BIOGRAPHICAL SKETCH

NAME **Piao, Daqing**	POSITION TITLE **Professor**
eRA COMMONS USER NAME	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Tsinghua University, Beijing, China	B.Sc.	1984-1990	Physics
University of Connecticut, Storrs, CT	M.Sc.	1999-2001	Biomedical Engineering
University of Connecticut, Storrs, CT	Ph.D.	2001-2003	Biomedical Engineering
University of Connecticut, Storrs, CT	Post-Doc	2003-2004	Optics for Cardiovascular Medicine
Dartmouth College, Hanover, NH	Res. Assoc.	2004-2005	Optics in Medicine

POSITIONS AND HONORS

Positions and Employment

2018-2020 ***Adjunct Professor***
Department of Veterinary Clinical Sciences, Center for Veterinary Health Sciences, Oklahoma State University, Stillwater, OK

2017---Pre ***Professor***
School of Electrical & Computer Engineering, Oklahoma State University, Stillwater, OK

2016-2018 ***Adjunct Faculty Member***
Department of Veterinary Clinical Sciences, Center for Veterinary Health Sciences, Oklahoma State University, Stillwater, OK

2015 Spring ***Sabbatical Leave*** *(Researcher without Compensation)*
Department of Surgery, Oklahoma City Veterans Affairs Medical Center and University of Oklahoma Health Science Center

2011-2017 ***Associate Professor***
School of Electrical & Computer Engineering, Oklahoma State University, Stillwater, OK

2005-2011 ***Assistant Professor***
School of Electrical & Computer Engineering, Oklahoma State University, Stillwater, OK

1994-1999 ***R&D Engineer, Project Manager***
Shanghai Kanglian Medical Engineering Co. Ltd., Shanghai, China

1990-1994 ***MRI Engineer***
Guangdong Weida Medical Apparatus (Group) Co., Guangdong, China

Professional Memberships

Life Sen Mem	Optical Society of America	(**OSA**)
Life Sen Mem	The International Society for Optical Engineering	(**SPIE**)
Senior Mem.	The Institute of Electrical and Electronics Engineers	(**IEEE**)
	Engineering in Medicine and Biology Society	(**EMBS**)
Full Member	Society for Scientific Exploration	**(SSE)**
Fellow	American Society for Laser Medicine and Surgery	(**ASLMS**) (discontinued in 2020)

Assoc. Mem. Peggy and Charles Stephenson Cancer Center, University of Oklahoma Health Sciences Center (OUHSC)
Honor. Mem. Nu Chapter, Phi Zeta, the Honor Society of Veterinary Medicine

Awards, Professional Recognitions, and Honorable Mentions

2015--2020 ***Associate Editor***, Photonics Journal, IEEE
2018, 2019 **Program Committee,** "*Therapeutics and Diagnostics in Urology*" Conference, International Symposium on Biomedical Optics, SPIE, San Francisco, CA.
2018 **Technical Program Committee**, 13th Pacific Rim Conference on Lasers and Electro-Optics (CLEO Pacific Rim, CLEO-PR 2018) Hong Kong SAR 29 July--3 August 2018.
2015 ***Finalist,*** Edmund Optics 2015 Educational Award
2015 ***Research Excellence Award,*** College of Engineering, Architecture, and Technology, Oklahoma State University
2015 ***Honorary Member***, Nu Chapter, Phi Zeta, the Honor Society of Veterinary Medicine.
2014 ***Outstanding Mentor***, Oklahoma Louis Stokes Alliance for Minority Participation (OK-LSAMP)
2013 ***Fellow***, American Society for Laser Medicine and Surgery (ASLMS)
2012 ***Senior Member,*** Optical Society of America (OSA)
2012 ***Senior Member,*** The International Society for Optical Engineering (SPIE)
2010 ***Mentor*** of Pre-Doctoral Traineeship Awardee, DoD Prostate Cancer Research Program
2009 ***Big XII Faculty Fellow,*** Oklahoma State University @ University of Missouri, Columbia.
2009 ***Senior Member,*** The Institute of Electrical and Electronics Engineers (IEEE)
2006 ***New Investigator Award***, DoD Prostate Cancer Research Program
2003 ***Best Ph.D. Thesis Award***, School of Engineering, University of Connecticut, Storrs, CT
2002 ***Pre-Doctoral Traineeship Award***, DoD Breast Cancer Research Program
1993 ***Outstanding Engineer***, Guangdong Weida Medical Apparatus Corp., Guangdong, China
1990 ***Honor list (equivalent to magna cum laude)***, Tsinghua University, Beijing, China
1989 ***Guanghua Prize***, Guanghua Foundation / Tsinghua University, Beijing, China (Awarded to 1%)
1984 ***Youngest Freshman of the year*** (at the age of 14), Tsinghua University, Beijing, China

