research Program Annual Meeting 2003, Hanover, NH, November 9-12.
59. S. Daunert, E. A. Moschou, J. D. Ehrick, S. F. Peteu, S. K. Deo, J. C. Ball, L. G. Bachas, M. J. Madou, "ChipRx: Responsive Drug Delivery", First Annual Kentucky Innovation and Enterprise Conference, March 5, 2003, Lexington, KY.
60. J. D. Ehrick, S. K. Deo, L.G. Bachas, S. Daunert, "Stimuli-Responsive Hydrogels with Integrated Protein Recognition for Sensing Applications", 225th National Meeting of the American Chemical Society, March 23-27, 2003, New Orleans, LA.
61. J. D. Ehrick, S. K. Deo, L. G. Bachas, S. Daunert, "Stimuli-Responsive Hydrogels with Integrated Protein Recognition for Sensing Applications", Twenty-Ninth Annual Naff Symposium on Chemistry and Molecular Biology, April 18, 2003, Lexington, KY.
62. J. D. Ehrick, S. K. Deo, L. G. Bachas, S. Daunert, "Stimuli-Responsive Hydrogels with Integrated Protein Recognition for Sensing and Drug Delivery Applications", Bioengineering and Biochemistry Group (BBG) Research Symposium, July 11, 2003, Tarragona, Spain.
63. J. D. Ehrick, S. K. Deo, L. G. Bachas, S. Daunert, "Stimuli-Responsive Hydrogels with Integrated Protein Recognition for Sensing and Drug Delivery Applications", International Symposium on Sensor Science, June 16-20, 2003, Paris, France.
64. J. D. Ehrick, E. A. Moschou, S. K. Deo, J. Zoval, M. J. Madou, L. G. Bachas, S. Daunert, "Microactuators for Responsive Drug Delivery Systems", Kentucky Nanomaterials Workshop (KyanoMat 2003), September 25, 2003, Louisville, KY.
65. J. D. Ehrick, C. Wang, H. Xu, E. A. Moschou, S. K. Deo, M. J. Madou, L. G. Bachas, S. Daunert, "Responsive Drug Delivery Systems: ChipRx", 7th Annual European Conference on Micro & Nanoscale Technologies for the Biosciences, (NanoTech 2003), November 25-27, 2003, Montreux, Switzerland.
66. X. Qu, S. K. Deo, E. Dikici, M. Poon, and S. Daunert. "Bioluminescent Immunoassay for a Cardiac Marker: Adaptation to Clinical Analysis" Kentucky Nanomaterials Workshop (KyanoMat 2003), September 25, 2003, Louisville, KY.
67. B. V. Sharma, S. K. Deo, L. G. Bachas, and S. Daunert "Class-Selective Drug Screening Assay Using Fluorescence Resonance Energy Transfer between a Fluorescently Labeled Calmodulin and 2,6-Anilino-naphthalene Sulfonate" Drug Discovery Technology, Stuttgart, Germany. April 1, 2003.
68. B. V. Sharma, S. K. Deo, L. G. Bachas and S. Daunert "Multiple Platform Evaluation of a Calmodulin-Based Fluorescence Resonance Energy Transfer Screening Assay" AAPS Meeting, Salt Lake City, Utah. October 27, 2003.
69. J. D. Ehrick, S. K. Deo, L. G. Bachas, M. J. Madou, S. Daunert, "Reversibly Responsive Protein-Immobilized Hydrogels for Sensing and Controlled Release", Twenty-Eighth Annual Naff Symposium on Chemistry and Molecular Biology, April 26, 2002, Lexington, KY.
70. J. D. Ehrick, S. K. Deo, L.G. Bachas, S. Daunert, "Integrated Protein Recognition within Hydrogels for Responsive Microactuators, The Seventh World Congress on Biosensors, May 15-17, 2002, Kyoto, Japan.
71. J. D. Ehrick, S. K. Deo, L.G. Bachas, S. Daunert, "Reversibly Responsive Protein-Immobilized Hydrogel Microactuators", Ninth International Meeting on Chemical Sensors, July 7-10, 2002, Boston, MA.
72. S. Daunert, E. A.; Moschou, J. D. Ehrick, S. F. Peteu, S. K. Deo, J. C. Ball; L. G. Bachas, M. J. Madou, "Electro- and biochemical microactuators for responsive drug delivery" 224th ACS National Meeting, 2002, August 18-22, Boston, MA.
73. J. Ehrick, S. K. Deo, L. G. Bachas, M. Madou, S. Daunert, "Reversibly responsive protein-immobilized hydrogels for controlled release" 2nd Annual BioMEMS and Biomedical Nanotechnology World 2001, September 22, Columbus, OH.
74. P. M. Douglass, S. K. Deo, C. M. Ensor, M. Madou, S. Daunert, "Development of an assay for 6-keto PGF 1α employing 15-hydroxyprostaglandin dehydrogenase: Sensing prostacyclin in physiological fluids" 221st ACS National Meeting, April 30, San Diego, CA.
75. E. Dikici, S. K. Deo, and S. Daunert "Rational design of a fusion protein for the detection of calcium and calmodulin antagonists" 221st ACS National Meeting, 2001, April 30, San Diego, CA.

