SHANTA DHAR, Ph. D.
NanoTherapeutics Research Laboratory
Assistant Professor of Chemistry
Adjunct Assistant professor of Department of Physiology and Pharmacology
University of Georgia, Athens, GA, 30602
Phone: 706-542-1012 (O), 410-868-3337(M) Fax: 706-542-9454
Email: *shanta@uga.edu*
Website: shanta.chem.uga.edu

Academic Appointments:

University of Georgia (UGA), Athens, GA
Assistant Professor, Department of Chemistry, August 2010- Present
Adjunct Assistant Professor, Department of Physiology and Pharmacology, College of Veterinary Medicine

Teaching:
Developed a special topics graduate level course in inorganic chemistry CHEM 8290 on "Nanomedicine". Instructor of CHEM8290, spring semester, UGA

Instructor of CHEM8210, a graduate level course on "chemical applications in group theory", fall semester, UGA

Instructor of CHEM 3400/6400, an advanced undergraduate course on "modern inorganic chemistry", spring/Fall semester, UGA

Guest Instructor for Integrative Graduate Education and Research Traineeship (IGERT) Nanomedicine Science and Technology education program supported by the National Cancer Institute and the National Science Foundation

Guest instructor for "Mammalian Cell Physiology VPHY8010", College of Veterinary Medicine

Research: Currently mentoring 1 graduate student, 3 postdocs, 2 visiting researchers, and 7 undergraduate students in the area of NANOMEDICINE AND BIOINORGANIC MATERIALS

2011-present	Faculty member, Nanoscale Science and Engineering Center, UGA, Athens, GA
2011-present	Faculty member, Preadipocyte Targeted Pharmaceuticals, UGA Obesity Initiative
2012-present	Faculty member, Center for Drug Discovery, UGA, Athens, GA
2012-Present	Faculty member, UGA Cancer Center, UGA, Athens, GA
2013-Present	Faculty member, UGA Regenerative Bioscience Center, UGA, Athens, GA
2013-present	Faculty member, UGA Center for Metalloenzyme Studies, Athens, GA
2014-Present	Co-founder and Chair of the scientific advisory board, PartiKula LLC, a start-up biotechnology company that is developing mitochondria targeted medicines.
2014-present	Faculty member, UGA Interdisciplinary Life Science Program
2014-present	Faculty member, Interdisciplinary Toxicology Program, UGA
2014-present	Leader of UGA Chemical Biology Interdisciplinary Group

Massachusetts Institute of Technology, Cambridge, MA
Postdoctoral Fellow in Molecular Oncology, Bio-inorganic Chemistry, April 2007-July 2010
Advisor: Prof. Stephen J. Lippard

Johns Hopkins University, Baltimore, MD
Postdoctoral Fellow, Bio-organic Chemistry, March 2006-March 2007
Advisor: Prof. Marc M. Greenberg

Education:

Indian Institute of Science, Bangalore, India
Ph.D., Bio-inorganic Chemistry, August 2000-March 2005:
April 2005-February 2006: Council of Scientific and Industrial Research Fellow
Advisor: Prof. Akhil R. Chakravarty

University of North Bengal, Darjeeling, India
M.Sc. in Chemistry, Gold Medalist. 1996-1998

University of North Bengal, Darjeeling, India
B.Sc. (Hons.) in Chemistry, Silver Medalist. 1993-1996

Honors, Awards, and Scholarships:

2015	Thieme Chemistry Journal Award
*2014	Georgia's best and brightest: 2014 Georgia Trend's list of 40 Under 40
*2014	One of the Georgia top medical researchers by Atlanta Business Chronicle
2014	Seahorse Bioscience Young Scientist Travel Award
*2013	National Scientist Development Award, American Heart Association.
*2012	Targeting Mitochondria 2012 Scientific Contribution Award.
*2012	Department of Defense Congressionally Directed Medical Research Programs Prostate Cancer Idea Development Award.
*2011	Ralph E. Powe Junior Faculty Enhancement Awards, Oak Ridge Associated Universities.
2008	Anna Fuller Postdoctoral Fellowship in Molecular Oncology, the David H. Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology.
2005	Prof. S. Sunderajan Best thesis award in the chemical science division, Indian Institute of Science, Bangalore, India.
2001	Vasudevamurthy-soundararajan Prize for the best performance during Ph.D, Indian institute of Science, Bangalore, India.
2000	Qualified National test "GATE-2000" India.
1998	Gold medal in M.Sc examination of University of North Bengal, India.
1996	Silver medal in B.Sc examination of University of North Bengal, India.
1993-1998	National merit scholarship, Government of India.