PUBLICATIONS. (Up to May. 28, 2021)

Impact factor (2019)	Journal	Number of papers published in the journal
1.961	Applied Optics (Optical Society of America)	11 (not counting 1 erratum)
1.680	Electronics Letters	1
3.465	IEEE Journal of Selected Topics in Quantum Electronics	1
2.833	IEEE Photonics Journal	1
2.520	Journal of Applied Polymer Science	1
2.785	Journal of Biomedical Optics (SPIE)	11
0.563	Journal of Exotic Pet Medicine	1
1.661	Journal of Innovative Optical Health Sciences	2
1.791	Journal of the Optical Science of America, A (Optical Society of America)	7 (not counting "reply to comment")
	Journal of Scientific Exploration	1
1.662	Journal of X-Ray Science and Technology	1
1.570	Lasers in Medical Science	1
3.02	Lasers in Surgery and Medicine	1
3.317	Medical Physics	3 (not counting 1 erratum)
3.669	Optics Express (Optical Society of America)	2
3.714	Optics Letters (Optical Society of America)	6
2.03	Optics and Photonics News, "Optics in 20XX" Special Issue (Optical Society of America)	3
1.495	Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontics	1
N/A	OSA Continuum (Optical Society of America)	1
3.90	Pharmaceutical Research	1
0.68	Photonics and Lasers in Medicine	2
2.140	Photonics (MDPI)	1
4.303	Post-Harvest Biology and Technology	1
1.587	Review of Scientific Instruments	1
	SN (Springer Nature) Applied Sciences	2
2.074	Technology in Cancer Research and Treatment	2
2.121	Urology	1
N/A	X-Acoustics: Imaging and Sensing	1