76. U. Desai, S. K. Deo, M. Poon, and S. Daunert "Quantitative detection of prostacyclin through a sensitive, bioluminescent immunoassay" 221st ACS National Meeting, 2001, April 30, San Diego, CA.
77. S. Shrestha, I. Paeng, S. K. Deo, and S. Daunert "Cysteine-free mutant of aequorin: Application in the development of bioluminescence-based immunoassay for digoxin." 221st ACS National Meeting, 2001, April 30, San Diego, CA.
78. S. K. Deo and S. Daunert, "C-terminal aequorin modification: applications in binding assays", Regional ACS Meeting, May 15, 2000, Cincinnati, OH.
79. S. K. Deo, J. C. Lewis, and S. Daunert, "Immunoassay for a peptide using a C-terminal aequorin fusion protein: advantages in bioanalysis", 219th ACS National Meeting, March 26, 2000, San Francisco, CA.
80. S. K. Deo, J.C. Lewis, and S. Daunert, "Bioluminescence detection of proteolytic bond cleavage by using recombinant aequorin", PITTCON'2000, March 12, 2000, New Orleans, LA.
81. S. K. Deo, J.C. Lewis, and S. Daunert, "Bioluminescence detection of proteolytic bond cleavage by using recombinant aequorin", Life Science Day, November 17, 1999, University of Kentucky, Lexington, KY.
82. S. K. Deo, J. C. Lewis, and S. Daunert, "Assay for HIV-1 protease using recombinant aequorin as a label", 217th ACS National Meeting, March 21, 1999, Anaheim, CA.

