CURRICULUM VITAE

Konstantin V Sokolov, PhD

PRESENT TITLE AND AFFILIATION

Primary Appointment

Professor, Department of Imaging Physics, The University of Texas M. D. Anderson Cancer Center, Houston, Texas

Dual/Joint/Adjunct Appointment/Ad Interim

Adjunct Professor, Department of Biomedical Engineering, University of Texas at Austin, Austin, Texas

Adjunct Associate Professor, Department of Bioengineering, Rice University, Houston, Texas

CITIZENSHIP

United States

OFFICE ADDRESS

The University of Texas M D Anderson Cancer Center
South Campus Research Building 3
1881 East Road
Unit 1902
Houston, TX 77054

EDUCATION

Degree-Granting Education

Moscow Engineering Physics Institute, Moscow, Russia, Diploma Degree, Summa Cum Laude, 1987, Physics

Moscow State University, Moscow, Russia, PhD, 1992, Biophysics

Postgraduate Training

Postgraduate Training, Laboratory of Biomolecular Spectroscopy, Reims University, Reims, France, 1993

CREDENTIALS

Board Certification

N/A

Licensures

Active

N/A

Inactive

N/A

EXPERIENCE/SERVICE

Academic Appointments

Assistant Scientist, Laboratory of Optical Spectroscopy, Shemyakin and Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences, Moscow, Russian Federation, 1992-1993

Associate Scientist, Laboratory of Optical Spectroscopy, Shemyakin and Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences, Moscow, Russian Federation, 1993-1997

Visiting Scholar, Department of Chemistry, Iowa State University, Ames, Iowa, 1994-1997

Assistant Scientist, Department of Chemistry, Iowa State University, Ames, Iowa, 1997-1998

Research Associate, Department of Electrical Engineering, University of Texas, Austin, Texas, 1998-2002

Adjunct Assistant Professor, Department of Biomedical Engineering, University of Texas at Austin, Austin, Texas, 2002-2008

Assistant Professor, Department of Imaging Physics, Division of Diagnostic Imaging, University of Texas M. D. Anderson Cancer Center, Houston, Texas, 2002-2008

Assistant Professor (tenure track), Department of Biomedical Engineering, The University of Texas M. D. Anderson Cancer Center, Houston, Texas, 2006-2008

Adjunct Associate Professor, Department of Biomedical Engineering, University of Texas at Austin, Austin, Texas, 2008-2014

Associate Professor, Department of Imaging Physics, Division of Diagnostic Imaging, University of Texas M. D. Anderson Cancer Center, Houston, Texas, 2008-present

Adjunct Associate Professor, Department of Bioengineering, Rice University, Houston, Texas, 2013-present

Adjunct Professor, Department of Biomedical Engineering, University of Texas at Austin, Austin, Texas, 2014-present

Professor, Department of Imaging Physics, Division of Diagnostic Imaging, University of Texas M. D. Anderson Cancer Center, Houston, Texas, 2014-present

Administrative Appointments/Responsibilities

N/A

Other Appointments/Responsibilities

IGERT faculty, The National Science Foundation Integrative Graduate Education and Research Traineeship Program: Cellular and Molecular Imaging for Diagnostics and Therapeutics, Department of Biomedical Engineering, The University of Texas at Austin, Austin, Texas, 2002-2008

Faculty Member, Center for Nano- & Molecular Science and Technology, The University of Texas, Austin, Texas, 2005-present

Regular Faculty Member, The UT Graduate School of Biomedical Sciences, Houston, Texas, 2013 - present

Endowed Positions

N/A

Consultantships

N/A

Military or Other Governmental Service

N/A

Institutional Committee Activities

Graduate Study Committee, Department of Biomedical Engineering, University of Texas, Austin, Texas, Member, 2002-present

Graduate Fellowship Awards Committee, Department of Biomedical Engineering, University of Texas, Austin, Texas, Member, 2003-2011

Research Strategy Committee, Department of Imaging Physics, University of Texas M D Anderson Cancer Center, Houston, Texas, Member, 2005-present

The Alliance for NanoHealth, Houston, TX, Member, 2007-present

Education Program, Department of Biomedical Engineering, University of Texas MD Anderson Cancer Center, Director, 2007-2009

GSC Executive Committee, Department of Biomedical Engineering, University of Texas, Austin, Texas, Member, 2009 – 2011

Seminars Committee, Department of Biomedical Engineering, University of Texas, Austin, Texas, Member, 2010 – 2011

M.D. Anderson Mock Study Section, University of Texas MD Anderson Cancer Center, Member, 2014

Research Lab Space Committee, University of Texas MD Anderson Cancer Center, Member, 2014 – present

Mock Review Study Section, Department of Imaging Physics, University of Texas MD Anderson Cancer Center, Chair, 2014 – 2015

Research Faculty Search Committee, Department of Imaging Physics, University of Texas MD Anderson Cancer Center, Chair, 2014 – present

Institutional Research Grant (IRG) program, University of Texas MD Anderson Cancer Center, Member, 2014 – present

Executive Committee, Department of Imaging Physics, University of Texas MD Anderson Cancer Center, Member, 2015 – present

INTEREST Review Study Section, University of Texas MD Anderson Cancer Center, Member, January, 2016

MD Anderson Pathway in Systems Imaging Steering Committee, Member, 2016 - present

HONORS AND AWARDS

Young Scientist Award, Shemyakin Institute of Bioorganic Chemistry USSR Academy of Sciences, 1989

Fellowship, Centre National de la Recherché Scientifique (CNRS) France, 1992-1993

Russian Academy of Sciences, Outstanding Young Scientist Award, 1993

Whitaker Foundation Award, 2000

Invited Speaker, Lester Wolfe Workshop in Laser Biomedicine, MIT and Harvard-MIT Division of Health Science and Technology, Boston, MA, 2008

Chair, the Molecular Probes and Nanobio-optics Technical Group of the Optical Society of America (OSA), 2008 – 2011

Chair, OSA Topical Meeting: Optical Molecular Probes, Imaging, and Drug Delivery, 2011

Chair, III International Symposium on Topical Problems of Biophotonics, St.-Petersburg, Russia, 2011

Plenary Speaker, XVI International School on Optics, Laser Physics and Biophotonics, Saratov, Russia, 2012

General Chair, OSA Topical Meeting: Optical Molecular Probes, Imaging, and Drug Delivery, 2013

Elected Fellow of the Optical Society of America (OSA), 2015

Chair, V International Symposium on Topical Problems of Biophotonics, Nizhny Novgorod, Russia, 2015

RESEARCH

Grants and Contracts (past 5 years)

Funded

Principal Investigator, 12%, Acoustic Imaging of Sentinel Node Metastasis Using Plasmonic Nanosensors, R01 EB008101, NIH/NIBIB, MPI – Emelianov/Sokolov, 4/1/2012-2/29/2017 (NCE), $1,980,139 (total direct costs)

Co-Investigator/Principal Investigator of MDACC sub, 4%, Optical Systems for In Vivo Molecular Imaging of Cancer, R01 CA103830 BRP, NIH/NCI, PI - Richards- Kortum, 9/23/2011 - 7/31/2017 (NCE), $3,400,000 (total direct costs)

Principal Investigator, 8%, Functional, cellular and molecular imaging using ultrasound-guided photoacoustics, R01 CA158598, NCI, MPI - Esteva, Homan and Sokolov, 10/01/2012 – 08/31/2017, $2,500,000 (total direct costs)

Principal Investigator, 10%, Interdisciplinary Translational Pre/Postdoctoral Program in Cancer Nanotechnology, 1T32CA196561-01, NIH/NCI, MPI – Krishnan, Richards-Kortum, and Sokolov (contact), 06/30/2015-06/29/2020, $1,760,763 (total direct costs).

Principal Investigator, 1%, Development of unconventional MRI approaches to imaging cancer immunotherapy, CABI MI2, GE Healthcare, 01/01/2016 – 12/31/2017, $80,000 (direct costs per year)

Co-Investigator/Project Leader, 8%, Advancing magnetic relaxometry, Senior Scientific, PI-Hazle, 12/01/2015 – 11/30/2018, $585,279 (direct costs per year)

Principal Investigator, 12.5%, Biodegradable nanoclusters for molecular cancer imaging, RP170314, CPRIT, 12/01/2016 – 11/30/2019, $284,951 (direct costs per year)

Pending

Principal Invesigator, 25%, Advanced MRI cell tracking probes, R01EB023883, NIBIB, MPI - Sokolov (contact) and Bankson, 4/01/2017 – 03/31/2022, $414,556 (total direct per year)

Co-Investigator, 12%, Molecular photoacoustic imaging for cancer diagnostics and therapy monitoring, R01 CA217896-01, NIH/NCI, MPI - Sood and Harris, 07/01/2017 - 06/30/2022, $478,301 (total direct per year)

Other

Principal Investigator, 9%, Superparamagnetic nanoclusters for immunotherapy guidance and monitoring, RP150417, Cancer Prevention and Research Institute of Texas (CPRIT), 01/01/2015-12/31/2017, $282,376 direct costs/year. Pending resubmission.

Principal Investigator, 6%, Magneto-plasmonic nanoparticles for adoptive immunotherapy guidance and monitoring, 1R21CA195115, NIH/NCI, 03/31/2015-03/30/2017, $275,000 (total direct costs). Pending resubmission.

Co-Investigator, 8%, Spectro-Polarimetric Microscope for multiplexed imaging with plasmonic particles, R21 EB013397-01, NIH/NIBIB, PI – Tkaczyk, 01/01/2011 – 12/31/2012, $275,000 (total direct costs). Priority score 39, percentile 33. Pending resubmission.

Completed

Principal Investigator, 50%, Polarization Spectroscopy to Measure Nuclear Size Distribution: Improved Pre-Cancer Detection, Whitaker Foundation, 9/1/2000-8/31/2003, $239,545 ($79,973/year)

Co-Principal Investigator, 25%, Biospecific Contrast Agents for Pre-Cancer Detection, BES-0119450, NSF, PI - Richards-Kortum, 9/1/2001-8/31/2004, $674,689 ($224,896/year)

Co-Principal Investigator, 15%, In Vivo Imaging of Human Papillomavirus Infection, NCI, PI - Richards-Kortum, 1/1/2003-12/31/2006, $1,370,575

Principal Investigator, 20%, Polarization Imaging of Pre-Cancer, TF-03-0013, Whitaker Foundation, 2/1/2004-1/31/2005, $65,063

Principal Investigator, Multifunctional Nanoparticles for MRI and Optical Imaging, The University of Texas SPORE in Lung Cancer, 12/1/2005-4/15/2006, $24,860

Co-Principal Investigator, 2%, Early Cancer Detections with Two Photon Luminescence From Gold Nanorods, NIH/NCI, PI - Ben-Yakar, 9/1/2006-8/31/2008, $150,000

Principal Investigator, Molecular Targeted Stellated Nanoparticles for Second Harmonic Generation Imaging of Cancer, Tate Foundation Developmental Seed grant, 2/1/2007-1/31/2008, $20,000

Principal Investigator, 20%, Polarization Spectroscopy and Imaging of Pre-Cancer, R01 EB003540, NIH/NIBIB, 5/11/2005-2/28/20011 (there was 2 year NCE extension), $720,000 (total direct costs)

Principal Investigator-MDACC, 20%, Optical Systems for In Vivo Molecular Imaging of Cancer, R01CA103830 BRP, NIH/NCI, PI - Richards- Kortum, 8/1/2004-5/31/2009 $6,970,060 (total direct costs)

Principal Investigator, N/A, Aptamer-siRNA Chimera/Nanoparticle Conjugates for MRI Guided Cancer Therapy, ARRA 3 R21 CA135315-02S1, NIH/NCI, 7/1/2009-5/31/2010, $116,934 (total direct costs)

Principal Investigator, 8%, Aptamer-siRNA Chimera/Nanoparticle Conjugates for MRI Guided Cancer Therapy, R21 CA135315, NIH/NCI, 6/1/2008-6/30/2012, $250,000 (total direct costs)

Principal Investigator, 12%, Acoustic Imaging of Sentinel Node Metastasis Using Plasmonic Nanosensors, R01 EB008101, NIH/NIBIB, 9/1/2007-8/31/2011, $900,000 (total direct costs)

Mentor, 5%, Medical Physics Training Grant for Image-Guided Therapy Research, T32 CA119930, NIH/NCI, PI - Jackson, 8/4/2006-7/31/2011

Co-Investigator, 9%, Combined Intravascular Ultrasound and Photoacoustic Imaging of Atherosclerosis, ARRA RO1 HL096981 NIH/NHLBI, PI – Emelianov, 09/01/2009-08/31/2011, $999,864 (total direct costs)

Co-Investigator, 8%, Magneto-Motive Ultrasound Imaging Using Molecular Specific Nanoparticles, RO1 EB 008821, NIH/NIBIB, 6/1/2008-3/31/2013, $1,250,000 (total direct costs)

Mentor, Comprehensive Training Program in Imaging Science and Informatics, T32 NIH/NIBIB, PI - Rylander G, and Markey M, 08/01/09 – 07/31/14

Co-Investigator, 4%, Electrically-connected plasmonic metamaterials for capture and detection of CTC, R21 CA173663, NIH, PI – Shvets, 06/01/2013 – 05/31/2015, $275,000 (total direct costs).