Professional Activity:

Referee for Peer-Reviewed Grants
North Carolina Biotechnology Center Multidisciplinary Research Grant program
Department of Defense CDMRP BCRP program
The Medical Research Council (MRC), UK
Prayers from Maria, Children's Glioma Cancer Foundation
National Institute of Health, Biomaterials and Biointerfaces (BMBI) Study Section

Referee for Peer-Reviewed Journals
Journal of the American Chemical Society, Inorganic Chemistry, Angew. Chem. Int. Ed., ACS Nano, Chemical Science, ACS Chemical Biology, ACS Applied Materials & Interfaces, Dalton Transactions, Molecular Cancer Therapeutics, Molecular Pharmaceutics, Scientific Reports, Nanomedicine: Nanotechnology, Biology, and Medicine, RSC Advances, Biomaterials, Small, Nanoscale, Advanced Healthcare Materials, Chemistry European Journal, Biomacromolecules, Theranostics
Referee for Peer-Reviewed Book/Chapter
Pan Stanford Publisher: "Drug Delivery Across Physiological Barriers"

Affiliations:
Member of American Chemical Society (ACS)
Member of American Heart Association (AHA)
Member of American Association for Cancer Research (AACR)

Publications: (Citations: >2440, *h*-index = 22)
From the Independent Career (University of Georgia):

(1) Marrache, S.; and **Dhar, S.** "The energy blocker inside the power house: Mitochondria targeted delivery of 3-bromopyruvate" *Chem. Sci.,* **2015**, *6*, 1832-1845.
(2) Marrache, S.; Tundup, S.; Harn, D. A.; and **Dhar, S.** "*Ex vivo* generation of functional immune cells by mitochondria-targeted photosensitization of cancer cells" *Methods Mol. Biol.*, **2015**, *Vol 1265*, 113-122.
(3) Marrache, S.; Pathak, R. K.; and **Dhar, S.** "Formulation and optimization of mitochondria-targeted polymeric nanoparticles" *Methods Mol. Biol.*, **2015**, *Vol 1265*, 103-112.
(4) Pathak, R. K.; Kolishetti, N.; and **Dhar, S.** "Targeted nanoparticles in mitochondrial medicine" *WIREs Nanomed. Nanobiotechnol.*, **2015**, DOI: 10.1002/wnan.1305.
(5) Hung, S. W.; Marrache, S.; Cummings, S.; Bhutia, Y. D.; Mody, H.; Hooks, S. B.; **Dhar, S.;** Govindarajan, R. " Defective hCNT1 transport contributes to gemcitabine chemoresistance in ovarian cancer subtypes: Overcoming transport defects using a nanoparticle approach" *Cancer Lett.*, **2015**, 359, 233-240.
(6) * Marrache, S.; Pathak, R. K.; and **Dhar, S.** "Detouring of Cisplatin to Access Mitochondrial Genome for Overcoming Resistance" *Proc. Natl. Acad. Sci. USA*, **2014**, 111, 10444-10449.
(7) Pathak, R. K.; McNitt, C.; Popik, V. V. and **Dhar, S.** "Copper-free click-chemistry platform to functionalize cisplatin prodrugs" *Chem. Eur. J.*, **2014**, 20, 6861-6865.
(8) * Pathak, R. K.; Marrache, S.; Harn, D. A. and **Dhar, S.** "Mito-DCA: A mitochondria targeted molecular scaffold for efficacious delivery of metabolic modulator dichloroacetate" *ACS Chem. Biol.*, **2014**, 9, 1178-1187.
(9) * Pathak, R. K.; Marrache, S.; Choi, J. H.; Berding, T. B. and **Dhar, S**. "The prodrug Platin-*A*: simultaneous release of cisplatin and aspirin" *Angew. Chem. Int. Ed.*, **2014**, *53*, 1963-1967.
(10)* Marrache, S.; Tundup, S.; Harn, D. A. and **Dhar, S.** "Ex vivo programming of dendritic cell by mitochondria-targeted nanoparticles to produce interferon-gamma for cancer immunotherapy" *ACS Nano*, **2013**, *7*, 7392-7402.
(11)* Marrache, S. & **Dhar, S.** "Biodegradable synthetic high density lipoprotein nanoparticles for atherosclerosis" *Proc. Natl. Acad. Sci. USA,* **2013**, *110*, 9445-9450.
(12) Hung, S. W.; Mody, H.; Marrache, S.; Bhutia, Y. D.; Davis, F.; Cho, J. H.; Zastre, J.; **Dhar, S**.; Chu, C. K.; Govindarajan, R. "Pharmacological reversal of histone methylation presensitizes pancreatic cancer cells to nucleoside drugs: In vitro optimization and novel nanoparticle delivery studies" *PLOS ONE,* **2013**, *8(8),* e71196.
(13) Marrache, S.; Pathak, R. K.; Darley, K. L.; Choi, J. H.; Zaver, D.; Kolishetti, N. & **Dhar, S.** "Nanocarriers as therapeutic platforms for tracking and treating diseases" *Curr. Med. Chem.* **2013**, *20,* 3500-3514.
(14) Marrache, S.; Choi, J. H.; Tundup, S.; Zaver, D.; Harn, D. A. & **Dhar, S.** "Immune stimulating photoactive hybrid nanoparticles for metastatic breast cancer" *Integr. Biol.*, **2013**, *5*, 215-223.
(15)* Marrache, S. and **Dhar. S.** "Engineering of blended nanoparticle platform for delivery of mitochondria-acting therapeutics" *Proc. Natl. Acad. Sci. USA,* **2012***, 109*, 16288-16293.

* *Numerous media attention that are national and international level.*

From the Previous Career (Ph.D., and Postdoc):

(16) Roy, M.; **Dhar, S.;** Maitya, B. and Chakravarty, A. R. "Dicopper(II) complexes showing DNA hydrolase activity and monomeric adduct formation with bis(4-nitrophenyl)phosphate" *Inorg. Chim. Acta*. **2011**, *375*, 173-180.
(17) **Dhar, S.;** Kolishetti, N.; Lippard, S. J. and Farokhzad, O. C. " Targeted delivery of a cisplatin prodrug for safer and more effective prostate cancer therapy in vivo" *Proc. Natl. Acad. Sci. USA,* **2011**, *108,* 1850-1855.