Patents

1. S. Daunert, S. K. Deo, P. Pasini, A. Date, "Spores for the Stabilization and On-Site Application of Bacterial Whole-Cell Biosensing Systems", Patent Filed, USPTO, U.S. Patent Appl. No. 12/676,302, September 10, 2008.
2. S. Daunert, S. K. Deo, P. Pasini, A. Kumari, N. Raut, D. Flomenhoff and H. Shashidhar, "Systems and Methods for Diagnosis and Monitoring of Bacteria-Related Conditions", Patent Filed, USPTO, U.S. Patent Appl. No. 12/676,287, September 10, 2008. S. Daunert, S. K. Deo, E. Dikici, L. Rowe, "Aequorin and Obelin Mutants with Differing Wavelengths and Bioluminescence ", U.S. Patent Office, Patent No.: 7,345,160, issued March 18, 2008.
3. S. Daunert, S. K. Deo, J. D. Ehrick, T. W. Browning, L.G. Bachas, "Stimuli-Responsive Hydrogel Microdomes Integrated with Genetically Engineered Proteins for High-Throughput Screening of Pharmaceuticals", U.S. Patent Office, Patent No.: 7,625,951, issued December 9, 2009.
4. S. Daunert, U. A. Desai, S. K. Deo, K. V. Hyland, M. Poon, S. Daunert, "Method and Kit For Determination of Prostacyclin in Plasma", U.S. Patent Office, Patent No.: 7,659,078, issued February 9, 2010.
5. S.K. Deo, P. Pasini, S. Daunert Spores for the stabilization and on-site application of bacterial whole-cell biosensing systems, USPTO 8,389,263. March 2013
6. O. Velazquez, S. Daunert, P. Daftarian; Z.-J. Liu and S. Deo, "Compositions and Methods for Wound Healing, Angiogenesis, and Diagnostic/Imaging", UNMI-006/01 WO 316457-2013.
7. O. Velazquez, S. Daunert, P. Daftarian; Z.-J. Liu and S. Deo, "Compositions and Methods for Wound Healing, Angiogenesis, and Diagnostic/Imaging", USPTO Patent Filed, June 2013.
8. V. Andreev, T. Head, N. Johnson, S. K. Deo, S. Daunert and P. J. Goldschmidt-Clermont, "Multiscale Discrete Event Simulation Model of Sudden Cardiac Death", USPTO Provisional Patent No. 61/817,979; Filed, May 1, 2013.
9. S. Daunert, P. Daftarian, S. Deo, and E. Dikici, "Nanoparticle/Bioluminescent Protein Complexes for Targeted Imaging for *in vitro* and *in vivo* Applications", Invention Disclosure, University of Miami, 2013.
10. P. Daftarian, S. Deo, and S. Daunert, "Compositions and Methods for a Universal Transfection Vehicles Based on Modified Nanocarriers", Invention Disclosure, University of Miami, 2013.
11. S. Daunert, S. Deo, P. Daftarian, E. Dikici, A. Kaifer, S. Jativa, "Muscle Cell-Targeting Nanoparticles for Vaccination and Nucleic Acid Delivery, and Methods of Production and Use Thereof", USPTO Provisional Patent No. 61/932,367; Filed, January 28, 2014.
12. S. Daunert, S. Deo, P. Daftarian, V. Perez, T. Head, "Compositions and Methods for *in vivo* Imaging of Apoptosis", Application No.: 62/010,135, UM Ref Ref. No.: UMN-117, NDQ Ref. No.: 7230-185 (59077-01079), Filed: June 10, 2014.
13. S. Daunert, S. Deo, D. Broyles, E. Kobetz, A. Manfredi, "Rapid, Cost-Effective Equipment Free and Portable Paper Strip Tests for Pathogen", Invention disclosure, submitted September 8, 2014.
14. S. Daunert, S. Deo, P. Daftarian, R. Jope, E. Beurel, "Targeting TH17 with a nanoparticle that is amenable to host therapeutic", Invention disclosure, submitted September 30, 2014.

21. Other works accepted for publication: none

V. PROFESSIONAL

22. Funded Research Performed

Current Funding

Agency	Role	Title	Period	Amount
NIH	PI	Viral Persistency detection using bioluminescent stem-loop probes	7/1/2015-6/30/2020	\$1,918,740
State of Florida	PI	Detection of HIV viral persistency	01/01/15-06/30/16	\$60,000

University of Miami Wallace H. Coulter Foundation	PI	A Point-of-Care HPV Test To Screen for Cervical Cancer	6/1/2015- 5/31/2016	\$125,000
Berg Pharma	Co-PI	Biologically Targeted Preformulation Delivery Systems For Novel Berg Investigational Pharmaceuticals	03/01/2014- 12/31/2016.	\$1,152,473
NSF	Co-I	Protein displayed spores and spore ghosts platforms for detection and biotransformation	6/1/2015- 5/31/2018	\$400,000
BMW	Investigator	Breath sensors for stress	2/1/14- 5/31/16	\$50,000
Ministry of Defense of the Government of Israel	Investigator	Remote Long-Lived Sensors for the Detection of Explosives	1/15/16- 1/14/18	\$240,000
CREF	Co-PI	Design of a Miniaturized Self- Charging Power Sources for Medical Devices	8/1/2014- 12/31/2015	\$25,000
State of Florida Firefighters Cancer Prevention Initiative	Co-I	Development of Sensors for Volatile carcinogens	6/1/16- 6/30/17	\$100,000