Principal Investigator, 8%, Biodegradable Plasmonic Nanoparticles for Cancer Imaging and Therapy, R01 CA143663, NIH/NCI, 01/01/2010 – 12/31/2015 (NCE), $1,367,061 (total direct costs)

Principal Investigator, NA, iThera Medical Multispectral Optoacoustic Tomography System for Full Body Molecular and Functional Small Animal Imaging, 1S10OD019946-01, NIH, 04/01/2015 – 03/31/2016, $501,855 (total direct costs)

Co-Investigator, 8%, Molecular Photothermal Therapy of Cancer Using Targeted Metal Nanoparticles, R01 CA 149740, NIH/NCI, PI – Emelianov, 04/01/2010 – 06/31/2016 (NCE), $1,000,000 (total direct cost)

Principal Investigator, N/A, Multimodal nanoparticles for adoptive immunotherapy monitoring, IRG, M.D. Anderson Cancer Center, 09/01/2015 – 08/31/2016, $75,000 (direct costs)

Not Funded

Principal Investigator, In Vivo Molecular Imaging of Sentinel Node Metastasis, R21 CA 110099-01, NIH/NIBIB, 7/1/2005-6/30/2009, $1,524,611

Principal Investigator, 12%, Synergism of Nanoparticles with Molecular Ligands for Cancer Imaging and Therapy, R01 CA151995-01, NCI, PIs – Sokolov/Ramesh, 07/01/2010 – 06/30/2015, $ 2,160,511 (total direct cost); priority score 50, percentile 53.

Principal Investigator, 51%, Light switchable “back-packs” for cells: applications in immunotherapy, DP1 OD009521-01, Office of the Director, NIH, 09/30/2012 – 07/31/2017, $2,500,000 (total direct costs).

Principal Investigator, 8%, Multimodal Intra-operative Assessment of Solid Tumor Resection Margins, R01 CA172476-01, NCI, MPI – Larin, Pollock, Sokolov, 10/01/2012 – 09/30/2017, $2,225,587 (total direct costs).

Principal Investigator, 6%, SERS probes for imaging of molecular interactions, R21 EB016367-01, NIBIB, 09/01/2012 – 08/31/2014, $275,000 (total direct costs). Priority score 56, percentile 54.

Principal Investigator, 12%, Blueprint for Molecular Nanotherapeutics: Targeting Receptors in Breast Cancer, R01, NIBIB, MPI – Esteva, Ren, Sokolov (contact), 04/01/2013 – 03/31/2018, $2,465,959 (total direct costs).

Co-Investigator, 8%, Dual ultrasound/photoacoustic contrast for molecular imaging of breast cancer, R01, NIH, PI – Esteva, 04/01/2013 – 03/31/2018, $2,221,511 (total direct costs); priority score 39, percentile 39.

Principal Investigator, 4%, Label-Free Multimodal Assessment of Tissue Architecture, Morphology, and Function, R21GM107934-01, NIGMS, MPI - Larin, Sokolov (contact PI), Zhang, 07/01/2013 – 06/30/2016, $375,000 (total direct costs); impact score 47.

Principal Investigator, 8%, Synergistic Photoacoustic Activation and Monitoring of shRNA Delivery, R01EB017471-01, NIBIB, MPI - Ellington, Emelianov, Sokolov, 04/01/2013 – 03/31/2018, $2,390,610 (total direct costs).

Co-Investigator, 4%, Nanotechnology solutions for stromal and immunological barriers in cancer, U54 Center of Cancer Nanotechnology Excellence (CCNE), NIH/NCI, PI – Anil Sood, 09/01/2015 - 08/31/2020, $55,816 (direct sub-account only). Priority score: 52.

Principal Investigator, 17%, Biodegradable Plasmonic Nanoparticles for Cancer Imaging and Therapy, 2R01CA143663-06, NIH/NCI, 07/01/2015 – 06/30/2020, $493,362 direct costs/year. Impact score 38; percentile: 27.

Principal Investigator, 6%, Multimodal nanoagent for guidance and imaging of cancer immunotherapy, 1R21CA201801-01, NIH/NCI, 08/31/2015 – 08/30/2017, $275,000 (total direct costs)

Principal Investigator, 4%, Versatile approach for capture and characterization of circulating tumor cells, R21CA187662-01A1, NIH/NCI, 06/30/2015 – 06/29/2017, $275,000 total direct costs. Impact score 32; percentile: 21.

Co-Investigator, 10%, Targeting ovarian cancer microenvironment using exosomal therapeutics, RP16097, CPRIT, PI - Anil Sood, 02/01/2016 -01/31/2019, $119,864 (direct Sokolov's lab)

Principle Investigator, 17%, Hydrophobic shielding to enhance nanoparticle mediated radiosensitization of tumors, 1U01CA203319-01A, NIH/NCI, MPI - Cho, Sang Hyun; Krishnan, Sunil; and Sokolov, Konstantin, 11/30/2016 – 11/29/2021, $2,226,554 (total direct costs). Impact score: 46.

Co-Investigator/Project Leader, 15%, MR Imaging of Natural Killer Cell Immunotherapy, CPRIT MIRA, PI – Schellingerhout, 09/01/2016 – 08/31/2021, $247,200 (direct costs per year, Sokolov's lab)

Protocols

Funded

Co-Principal Investigator, A pilot study: evaluation of polarized reflectance spectroscopy for detection of neoplasia of oral mucosa, HNS00-304, PI - Ann Gillenwater, 2002-2010

Co-Principal Investigator, Molecular Imaging of Resected Head and Neck Cancer Specimens, LAB04-0607, PI - Ann Gillenwater, 2005-present

Co-Principal Investigator, Evaluation of Polarized Reflectance Spectroscopy for Detection of High-risk Oral Lesions, H10-01313, PI – Catherine F. Poh, British Columbia Cancer Agency, 2011 - present

Unfunded

N/A

Patents and Technology Licenses

Patents

Medifor, Ltd., Switz., Surface-enhanced analystical procedures and substrates, US 5837552 A 19981117

Medifor, Ltd., Switz., Collective resonances in two-dimensional arrays for colloidal metal films, WO 9809153 A1 19980305

The University of Texas System, USA, Methods and apparatus for polarized reflectance spectroscopy, US 20020135752 A1 20020926, Licensed to Remicalm LLC

The University of Texas System, USA, Biospecific Contrast Agents, US 20040023415 A1 20040205, Licensed to Remicalm LLC

The University of Texas System, USA, Needle Biopsy Imaging System, WO 2007022196 A2 20070222, Licensed to Remicalm LLC

The University of Texas System, USA, Methods and compositions related to hybrid nanoparticles for MRI and photoablation therapy, WO 2008140624 A2 20081120

The University of Texas System, USA, Molecular Specific Photoacoustic Imaging of biological tissue for cancer diagnosis, WO 2008101019 A2 20080821

The University of Texas System, USA, Fiber-optic probes and associated methods, WO 2010065827 A1 20100610, licensed to Ovna Med

The University of Texas System, USA, Medical and Imaging Nanoclusters, Oct 26, 2008 US 2008-61108530, 10/26/2008; US 20130023714 01/24/2013.

The University of Texas System, Pulsed Magneto-Motive Ultrasound Imaging, U.S. Provisional Application No. 61/298,801 filed 01/27/2010

The University of Texas System, Plasmonic Particles and Methods of Image-Guided Photothermal Therapy, U.S. Provisional Application No. 61/298,097 filed 01/25/2010

The University of Texas System, Temperature Dependent Photoacoutsic Imaging, U.S. Provisional Application No. 61/367,196 filed 07/23/2010; US Patent 8,904,871 B2 issued 12/09/2014

The University of Texas System, Hydrophobic shielding for enhanced nanoparticle stability, PCT Application PCT/US2013/54628 filed August 13, 2013

The University of Texas System, Magneto-plasmonic nanoclusters with tunable size and optical properties, US Provisional Application 61/866,804 filed 09/06/2013

The University of Texas System, Flow chamber with size separation for capture of rare cells and photoacoustic detection, US Provisional Application 61/866,858 filed 08/16/2013

The University of Texas System, Methods of detecting biological activity, cellular behavior and drug delivery using encapsulated polymethine aggregates, US 2015-62113477, 02/08/2015

Technology Licenses

Remicalm LLC:
Methods and apparatus for polarized reflectance spectroscopy, US 20020135752 A1 20020926
Biospecific Contrast Agents, US 20040023415 A1 20040205
Needle Biopsy Imaging System, WO 2007022196 A2 20070222

Ovna Med:
Fiber-optic probes and associated methods, WO 2010065827 A1 20100610

Grant Reviewer/Service on Study Sections

Ad-hoc member of the NIH Microscopic Imaging study section, NIH, Ad Hoc Member, 2005

Mail reviewer, Department of Veteran Affairs Rehabilitation Research and Development Service, Depart of Veteran Affairs, Mail reviewer, 2006

Mail reviewer, Department of Veteran Affairs Rehabilitation Research and Development Service, Department of Veteran Affairs, Mail reviewer, 2007

Member of the NIH review panel for SBIR Topic 252 "Nanotechnology Imaging and Sensing Platforms for Improved Diagnosis of Cancer," NIH, March, 2008

Member of the National Center for Research Resources Special Emphasis Review Panel ZRR1 BT-B (01) 1, NIH, Member, November, 2008

Member, NIH/NIGMS Special Emphasis Panel ZGM1 PPBC-5 (CP) – P01 Site Visit, NIH, Member, June, 2009

Member and a Discussion Leader, NIH/NCI Special Emphasis Panel ZCA1 GRB-S M1 R – NCI Centers of Cancer Nanotechnology Excellence, February 24-26, 2010

Member, NCI Special Emphasis Review Panel: Exceptional, Unconventional, Research Enabling Knowledge Acceleration (EUREKA) ZCA1 SRLB-2 (M1), March 28-29, 2011

Member, NIH/NSF Review Panel: New Biomedical Frontiers at the Interface of the Life and Physical Sciences ZRG1 BST-N 51 R, November 1-2, 2012

Member of the Canadian Institutes of Health Research (CIHR) review team of the Terry Fox New Frontier Program Projects, April 24, 2013