(18) Kolishetti, N.; **Dhar, S**.; Valencia, P.; Lin, L.; Karnik, R.; Lippard, S. J.; Langer, R. and Farokhzad, O. C. "Engineering of self-assembled nanoparticle platform for precisely-controlled combination drug therapy" *Proc. Natl. Acad. Sci. USA,* **2010**, 107, 17939-17944.

(19) Lee, T.; Zhang, X.; **Dhar, S.**; M. S.; Lippard, S. J.; Jasanoff, A. P. "In vivo imaging with a cell-permeable porphyrin-based MRI contrast agent" *Chem. Biol.* **2010**, *17*, 665-673.

(20) **Dhar, S.;** Daniel, W. L.; Giljohann, D. A.; Mirkin, C. A.; and Lippard, S.J. "Polyvalent oligo-modified gold nanoparticles as delivery vehicles for platinum(IV) warhead". *J. Am. Chem. Soc.* **2009**, *131*, 14652–14653.

(21) **Dhar, S.** and Lippard, S. J. "Mitaplatin, a potent fusion of cisplatin and the orphan drug dichloroacetate ", *Proc. Natl. Acad. Sci. USA*, **2009**, *106*, 22199-22204**.**

(22) **Dhar, S.;** Gu, F. X.; Langer, R.; Farokhzad, O. C.; and Lippard, S. J. "Targeted delivery of cisplatin to prostate cancer cells by aptamer functionalized Pt(IV) prodrug-PLGA–PEG nanoparticles", *Proc. Natl. Acad. Sci. USA*, **2008**, 105, 17356-17361**.**

(23) Tennyson, A. G.; **Dhar, S.** and Lippard, S. J. "Syntheses of $\{Ni(NO)\}^{10}$ and $\{Co(NO)_2\}^{10}$ complexes supported by thiolate ligands: Insight into the nitric oxide chemistry of iron thiolate complexes in biology", *J. Am. Chem. Soc.* **2008**, 130, 15087 -15098.

(24) **Dhar, S.**; Liu, Z.; Thomale, J.; Dai, H. and Lippard, S. J. "Targeted single walled carbon nanotube mediated Pt(IV) prodrug delivery using folate as homing device", *J. Am. Chem. Soc.* **2008**, 130, 11467-11476.

(25) Roy, S.; Patra, A. K.; **Dhar, S.** and Chakravarty, A. R. "Photosensitizer in a molecular bowl and its effect on the DNA binding and cleavage activity of 3d-metal scorpionates", *Inorg. Chem*. **2008**, 47, 5625-5633.

(26) **Dhar, S.**; Kodama, T. and Greenberg, M. M. "Selective detection and quantification of oxidized abasic lesions in DNA", *J. Am. Chem. Soc.* **2007***, 129,* 8702-8703.

(27) **Dhar, S.**; Nethaji, M. and Chakravarty, A. R. "DNA cleavage on photoexposure at the d-d band in ternary copper(II) complexes using red-light laser", *Inorg. Chem*. **2006**, *45*, 11043-11050.

(28) **Dhar, S.**; Nethaji, M. and Chakravarty, A. R. "Steric protection of photosensitizer in a N,N-bis[2-(2-pyridyl)ethyl]-2-phenylethylamine-copper(II) bowl that enhances red light-induced DNA cleavage activity", *Inorg. Chem.* **2005,** *44*, 8876-8883.

(29) **Dhar, S.** and Chakravarty, A. R. "Photosensitizer in a molecular bowl: Steric protection enhancing the photonuclease activity of copper(II) scorpionates", *Inorg. Chem.* **2005**, *44*, 2582-2584.

(30) Patra, A. K.; **Dhar, S.**; Nethaji, M. and Chakravarty, A. R. "Metal-assisted red light-induced DNA cleavage by ternary L-methionine copper(II) complexes of planar heterocyclic bases", *Dalton Trans.* **2005,** 896-902.

(31) **Dhar, S.**; Nethaji, M. and Chakravarty, A. R. "Synthesis, crystal structure and photo-induced DNA cleavage activity of ternary copper(II) complexes of NSO-donor Schiff bases and NN-donor heterocyclic ligands", *Inorg. Chim. Acta.* **2005,** *358*, 2437-2444.

(32) Gupta, T.; Patra, A. K.; **Dhar, S.**; Nethaji, M. and Chakravarty, A. R. "Effect of copper-sulfur bond on the DNA photocleavage activity of 2-(methylthio) ethylpyridine-2-carbaldimine copper(II) complexes", *J. Chem. Sci.* **2005**, *117*, 123-132.

(33) **Dhar, S.**; Nethaji, M. and Chakravarty, A. R. "Effect of charge transfer bands on the photo-induced DNA cleavage activity of [1-(2-thiazolylazo)-2-naphtholato]copper(II) complexes", *J. Inorg. Biochem.* **2005,** *99*, 805-812.

(34) Mukherjee, A.; **Dhar, S.**; Nethaji, M. and Chakravarty, A. R. "Ternary iron(II) complex with an emissive imidazopyridine arm from Schiff base cyclizations and its oxidative DNA cleavage activity", *Dalton Trans.* **2005**, 349-353.