Previous Funding

Agency	Role	Title	Period	Amount
GE Foundation	Co-I	Scaling an Innovative Cervical Cancer Screening Intervention within Two Underserved Communities in South Florida	9/1/14-8/31/15	\$209,536
SCCC	Co-I	Validating a rapid HPV test to increase screening intake to reduce cervical cancer disparities	10/1/2014-6/30/15	\$75,000
Berg Pharma	coPI	Biomarkers and molecular diagnostics and Biologically Targeted Preformulation Delivery Systems For Novel Berg Investigational Pharmaceuticals	03/01/13-02/28/14	1,315,217
Woman's Cancer Association	PI	Development of a Rapid Screening Test for Preventing and Detecting Cervical Cancer	6/1/2014-5/31/2015	\$40,000
National Science Foundation Early Faculty Career Award	PI	Homogenous, Rapid, and Highly Sensitive Detection of Cellular RNAs	03/01/08-02/28/13	\$595,000
National Science Foundation	Sponsor PI: Eric Hunt	Pre doctoral Fellowship	08/01/09-07/30/12	\$120,000
Berg Pharma	coPI	Biologically Targeted Preformulation Delivery Systems For Novel Berg Investigational Pharmaceuticals Through Proof-Of- Concept Animal Model Evaluation Utilizing Customized Dendrimer	05/01/2012-11/30/2012.	\$350,000

		Matrices And Tissue-Specific Targeting Peptide/Proteins		
National Institutes of Health R03 Award	PI	Highly Sensitive and Rapid Mix-and-Measure Detection Method for microRNAs	09/01/07-08/31/09	\$73,896
National Science Foundation	Co PI, PI: R. Minto	MRI: Acquisition of a High Resolution LC-MS/MS system	01/01/08-12/31/10	\$479,590
Research Support Fund Grant IUPUI,	PI	Bioluminescent Detection of Nucleic Acid	01/01/07-12/31/07	\$30,000
American Cancer Society	PI	Molecular Switches for Functional Screening of Breast cancer protein (BRCA1)	01/01/06-12/31/06	\$20,000
National Institutes of Health R21 Award	Co PI, PI: S. Daunert	Bio-inspired Materials for sensing and actuation in Biomedical Applications	09/19/03-08/31/05	\$335,000
National Institutes of Health R01 Award	Co PI, PI: S. Daunert	Modified Photoproteins as Labels and Molecular Switches in Bioanalysis	03/01/04-02/28/08	\$1,750,000
National Institutes of Environmental Health Superfund Program Training Core	Co PI, PI: B. Hennig	Superfund Chemicals:Transport, Metabolism, and Toxicity	04/01/00-08/31/05	\$500,000

23. Editorial Responsibilities

- Board Member, International Advisory Board of the journal "Analytical & Bioanalytical Chemistry" 2007-present.
- Editorial Board: Molecular Biotechnology, 2009-present.
- Guest editor, Special issue "New Investigators", "Analytical & Bioanalytical Chemistry", January 2016.
- Associate Editor, NSF Funded Analytical Science Digital Library, 2008-2010.
- Guest editor, Special issue "RNA Detection Technologies", "Analytical & Bioanalytical Chemistry", September 2009.
- Guest editor, Special issue "Genetically Modified Foods", "Analytical & Bioanalytical Chemistry", October 2008.
- Reviewer of the Kolthoff Awards for Undergraduates research presentation at American Chemical Society National Meeting, Analytical Division Programs 2006-2007.
- Guest editor, Special issue on New Investigators, "Analytical & Bioanalytical Chemistry", September 2006.

24. Professional and Honorary Organizations

- Member, Dr. John T. McDonald Bionanotechnology Institute at University of Miami, 2013-present
- Member, IUPUI Nanotechnology Center, 2009-2010.
- Board Member, IUPUI Center for Research & Learning, 2007-2010.
- Member, IUPUI Water Resources Research Signature Center, 2007-2010.
- Member, IUPUI Center for Environmental Health, 2007-2010.
- International Society for Bioluminescence & Chemiluminescence, 2007-present
- Council on Undergraduate Research, 2007-2010.
- American Chemical Society, 1997-present

25. Honors and Awards

- 2015 Cancer Researchers of the Year from Women's Cancer Association of University of Miami (shared award Drs. Sapna Deo, Sylvia Daunert, Erin Kobetz.
- Outstanding Graduate Program Director of University of Miami, 2014
- Indiana University Trustees Teaching Award-2010
- The National Science Foundation CAREER Award, 2008
- IUPUI School of Science Faculty Research Award, 2008