Member, NIBIB ZEB1 OSR-C J1 P, P41 BTRC Review panel, October 27-29, 2015

Member, NIH/NIBIB ZEB1 OSR-E (M1), Career Award and Conference Grant Review, March 18, 2016

Member, NIH/NIBIB ZEB1 OSR-B (J2) S, Mentored Career Development Award (K) Application Review, November 4, 2016

Member, NIH/NCI Member conflict Special Emphasis Panel Review, November 10, 2016

PUBLICATIONS

Articles in Peer-Reviewed Journals (>9,250 citations, h-index 46, *Google Scholar*)

1. Maskevich SA, Sokolov KV, Kivach LN, Podtynchenko SG, Streckal ND, Khodorchenko PV. SERS spectra and structure of thiamin, thiamin diphosphate and pyruvate adsorbed on silver surface. Bioorgan. Khimia 16:1552-1562, 1990
2. Gachko GA, Kivach LN, Maskevich SA, Sokolov KV, Podtynchenko SG. Spectroscopic investigation of specific interactions of Pyruvic Acid in model systems. J. Appl. Spectrosc 52:555-560, 1990
3. Nabiev IR, Sokolov KV, Voloshin ON. Surface-enhanced Raman Spectroscopy of Biomolecules. Part III. - Determination of local destabilization regions in the double helix. J. Raman Spectrosc 21:333-336, 1990
4. Sokolov KV, Lutsenko SV, Nabiev IR, Nie S, Yu N-T. Surface-enhanced Raman analysis of biomedical eye lens extracts. Appl. Spectrosc 45:1143-1148, 1991
5. Sokolov KV, Khodorchenko PV, Petukhov AV, Nabiev IR, Chumanov G, Cotton TM. Contribution of short-range and classical electromagnetic mechanisms to surface-enhanced Raman scattering from several types of biomolecules adsorbed on cold-deposited island films. Appl. Spectrosc 47:515-522, 1993
6. Sokolov KV, Byramova NE, Mochalova LV, Tuzikov AB, Shiyan SD, Bovin NV, Nabiev IR. Detection of sialic acid residues and studies of their organization in normal and tumor a- acid glycoproteins as probed by surface-enhanced Raman spectroscopy. Appl. Spectrosc 47:535-538, 1993
7. Oleynikov VA, Sokolov KV, Nabiev IR. Trace Analysis by Surface- Enhanced Raman Scattering with the Use of the Track Membrane Technique. J. Appl. Spectrosc 59:820-825, 1993
8. Chumanov GD, Sokolov KV, Gregory BW, Cotton TM. Colloidal Films as New Substrates for Surface Enhanced Spectroscopies. J. Phys. Chem. 99:9466-9471, 1995
9. Feofanov AV, Oleinikov VA, Tuzikov AB, Ianoul AI, Kryukova EYu, Sokolov KV, Bovin NV, Nabiev IR. Surface-enhanced Raman scattering spectroscopy of sialosides and their derivatives. Bioorg. Khim 22:706-716, 1996
10. Fritzsche W, Sokolov KV, Chumanov GD, Cotton TM, Henderson E. Ultrastructural Characterization of Colloidal Metal Films for Bioanalytical Applications by SFM. J. Vac. Sci. Technol 14:1766-1769, 1996
11. Chumanov G, Sokolov KV, Cotton TM. Unusual Extinction Spectra of Nanometer-Sized Silver Particles Arranged in Two-Dimensional Arrays. J. Phys. Chem. 100:5166-5168, 1996
12. Fritzsche W, Symanzik J, Sokolov KV, Cotton TM, Henderson E. Scanning Force Microscopy Study of Methanol-Induced Changes in the Distribution of Silver Particles in Colloidal Metal Films. J Colloid Interface Sci 185:466-72, 1997
13. Sokolov KV, Chumanov GD, Cotton TM. Enhancement of Molecular Fluorescence near the Surface of Colloidal Metal Films. Anal. Chem. 70:3898-3905, 1998

14. Sokolov KV, Drezek R, Gossage K, Richards-Kortum R. Reflectance Spectroscopy with Polarized Light: Is it Sensitive to Cellular and Nuclear Morphology. Optics Express 5:302-317 (journal cover), 1999
15. Drezek R, Sokolov KV, Utzinger U, Boiko I, Malpica A, Follen M, Richards-Kortum R. Understanding the contributions of NADH and collagen to cervical tissue fluorescence spectra: modeling, measurements, and implications. J Biomed Opt 6:385-96, 2001
16. Sokolov KV, Sung KB, Collier T, Clark A, Arifler D, Lacy A, Descour M, Richards-Kortum R. Endoscopic microscopy. Dis Markers 18:269-91, 2002
17. Myakov A, Nieman LT, Wicky L, Utzinger U, Richards-Kortum R, Sokolov KV. Fiber optic probe for polarized reflectance spectroscopy in vivo: design and performance. J Biomed Opt 7:388-97, 2002
18. Sokolov KV, Follen M, Richards-Kortum R. Optical spectroscopy for detection of neoplasia. Curr Opin Chem Biol 6:651-8, 2002
19. Sokolov KV, Galvan J, Myakov A, Lacy A, Lotan R, Richards-Kortum R. Realistic three-dimensional epithelial tissue phantoms for biomedical optics. J Biomed Opt 7:148-56, 2002
20. Sokolov KV, Follen M, Aaron J, Pavlova I, Malpica A, Lotan R, Richards-Kortum R. Real-Time Vital Optical Imaging of Precancer Using Anti-Epidermal Growth Factor Receptor Antibodies Conjugated to Gold Nanoparticles. Cancer Res 63:1999-2004, 2003
21. Lee J, Rogers JD, Descour MR, Hsu E, Aaron JS, Sokolov KV, Richards-Kortum RR. Imaging quality assessment of multi-modal miniature microscope. Optics Express 11:1436-1451, 2003
22. Pavlova I, Sokolov KV, Drezek R, Malpica A, Follen M, Richards-Kortum R. Microanatomical and biochemical origins of normal and precancerous cervical autofluorescence using laser-scanning fluorescence confocal microscopy. Photochem Photobiol 77:550-5, 2003
23. Sokolov KV, Aaron J, Hsu B, Nida D, Gillenwater A, Follen M, MacAulay C, Adler-Storthz K, Korgel B, Descour M, Pasqualini R, Arap W, Lam W, Richards-Kortum R. Optical systems for in vivo molecular imaging of cancer. Technol Cancer Res Treat 2:491-504 (journal cover), 2003
24. Hsu ER, Anslyn EV, Dharmawardhane S, Alizadeh-Naderi R, Aaron JS, Sokolov KV, El-Naggar AK, Gillenwater AM, Richards-Kortum RR. A far-red fluorescent contrast agent to image epidermal growth factor receptor expression. Photochem Photobiol 79:272-9, 2004
25. Tkaczyk TS, Rahmann M, Mack V, Sokolov KV, Rogers JD, Richards-Kortum R, Descour MR. High Resolution Reflectance Imaging in Optically Dense Tissue Phantoms with Structured-Illumination. Optics Express 12:3745-3758, 2004
26. Nieman L, Myakov A, Aaron J, Sokolov KV. Optical sectioning using a fiber probe with an angled illumination-collection geometry: evaluation in engineered tissue phantoms. Appl Opt 43:1308-19, 2004
27. Sokolov KV, Nieman LT, Myakov A, Gillenwater A. Polarized reflectance spectroscopy for pre-cancer detection. Technol Cancer Res Treat 3:1-14 (journal cover), 2004
28. Sun YP, Collier T, Aaron J, Markey M, Richards-Kortum, R, Sokolov KV, Mackinnon N, MacAulay C, Coghlan L, Milbourne A, Follen M. Multispectral digital microscopy for in vivo monitoring of oral neoplasia in the hamster cheek pouch model of carcinogenesis. Optics Express 13(3):749-762, 2005
29. Rahman M, Abd-El-Barr M, Mack V, Tkaczyk TS, Sokolov KV, Richards-Kortum R, Descour MR. Optical imaging of cervical pre-cancers with structured illumination: an integrated approach. Gynecol Oncol 99:S112-5, 2005
30. Aaron JS, Junghwan OH, Larson TA, Kumar S, Milner TE, Sokolov KV. Increased molecular-specific optical image contrast using magnetically actuated hybrid gold/iron oxide nanoparticles. Optics Express 14(26):12930-12943, 2006
31. Larson TA, Bankson J, Aaron J, Sokolov KV. Hybrid plasmonic magnetic nanoparticles as molecular specific agents for MRI/Optical imaging and photothermal therapy of cancer cells.

Nanotechnology 18, 325101:8 pp, 2007

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88. Moaseri E., Stover RJ, Changalvaie B, Cepeda AJ, Truskett TM, Sokolov KV, and Johnston KP. Control of Primary Particle Spacing in Gold Nanoparticle Clusters for Both High NIR Extinction and Full Reversibility, Langmuir v. 33 (14): 3413–3426 2017. PMCID: in process.

Invited Articles

1. Wang B, Su JL, Karpiouk AB, Sokolov KV, Smalling RW, Emelianov SY. Intravascular Photoacoustic Imaging. IEEE J. Selected Topics in Quantum Electronics v.16(3): 588-599, 2010.
2. Sokolov K. Nanotechnology: Tiny thermometers used in living cells, Nature v. 500(7460): 36-37, 2013.
3. Owen A, Dufès C, Moscatelli D, Mayes E, Lovell JF, Katti KV, Sokolov K, Mazza M, Fontaine O, Rannard S, and Stone V. The application of nanotechnology in medicine: Treatment and diagnostics, Nanomedicine v. 9(9): 1291-1294, 2014.

Editorials

1. Special issue on Topical Problems of Biophotonics, Journal of Biophotonics v. 5(11-12): 813-814, 2012.
2. Feature issue introduction: Biophotonic materials and applications, Biomedical Optics Express v. 7(5): 2078-2081, 2016.

Other Articles

Sokolov K, Aaron J, Travis K, Harrison N, Plasmonic nanoparticles track dynamic behavior of molecules in live cells. SPIE Newsroom, December 18, 2009, http://spie.org/x38229.xml?highlight=x2400&ArticleID=x38229

Abstracts (past 5 years)