(35) **Dhar, S.**; Nethaji, M and Chakravarty, A. R. "Designing molecules for PDT: red light-induced DNA cleavage on disulfide bond activation in a dicopper(II) complex", *Dalton Trans.* **2005**, 344-348.

(36) Pradhan, R.; Thomas, A. M; Mukherjee, A; **Dhar, S.**; Nethaji, M. and Chakravarty, A. R. "Synthesis, crystal structute and DNA hydrolysis activity of ternary (N-salicylidene-L-methioninato)copper(II) complexes of heterocyclic bases", *Indian J. Chem.* **2004**, *43A*, 2307-2314.

(37) **Dhar, S.**; Nethaji, M and Chakravarty, A. R. "Synthetic analogue approach for the functional domains of copper(II)-bleomycins and its DNA cleavage activity", *Dalton Trans.* **2004**, 4180-4184.

(38) Gupta, T.; **Dhar, S.**; Nethaji, M. and Chakravarty, A. R. "Bis(dipyridophenazine)copper(II) complex as major groove directing synthetic hydrolase", *Dalton Trans.* **2004**, 1896-1900.

(39) **Dhar, S.**; Reddy, P. A. N. and Chakravarty, A. R. "Intramolecular nucleophilic activation promoting efficient hydrolytic cleavage of DNA by (aqua)bis(dipyrido-quinoxaline)copper(II) complex", *Dalton Trans.* **2004**, 697-698.

(40) Patra, A. K.; **Dhar, S.**; Nethaji, M. and Chakravarty, A. R. "Visible light-induced nuclease activity of a ternary mono-phenanthroline copper(II) complex containing L-methionine as a photosensitizer", *Chem. Commun*. **2003**, 1562-1563.

(41) **Dhar, S.**; Senapati, D.; Reddy, P. A. N.; Das, P. K. and Chakravarty, A. R. "Metal-assisted red light-induced efficient DNA cleavage by dipyridoquinoxaline- copper(II) complex", *Chem. Commun.* **2003**, 2452-2453.

(42) **Dhar, S.** and Chakravarty, A. R. "Efficient visible light-induced nuclease activity of a ternary mono-phenanthroline copper(II) complex containing 2-(methylthio)ethylsalicylaldimine", *Inorg. Chem.* **2003**, *42*, 2483-2485.

(43) **Dhar, S.**; Senapati, D.; Das, P. K.; Chattopadhyay, P.; Nethaji, M. and Chakravarty, A. R "Ternary copper complexes for photo-cleavage of DNA by red light: direct evidence for sulfur to copper charge transfer and d-d band involvement", *J. Am. Chem. Soc.* **2003**, *125*, 12118-12124.

(44) **Dhar, S.**; Reddy, P. A. N.; Saha, M. K.; Nethaji, M.; Mahadevan, S and Chakravarty, A. R. "Effect of steric encumbrance of tris(3-phenylpyrazolyl)borate on the structure and properties of ternary copper(II) complexes having N,N-donor heterocyclic bases", *Inorg. Chem.* **2002**, *41*, 3469-3476.

Book Chapters:

(1) **Dhar, S.** and Lippard, S. J. In "Current status and mechanism of action of platinum-based anticancer drugs", E. Alessio Eds. Bioinorganic Medicinal Chemistry; Wiley-VCH publishers, **2011**, pp 79-95.

(2) **Dhar, S.** and Lippard, S. J. In "Structural and mechanistic studies of anticancer platinum drugs: Uptake, activation, and the cellular response to DNA binding", A Bonetti et al. Eds. Platinum and other heavy metal compounds in cancer chemotherapy; Humana Press, NJ, **2009**, pp 135-147.

Conference Publications:

(1) Hung, S. W.; Mody, H.; Marrache, S.; Bhutia, Y. D.; Davis, F.; Cho, J. H.; **Dhar, S**.; Chu, C. K.; Govindarajan, R. "Optimized DZNep exposure presensitizes pancreatic cancer cells to anticancer nucleoside analogues: potential clinical implications" *Cancer Res*. **2013**, 73 (8 suppl), 1025.

(2) Marrache, S. and **Dhar, S.** "Functionalized polymers for mitochondria trafficking of nanoparticles" *Poly. Prepr.* **2012***, 53, 571-572.*

(3) **Dhar, S.** and Williams, A. M. "Photoimmunotherapeutic nanoparticles for combination therapy" *Mol. Cancer Ther.* **2011***, 10 (11 suppl), A119.*

(4) **Dhar, S.** "Organelle targeted photodynamic therapy" *Cancer Res.* **2011***, 71 (18 suppl), B56.*

Patents:

From the Independent Career (University of Georgia):

(1) Precise delivery of therapeutic agents to cell mitochondria for anti-cancer therapy by **Dhar, S.** and Pathak, R. K., *PCT Int. Appl.*, **2015**, WO 2015002996 A1 20150108.

(2)* Combination therapeutic nanoparticles by **Dhar, S.** and Pathak, R. K. *PCT Int. Appl.*, **2014**, WO 2014169007 A2 20141016.

(3) Generation Of Functional Dendritic Cells By **Dhar, S.**, Marrache, S. Harn, D.A., and Tundup, S. *PCT Int. Appl.*, **2014**, WO 2014124425 A1 20140814.

(4) Combination therapeutic nanoparticles By **Dhar, S.** and Pathak, R. K. *PCT Int. Appl.*, **2014,** WO 2014169007 A2 20141016.