- J. W. Taylor Travel Award for Presentation at Midwestern Universities Analytical Chemistry Conference, 2008
- IUPUI Honors Research Fellowship, 2007
- Featured as IUPUI Outstanding Faculty, 2008
- Predoctoral Fellowship from Kentucky Research Challenge Trust Fund, 1998-2000
- Academic Excellence Award, 1998

26. Post Doctoral Fellowships

University of Kentucky, Lexington, KY.
Postdoctoral Fellow, 2001-2003

27. Other Professional Activities

- Steering committee, MS in Translation Science 2015-Present
- Uniform Guidelines Ad-hoc committee, University of Miami, 2014-present
- Advisory Board, NanoFlorida Symposium, 2014-present
- Scientific Advisory Board, Berg Pharma, 2012-present
- Miami Winter Symposium, a Nature Conference, Organizing Committee Member, 2011
- Member of ACS Analytical Division Education Committee 2006.
- Presided Session on "Polymers in Biosensors and Biochips" at the 232nd National ACS Meeting, San Francisco, CA, September 2006.
- Co-editor of the book "Photoproteins in Bioanalysis" Wiley-VCH, May 2006.
- Co-Organizer of a symposium on "Living Microstructure-Based Sensors" in spring 2005, American Chemical Society Meeting, Analytical division.
- Grant proposal reviewer: NSF, American Institute of Biological Sciences/Army, US-CRDF, Dutch Technology Foundation STW, The Danish Agency for Science, Technology and Innovation, Austrian Science Fund.
- Reviewer for the scientific journals: Analytical Chemistry, Analytical Biochemistry, Sensors & Actuators B, Analytical and Bioanalytical Chemistry, Talanta, Trends in Analytical Chemistry, PLoS, Analyst, Nature Methods.

Invited Lectures

- S.K. Deo, D. Broyles, D. Zhang, E. Hunt, S. Daunert, V. Gupta, Toward onsite nucleic acid detection, PITTCON, March 13th 2015.
- S.K. Deo, Webinar talk, Molecular Imaging Systems, Center of Excellence in Molecular Biology, Punjab University, Lahore, Pakistan, December 22, 2014.
- S. K. Deo "Detecting MicroRNAs: Quantifying an Emerging Biomarker Using Luminescence Technology" Bascom Palmer Eye Institute, June 26th, 2010.
- S. K. Deo "Quantum Dot-Luminescent Protein Nanoprobes for Rapid Nucleic Acid Sensing", University of Miami, 2nd Annual BioNium retreat, 2010, December 9.
- S. K. Deo "Luminescence-based biosensing" Northern Kentucky University, February 13th, 2010
- S. K. Deo "Luminescence-based sensing of microRNAs" Indiana Clinical and Translational Sciences Institute, November 6th, 2009.
- S. K. Deo "Luminescent proteins in bioanalysis", Department of Chemistry, Northern Illinois University, March 16th, 2009.
- S. K. Deo "Luminescence based biosensing" Analytical Division, Department of Chemistry, University of Cincinnati, October 30th, 2008.
- S. K. Deo "Luminescent proteins in bioanalysis", Department of Chemistry, Indiana State University, September 9th, 2008.
- S. K. Deo "Red fluorescent protein in bioanalytical sensing", 39th Central Regional Meeting of the American Chemical Society, "Chemical/Biological Sensors", Covington, KY, May 21st 2007.
- S. K. Deo "Luminescence based Biosensing" Department of Biology, IUPUI, April 6th 2007.
- S. K. Deo "Bioluminescent and Fluorescent Proteins in Biosensing" Department of Nephrology, Indiana University School of Medicine, June 27th 2006.
- S. K. Deo "Recombinant tools for detection of superfund chemicals" November 4th 2004, Superfund Basic Research Program Annual Meeting, Seattle, Washington.
- S. K. Deo "Genetic engineering strategies in the development of biosensing systems and microanalytical methods" March 1st 2004, Department of Biomedical Engineering, University of Kentucky.