1. Chen YS, Kruizinga P, Joshi PP, Kim S, Homan K, Sokolov K, Frey W, Emelianov S. On Stability of Molecular Therapeutic Agents for Noninvasive Photoacoustic and Ultrasound Image-guided Photothermal Therapy. In: Oraevsky AA, Wang LV, editors. Photons Plus Ultrasound: Imaging and Sensing 20102010.
2. Sokolov K, Aaron J, Larson T, Travis K, Harrison N. DYNAMIC MOLECULAR IMAGING USING NANOPARTICLE PLASMON RESONANCE COUPLING. In: Achilefu S, Raghavachari R, editors. Reporters, Markers, Dyes, Nanoparticles, and Molecular Probes for Biomedical Applications Ii2010.
3. Sokolov KM, Demanes J, Hayes JK. A Simple Brachytherapy Catheter Spacing Technique. International Journal of Radiation Oncology Biology Physics. 2010;78(3):S843-S. PubMed PMID: WOS:000288775701920.
4. Tam JO, Tam JM, Murthy A, Ingram D, Ma LL, Travis K, Johnston KP, Sokolov K. Biodegradable Near-Infrared Plasmonic Nanoclusters for Biomedical Applications. In: VoDinh T, Lakowicz JR, editors. Plasmonics in Biology and Medicine Vii2010.
5. Tam JO, Tam JM, Murthy A, Ingram D, Ma LL, Travis K, Johnston KP, Sokolov K. Biodegradable Near-Infrared Plasmonic Nanoclusters for Biomedical Applications. In: Achilefu S, Raghavachari R, editors. Reporters, Markers, Dyes, Nanoparticles, and Molecular Probes for Biomedical Applications Ii2010.
6. Wang B, Joshi P, Sapozhnikova V, Amirian J, Litovsky SH, Smalling R, Sokolov K, Emelianova S. Intravascular Photoacoustic Imaging of Macrophages using Molecularly Targeted Gold Nanoparticles. In: Oraevsky AA, Wang LV, editors. Photons Plus Ultrasound: Imaging and Sensing 20102010.
7. Yokoyama T, Tam J, Scott A, Ohyashiki K, Roth J, Sokolov K, Ramesh R. TARGETING OF NSCLC WITH ANTI-EGFR ANTIBODY CONJUGATED NANOPARTICLES FOR MOLECULAR IMAGING AND THERAPY. Annals of Oncology. 2010;21:23-. doi: 10.1093/annonc/mdq655. PubMed PMID: WOS:000283663700074.
8. Yoon SJ, Mallidi S, Tam JM, Tam JO, Murthy A, Joshi P, Johnston KP, Sokolov KV, Emelianov SY. Biodegradable plasmonic nanoclusters as contrast agent for photoacoustic imaging. In: Oraevsky AA, Wang LV, editors. Photons Plus Ultrasound: Imaging and Sensing 20102010.
9. Kan CW, Travis K, Salazar J, Sokolov K, Markey MK. Model-based design of optical diagnostic instrumentation. In: Wax AP, Backman V, editors. Biomedical Applications of Light Scattering V2011.
10. Murthy AK, Tam JM, Tam JO, Ingram D, Schulze M, Nguyen R, Stover R, Schramm R, Ma L, Sokolov KV, Johnston KP. Design of biodegradable gold nanoclusters for NIR optical imaging. Abstracts of Papers of the American Chemical Society. 2011;242. PubMed PMID: WOS:000299378301710.
11. Nam SY, Ricles LM, Sokolov K, Suggs LJ, Emelianov SY. Ultrasound and Photoacoustic Imaging to Monitor Mesenchymal Stem Cells Labeled with Gold Nanoparticles. In: Oraevsky AA, Wang LV, editors. Photons Plus Ultrasound: Imaging and Sensing 20112011.
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14. Jimenez MK, Fradkin L, Nieman LT, Lam S, Poh C, Sokolov K. Oblique polarized reflectance spectroscopy for depth sensitive measurements in the epithelial tissue. In: Wax AP, Backman V, editors. Biomedical Applications of Light Scattering Vii2013.
15. Murthy AK, Stover RJ, Borwankar AU, Nie GD, Gourisankar S, Truskett TM, Sokolov KV, Johnston KP. Equilibrium gold nanoclusters quenched with biodegradable polymers. Abstracts of Papers of the American Chemical Society. 2013;245. PubMed PMID: WOS:000323851304093.
16. Daniel DT, Wuchner E, Sokolov K, Stal M, Liggesmeyer P. Polyptychon: A Hierarchically-constrained Classified Dependencies Visualization. 2014 Second Ieee Working Conference on Software Visualization (Vissoft). 2014:83-6. doi: 10.1109/vissoft.2014.23. PubMed PMID: WOS:000364233300015.
17. Jimenez MK, Lam S, Poh C, Sokolov K. Depth sensitive oblique polarized reflectance spectroscopy of oral epithelial tissue. In: Tkaczyk TS, editor. Translational Biophotonics2014.
18. Sokolov KI, Sharapova AA. DISTRIBUTION OF EXTREME TEMPERATURES IN THE ALTAI MOUNTAINS. In: Matvienko GG, Romanovski OA, editors. 20th International Symposium on Atmospheric and Ocean Optics: Atmospheric Physics2014.
19. Stover R, Murthy A, Gourisankar S, Nie G, Martinez M, Truskett T, Sokolov K, Johnston K. Plasmonic biodegradable gold nanoclusters with high NIR-absorbance for biomedical imaging. In: Parak WJ, Osinski M, Yamamoto KI, editors. Colloidal Nanoparticles for Biomedical Applications Ix2014.
20. Stover RI, Murthy A, Gourisankar S, Ne G, Martinez M, Truskett T, Sokolov K, Johnston K. Biodegradable gold nanoclusters which exhibit high-NIR absorbance for biomedical imaging. Abstracts of Papers of the American Chemical Society. 2014;247. PubMed PMID: WOS:000348455203771.
21. Truskett TM, Johnston KP, Maynard JA, Borwankar AU, Murthy AK, Stover RJ, Wilson BK, Dinin AK, Laber JR, Gourisankar S, Dear B, Hung J, Sokolov KV, Hardin WG, Nie GD, Schramm R, Twu A, Miller MA. Assembling nanoclusters in water for therapy or imaging. Abstracts of Papers of the American Chemical Society. 2014;247. PubMed PMID: WOS:000348457604188.
22. Sokolov KV, Wu CH, Cook J, Zal T, Emelianov SY. Biomedical applications of magneto-plasmonic nanoclusters (Conference Presentation). In: Parak WJ, Osinski M, Liang XJ, editors. Colloidal Nanoparticles for Biomedical Applications Xi2016.

Book Chapters

1. Nabiev I, Sokolov KV, Manfait M. Surface Enhanced Raman Spectroscopy and its Biomedical Applications. In: Biomolecular Spectroscopy, 20. Eds. RJH Clark and RA Hester, John Wiley & Sons, 267-338, 1993.
2. Richards-Kortum R, Drezek R, Sokolov KV, Pavlova I, Follen M. Survey of Endogenous Biological Fluorophores. In: Handbook of Biomedical Fluorescence. Eds. A Mycek and B Pogue. Marcel Dekker, Inc.: New York, 237-264, 2003.
3. Sokolov KV (corresponding author), Nida D, Descour M, Lacy A, Levy M, Hall B, Dharmawardhane S, Ellington A, Korgel B, Richards-Kortum R. Molecular Optical Imaging of Therapeutic Targets of cancer In: Advances in Cancer Research, 96. Eds Hampton and Sikora. Elsevier Inc, 299-344, 2007.
4. Kan W.C., Nieman LT, Sokolov K, Markey MK, Al in clinical decision support: applications in optical imaging for cancer diagnosis. In: Advanced Computational Intelligence Paradigms in Healthcare, Eds. M. Sordo and et. al., Springer-Verlag, Germany, 27-48, 2008.
5. Emelianov S, Mallidi S, Larson T, Sokolov K, Photoacoustic imaging and therapy utilizing molecular specific plasmonic nanoparticles. In: Photoacoustic Imaging and Spectroscopy, Ed. Lihong Wang, CRC Press, Taylor & Francis Group, 399-407, 2009.
6. Larson T, Travis K, Joshi P, Sokolov K (corresponding author), Nanoparticles for Targeted Therapeutics and Diagnostics. In: Handbook of Biomedical Optics, Eds. Boas, Pitris and

Ramanujam, Taylor & Francis Books, Inc., pp. 697-721, 2011.

7. Kuroda S, Yokoyama T, Tam JO, Scott AW, Ma LL, Shanker M, Jin J, Goerlich C, Willcutts D, Roth JA, Sokolov K, Johnston KP, Ramesh R, Multifunctional Tumor-Targeted Nanoparticles for Lung Cancer. In: Pulmonary Nanomedicine: Diagnostics, Imaging, and Therapeutics, Ed. Neeraj Vij, Pan Stanford Publishing Pte Ltd, ISBN 978-981-4316-48-4, pp. 15 – 44, 2013.

Books (edited and written)

N/A

Letters to the Editor

N/A

Manuals, Teaching Aids, Other Teaching Publications

N/A

Other Publications

N/A

EDITORIAL AND REVIEW ACTIVITIES

Editor/Service on Editorial Board(s)

Guest Editor, Journal of Biophotonics, Special issue on Topical Problems of Biophotonics, v.5(11-12), November 2012.

Guest Editor, Feature issue: Biophotonic materials and applications, Biomedical Optics Express v. 7(5), 2016.

Member of Editorial Review Board

N/A

Journal Reviewer

Reviewer, Applied Spectroscopy, 2002-present

Reviewer, Cancer Letters, 2002-present

Reviewer, Journal of Biomedical Optics, 2002-present

Reviewer, Lasers in Medical Science, 2002-present

Reviewer, Medical Physics, 2002-present

Reviewer, Optics Express, 2002-present

Reviewer, Technology in Cancer Research & Treatment, 2002-present

Reviewer, Applied Optics, 2004-present

Reviewer, Nano Letters, 2004-present

Reviewer, Future Oncology, 2006-present

Reviewer, Nature Medicine, 2006-present

Reviewer, Optics Letters, 2007-present

Reviewer, Journal Physical Chemistry, 2008 – present

Reviewer, Langmuir, 2008 – present

Reviewer, Medical Oncology, 2008 – present

Reviewer, PNAS, 2009 – present

Reviewer, ACS Nano, 2009 – present

Reviewer, WIREs Nanomedicine & Nanobiotechnology, 2010 – present

Reviewer, Future Medicine, 2010 – present

Reviewer, Cancer Research, 2010 – present

Reviewer, PLoS ONE, 2011 – present

Reviewer, Nature Photonics, 2012 – present

Reviewer, Theranostics, 2012 – present

Reviewer, Nature, 2013 – present

Reviewer, JACS, 2013 – present

Reviewer, Nature Nanotechnology, 2013 – present

Reviewer, Advanced Functional Materials, 2014 – present

Reviewer, Chemistry of Materials, 2014 – present

Reviewer, Nature Communications, 2015 – present

Reviewer, Scientific Reports, 2015 - present

Other Editorial and Review Activities

N/A

TEACHING

Teaching Within Current Institution - The University of Texas M. D. Anderson Cancer Center

Formal Teaching

Courses Taught

N/A

Training Programs

Principal Investigator of NCI T32 Interdisciplinary Translational Pre/Postdoctoral Program in Cancer Nanotechnology, 09/2015 - present

Other Formal Teaching

N/A

Supervisory Teaching

Committees

Advisory Committees

Advisory Committee, Department of Imaging Physics, Marc Stephen Ramirez, Ph.D. candidate, 08/2009-2012

Advisory Committee, Department of Imaging Physics, Christopher MacLellan, Ph.D. candidate, 11/2012-11/2016

Supervisory Committees

Supervisory Committee, Department of Imaging Physics, Sara Loupot, Ph.D. candidate, 10/2014-present

Supervisory Committee, Medical Physics, Maureen Aliru, M.D./Ph.D. degree program, 04/2015-present

Supervisory Committee, Department of Imaging Physics, Trevor Mitcham, Ph.D. degree program, 01/2016-present

Examining Committees

Examining Committee, Department of Radiation Physics, Graduate School of Biomedical Sciences, Hannah J. Lee, Ph.D. candidate, 11/2014

Examining Committee Chair, Department of Imaging Physics, Graduate School of Biomedical Sciences, Sara Loupot, Ph.D. candidate, 11/2015

Direct Supervision

Undergraduate and Allied Health Students

N/A

Medical Students
N/A

Graduate Students
N/A

Postdoctoral Research Fellows
Linda Nieman, Ph.D., Postdoctoral Fellow, 9/2004-4/2005

Aristarchos Papagiannaros, Ph.D., Postdoctoral Fellow, 11/2010-12/2012

Kort Travis, Ph.D., Postdoctoral Fellow, 1/2011-3/2011

Rebeca Romero Aburto, Ph.D., Postdoctoral Fellow, 11/2014 – present

Ashok Pehere, Ph.D., Postdoctoral Fellow, 01/2016 - present

Clinical Residents and Fellows
N/A

Other Supervisory Teaching
Research Mentor, Linda Nieman, Ph.D., Research Instructor, 9/2006-10/2009
Mentor, Kelsey Mathieu, Ph.D., Instructor, 06/2014 - present
Research Mentor, Chang Soo Kim, Ph.D., Research Scientist, 12/2015 - present