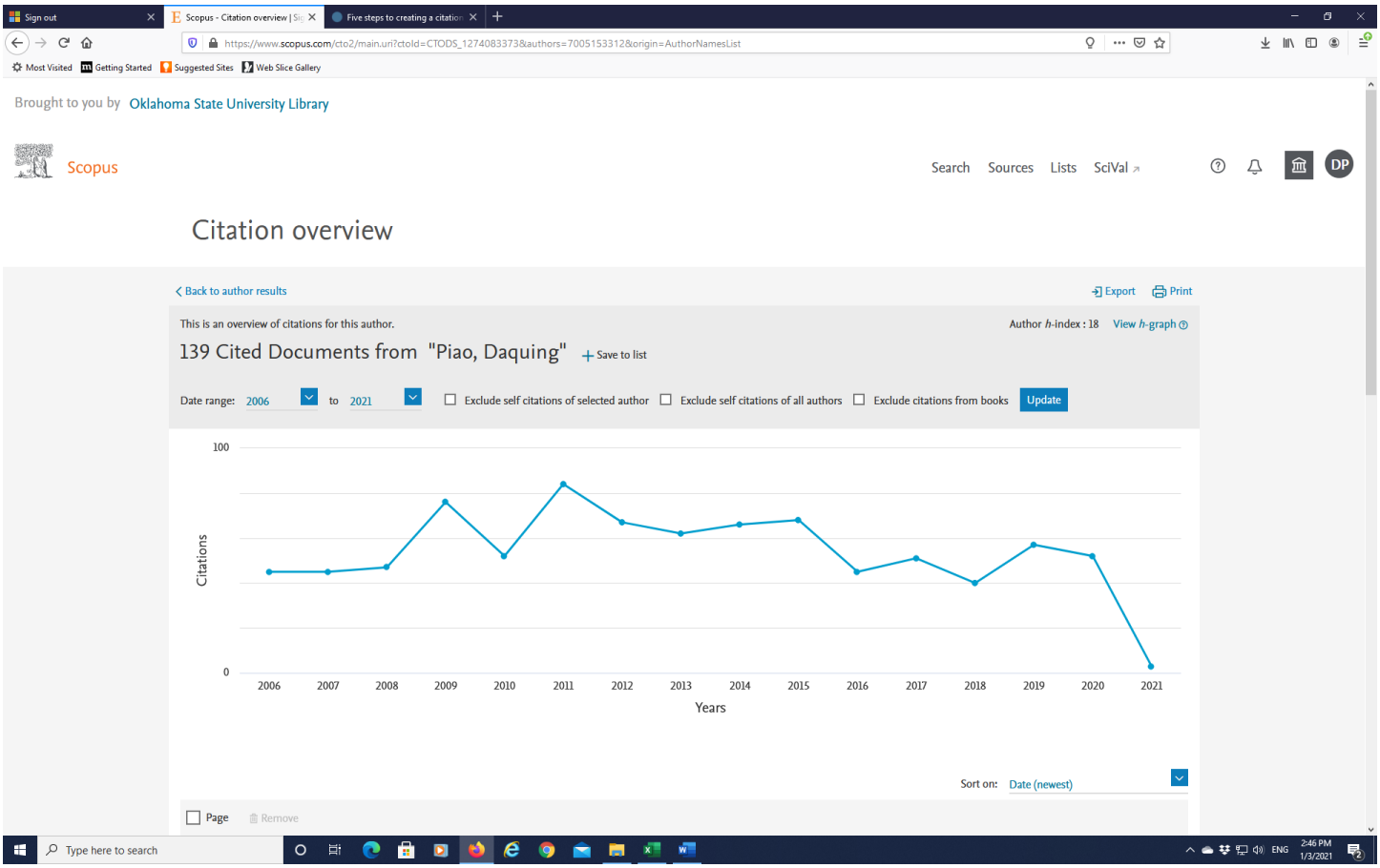
Total: 69

Journal papers published in 2021:

Journal papers published between 2005---2021: **52**

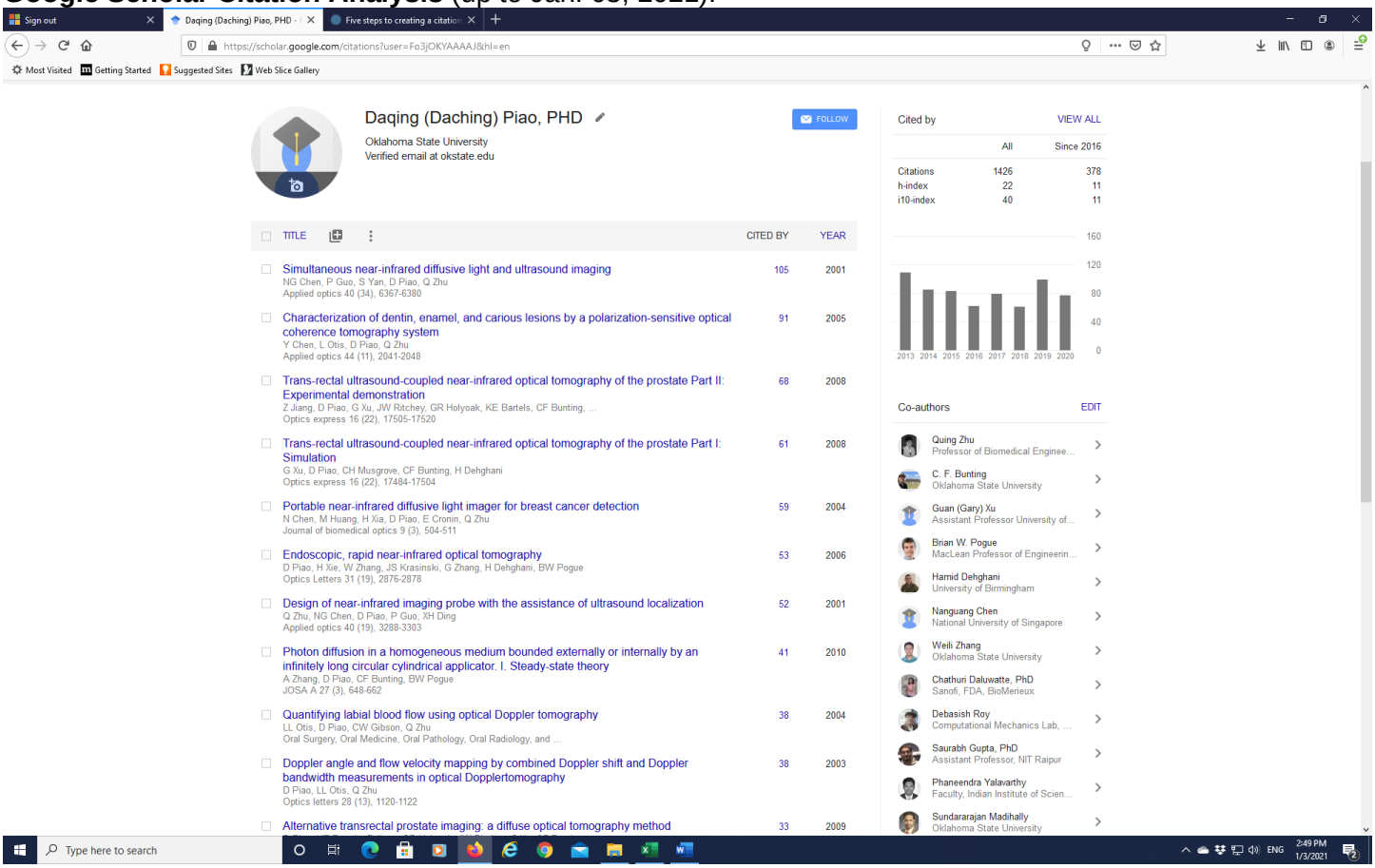
Journal papers published in career: **69**