VI. TEACHING

28. Teaching Awards Received

29. Teaching Specialization

Semester	Course number & Title
Spring 2016	BMB701- Journal Club

Fall 2015	BMB701- Journal Club
Spring 2015	BMB701- Journal Club
Spring 2015	BMB702-Seminars in Biochemistry
Fall 2014	BMB601- Journal Club
Spring 2014	BMB601- Journal Club
Fall 2013	BMB601- Journal Club
Spring 2013	BMB601- Journal Club
Fall 2012	BMB601- Journal Club
Fall 2012	BMB610-Bioanalytical Chemistry and Biosensing
Fall 2011	BMB610-Bioanalytical Chemistry and Biosensing
Fall 2010	BMB610-Bioanalytical Chemistry and Biosensing
Fall 2005	Chem 410: Principles of Chemical Instrumentation ^c
Fall 2005	Chem 621: Advanced Analytical Chemistry ^c
Spring 2006	G 614: Advanced Biomolecular Imaging I
Fall 2006	Chem 410: Principles of Chemical Instrumentation
Fall 2006	Chem 621: Advanced Analytical Chemistry
Fall 2006	F 592, Introduction to Biological imaging
Spring 2007	Chem 696: Bioanalytical Chemistry ^c
Fall 2007	Chem 410: Principles of Chemical Instrumentation
Fall 2007	Chem 621: Advanced Analytical Chemistry
Spring 2008	Chem 696: Bioanalytical Chemistry
Spring 2008	G 614: Advanced Biomolecular Imaging I
Fall 2008	Chem 410: Principles of Chemical Instrumentation
Spring 2008	Chem 696: Bioanalytical Chemistry

30. Thesis and Dissertation Advising/Post-doctoral student supervision

Graduate Student Research Director

1. Leticia Kovalski (Ph.D., 2013) Imaging eye with photoproteins.
2. Kyle A. Cissell (Ph. D., summer 2010) MicroRNA detection methods.
3. Ann Goulding (Ph. D., summer 2010) Red fluorescent protein as bifunctional fusion tag.
4. Yasmeen Rahimi (M. S., Fall 2007) Copper binding characteristics of red fluorescent protein.
5. Eric A. Hunt (Ph.D., Current) Development of luminescent molecular beacons.
6. David Broyles (Ph.D., Current) MicroRNA analysis in breast cancer patients.
7. Daohong Zhang (Ph.D., Current) Multiplex RNA analysis.
8. Ashley Melchior (Ph.D., Current) Targeted Lung imaging and drug delivery.
9. Samuel Jativa (PhD, Current) Vaccine development
10. Angeliki Moutsopolou (PhD, Current) Bioluminescent stem-loop probes

Undergraduate Student Research Director

1. Tanushree Banerjee (B. S., 2006) Detection of copper using protein, HcRed.
2. Sweetie Mirpuri (B. S., 2006) Circular dichroism study of metal bound DsRed and HcRed .
3. Derrick Kroodsmma (B. S., Ronal E. McNair Scholar 2006) Detection of p53 protein.
4. Eric A. Hunt (B. S., 2007-2009) Luciferase and quantum dot based detection of microRNAs.
5. Sean Campbell (B. S., LSAMP Scholar, 2008-2009) Split luciferase based detection of microRNAs.
6. Amber Ault (B. S. 2009) Optimization of stability of bioluminescent protein luciferase.
7. Lavonne Armes (B. S.) Characterization of mutant luciferase with enhanced activity.
8. Shariat Mehardad (B.S., 2009) Quantum dot conjugation to RNA probes.
9. Avneet Kaur (B.S., 2008-2010) Hybridization assay for 16sRNA using quantum dots as labels.
10. Spencer Romstadt (B.S., 2008-2010) Expression and purification of luciferase.
11. Elizabeth Harris (B.S., 2010) Expression and purification of DsRed and luciferase.
12. Fatumoto Bah (B.S., LSAMP Scholar, 2010) Detection of miR155 in serum samples.
13. Chris Cignoni (B.S., 2011) Detection of serotonin in serum samples of IBD patients.
14. Nisreen Ezuddin, (B.S., 2011) Expression and purification of Gaussia luciferase.
15. Gabrielle Paul (B.S., current) Biochemical synthesis and detection of dolichol in serum samples.
16. Stephanie Ioannou (B.S., Current) Rational mutagenesis of Gaussia luciferase.
17. Neelanshu Thapar (B.S., Current) Dendrimer based vaccine development
18. Ananth Asthana (B. S., Current) Detection of circulating tumor cells
19. Rahul Gupta, University of Miami
20. Vasanti Jhaveri, University of Miami
21. Derick Madorma, University of Miami
22. Salvador Maffei, University of Miami
23. Anita Manfredi, Universita' degli Studi di Parma