Teaching Outside of Current Institution

Formal Teaching

Courses Taught

Instructor, Introduction to Biomedical Engineering, The University of Texas at Austin, Course Number: BME 301, Course Hours: 48
Spring, 2003

Instructor, Engineering Probability, Statistics, & Random Processes, The University of Texas at Austin, Course Number: BME 335, Course Hours: 48
Spring, 2004

Co-Instructor, Functional Imaging: Principles, Approaches, Applications, The University of Texas at Austin, Course Number: BME 386
Fall, 2004

Instructor, Quantitative Engineering Physiology II, The University of Texas at Austin, Course Number: BME 365S, Course Hours: 48
Spring, 2005

Instructor, Quantitative Engineering Physiology II, The University of Texas at Austin, Course Number: BME 365S, Course Hours: 48
Spring, 2006

Instructor, Quantitative Engineering Physiology II, The University of Texas at Austin, Course Number: BME 365S, Course Hours: 48
Spring, 2007

Instructor, Quantitative Engineering Physiology II, The University of Texas at Austin, Course Number: BME 365S, Course Hours: 48
Spring, 2008

Instructor, Quantitative Engineering Physiology II, The University of Texas at Austin, Course Number: BME 365S, Course Hours: 48
Spring, 2009

Invited lecturer, Nanomedicine in Healthcare, The University of Texas at Austin, Course Number: BME 387J
Fall, 2009

Instructor, Quantitative Engineering Physiology II, The University of Texas at Austin,
Course Number: BME 365S, Course Hours: 48
Spring, 2010

Instructor, Quantitative Engineering Physiology II, The University of Texas at Austin,
Course Number: BME 365S, Course Hours: 48
Spring, 2011

Instructor, Quantitative Engineering Physiology II, The University of Texas at Austin,
Course Number: BME 365S, Course Hours: 48
Spring, 2012

Instructor, Quantitative Engineering Physiology I, The University of Texas at Austin,
Course Number: BME 365R, Course Hours: 48
Fall, 2012

Invited lecturer, Biomedical Micro and Nanotechnology, The University of Texas at Austin,
Course Number: BME 385J
Spring, 2013

Instructor, Quantitative Engineering Physiology I, The University of Texas at Austin,
Course Number: BME 365R, Course Hours: 48
Fall, 2013

Training Programs

N/A

Other Formal Teaching

Faculty Advisor, Senior Design Course Department of Biomedical Engineering, The University of Texas at Austin
2005-2006

Faculty Advisor, Senior Design Course, Department of Biomedical Engineering, The University of Texas at Austin
2006-2007

Supervisory Teaching

Committees

Advisory Committees

N/A

Supervisory Committees

N/A

Examining Committees

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Dizem Arifler, Ph.D., 2/2004-8/2005

Examining Committee, Department of Chemical Engineering, The University of Texas at Austin, Felice Shieh, Ph.D., 8/2004-10/2005

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Bongsu Jung, Ph.D., 10/2005-9/2007

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Jignesh Shah, Ph.D., 9/2006-10/2008

Examining Committee, Department of Biomedical Engineering, The University of

Texas at Austin, Jose R. Morones, Ph.D., 10/2006-06/2008

Examining Committee, Department of Chemical Engineering, The University of Texas at Austin, Danielle Smith, PhD, 3/2007-2009

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Bilal Ghosn, Ph.D., 12/2007-2009

Examining Committee, Department of Chemical Engineering, The University of Texas at Austin, Jasmine Tam, Ph.D., 12/2007-08/2009

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Nick Durr, Ph.D., 2008-08/2010

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Kimberly A. Homan, Ph.D., 2008-11/2010

Examining Committee, Department of Mechanical Engineering, The University of Texas at Austin, Christopher Hoy, Ph.D., 07/2008-2011

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Srivalleesha Mallidi, Ph.D., 08/2008-08/2009

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Narasimhan Rajaram, Ph.D., 08/2008-12/2009

Examining Committee, Department of Chemical Engineering, The University of Texas at Austin, Li Leo Ma, Ph.D., 10/2008-12/2010

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Jae Sook Park, Ph.D., 05/2009-2011

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Priyaveena Puvanakrishnan, Ph.D., 04/2010-2011

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Jimmy Su, Ph.D., 07/2010-08/2011

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Prinda Wanakule, Ph.D., 06/2010-11/2012

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Seungsoo Kim, Ph.D., 09/2010-08/2011

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Katheryne Wilson, Ph.D., 11/2010-04/2012

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Min Qu, Ph.D. candidate, 05/2012-present

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Jason Cook, Ph.D. candidate, 10/2011-04/2013

Examining Committee, Department of Electrical Engineering, The University of Texas at Austin, Yun-Sheng Chen, Ph.D., 11/2011-07/2012

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Yu-Yen (Eric) Huang, Ph.D. candidate, 10/2011-present

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Xiaojia Mu, Ph.D. candidate, 09/2012-present

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Doug Yeager, Ph.D. candidate, 8/2009 – 07/2014

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Geoffrey Luke, Ph.D. candidate, 09/2012-08/2013

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Laura Ricles, Ph.D. candidate, 11/2012-08/2014

Examining Committee, Department of Chemical Engineering, The University of Texas at Austin, Ameya Borwankar, Ph.D. candidate, 12/2012-12/2014

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Navid Ghorashian, Ph.D. candidate, 02/2013-11/2013

Examining Committee, Department of Biomedical Engineering, The University of Texas at Austin, Soon Joon Yoon, Ph.D. candidate, 07/2013-07/2014

Examining Committee, Department of Chemical Engineering, The University of Texas at Austin, Bobby Stover, Ph.D. candidate, 12/2012-09/2015

Direct Supervision

Undergraduate and Allied Health Students

Research Mentor, The University of Texas at Austin, Stephen Mathew, 9/2004-5/2006

Research Mentor, The University of Texas at Austin, Tim Larson, 5/2005-5/2006

Research Mentor, The University of Texas at Austin, Kristin Wall, 8/2005-5/2006

Research Mentor, The University of Texas at Austin, Allison Nitsch, 9/2005-5/2007

Research Mentor, The University of Texas at Austin, Josh Laird, 1/2006-7/2006

Research Mentor, The University of Texas at Austin, Kyle Chai, 1/2006-12/2006

Research Mentor, The University of Texas at Austin, Philip Abitua, 5/2006-8/2006

Research Mentor, The University of Texas at Austin, Tiffany Vo, 2/2007-5/2007

Research Mentor, The University of Texas at Austin, Zachary White, 6/2007-8/2007

Research Mentor, The University of Texas at Austin, Marco Jakovljevic, 6/2007-5/2009

Research Mentor, The University of Texas at Austin, Andre Esteva, 1/2009-5/2009

Research Mentor, The University of Texas at Austin, Angela Hsiao, 5/2009-09/2009

Research Mentor, The University of Texas at Austin, Austin Yoo, 5/2009-12/2009

Research Mentor, The University of Texas at Austin, John Kim, 8/2009-12/2009

Research Mentor, The University of Texas at Austin, Ehssan Faraji, 8/2011-12/2011

Research Mentor, The University of Texas at Austin, Angel Zubieta, 01/2010-05/2013

Research Mentor, The University of Texas at Austin, Neil Patodia, 06/2010-08/2012

Research Mentor, The University of Texas at Austin, Vincent (Yuanchen) Wang, 4/2011-05/2013

Research Mentor, The University of Texas at Austin, Kevin Yan, 6/2011-05/2013

Research Mentor, The University of Texas at Austin, Cody Hill, 10/2011-5/2012

Research Mentor, The University of Texas at Austin, Gary Re, 3/2011-12/2012

Research Mentor, The University of Texas at Austin, Denny Nguyen, 1/2011-05/2012

Research Mentor, The University of Texas at Austin, Jeff Sun, 9/2012-12/2012

Research Mentor, The University of Texas at Austin, Priya Jain, 8/2012-01/2014

Research Mentor, The University of Texas at Austin, Aziz Hammoud, 4/2012-12/2012

Medical Students

N/A

Graduate Students

Supervisor, Department of Electrical Engineering, The University of Texas at Austin, Alexey Myakov, MS, 9/1998-3/2003

Supervisor, Department of Physics, The University of Texas at Austin, Linda Nieman, PhD, 1/2001-8/2004

Supervisor, Department of Biomedical Engineering, The University of Texas at Austin, Jesse Aaron, Ph.D., 9/2002-4/2007

Supervisor, Department of Physics, The University of Texas at Austin, Kort Travis, MS, 5/2003-12/2003

Supervisor, Department of Biomedical Engineering, The University of Texas at Austin, Sonia Kumar, PhD, 5/2003-4/2007

Supervisor, Department of Electrical Engineering, The University of Texas at Austin, Sharmila Chockalingam, MS, 1/2004-9/2005

Supervisor, Department of Physics, The University of Texas at Austin, Nathan Harrison, PhD, 5/2004-11/2009

Supervisor, Department of Biomedical Engineering, The University of Texas at Austin, Kort Travis, Ph.D., 6/2006-11/2010

Supervisor, Department of Biomedical Engineering, The University of Texas at Austin, Tim Larson, Ph.D., 6/2006-07/2012

Supervisor, Department of Biomedical Engineering, The University of Texas at Austin, Justina Tam, Ph.D., 9/2006-11/2012

Co-Supervisor, Department of Biomedical Engineering, The University of Texas at Austin, Chih-Wen Kan, Ph.D., 4/2008-08/2010

Co-Supervisor, Department of Chemical Engineering, The University of Texas at Austin, Avinash Murthy, Ph.D., 1/2009-08/2013

Supervisor, Department of Biomedical Engineering, The University of Texas at Austin, Pratixa Joshi, PhD, 09/2011 – 04/2014

Supervisor, Department of Biomedical Engineering, The University of Texas at Austin, Maria Jimenez, PhD, 01/2011 – 06/2016

Supervisor, Department of Biomedical Engineering, The University of Texas at Austin, Chun-Hsien (Frank) Wu, PhD, 11/2010 – 07/2014

Supervisor, Department of Chemistry, The University of Texas at Austin, Albert Lee, 1/2011 – 05/2015

Co-Supervisor, Department of Biomedical Engineering, The University of Texas at Austin, Jason Haber, PhD, 01/2014-11/2016

Supervisor, Department of Bioengineering, Rice University, Sangheon Han, 01/2016 – present.