SCOPUS Citation Analysis (up to Jan. 03, 2021):



Total: 941, h-index: 18
Excluding self-citation: 724, h-index: 15

Google Scholar Citation Analysis (up to Jan. 03, 2021):



PUBMED Indexed: ***43*** *articles (also in Medline) [(Piao, Daqing) & (Piao D Ranjan A)]*
Scopus Citation Indexed*:* ***139*** *articles h-index: 18 (all), 15 (excluding self-citation)*
Google Scholar: *Total Citations:* ***1426,*** *h-index 22, i10-index: 40*

Journal Paper (by the year of publication)

(* indicates corresponding author)

<2021>

[xx]. Submitted.

[xx]. Submitted.

[xx]. Submitted.

[69]. **Piao D***, "Phenomenological Interpretations of Some Somatic Temporal and Spatial Patterns of Biophoton Emission in Humans", ***Journal of Scientific Exploration,*** 35(2), 345-382, (2021), to appear.

[68]. **Piao D***, Sun T, "Diffuse photon remission from thick opaque media of the high absorption/scattering ratio beyond what is accountable by the Kubelka–Munk function", ***Optics Letter,*** 46(6), 1225:1228, (2021).

<2020>

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<2019>

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[42E] **Piao D***, Towner RA, Nataliya S, Chen WR, "Erratum: Magneto-thermo-acoustics from magnetic nanoparticles by short bursting or frequency chirped alternating magnetic field: A theoretical feasibility analysys, ***Medical Physics***, 40, 063301 (2013). [pdf]

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<2015>

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<2010>

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<2008>

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<2007>

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<2003>

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Book Chapter

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Program-Committee Reviewed Full-length Proceeding Papers and Abstracts Presented in International and National Conferences

<2021>

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<2020>

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Papers and Abstracts Presented in Regional Conferences

<2018>

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identification of anatomic structures and assessment of parenchymal pathology", ***Stephen Cancer Center Annual Research Symposium***, Feb. 2, 2018, Oklahoma City, OK.

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[14]. Piao D, "Transrectal optical tomography of prostate tumor in a canine model: What have been learned and what will be needed for the technology development to be clinically relevant?", ***Oklahoma Prostate Cancer Research Retreat,*** 09/25, 2015, Oklahoma City.