24. Kasey Markel, University of Miami
25. Nina Pakzad, University of Miami
26. Kristen Woodward, University of Miami
27. Rose Adme, SURF Program
28. Juan Diaz, University of Miami

Masters Non-Thesis Student Research Director

1. Yusuf Essix (M. S., 2007, Roche Diagnostics) Assay based on unstructured protein BRCA1.
2. Jennifer L. Purdie (M. S., 2007, Eli Lilly) Detection of zinc.
3. Christina Sorgen (M.S., 2008, Eli Lilly) Hybridization based detection of multiple RNAs.
4. Emily D. Voss (M.S., 2008, Eli Lilly) Development of carboxypeptidase.

Direction of Post-Doctoral Research Project

1. Suresh Shrestha (2005-2006, currently at Eli Lilly) Bioanalysis and red fluorescent proteins.
2. Manoj Kumar (2009-current) multiple RNA detection using energy transfer principle.

Direction of Molecular Medicine Pathway Medical Students Research Project

1. Kamila Ziodeen
2. Brian Wasserman
3. Matthew Varghese
4. Daniel Vo
5. Roger Nehaul
6. Jacob Erickson
7. Atif Shah
8. Michael Schoor

Graduate Student Research Committee Membership

1. Amanda Zins (M.S.)
2. Joe Labuda (M.S.)
3. Julie Lesniak (M.S.)
4. Lillyvet Rivas (M.S.)
5. Amanda Siegel (Ph. D.)
6. Scott Woodward (M.S.)
7. Elisa Liszewski (M.S.)
8. Vikas Bhat (Ph. D.)
9. Sicen Liu (Ph. D.)
10. Trajen Head (Ph. D.)
11. Daniel Wynn (Ph. D.)
12. Gregory J' Connor (Ph. D.)
13. Leslie Knecht (Ph. D.)
14. Genea Edwards (Ph. D.)
15. Brett Schuchardt (M.S.)
16. Kimberly Downy (M.S.)
17. Keryn Hughes (Ph. D.)
18. Anabel Rodriguez (Ph.D.)
19. Gina Delcanto (Ph. D.)
20. Nelson Salgado (Ph. D.)
21. Yuyan Cheng (Ph. D.)
22. Genea Edwards (Ph. D.)
23. Nelson Selgado (Ph. D.)
24. Yu Ping Yang (Ph. D.)
25. Jeremy Baum (Ph. D.)
26. Kristen Grinstead (Ph. D.)
27. Lilly Liu (Ph. D.)
28. Jennifer Veriotto (Ph. D.)
29. Roya Fatemi (Ph. D.)

High School Student Mentoring

- Michael Ashmore
- Anurag Bhattra
- Angela Ma

- Nawal Nawaz
- Helen Formoso-Murias
- Hanna Zosman
- Saadiqah Jackson
- Gianfranco Chacon
- Sabine Jocelin
- Gabriela Muniz
- Hanna Montague

STUDENT AWARDS

- Eric Hunt Outstanding Graduate Research Assistant of University of Miami 2014
- Eric A. Hunt- The NSF Predoctoral Graduate Research Fellowship, \$120,000, 08/09-08/12.
- Spencer Romstadt, Department of Chemistry, Analytical Student Award, 2009
- Kyle A. Cissell – NIH Graduate Research Festival, Research Presentation, November 2009.
- Sean Campbell – McNair Scholarship, 2009.
- Fatumatoh Bah – LSAMP Scholarship, 2009.
- Angela Ma, Regional Finalist SIEMENS Science Competition, 2009
- Sean Campbell – LSAMP Scholarship, 2008.
- Eric A. Hunt- IUPUI Chancellors Scholar Award 2008.
- Kyle Cissell- Pfizer Travel Fellowship to present research at Pittsburgh Analytical Conference (PITTCON) 2007.
- Tanushree Banerjee-IUPUI-Undergraduate Research Opportunities Program (UROP) Fellowship 2007.
- Eric A. Hunt-Jones Memorial Scholarship for research as an undergraduate 2007
- Kyle Cissell- Sigma Xi Research Presentation Award 2006.