Postdoctoral Research Fellows

Research Mentor, The University of Texas at Austin, Department of Biomedical Engineering, Sonia Kumar, Ph.D., Postdoctoral Fellow, 5/2007-8/2007

Research Mentor, The University of Texas at Austin, Department of Biomedical Engineering, Aaron Jesse, Ph.D., Postdoctoral Fellow, 5/2007- 10/2008

Research Mentor, The University of Texas at Austin, Department of Biomedical Engineering, Veronika Sapozhnikova, Ph.D., Postdoctoral Fellow, 9/2007-9/2009

Research Mentor, The University of Texas at Austin, Department of Biomedical Engineering, Leonid Fradkin, Ph.D., Postdoctoral Fellow, 6/2010-2/2012

Clinical Residents and Fellows

N/A

Other Supervisory Teaching

N/A

CONFERENCES AND SYMPOSIA

Organization of National or International Conferences/Symposia (Include chairing session)

OSA, Biomedical Optical Spectroscopy Imaging & Diagnostics (BOSD), Miami Beach, Florida, Program Committee Member, 2004

International Symposium, Topical Problems of Biophotonics, Moscow, Russia, Program Committee Member, 8/2007

OSA, Topical Meeting on Biomedical Optics, St. Petersburg, Florida, Program Committee Member, 3/2008

OSA, Topical Meeting: Optical Molecular probes, Imaging, and Drug Delivery; Monterey, CA, Conference Chair, 4/2011

III International Symposium on Topical Problems of Biophotonics, St.-Petersburg – Nizhny Novgorod, Russia, Co-Chair of the Topical Conference on Nanobiophotonics, 7/2011

OSA, Optics and Photonics Congress, Topical Meeting: Optical Molecular probes, Imaging, and Drug Delivery; Waikoloa Beach, Hawaii, General Chair, 4/2013

SPIE Photonics West BiOS, Topical Meeting on Colloidal Nanoparticles for Biomedical Applications, San Francisco, CA, Program Committee Member, 2/2015

V International Symposium on Topical Problems of Biophotonics, Nizhny Novgorod, Russia, Co-Chair of the Topical Conference on Nanobiophotonics, 7/2015

Presentations at National or International Conferences

Invited

Engineering three-dimensional epithelial tissue for biomedical optics, OSA Biomedical Topical Meeting on Biomedical Optical Spectroscopy and Diagnostics, Miami Beach, Florida, 4/7/2002

Optical Imaging with Nanoparticles, Advances in Imaging-Guided Diagnosis and Therapy, Round Top, Texas, 4/15/2004

Molecular Imaging of Carcinogenesis with Immuno-Targeted Gold Bioconjugates, 26th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, San Francisco, California, 9/1/2004

Molecular imaging of carcinogenesis with metal nanoparticles, 88th OSA Annual Meeting: Frontiers in Optics, Rochester, New York, 10/10/2004

Gold Nanoparticles: a New Platform for Molecular Specific Screening, Diagnosis, and Elucidation of Cancer, In Vivo. 8th International Conference on Optics Within Life Sciences, Melbourne, Australia, 11/28/2004

Nanotechnology in Molecular Imaging and Sensing of Cancer, ASMEs 3rd Annual Bioengineering Technology Seminar, Irvine, California, 4/5/2005

Cancer Imaging with Nobel Nanoparticles, PhAST: Photonic Applications Systems Technologies, Baltimore, Maryland, 5/23/2005

Polarization Spectroscopy and Imaging of Pre-Cancer in the Oral Cavity, FACSS: Federation for Analytical Chemistry and Spectroscopy Societies, Quebec City, Quebec, Canada, 10/10/2005

Gold Nanoparticle Platform for Molecular Specific Screening, Diagnosis and Therapy of Cancer In Vivo, NOEHS: Nanotechnology Occupational and Environmental Health and Safety Research to Practice, Cincinnati, Ohio, 12/4/2006

Plasmonic nanoparticle platform for carcinogenesis imaging in situ, International Conference on Topical Problems of Biophotonics, Nizhny Novgorod, Russia, 8/4/2007

Optical systems for in vivo molecular imaging of cancer, 4th FICBAC Workshop on Nanotechnology for Cancer Diagnosis and Treatment, Madrid, Spain, 11/23/2007

Nanoparticles in Molecular Imaging of Cancer: Opportunities and Challenges, OSA Topical Meeting on Biomedical Optics, St. Petersburg, Florida, 3/2008

Effect of Plasmon Resonance Coupling for Molecular Imaging and Therapy of Cancer, Southwest Chapter of the AAPM Meeting, Austin, Texas, 04/18/2008

Multifunctional and Multimodal Nanoparticles for Molecular Specific Detection and Therapy of Cancer, BIT Annual World Cancer Congress, Shanghai, China, 06/2008

Imaging Molecular Assemblies Using Plasmon Resonance Coupling, Microscopy and Microanalysis Meeting, Albuquerque, New Mexico, 08/2008

Molecular Imaging of Carcinogenesis with Plasmonic Nanosensors, PASI Advanced Microscopy Techniques, Cancun, Mexico, 8/2008

Cancer Imaging and Therapy with metal Nanoparticles, IEEE Engineering in Medicine and Biology Society; Minneapolis, MN, USA; 9/2009

Dynamic Molecular Imaging Using Nanoparticle Plasmon Resonance Coupling, SPIE Photonics West, San Francisco, CA, USA, 01/2010

Multifunctional and Multimodal Plasmonic Nanoparticles in Imaging and Therapy, Microscopy and Microanalysis Meeting, Portland, Oregon, 08/2010

Receptor Mediated Aggregation of Plasmonic Nanoparticles in Optical and Photoacoustic Molecular Imaging of Cancer, SPIE/OSA European Conferences on Biomedical Optics, Munich, Germany, 05/2011

Plasmonic Nanosensors for Molecular and Functional Cellular Imaging *In Vivo*, III International Symposium: Topical Problems of Biophotonics, St. Petersburg, Russia, 07/2011

Plenary lecture: Plasmon Resonance Coupling in Biomedical Applications: from Molecular Imaging in Cells to Functional Imaging *In Vivo*, XVI International School on Optics, Laser Physics and Biophotonics, Saratov, Russia, 09/2012

Concept of Nanoparticle Clustering in Biomedical Applications, SPIE Photonics West, San Francisco, CA, USA, 02/05/2013

Magneto-plasmonic nanoparticle platform for capture, separation and enumeration of rare cells, Nanomedicine, Edinburgh, Scotland, 03/2014

Plasmonic Nanosensors for Molecular and Functional Cancer Imaging and Therapy, SPIE Optics + Photonics, San Diego, CA, USA, 08/2014

Biodegradable Plasmonic Nanoparticles: Overcoming Clinical Translation Barriers, OSA Congress: Optics in the Life Sciences, Vancouver, Canada, 04/2015

Interdisciplinary Translational Pre/Postdoctoral Program in Cancer Nanotechnology, NCI Alliance for Nanotechnology in Cancer Meeting, Bethesda, MD, USA, 11/2015

Biomedical Applications of Magneto-Plasmonic Nanoclusters, SPIE Photonics West, San Francisco, CA, USA, 02/13/2016

Plasmonic ruler: from cells to detection of micrometastasis in patients, American Chemical Society (ACS) National meeting, San Diego, CA, 03/14/2016.

Biodegradable plasmonic nanoparticles for cancer imaging and therapy, International Congress of Hyperthermic Oncology, New Orleans, LA, 04/15/2016.

Nanoparticle clusters for cancer imaging and therapy, American Society for Photobiology meeting, Tampa Bay, FL, 05/22/2016.

Other, Including Scientific Exhibitions

Surface-enhanced Raman studies of membrane proteins and nucleic acids: topography and secondary structure of biomolecules, Spectroscopy of Biological Molecules. State of the Art, 1/1/1989

Determination of the local destabilization regions in the DNA double helix as probed by surface-enhanced Raman spectroscopy, the XII International Conference on Raman

Spectroscopy, 1/1/1990

Surface-Enhanced Raman Spectroscopy of Cocarboxylase and Pyruvate Complexes, the XII International Conference on Raman Spectroscopy, 1/1/1990

Surface-enhanced Raman studies of nucleic acids and their complexes with anti-tumour drugs, Structure and conformational dynamics of biomacromolecules. Europhysics Conference, 1/1/1990

Polynuclear membranes as a substrate for obtaining surface-enhanced Raman scattering films, Laser Applications in Life Sciences, 1/1/1991

Surface-enhanced Raman spectroscopy in the structural studies of biomolecules, Laser Applications in Life Sciences, 1/1/1991

Surface-Enhanced Raman Spectroscopy of Nucleic Acids and Antitumour Drugs/Nucleic Acids Complexes in vitro and in Living Cells, Spectroscopy of Biological Molecules, 1/1/1991

Comparative study of structure and biological activity of synthetic and natural inhibitors of influenza virus as probed by SERS, the XIII International Conference on Raman Spectroscopy, 1/1/1992

Contribution of short range and classical electromagnetic mechanisms to SERS from different types of biomolecules adsorbed on cold-deposited island film, the XIII International Conference on Raman Spectroscopy, 1/1/1992

Surface-Enhanced Raman Spectroscopy of Sialosides Including Glycoproteins, the XVI International Carbohydrate Symposium, Paris, France, 1/1/1992

Intercalating and Non-Intercalating Antitumor Drugs: Structure-Function Correlations As Probed by Surface-Enhanced Raman Spectroscopy, Spectroscopy of Biological Molecules, 1/1/1993

Practical Substrates and Techniques for Analytical Testing, Identification and Structural Studies of Biological, Biomedical and Related Organic Molecules by Surface-Enhanced Raman Spectroscopy, Spectroscopy of Biological Molecules, 1/1/1993

SERS Spectroscopy - Physical Probing of Cell Surface Sialosides., 12th International Symposium on Glycoconjugates, 1/1/1993

Colloidal Metal Films as a New Substrate for Enhanced Spectroscopy of Biomolecules, Spectroscopy of Biological Molecules, 1/1/1995

Colloidal Metal Films as a New System for Enhanced Optical Phenomena, Nineteeth DOE Solar Photochemistry Research Conference, 1/1/1995

New Substrates for Enhanced Spectroscopies, Laser Techniques for Surface Science II, 1/1/1995

Development of New Substrates and Approaches to SERS-Based Bioanalytical Applications, the XVth International Conference on Raman Spectroscopy, 1/1/1996

SERS of Long Chain Alkanethiols on Roughened Metal Electrodes, the XVth International Conference on Raman Spectroscopy, 1/1/1996

Quantitative Optical Spectroscopy for Earlier Cancer Diagnosis, NASA/NCI Workshop on Sensors for Bio-Molecular Signatures, Pasadena, California, 6/2/1999

Polarization Spe ctroscopy of Cervical Epithelium for Pre-Cancer Detection, UEF Conference on Advances in Optics for Biotechnology, Medicine and Surgery, Kona, Hawaii, 8/1/1999

Measurement of Cellular and Nuclear Morphology In Vivo Using Reflectance Spectroscopy with Polarized Light, Gordon Conference on Lasers in Medicine and Biology, New London, Connecticut, 6/10/2000

Polarized Reflectance Spectroscopy In Vivo: What Can We Measure?, UEF Conference on Advances in Optics for Biotechnology, Medicine and Surgery, Banff, Canada, 7/22/2001

Metal Nanoparticles as Biospecific contrast agents for cancer imaging, OSA Biomedical topical meeting on biomedical optical spectroscopy and diagnostics, Miami Beach, Florida, 4/7/2002

Polarized Reflectance Spectroscopy Instrument for the Clinical Setting, Optical Society of America Biomedical Topical Meetings, Biomedical Optical Spectroscopy and Diagnostics, Miami, Florida, 4/7/2002

Metal Nanoparticles as Contrast Agents for Molecular Imaging of Pre-Cancers, Gordon Conference on Lasers in Medicine and Biology, Kimball Union Academy, New Hampshire, 7/14/2002

Optical Sectioning of Epithelium Using Fiber Optic Probe with an Angled Illumination-Collection Geometry: Evaluation in Engineered Tissue Phantoms, Gordon Research Conference, Lasers in Medicine and Biology, Meriden, New Hampshire, 7/14/2002

Fiber Optic Probe for Polarized Reflectance Spectroscopy: Mucosa Studies, The Second Joint Conference of the IEEE Engineering in Medicine and Biology Society and the Biomedical Engineering Society, Houston, Texas, 10/22/2002

Molecular Specific Contrast Agents to Enhance Optical Imaging of Pre-Cancers, Second Joint EMBS-BMES Conference, Houston, Texas, 10/23/2002

Targeting the Depth of Elastically Scattered Light in Tissue Using a Fiber Probe with an Angled Illumination-Collection Geometry: Evaluation in Engineere, SPIE, Photonics West, San Jose, California, 1/25/2003