(5) An Activable Prodrug Platin-A for Simultaneous Release of Cisplatin and Aspirin By **Dhar, S.** Pathak, R. K., Marrache, S., Choi, J. H. **2013**, Application filed (UGARF-2143).

(6) The Energy Blocker Inside the Power House: Mitochondria Targeted Delivery of 3-Bromopyruvate By **Dhar, S.** and Marrache, S. **2013**, Application filed (UGARF-2144).

(7) Overcoming Cisplatin Resistance by Targeting Mitochondrial Genome using cisplatin prodrug, Platin-M By **Dhar, S.** Pathak, R. K., Marrache, S. **2014**, Application filed (UGARF 2203).

(8) Copper-free Click-Chemistry Platform to Functionalize Cisplatin Prodrugs By **Dhar, S.** Pathak, R. K., McNitt C., and Popik, V. V. **2013**, Application filed. UGARF 2155.
(9) Nanoparticles for mitochondrial trafficking of agents By **Dhar, S.** and Marrache, S. *PCT Int. Appl.*, (**2013**), WO 2013123298 A1 20130822.
(10) Apoptosis-targeting nanoparticles By **Dhar, S.** and Marrache, S. PCT Int. Appl. (**2013**), WO 2013033513 A1 20130307.
(11) Immune-stimulating photoactive hybrid nanoparticles By **Dhar, S.** Choi, J.; Marrache, S. PCT Int. Appl. (**2013**), WO 201312628 A120130124.

** Highlighted in C and E News, **2015**, February 23 Issue.*

From the Previous Career (Ph.D., and Postdoc):

(12) Nanoparticle functionalized with polyvalent polynucleotide conjugates with platinum coordination complex as delivery vehicles for a chemotherapeutic agent By Mirkin, C. A.; Giljohann, D. A.; Daniel, W. L.; Lippard, S. J.; **Dhar, S.** PCT Int. Appl. (**2011**), WO 2011028847 A1 20110310.
(13) Particles for multiple agent delivery By Farokhzad, O. C.; Kolishetti, N.; **Dhar, S.**; Lippard, S. J. and Langer, R. PCT Int. Appl. (**2011**), WO 2011084620 A2 20110714.
(14) Nanostructures for drug delivery By Lippard, S. J.; **Dhar, S.**; Farokhzad, O. C.; Kolishetti, N.; Gu, F. X. PCT Int. Appl. (**2010**), WO 2010047765 A2 20100429.
(15) Platinum (IV) complexes for use in dual mode pharmaceutical therapy By Lippard, S. J.; **Dhar, S.** PCT Int. Appl. (**2010**), WO 2010027428 A1 20100311.

Invited Lectures:

From the Independent Career (University of Georgia):

(1) Presented an invited seminar at California Institute of Technology, Inorganic-Electrochemistry Seminar Series, February 24th, 2015
(2) Presented an invited seminar at University of California Los Angles in Molecular Biology Institute Seminar Series, February 18th, 2015
(3) Presented an invited seminar at University of California Santa Barbara in Center of bioengineering/engineering Faculty Seminar Series, February 17th, 2015.
(4) Presented an invited webinar in IGERT Nanomedicine NEU/TU/UPRM Program, November 25, 2014.
(5) Presented an invited lecture 2014 at the American Chemical Society, Midwestern Regional Meeting Organic Synthesis in the SEC Symposium, University of Missouri, Columbia, MO. November 14, 2014.
(6) Presented an invited lecture in the Department of Chemistry, University of Akron, OH on September 30, 2014.
(7) Presented an invited lecture at 2014 Regenerative Engineering and Medicine Fall Retreat, Athens, GA on August 12, 2014.
(8) Presented an invited distinguished seminar in the Department of Chemical Engineering Series at Northeastern University, Boston, MA on August 6, 2014.
(9) Presented an invited talk in TechConnect World 2014: Cancer Nanotechnology series, Washington DC on June 16, 2014.
(10) Presented an invited lecture in Center For Excellence in Nanomedicine and Engineering 2014 Series: Clinically Promising Technologies University of California SanDiego on May 07, 2014.
(11) Presented an invited lecture in cardiovascular biology seminar series at Emory University, School of Medicine, Atlanta, April 2014
(12) Presented an invited lecture in the chemistry department seminar series at Georgia State University, Atlanta, April 2014.
(13) Presented an invited talk at the Georgia Junior Science and Humanities Symposium, February 2014.
(14) Presented an invited lecture at third annual conference of Society for Mitochondrial Research and Medicine (SMRM)-India, December 2013.
(15) Presented an invited lecture in Department of Inorganic and Physical Chemistry, at Indian Institute of Science, Bangalore, December, 2013.
(16) Presented an invited talk in Department of Chemistry and Biochemistry Fall 2013 Colloquium, Auburn University, November 07, 2013.