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<2013>

[12] Piao D, Towner RA, Chen WR, "A Potential New Method of Cancer Theranostics by Magneto-Thermo-Acoustics and Magnetically-Mediated Hyperthermia", ***Peggy and Charles Stephenson Cancer Center, Annual Symposium,*** Mar. 29, 2013, Oklahoma City, OK.

[11] Maples DL, Chalasani V, Bartels KE, Piao D, Ranjan A, "Image Guided Drug Delivery from Laser-Detected Low-Temperature Sensitive Liposomes", ***American Chemical Society 58th Annual Oklahoma Pentasectional Meeting***, The University of Tulsa, March 9, 2013.

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[09] Xie H, Piao D,"Dual-band near-infrared diffuse optical tomography by use of two superluminescent diodes", ***Oklahoma Research Day***, Dec.1, 2006, Edmond, OK.

[08] Jiang Z, Piao D, "Multi-modality imaging by a combination of diffuse and coherent optical tomography techniques: initial approach," ***Oklahoma Research Day***, Dec.1, 2006, Edmond, OK.

[07] Piao D, "Hemodynamic imaging by a near-infrared optical tomography system based on a superluminescent diode," ***Oklahoma Research Day***, Dec.1, 2006, Edmond, OK.

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[02] Guo P, Piao D, Zhu Q, and Fikiet J, "A combined 2-D ultrasound and NIR imaging system," ***Proceedings of the IEEE 26th Annual Northeast Bioengineering Conference***, pp. 77-78, Storrs, CT, April 2000.

[01] Ding X, Piao D, and Zhu Q, "Optical imaging array design with multiple sources and detectors," ***Proceedings of the IEEE 26th Annual Northeast Bioengineering Conference***, pp. 69-70, Storrs, CT, April 2000.

INTELLECTUAL PROPERTY ACTIVITIES

Invention Disclosure

Piao D, Methods and Systems for Point-of-Care Biomarker Detection in Solid Organ, Oklahoma State University, 2019-017.

Piao D, Tools for Visualizing and Cutting Tissue for Minimally-Invasive Surgery, Disclosure No. 2017-059, filed on June 2, 2017.

Piao D, Methods and systems for point-care biomarker detection in solid organ, Disclosure No. 2018-XXX, filed on Dec. 18, 2018.

Provisional Patent Application

Piao D, Bartels KE, Postier RG, "Flexible optical applicator for tissue imaging and spectroscopy system and method"*,* ***U.S. Provisional Patent Application*** No. 61/901,868. OSU Disclosure No. 2014.06

Ekin S, **Piao D,** O'Hara J, System and method of non-contact glucose sensing, United States Serial # 63/053004, filing date: July 17, 2020.

Patent Application

[07] **Piao D**, Systems and methods for tissue visualization, US Patent Appl. No. 16/035,282, OSU Ref. 2017-059, filed on 7/13/18.

[06] **Piao D**, Patel S, Devices and methods of tissue visualization for use in laparscopic, robot-assisted laparoscopic, and open procedures". Based on US Provisional Patent Appl. No. 62/362,862, OSU Ref. 2016.33, filed on 7/17/17. Int'l. Patent Appl. No. PCT/US2017/042367, OSU Ref. 2016-033-02-WO.

[05] **Piao D**, "Method of thermo-acoustic tomography and hyperthermia," World Intellectual Property Organization, patent appl. # PCT/US2013/023821. ***Provisional Patent Application*** submitted by Oklahoma State University on Jan. 30, 2012, ATTY. DKT. NO.: 51152/12-015

[04] **Piao D**, "Method of thermo-acoustic tomography and hyperthermia," US Patent Appl. # 20140364727 Oklahoma State University on Dec. 11, 2014.

[03]. Brian W. Pogue, ***Daqing Piao***, Keith D. Paulsen, Shudong Jiang, Hamid Dehghani, Heng Xu, Roger Springett, Subha Srinivasan, "Systems and methods for tomographic image reconstruction", World Intellectual Property Organization, patent appl. #PCT/US2006/016210, Class A61B 5/00.

Patent

[02]. Brian W. Pogue, ***Daqing Piao***, Keith D. Paulsen, Shudong Jiang, Hamid Deghani, Heng Xu, Roger Springett, Subhadra Srinivasan, "System and method for tomographic image reconstruction", ***U.S. patent***, # 8000775 (August 2011).