Detecting Dysplasia in the Oral Cavity Using Polarized Reflectance Spectroscopy, Engineering Conferences International: Advances in Optics for Biotechnology, Medicine and Surgery, Banff, Canada, 4/3/2003

Correlation of microanatomical and biochemical properties of precancerous cervical tissue with its autofluorescence characteristics, The Annual Meeting of the American Association for Cancer Research, Washington, DC, 7/11/2003

Early detection of precancerous lesions in oral mucosa using polarized reflectance spectroscopy, The Annual Meeting of the American Association for Cancer Research, Washington, DC, 7/11/2003

Vital optical imaging of activity and distribution of metallo-proteases in three-dimensional organotypic cultures using gold bioconjugates, The Annual Meeting of the American Association for Cancer Research, Washington, DC, 7/11/2003

Vital optical imaging of epithelial neoplasia using topical delivery of immuno-targeted gold nano-particles, The Annual Meeting of the American Association for Cancer Research, Washington, DC, 7/11/2003

Vital Optical Imaging of Epithelial Neoplasia Using Topical Delivery of Immuno-targeted Gold Nanoparticles, Engineering Conferences International (ECI) Advances in Optics for Biotechnology, Medicine, and Surgery, Banff, Canada, 8/3/2003

Polarization spectroscopy to measure nuclear size distribution: improved pre-cancer detection, The Whitaker Foundation Annual Biomedical Engineering Research Conference, La Jolla, California, 8/7/2003

Vital Molecular Imaging of Carcinogenesis with Gold Bioconjugates, AAPM Medical Imaging Research Symposium, San Diego, California, 8/10/2003

"Results of a Pilot Clinical Trial for the Early Detection of Oral Mucosa Neoplasia Using Polarized Reflectance Spectroscopy," SPIE, Photonics West, San Jose, California, 1/24/2004

"Cellular labeling of SiHa and oral biopsies with quantum dot bioconjugates," Gordon Research Conference on Lasers in Medicine and Biology, Meriden, New Hampshire, 7/4/2004

"Hyperspectral Imaging and Reflectance Spectroscopy to Elucidate the Scattering Properties of Oral Carcinogenesis," Gordon Research Conference, Lasers in Medicine and Biology, Meriden, New Hampshire, 7/4/2004

"In-Vivo Detection of Intra-Nuclear Targets Using Gold Nanoparticles - Human Papillomavirus," Gordon Research Conference, Lasers in Medicine and Biology, Meriden, New Hampshire, 7/4/2004

Cellular labeling of SiHa and oral biopsies with quantum dot bioconjugates, Gordon Research Conference on Lasers in Medicine and Biology 2004, Meriden, New Hampshire, 7/4/2004

Optical In-Vivo Detection of Intracellular Biomarkers Using Gold Nanoparticles, Society of Molecular Imaging, 4th Annual Meeting, Germany, 9/7/2005

Optical In-Vivo Detection of Intracellular Biomarkers Using Gold Nanoparticles, BMES, Baltimore, Maryland, 9/28/2005

Ultrasound-based Thermal and Elasticity Imaging to Assist Photothermal Cancer Therapy-Preliminary Study, Proceeding of the 2006 IEEE Ultrasonics Symposium, 2006

Gold nanoparticles for scattering-based molecular detection of disease: Optical imaging of growth factor receptor mediated carcinogenesis, SPIE, Photonics West (BiOS), San Jose, California, 1/21/2006

Analysis of Polarization Spectroscopy Data to Improve Imaging of Epithelial Pre-Cancers, Gordon Research Conference, Lasers in Medicine and Biology, Plymouth, New Hampshire, 7/2/2006

Increased molecular-specific image contrast with magnetically actuated gold/iron oxide hybrid nanoparticles, Gordon Research Conference, Lasers in Medicine and Biology, Plymouth, New Hampshire, 7/2/2006

Optical Detection of intra-Cellular Cancer Biomarkers, Gordon Research Conference, Lasers in Medicine and Biology, Plymouth, New Hampshire, 7/2/2006

MR Assessment of Multi-Modal Molecular Targeted Contrast Agent, ISMRM Conference, Germany, 5/19/2007

Multifunctional Plasmonic Nanoparticles for Photothermal Therapy of Cancer with MRI Monitoring, ISMRM Conference, Germany, 5/19/2007

Plasmon resonance coupling for sensitive monitoring of EGFR activation and trafficking in live cells, ECI Conference on Advances in Optics for Biotechnology, Medicine and Surgery, Naples, Florida, 6/10/2007

Plasmonic Nanoparticles with affinity and Delivery Functionalities for Imaging Intracellular Biomarkers in Live Cells, ECI Conference on Advances in Optics for Biotechnology, Medicine and Surgery, Naples, Florida, 6/10/2007

Probing the local heterogeneity of oral mucosa for the early detection of cancer using polarized reflectance spectroscopy: a pilot clinical trial, ECI Conference on Advances in Optics for Biotechnology, Medicine and Surgery, Naples, Florida, 6/10/2007

Multifaceted Approaches to Molecular Imaging Using Plasmonic Nanosensors, Material Research Society Annual Meeting, Boston, Massachusetts, 11/2007

Comparison of linear and non-linear classifiers for oral cancer screening by optical spectroscopy, AMIA Symposium, Chicago, Illinois, 11/2007

Adaptive spectral window sizes for feature extraction from optical spectra, SPIE Photonics West, San Jose, California, 1/2008

Molecular specific photoacoustic imaging with plasmonic nanosensors, SPIE Photonics West, San Jose, California, 1/2008

Phenomenology of optical scattering from plasmonic aggregates for application to biological imaging and clinical therapeutics, SPIE Photonics West, San Jose, California, 1/2008

Plasmon resonance coupling for monitoring membrane receptor dynamics in living cells, SPIE Photonics West, San Jose, California, 1/2008

Molecular specific photoacoustic imaging with plasmonic nanosensors, SPIE Photonics West: IX Conference on Biomedical Thermoacoustics, Optoacoustics, and Acousto-Optics, San Jose, California, 1/2008

Photoacoustic and ultrasound imaging to guide photothermal therapy: ex vivo study, SPIE Photonics West: IX Conference on Biomedical Thermoacoustics, Optoacoustics, and Acousto-Optics, San Jose, California, 1/2008

On possibility of molecular intravascular photoacoustic imaging using gold nanoparticles, 25th Annual Houston Conference on Biomedical Engineering Research, The Houston Society for Engineering in Medicine and Biology, Houston, TX, 2/2008

On the feasibility of in-vivo molecular intravascular photoacoustic imaging, Biomedical Engineering Society 2008 Annual Fall Meeting, St. Louis, MO, 10/2008

Selective detection of cancer using spectroscopic photoacoustic imaging and bioconjugated gold nanoparticles; IEEE Ultrasonics Symposium; Beijing, China; 11/2008

Multi-wavelength photoacoustic imaging of plasmon resonance coupling of gold nanoparticles for selective detection of cancer; SPIE Photonics West Symposium: Photons Plus Ultrasound: Imaging and Sensing; San Jose, CA, USA; 1/2009

Compact beveled multi-fiber probe for depth sensitive optical spectroscopy of precancer, SPIE, Photonics West, San Jose, California, 1/2009

Optical Imaging of Interactions between Molecular-Specific Therapeutic Nanoparticles and Lung Cancer Cells: Correlation between Uptake, Distribution, and Therapy; SPIE, Photonics West, San Jose, California, 1/2009

Selective Detection of Cancer with Combined Photoacoustic and Ultrasound Imaging using Molecular Specific Gold Nanoparticles, The 2009 Central Texas Clinical Research Forum, Austin, TX, 5/2009

Contrast agents based on gold nanoparticles for non-invasive detection of cancer, Engineering Conferences International – Advances in Optics for Biotechnology, Medicine and Surgery XI, Burlington, Vermont, USA, 6/2009

Simultaneous probing of multiple optical path lengths for precancer detection, Engineering Conferences International: Advances in Optics for Biotechnology, Medicine and Surgery XI, Burlington, Vermont, 6/2009.

Optical Imaging of Interactions of Tumor-targeted, Therapeutic Gold/Iron Nanoparticles with Lung Cancer Cells: Correlation with Therapeutic Effect; Engineering Conferences International: Advances in Optics for Biotechnology, Medicine and Surgery XI, Burlington, Vermont, 6/2009.

On sensitivity of molecular specific photoacoustic imaging; IEEE Engineering in Medicine and Biology Society; Minneapolis, MN, USA; 9/2009

Molecular Ultrasound Imaging Using Magnetic Nanoprobes, IEEE EMBS Conference, Minneapolis, MN, USA, 9/2009

Biodegradable Near-Infrared Plasmonic Nanoclusters for Biomedical Application, SPIE Photonics West, San Francisco, CA, USA, 01/2010

Intravascular Photoacoustic Imaging of Macrophages using Molecular Targeted Gold Nanoparticles, SPIE Photonics West, San Francisco, CA, USA, 01/2010

Biodegradable Plasmonic Nanoclusters as Contrast Agent for Photoacoustic Imaging, SPIE

Photonics West, San Francisco, CA, USA, 01/2010

Rapid Conjugation of Nucleic Acids to Gold Nanoparticles for Cancer Cell Targeting, SPIE Photonics West, San Francisco, CA, USA, 01/2010

Synthetic Strategies for delivery, internalization, and activation of Nucleic Acids, Wyss Institute: New Directions in Synthetic Biology, Harvard Medical School, Boston, MA, USA, 2010

Development of Molecular Specific Gold Nanorods for Non-invasive Imaging and Therapy, Gordon Research Conference, Lasers in Medicine and Biology, Holderness, New Hampshire, 7/2010

Biodegradable Near-Infrared Plasmonic Nanoclusters for Biomedical Applications, Gordon Research Conference, Lasers in Medicine and Biology, Holderness, New Hampshire, 7/2010

Biodegradable Near-Infrared Plasmonic Nanoparticles: Clearance and Photoacoustic Imaging In Vivo, World Molecular Imaging Congress, Kyoto, Japan, 9/2010

Imaging of Molecular Interactions in Live Cells: a Plasmonic Approach, World Molecular Imaging Congress, Kyoto, Japan, 9/2010

Spectroscopic Intravascular Photoacoustic Imaging of Macrophages in Atherosclerotic Plaques, World Molecular Imaging Congress, Kyoto, Japan, 9/2010

Molecular Imaging of Tumors In Vivo Using Nanoparticle Augmented Ultrasound Guided Photoacoustic Imaging, World Molecular Imaging Congress, Kyoto, Japan, 9/2010

Targeted Delivery of Gold Coated Iron Oxide Nanoclusters for Near Infrared Cancer Imaging and MRI Contrast Enhancement, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

Beveled Multifiber Probes for Polarized Reflectance Spectroscopy in Tissue, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

Biodegradable Near-Infrared Plasmonic Nanoclusters for Biomedical Applications, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

Imaging of Molecular Interactions Between Therapeutic Gold/Iron Nanoparticles and Lung Cancer Cells, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

Microfluidic Screening Chip for Detection of Circulating Tumor Cell, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

Multiplex Photoacoustic Imaging for Molecular Imaging of Cancerous Tumors Using Targeted Nanorods, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

Molecular Specific Biocompatible Gold Nanorods for Non-invasive Imaging and Therapy, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

In Vivo Tracking of Nanoparticle Labeled Mesenchymal Stem Cells Using Photoacoustic Imaging, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

Multifunctional Iron Oxide Core Gold Shell Nanoclusters for Optical and Magnetic Cellular Imaging, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

Polarization Sensitive Monte Carlo Simulation of Layered Tissues, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

Visualization Tools for Pol-MC to Simulate Polarized Light-Tissue Interaction, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