(17) Presented an invited talk at UGA-GRU Cancer Research Retreat, November 01, 2013.
(18) Presented an invited lecture in "XI up-to-date course on kidney transplantation, University of Pavia, Pavia, Italy, September 13, 2013.
(19) Presented an invited lecture in the department of Infectious Diseases, University of Georgia, USA, August 19, 2013
(20) Presented an invited lecture in Metabolomics-2013 Symposium on Diabetes, Obesity & Cardiovascular Diseases at the Harvard Medical School, Boston, July 10, 2013.
(21) Presented an invited lecture at the Charlotte Research Institute, UNC Charlotte, March 18, 2013.
(22) Presented an invited lecture at the Department of Pharmaceutical and Biomedical Sciences Research Seminar Series, University of Georgia, February 20, 2013.
(23) Presented an invited lecture at the College of Medicine, Central Michigan University, MI, USA, February 12, 2013.
(24) Presented an invited lecture at the "3rd World Congress on Targeting Mitochondria 2012" in Berlin, Germany.
(25) Presented an invited lecture at the Department of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA, USA, September 12, 2012
(26) Presented an invited lecture in "International Conference and Exhibition on Biosensors and Bioelectronics", Las Vegas, USA, May 14-16, 2012
(27) Presented an invited lecture in "Nano@Tech meetings" at Georgia Institute of Technology, Atlanta, GA, USA, April 10, 2012
(28) Presented an invited lecture at the Department of Food Science and Technology, University of Georgia, March 6, 2012.
(29) Presented an invited lecture in "Modern Trends in Inorganic Chemistry MTIC-XIV", University of Hyderabad, India, December 10–13, 2011
(30) Presented an invited lecture at the Department of Physiology and Pharmacology, University of Georgia on April 27, 2011.
(31) Presented an invited talk at the Indian Association of Cultivation of Science, Kolkata, India, January 27, 2011.
(32) Presented an invited talk at the National Center of Biological Sciences, Bangalore, India, January 25, 2011.
(33) Presented an invited talk at the department of inorganic and physical chemistry, Indian Institute of Science, Bangalore, India, January 24, 2011.
(34) Presented an invited lecture in NanoSEC seminar series on Targeted delivery of therapeutics at University of Georgia, September 10, 2010.

From the Previous Career (Ph.D., and Postdoc):

(35) Presented an invited lecture in "New England RNA Data (NERD) club", Harvard Medical School, March 18, 2010.
(36) Presented an invited lecture in Department of Chemistry, at University of Georgia, March 4, 2010.
(37) Presented an invited lecture in Department of Chemistry and Biochemistry, at Indiana University-Purdue University Indianapolis, January 7, 2010.
(38) Presented an invited lecture in Department of Chemistry, at University of Texas, Dallas, 2009.
(39) Presented an invited lecture in "Biological Chemistry Seminar Series" Massachusetts Institute of Technology, Cambridge, USA. September 28, 2009.
(40) Presented an invited lecture in Department of Chemistry and Biochemistry, at University of California SanDiego, April 20, 2009.
(41) Presented an invited lecture in Department of Chemistry, at Indian Institute of Technology, Kanpur, November 30, 2008.
(42) Presented an invited lecture in Department of Chemistry, at Indian Institute of Technology, Mumbai, November 26, 2008.
(43) Presented an invited lecture in "17th Boston Regional Inorganic Colloquium", Boston University, Boston, USA, September 27, 2008.
(44) Presented an invited lecture in Department of Inorganic and Physical Chemistry, at Indian Institute of Science, Bangalore, November 8, 2007.

Presentations at Scientific Meetings by graduate students, postdocs, MD, DVM students (Independent Career)