[01]. Brian W. Pogue, ***Daqing Piao***, "System and method for spectral-encoded high-rate hemodynamic tomography", ***U.S. patent***, # US 7962198 (June 2011).

REARCH GRANTS AND CONTRACTS (up to Jan 03, 2021)

Ongoing Research Projects

Research Projects Recommended for Funding

Lung Cancer Research Program Piao D (PI) (recommended as alternative for funding in FY14, fund eventually unavailable)
Congressionally Directed Medical Research Program (CDMRP) **$141,305**
"Towards endo-bronchiole optical imaging of 2-deoxy-D-glucose"
The objective of this project is to demonstrate the technical feasibility of imaging 2-deoxy-D-glucose, the standard marker of cancer metabolism, using optical imaging method for detection of early lung cancer.
Role: ***PI***

Research Projects Completed

HR 17-060 Ranjan, A (PI) 07/01/2017---12/31/2020
Oklahoma Center For the Advancement of Science and Technology **$135,000** (ECE, 0.25FTE)
"Magnetic hyperthermia combined antimicrobial targeting of bone pathogens"
The goal of this project is to develop a magnetic field based focusing and hyperthermia device to test the feasibility of thermal energy based treatment of bone pathogens.
Role: ***Co-investigator (device support)***

HIFU foundation Ranjan A (PI) 12/01/2017—11/30/2018
Hi-frequency Focused Ultrasound Foundation **$100,000**
Investigation of focused ultrasound mediated enhancement of chronic non-healing wound therapy in client-owned dogs
Role: Co-I (device support)

Technology Development Grant Piao D (PI) 8/1/2016-7/31/2018
LiteCure LLC. **$40,000**
"*Intra-spinal multi-site dual-modal dosimetry for assessing the feasibility of transcutaneous photo-bio-modulation of spinal canal*"
The objective of this project is to develop a dual-modality multi-site sensors for quantifying transcutaneous light delivery to the spinal cord of dogs, for evaluating the potential of photobiomodulation of the spinal cord injury.
Role: ***PI***

Technology Business Development Program Piao D (PI) 4/12/2016-8/31/2017
Oklahoma State University Technology Development Center **$25,000**
"*LaparoVision - En-face differential optical tomography with a detachable trocar-applicator for intraoperative visualization of tissue functional margin*"
The objective of this project is to develop the technologies for fabricating a novel imaging applicator probe to enhance the patentability of a device/method potential useful to intraoperative visualization of tissue margin.
Role: ***PI***

Center for Veterinary Health Sciences Ranjan A (PI) 11/1/2016-10/31/2017
$24,997

"*EPR independent drug delivery with Halbach array under MRI guidance*"
The objective of this project is to develop test targeted delivery of chemotherapy drug co-loaded with magnetic nanoparticles by using magnetic fields shaped with Halbach array.
Role: ***Co-PI*** (Magnetic array development)

HR 13-217 Ranjan, A (PI) 09/01/2013---08/31/2016
Oklahoma Center For the Advancement of Science and Technology **$135,000**
"Dual-mode ultrasound-imagable thermosensitive liposomes for image-guided therapy"
The goal of this project is to develop an image-guided drug delivery method for the treatment of prostate tumors. The method will permit high-intensity focused ultrasound triggered release of the drug and monitoring of drug delivery to a tumor under ultrasound image.
Role: ***Co-investigator (Imaging support)***

EN 14-RS-141 Piao D (PI) 05/09/2014---05/08/2015
OUHSC Stephenson Cancer Center **$23,442**
"Development of an endoscopic position-sensitive beta-radiation-detection system toward in situ positron emission topography for bladder cancer surveillance"
The objective of this project is to fiber-sensing-probe for endoscopic detection of the positron emission by the FDG taken up in bladder cancer.
Role: ***PI***

EN 014-XXX Piao D (PI) 01/01/2014---12/31/2014
Intuitive Surgical Inc **$50,000**
"Trans-bronchial spectral optical tomography to localize lung lesions distant from bronchial airway"
The objective of this project is to demonstrate the technical feasibility of *ex vivo* trans-bronchial spectral diffuse optical tomography in localizing emulated lung nodules that have clinical implications
Role: ***PI***