VII. SERVICE

31. University Committee and Administrative Responsibilities

Departmental:

- Graduate Student Recruitment Committee, 2005-2006
- Forensic Lecturer Faculty Search Committee, 2006
- Forensic Tenure-Track Faculty Search Committee, 2006
- Chemistry Lecturer Search Committee, 2007
- Chemistry Department Chair Search Committee, 2007
- Departmental Executive Committee, 2007-present
- Department Service Committee, 2007-present
- Chair of the Departmental Research & Graduate Education Committee, 2007-present
- Participated in Eli Lilly Undergraduate Analytical Outreach Program, 2005
- Organized yearly Eli Lilly campus interview for IUPUI Analytical Chemistry students, 2006-2008
- Chemistry Tenure-track Faculty Search Committee, 2009
- Forensic-Biology Lecturer Search Committee, 2009
- PIBS Admission Committee, 2010-2012
- Director, Molecular Medicine Pathway Program, 2010-present
- BMB Graduate Program Director, 2012-present
- BMB Executive PhD Graduate Program Director 2013-2014
- BioNIUM Education Resource Director 2013-present
- Research Committee 2013-present

School:

- Research Committee, 2006-2007
- Recruitment Team Committee, 2007-present
- School of Science recruitment efforts, Women in Science program, video 2009
- Fund raising efforts for Project SEED Program, video 2009
- Established School of Science Junior Faculty Shared Learning Forum, 2009
- DCFR grant funding review committee, 2010
- Academy of Educators Task Force, 2011
- Translational Ph. D. Program Curriculum committee, 2011
- DCFAR Grant Funding Review committee, 2010
- Breman Family Center Grant Funding Review committee, 2010-2014
- Students Training in Research (STIR) 2011, 2012
- Medical Admissions Committee
- Online Education Committee 2013-
- Graduate School Task Force 2013-
- Graduate Program Funding Strategies Subcommittee 2013-
- Masters in Biomedical Science Committee 2014-
- MS in Clinical Translational Steering Committee 2015-present

Campus:

- Board Member, Center for Research and Learning
- Panel Member, IUPUI Preparing Future Faculty Summer Institute 2007
- Chemistry Faculty Representative, Tuning Pilot Project (Tuning USA seeks to create a seamless higher education system that awards comparable degrees based upon defined learning outcomes), March 2009-December 2009
- Department of Chemistry University of Miami Faculty Search Committee, 2010, 2012
- Search Committee, Complex System, School of Arts and Sciences

32. Community Activities

- Presented at symposium "Making Connections" organized by Project SEAM June 2006 (<http://www.ciesc.k12.in.us/ProfessionalDevelopment/Seam/seam.htm>).
- Presented at symposium "Laboratory Workshop" organized by The Central Indiana Educational Service Center (CIESC) and Project SEAM November 2007.
- Participated in the programs of "The Central Indiana Educational Service Center (CIESC)", candidate's group webpage is featured on the CIESC webpage for access to school teachers.
- Science Fair Judge, 19th Hoosier State Science and Engineering Fair, 2007.
- Science Presentations at IUPUI Center for Young Children.
- Science Fair judge, Divine Savior Lutheran School, January 2008.
- Presented at Symposium "Interdisciplinary Relationships in Math and Science" organized by CIESC and Project SEAM, March 2008.
- ACS Project SEED participation, summer 2008 and 2009.
- Science Fair Judge, Regional Science Fair, March 2009.
- Chemistry demonstrations at Hoosier Road Elementary, February 2009.
- Panel Member, Junior Faculty Forum, Butler University, March 2009
- Presentation on Nanoday at the Patricia and Phillip Frost Science Museum 2013
- Presentation on Nanoday at the Patricia and Phillip Frost Science Museum 2014