1. Pathak, R. K. and **Dhar, S**. "Dendron-functionalized polymeric nanoparticles for cocktail therapy of advanced prostate cancer", at the 247th ACS National Meeting and Exposition, Dallas, TX, United States, March 16-20, 2014 (2014), MEDI-290.
2. Marrache, S. and **Dhar, S**. "Mitochondria-targeted nanoparticle assisted activation of dendritic cells for immune boosting treatment of breast cancer", at the 247th ACS National Meeting and Exposition, Dallas, TX, United States, March 16-20, 2014 (2014), MEDI-147.
3. Marrache, S. and **Dhar, S**. "Synthetic high-density lipoprotein mimic for treatment of atherosclerosis", at the 247th ACS National Meeting and Exposition, Dallas, TX, United States, March 16-20, 2014 (2014), COLL-321.
4. Choi, J. H.; Pathak, R. K.; Berding, T. B.; Marrache, S. and **Dhar, S**. "Chemo-anti-inflammatory therapy for prostate cancer", at the 247th ACS National Meeting and Exposition, Dallas, TX, United States, March 16-20, 2014 (2014), BIOL-186.
5. Wyatt, E. L., Marrache, S.; West, F. D.; **Dhar, S.** "A Lipophilic Blood-Brain Barrier Penetrating Mitochondria Targeted Nanoparticle in a Piglet Traumatic Brain Injury Model" 2014 Regenerative Engineering and Medicine Fall Retreat, Athens, GA on August 12, 2014
6. Feldhaeusser, B.; Platt, S. R.; Pathak, R. K.; Marrache, S.; Howerth, E. and **Dhar, S**. "Evaluation of Nanoparticle Delivered Cisplatin as a Potential Brain Tumor Treatment in Dogs" Science of Veterinary Medicine Symposium, October 09, 2014.
7. Feldhaeusser, B.; Platt, S. R.; Pathak, R. K.; Marrache, S.; Howerth, E. and **Dhar, S**. "Evaluation of Nanoparticle Delivered Cisplatin as a Potential Brain Tumor Treatment in Dogs" Merial-NIH Symposium in Cornell University, July 31-August 3rd, 2014.
8. Choi, T D.; Marrache, S.; **Dhar, S.** "Formulation of High Density Lipoprotein Mimicking Nanoparticle for Therapeutic Application" 6th Annual Medical Scholars Research Day, GRU, September 22, 2014.
9. Marrache, S. and **Dhar, S**. "A High-Density Lipoprotein-based Theranostic Nanoparticle platform for Atherosclerosis", at the UGA Women@The Frontier Panel and Poster Exhibits during Thinc@UGA event, March 22-29, 2013, Athens, GA (Poster). **This poster was selected as one of the best posters.**
10. Pathak, R. K.; Marrache, S.; and **Dhar, S**. "A Nanoparticle Platform for Combination Therapy of Metastatic Prostate Cancer" 245th ACS National Meeting & Exposition held during April 7-11, 2013 at New Orleans, Louisiana USA (Poster MEDI-305).
11. Marrache, S. and **Dhar, S.** "High-density Lipoprotein-based Theranostic Nanoparticle Platform for Atherosclerosis", at 245th ACS National Meeting and Exposition, New Orleans, LA, United States, April 7-11, 2013 (2013), MEDI-417. Sean Marrache was awarded an ACS travel award to present this work (Talk).
12. Marrache, S., and **Dhar, S.**, "A High density Lipoprotein-based Theranostic Nanoparticle Platform for Atherosclerosis" Department of Chemistry Graduate student retreat held on Friday, August 9, 2013 at University of Georgia, Athens USA (Poster).
13. Choi, J. H.; Pathak, R. K.; Marrache, S.; Berding, T. B.; and **Dhar, S**. "Platin-*A* for Prostate Cancer: A Prodrug Containing Cisplatin and Aspirin" Department of Chemistry Graduate student retreat held on Friday, August 9, 2013 at University of Georgia, Athens USA (Poster).
14. Pathak, R. K.; Marrache, S.; **Dhar, S.** "A Targeted Small Molecule and Polymeric Nanoparticle Platform for Metastatic Prostate Cancer" Department of Chemistry Graduate student retreat held on Friday, August 9, 2013 at University of Georgia, Athens USA (Poster).
15. Marrache, S., and **Dhar, S.**, "A High-Density Lipoprotein-based Theranostic Nanoparticle Platform for Atherosclerosis" 5th annual GSPS Research Day, Athens, GA, April 14th, 2013 (Poster).
16. Pathak, R. K.; Marrache, S.; and **Dhar, S**. "Targeted Therapeutic Platforms for Prostate Cancer" GSPS Fifth Annual Research Day held on Wednesday, August 14, 2013 at University of Georgia, Athens USA (Poster). **This poster was selected as one of the best posters.**
17. Marrache, S., Wyatt, E., West, F.D., and **Dhar, S.**, "A highly Lipophilic Nanoparticle Platform for the Treatment of Traumatic Brain Injury" Annual Regenerative Engineering and Medicine Retreat, Atlanta, GA, September 13, 2013 (Poster).
18. Marrache, S., Tundup, S., Harn, D.A., and **Dhar, S**., "Mitochondria Targeted Photodynamic Therapy as a Potent Immune Boosting Treatment for Breast Cancer" UGA-GRU Cancer Centers Retreat, Lake Oconee, GA, November 1st, 2013 (Poster).

19. Pathak, R. K.; Marrache, S.; and **Dhar, S**. "Organelle Targeted and Combinational Therapeutic Molecular Systems for Prostate Cancer*"* UGA-GRU Cancer Research Retreat held on November 1st, 2013 at Ritz-Carlton Lodge, Lake Oconee, Georgia USA (Poster).
20. Marrache, S., Tundup, S., Harn, D.A., and **Dhar, S.**, "Mitochondria Targeted Photodynamic Therapy as a Potent Immune Boosting Treatment for Breast Cancer" SERMACS 2013, Atlanta, GA, November 12th-16th, 2013 (Talk).
21. Marrache, S.; **Dhar, S.**, "Functionalized polymers for mitochondria trafficking of nanoparticles", 243rd ACS National Meeting, March 25-29, 2012, San Diego, CA
22. Marrache, S.; **Dhar, S.**, "A programmable blended nanoparticle platform for mitochondrial trafficking of therapeutics", Research Retreat, Department of Chemistry, UGA, August 10, 2012, Athens, GA
23. Choi, J.; Marrache, S.; Zaver, D.; **Dhar, S.**, "Immune stimulating photoactive hybrid nanoparticles for metastatic breast cancer", Research Retreat, Department of Chemistry, UGA, August 10, 2012, Athens, GA
24. **Dhar, S.** Presented a poster in AACR-NCI-EORTC Conference on Molecular Targets and Cancer Therapeutics, November 12–16, 2011, in San Francisco, CA, USA.
25. **Dhar, S.** Presented a poster in "Gordon Research Conference on Cancer Nanotechnology" July 17-22, 2011, Colby College, Waterville, ME, USA.
26. **Dhar, S.** Second AACR International Conference on Frontiers in Basic Cancer Research, September 14-18, 2011, San Francisco, CA.
27. Broering, E.; **Dhar, S.** "Nano-sensors for apoptosis detection in atherosclerotic plaques" Abstracts of Papers, 242nd ACS National Meeting & Exposition, Denver, CO, United States, August 28-September 1, 2011 (2011), MEDI-353.
28. Marrache, S.; **Dhar, S. "**Mitochondria targeted photodynamic therapy" Abstracts of Papers, 242nd ACS National Meeting & Exposition, Denver, CO, United States, August 28-September 1, 2011 (2011), MEDI-277.
29. Williams, A. M.; Gangwal, J.; and **Dhar, S. "**Photoimmunotherapeutic nanoparticles: Combination therapy for metastatic breast cancer" Abstracts of Papers, 242nd ACS National Meeting & Exposition, Denver, CO, United States, August 28-September 1, 2011 (2011), MEDI-245.
30. Marrache, S.; and **Dhar, S.** "Organelle Targeted Photodynamic Therapy using Polymeric Nanoparticles as Delivery Vehicles 3rd Annual Georgia Nanotechnology and Infectious Diseases Symposium, Mercer University, Atlanta, GA, April 2011.
31. Williams, A.; **Dhar, S.** "Photoimmunotherapeutic Nanoparticles for Combination Therapy", UGA Conference on Drug Discovery November 3, 2011.
32. Broering, E.; **Dhar, S.** "Nano-sensors for Apoptosis Detection in Atherosclerotic Plaques", UGA Conference on Drug Discovery November 3, 2011.