HR 11-0043 Piao D (PI) 09/01/2011---12/31/2014
Oklahoma Center For the Advancement of Science and Technology **$135,000**
"Photonic-needle assessment of hepatic steatosis"
The goal of this project is to develop a technology able to rapidly access the condition of a transplantable liver, in order to help hepatic surgeons determine if an available organ is suitable for transplant.
Role: ***PI***

CVHS Research Grant Bartels KE (PI)
Kerr Foundation, McCasland Foundation 01/2013—05/2014
High-resolution Thermographic Perfusion Imaging for Wound Assessment **~$38,000 (Equipment + RA)**
The specific aim of this research is to develop high-resolution perfusion imaging capability based on use of a high resolution thermo-camera, based on bio-heat modeling of cutaneous temperature.
Role: ***Co-investigator***

CVHS Research Grant, University Sypniewski L (PI) 2013 – 2014
"*Clinical effectiveness of low level laser therapy on reptilian wound healing*" **$15,000**

Abstract: Reptiles have prolonged healing times relative to warm blooded species, with wounds taking as long as four to six weeks to heal which is essentially twice as long as healing in a mammalian species. Rapid establishment of the skin's protective barrier is essential to decrease hospitalization time, lower the risk of infection, and reduce wound associated pain. Low level laser therapy has been extensively studied in many wound models, and this project will determine if this application will have similar clinical effects in a reptilian species. This research will advance our current knowledge of the effects of low level laser therapy on a novel wound model, allowing for continued investigation into its clinical applications for exotic species.
Role: ***Co-investigator***

CVHS Multi-user Equipment Grant Ranjan A (PI) 2013 – 2014
"*HIFU multi-user equipment for companion animal research*" **$147,720**
Abstract: High-frequency ultrasound for a spectrum of research including image-guided drug delivery and thermally-activated drug delivery.
Role: ***Co-investigator***

PC094694 XU G (PI) 09/15/2010---09/14/2013
DOD Prostate Cancer Research Program----Pre-Doctoral Training Award **$99,000**
"Challenges of zinc-specific transrectal fluorescence tomography to detect prostate cancer"
This study investigates the algorithm and instrumentation challenges associated with detecting zinc-specific near-infrared fluorescence in prostate. Zinc is a well-established marker of prostate cancer, as the zinc-production is virtually turned off in prostate cancer. This research, if successful, may improve the sensitivity and specificity of detecting prostate cancer, by using zinc-tagged near-infrared fluorophore.
Role: ***Mentor to the pre-doctoral fellowship trainee***

R21 CA136642-01A1 Towner R (PI) 05/17/2009---01/30/2012
NIH/NCI through Oklahoma Medical Research Foundation **$58,150**
"Therapeutic Evaluation of Magnetic Nanoprobes Specific for Malignant Tumor Markers"
This research investigates the effect of magnetically-activated hyperthermia in treatment of glioma in rodent models. The objective of the subcontract project is to develop an alternating-magnetic-field (AMF) device and to optimize the AMF device parameters for the animal studies.
Role: ***Co-investigator***

R44 CA096153-03 Oraevsky A (PI), Bartels K (PI in OSU) 11/16/2009---06/15/2011
NIH/NCI through Fairway Medical Technologies, Inc. **$17,219**
"Optoacoustic System for Image-guided Biopsy of Prostate Cancer"
This research evaluates the laser optoacoustic and ultrasonic imaging system (LOUIS) in detection of prostate cancer in canine model that is developed at Oklahoma State University for Piao's DOD-PCRP project
Role: ***Co-investigator***

Endowment Bartels K (PI) 01/01/2010----05/06/2011
McCasland Foundation Endowment / Kerr Foundation **~$10,000 (RA support)**
"*Optical Spectroscopic Analysis of Chondrodystrophoid Canine Intervertebral Disk"*
The objective of this research is to investigate the feasibility of using optical spectroscopy in the VIS/NIR bands to analyze the changes of chemical compositions involved in the chondrodystrophpid condition of canine intervertebral disk.
Role: ***Collaborator***