Conjugation of Nucleic Acids to Gold Nanorods for Site-specific Delivery Using Photothermal Release, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

Design of Biodegradable Gold Nanoclusters for NIR Optical Imaging, Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, 10/2010

Molecular Diagnosis of Cancer using Multiplex Photoacoustic Imaging with Targeted Nanorods, IEEE International Ultrasonics Symposium, San Diego, California, 10/2010

Ultrasound Guided Photoacoustic Imaging with Gold Nanoparticles to Obtain Molecular Map of Tumor In-vivo, IEEE International Ultrasonics Symposium, San Diego, California, 10/2010

Photoacoustic Imaging with Biodegradable Plasmonic Nanoclusters, IEEE International Ultrasonics Symposium, San Diego, California, 10/2010

Photoacoustic Imaging of Intravascular Plaques using Integrin-Targeted Gold Nanoparticles, SPIE Photonics West, San Francisco, CA, USA, 01/2011

Thermal stability of biodegradable nanoclusters for photoacoustic imaging, SPIE Photonics West, San Francisco, CA, USA, 01/2011

Ultrasound and Photoacoustic Imaging to Monitor Mesenchymal Stem Cells Labeled with Gold Nanoparticles, SPIE Photonics West, San Francisco, CA, USA, 01/2011

Model-based design of full-spectral diagnostic instrumentation, SPIE Photonics West, San Francisco, CA, USA, 01/2011

Nanoparticle Labeling of Mesenchymal Stem Cells for In Vivo Imaging and Tracking, SPIE Photonics West, San Francisco, CA, USA, 01/2011

Biodegradable NIR gold nanoclusters: photoacoustic imaging and in vivo clearance, SPIE Photonics West, San Francisco, CA, USA, 01/2011

Design of biodegradable gold nanoclusters for NIR optical imaging, 242nd National Meeting of the American-Chemical-Society (ACS), Denver, CO, USA, 9/2011

Detection of sentinel lymph node metastasis with photoacoustic imaging, AACR, Orlando, FL, USA, 04/2011

Plasmonic nanosensors for molecular photoacoustic imaging of regional micrometastasis, SPIE Photonics West, San Francisco, CA, USA, 01/2012

Intravascular photoacoustic imaging of gold-nanorod labeled atherosclerotic plaques, SPIE Photonics West, San Francisco, CA, USA, 01/2012

Combined intravascular ultrasound and spectroscopic photoacoustic imaging for detecting morphology and composition of atherosclerotic plaques, SPIE Photonics West, San Francisco, CA, USA, 01/2012

In vivo photoacoustic imaging of breast cancer cellular receptors using multiplex contrast agents, SPIE Photonics West, San Francisco, CA, USA, 01/2012

Photoacoustic imaging of micrometastasis using plasmonic nanosensors, Gordon Research Conference, Lasers in Medicine and Biology, Holderness, New Hampshire, 7/2012

Photoacoustic Imaging of Cellular Function, Biosensing and Nanomedicine-II at SPIE Optics and Photonics, San Diego, CA, USA, 8/2012

Detection of regional micrometastasis using plasmonic gold nanoparticles and photoacoustic imaging, Biomedical Engineering Society Annual Meeting, Atlanta, Georgia, 10/2012

Oblique polarized reflectance spectroscopy for depth sensitive measurements in the epithelial tissue, SPIE Photonics West, San Francisco, CA, USA, 02/2013

Hybrid magnetic/plasmonic nanocarriers for capture and photoacoustic detection of circulating tumor cells, SPIE Photonics West, San Francisco, CA, USA, 02/2013

Combined SERS probes and super-resolution imaging for studying molecular interactions, SPIE Photonics West, San Francisco, CA, USA, 02/2013

Applying a hydrophobic shield to diminish non-specific interactions of gold nanoparticles, SPIE Photonics West, San Francisco, CA, USA, 02/2013

Equilibrium Gold Nanoclusters Quenched with Biodegradable Polymers, ACS National Meeting, New Orleans, LA, USA, 4/2013

Charged gold nanoparticles with essentially zero serum protein adsorption in undiluted fetal bovine serum, ACS National Meeting, New Orleans, LA, USA, 4/2013

Molecular photoacoustic imaging with plasmonic nanoparticles: moving toward clinical

translation, OSA, Optics and Photonics Congress, Topical Meeting: Optical Molecular probes, Imaging, and Drug Delivery; Waikoloa Beach, 4/2013

Development and Optimization of Multimodal Near-IR Contrast Agents for Immune Cell Tracking, Materials Research Society Fall Annual Meeting, Boston, MA, 12/2013

Alternative to the sentinel lymph node biopsy: ultrasound-guided spectroscopic photoacoustic imaging of molecularly-activatable plasmonic nanosensors, SPIE Photonics West, San Francisco, CA, USA, 02/2014

Plasmonic biodegradable gold nanoclusters with high NIR-absorbance for biomedical imaging, SPIE Photonics West, San Francisco, CA, USA, 02/2014.

Magneto-plasmonic nanoclusters for capture and photoacoustic detection of cancer cells, SPIE Photonics West, San Francisco, CA, USA, 02/2014.

Multimodal near-IR contrast agents for immune cell tracking, SPIE Photonics West, San Francisco, CA, USA, 02/2014.

Magneto-plasmonic nanoclusters with high-NIR absorbance for tracking, detection, and capture of rare cells, SPIE Photonics West, San Francisco, CA, USA, 02/2014.

Fano-resonant mid-infrared metasurfaces: a new platform for bio-sensing and vibrational fingerprinting of proteins and cells, SPIE Photonics West, San Francisco, CA, USA, 02/2014.

Screening circulating tumor cells and microemboli using optical and photoacoustic microscopy, SPIE Photonics West BiOS, San Francisco, CA, USA, 02/2015.

Depth-sensitive measurements of oral epithelial tissue with oblique polarized reflectance spectroscopy, SPIE Photonics West BiOS, San Francisco, CA, USA, 02/2015.

Ratiometric cellular sensor based on J-aggregate trapping in liposomes, SPIE Photonics West BiOS, San Francisco, CA, USA, 02/2015.

Enhancing immunotherapy with magneto-plasmonic nanoparticles, SPIE Photonics West BiOS, San Francisco, CA, USA, 02/2015.

Magneto-plasmonic nanoparticle platform for cancer diagnosis and cell based therapy, Gordon Research Conference, Cancer Nanotechnology, West Dover, VT, USA, 06/2015

Seminar Invitations from Other Institutions

High resolution optical imaging of carcinogenesis, Smithville Science Park, Smithville, Texas, 2/21/2003

Polarized Reflectance Spectroscopy of Pre-Cancer Detection, Department of Information Technology and Electrical Engineering, University of Queensland, Brisbane, Australia, 12/2/2004

Optical Imaging of Cancer with Metal Nanoparticles, Department of Physics, University of Queensland, Brisbane, Australia, 12/3/2004

Nanoparticles for Cancer Imaging, Vitesse Interdisciplinary Study Program: Biology, Vancouver, Canada, 2/24/2005

Optically active contrast agents to monitor receptor expression and interactions, Rice University Conference on Translational Optical Molecular Imaging: Nano to Macro, Rice University, Houston, Texas, 5/21/2007

Imaging of Molecular Assemblies for Cancer Detection, Monitoring and Therapy: A Plasmonic Approach, Lester Wolfe Workshop in Laser Biomedicine, Sponsored by the G.R. Harrison Spectroscopy Laboratory, MIT, MGH Wellman Laboratories, the Harvard-MIT Division of Health Science and Technology, and the Center for the Integration of Medicine and Innovative Technology (CIMIT), Boston, MA, 11/25/2008

Plasmonic Nanosensors for Molecular and Functional Cancer Imaging and Therapy: Opportunities and Challenges, Seminar Department of Biomedical Engineering, Texas A&M

University, College Station, TX, 11/18/2013

Clinical translation of plasmonic nanosensors: design, synthesis and applications, Colloquia Seminar of the Chemistry Department, Boston University, Boston, MA, 03/02/2015

Molecular Photoacoustic Imaging of Micrometastasis Using Plasmonic Nanosensors, Laser Microbeam and Medical Program (LAMMP) Seminar, Beckman Laser Institute and Medical Clinic, University of California, Irvine, CA, 04/08/2015

Plasmon resonance coupling: from concept to clinical translation, Departmental Seminar, Department of Chemistry, University of Memphis, Memphis, TN, 01/29/2016

Lectureships and Visiting Professorships

N/A

Other Presentations at State and Local Conferences

IGERT Retreat: Molecular Imaging of Carcinogenesis with Immuno-Targeted Nanoparticles, UT M.D. Anderson Cancer Center, Houston, Texas, 2/11/2004

IGERT Group Meeting: Optical Spectroscopy and Molecular Imaging of Pre-Cancer, The University of Texas, Austin, Texas, 8/6/2004

Molecular Imaging of Cancer with Gold Bioconjugates, Molecular Medicine Symposium, The University of Texas, Houston, Texas, 2/21/2005

VaNTH Lecture: Nanoparticles for Cancer Imaging, The University of Texas, Austin, Texas, 4/14/2005

Live Imaging of Epidermal Growth Factor Receptor: New Approaches and Perspectives, Grand Rounds, UT M. D. Anderson Cancer Center, Houston, Texas, 7/6/2006

Nanoparticle Platform for Molecular Imaging and Therapy of Cancer, Grand Rounds, UT M. D. Anderson Cancer Center, Houston, Texas, 2/16/2007

Multifunctional Plasmonic Nanosensors for Molecular Imaging and Therapy Cancer, IGERT Lecture, The University of Texas at Austin, Austin, Texas, 11/2007

Nanotechnology in Medicine: Promise and Reality, Explore UT Lecture, The University of Texas at Austin, Austin, Texas, 3/2008

Plasmonic Nanoparticles in Biological Imaging: Synthesis, Conjugation, Imaging and Delivery, Biomedical Optics Graduate Organization (BOGO) Seminar Series, 8/13/2008

Plasmonic Nanoparticles for Molecular Specific Imaging and Therapy of Cancer. W.M. Keck Seminar, The UT M.D. Anderson Cancer Center, Houston, Texas, 10/13/2008

Optical Imaging, The University of Texas Biomedical Engineering Symposium, Houston, Texas, 01/15/2009

Nanotechnology in Medicine: the Story of Tiny Particles, Explore UT Lecture, The University of Texas at Austin, Austin, Texas, 3/2009

Nanotechnology in Cancer Imaging and Therapy: the Story of Gold Particles; Health and Safety Conference on Nanotechnology, Austin, TX, 4/2009

Multifunctional and Multimodal Nanoparticles for Molecular Specific Imaging and Therapy of Cancer; BME External Advisory Committee meeting, The University of Texas at Austin, Austin, TX, 04/16/2010

Oblique Polarized Reflectance Spectroscopy for Cancer Detection in Epithelial Tissue; BioMedOpTex Symposium, Texas A&M University, College Station, TX, 05/25/2012

Plasmonic Nanosensors for Molecular Imaging of Cancer Micrometastasis; NorTex Nano Summit, Rice University, Houston, TX 10/14/2014

PROFESSIONAL MEMBERSHIPS/ACTIVITIES

Professional Society Activities, with Offices Held

National and International

Member and Elected Fellow (2015), Optical Society of America (OSA), 2007- present

Chair, the Molecular Probes and Nanobio-optics Technical Group of the Optical Society of America (OSA), 9/2008 – 2011

Member, The Society of Photo-Optical Instrumentation Engineers (SPIE), 2010 - present

Local/State

N/A

UNIQUE ACTIVITIES

Hiking, kayaking, running, cooking, whitewater rafting, climbing.

DATE OF LAST CV UPDATE

03/01/2017

Konstantin V Sokolov, PhD