Presentations at Scientific Meetings by undergraduate students (Independent Career)

1. Kennedy, S. E.; Pathak, R. K. and Dhar, S. "Nano formulation of platin-A for cancer and associated inflammation", at the 66th Southeast Regional Meeting of the American Chemical Society, Nashville, TN, United States, October 16-19 (2014), SERMACS-1080.
2. Berding, T. B.; Pathak, R. K.; Marrache, S.; Choi, J.H. and Dhar, S. "The creation of an anticancer prodrug- combining aspirin with cisplatin", at the 46th Southeast Undergraduate Research Conference (SURC) in Knoxville, TN, January 30-31, (2014).
3. Kennedy, S.; Pathak, R. K.; Marrache, S. and Dhar, S. "Mitochondria Targeted Delivery of Cisplatin Prodrugs" University of Georgia 2013 CURO symposium, University of Georgia, April 01, 2013 (Poster).
4. Darley, K. and Dhar, S. "A Therapeutic Nanoparticle Platform for Ischemic Brain Injury", University of Georgia 2013 CURO symposium, University of Georgia, April 01, 2013 (Talk).
5. Darley, K.; Marrache, S. and Dhar, S. "A Therapeutic Nanoparticle Platform for Ischemic Brain Injury ", 27th National Conference on Undergraduate Research (NCUR), University of Wisconsin-La Crosse, Wisconsin USA, April 11-13, 2013.
6. Cooper, A.; Marrache, S.; Dhar, S., "Mitochondria-targeted gold nanoparticles for combined photothermal and chemotherapy", 243rd ACS National Meeting, March 25-29, 2012, San Diego, CA
7. Kasey, D.; Marrache, S.; Dhar, S., "A therapeutic nanoparticle platform for targeting mitochondrial superoxide", UGA CURO symposium, UGA, April 2, 2012, Athens, GA

8. Dhillon, D.; Dhar, S., “Photoimmunotherapeutic nanoparticles for combination therapy of breast cancer”, CURO symposium, UGA, April 2, 2012, Athens, GA
9. Kasey, D.; A therapeutic nanoparticle platform for targeting mitochondrial superoxide” ACS Southeast Undergraduate Research Conference, April 12-13, 2012, Starkville Mississippi.

Research supports received as an independent researcher:

Active:
1. R56-Bridge Awards (RHL121392A): National Heart, Lung, and Blood Institute; September 2014-August 2015; **Role: PI**.
The goal of this study is to develop synthetic high-density lipoprotein nanoparticles for imaging of vulnerable plaques.

2. American Heart Association NCRO Summer 2013 Scientist Development Grant (14SDG18690009): January 2014-December 2017, **Role-PI**.
The overall goal of this project is to investigate therapeutic potential of mitochondria targeted synthetic high-density lipoprotein nanoparticles for atherosclerosis treatment.

3. Department of Defense-PCRP Idea Development Award (W81XWH-12-1-0406): September 2012-September 2015; **Role-PI.**
The overall goal of this project is to develop a targeted nanoparticles containing chemo and anti-inflammatory agents for combination therapy of advanced prostate cancers.

4. National Institutes of Health R01 (R01CA188464-01A1): Govindarajan (PI); September 2014-August 2019; **Role: Co-I**
The major goal of this project is to develop technologies for epigenetic priming in pancreatic cancer chemotherapy

5. Georgia Research Alliance Phase 1B (GRA.VL15.D5): 07/14/2014-06/30/2015; **Role-PI.**
The major goal of this project is to test the ability of targeted nanoparticles for delivery of Bcl2 inhibitors and study the efficacy in rodents and pigs.

6. Contract Based Research (1025DR168030) through PartiKula LLC; **Role-PI**

Completed:
1. Startup fund from UGA; **Role: PI**; July 2010-July 2013.

2. Ralph E Powe Junior Faculty Enhancement Award for the project “Nano-sensors for apoptosis detection in atherosclerotic plaques”; **Role: PI**; July 2011-June 2012.

3. Startup fund from the Franklin College of Arts and Sciences, the Office of the Vice President Research (OVPR); **Role: PI**; July 2010-July 2013

4. Georgia Research Alliance: Phase 1A: **Role: PI**, 10/1/2013 to 6/30/2014
The major goal of this project is to test the ability of targeted nanoparticles for delivery of BCl2 inhibitors and study the pharmacokinetics parameters in rodents.