EN-10-RS-180 Jiang Y (PI) 04/01/2010---03/31/2011
Oklahoma INBRE **$8,749**
"*Quantitative ultrasound image processing for characterization of cell morphology correlated optical properties of prostate cancer"*
This research investigates the plausibility of advanced image processing of sagittal trans-rectal ultrasound for prior-guided image reconstruction of optical tomography which is necessary to correlate the optical properties with cellular morphology of prostate cancer. The objective of the subcontract project is to provide the optical tomography and pathology images.
Role: ***Co-investigator***

PC060814 9 (**New Investigator Award)** Piao D (PI) 03/01/2007---02/28/2011
DOD Prostate Cancer Research Program **$306,238 + $25,000 OSU matching**
"Trans-rectal Near-infrared Optical Tomography for Prostate Imaging"
This study investigates a trans-rectal near-infrared optical tomography technique and the feasibility of coupling it with trans-rectal ultrasound to detect prostate cancer in canine developed as a model using transmissible venereal tumor.
Role: ***PI***

EN-09-RS-284 Jiang Y (PI) 08/01/2009---07/31/2010
Oklahoma State Regents for Higher Education **$20,000**
"Quantitative Image Analysis for in vivo Trans-Rectal Ultrasound-Coupled Optical Tomography of the Prostate"
This research investigates the potential correlation of the target information between trans-rectal optical tomography and trans-rectal ultrasound. The objective of the subcontract project is to develop phantom and to provide images obtained from phantoms and *in vivo* subjects for the image analysis study.
Role: ***Co-investigator***

HR 06-171 Piao D (PI) 09/01/2006---12/31/2009
Oklahoma Center For the Advancement of Science and Technology **$135,000**
"Video-rate Endoscopic NIR Tomography of Hemodynamics"
The goal of this project was to examine if the near-infrared diffuse optical tomography technology can be applied to endoscopic imaging at small spatial scale and at rapid acquisition rate for hemodynamic studies.
Role: ***PI***

EN-09-RS-067 Piao D (PI) 12/01/2008---11/30/2009
OSU-Technology Business Assessment Group (TBAG) **$25,000**
"Clinical Trans-rectal Optical Imaging Applicator for Prostate Biopsy Guidance"
The goal of this project was to acquire equipment and materials necessary to developing a near-infrared optical imaging applicator for coupling to B&K trans-rectal ultrasound transducer.
Role: ***PI***

Research Opportunity Award Jiang Y (PI) 06/01/2009---08/31/2009
Oklahoma EPSCoR **$3,500 M/S through UCO**
"Advanced Reconstruction Method for Optical and Ultrasonographic Radiology"
This is a summer research opportunity award grant for faculties in Oklahoma regional universities to conduct research in Oklahoma research-intensive universities
Role: ***Co-investigator***

OSU Piao D (PI) 02/01/2009---08/16/2009
OSU-Division of Academic Affairs **$2,500**
"Big XII Faculty Fellowship" (Travel Grant)
The goal of this fellowship was to conduct collaborative research in and outreach to the biomedical optics research program in the Biological Engineering Department of University of Missouri, Columbia.
Role: ***PI***

Start-up Fund Piao (PI) 08/01/2005---12/31/2007
Oklahoma State University
"Optical Imaging Laboratory"
The goal of this project was to establish a laboratory dedicated to biomedical optics research with translational applications.
Role: ***PI***

Research Projects Completed Prior to joining Oklahoma State University

BC011098 Piao D (PI) 06/15/2002 – 06/14/2005
DOD Breast Cancer Research Program---- Pre-doc. Training Award ***$65,994***
"Monitoring cancer oxygenation changes induced by ultrasound"
This study evaluated a new hypothesis that oxygen delivery to the localized tumor region could be enhanced by ultrasound at the diagnostic radiation level.
Role: ***PI***

TEACHING

Notes:
I was hired in 2005 into the School of Electrical and Computer Engineering (ECE) as the first official tenure-track faculty member of the college-wide "Bioengineering Initiative". My instructional duties include engaging in the existing ECE curriculum and introducing new Bioengineering curriculum within the ECE. My current instructional duties are associated with the Electromagnetic Wave/Optics curriculum.

For the **new Bioengineering curriculum** within ECE, I developed three new courses:

- ECEN5683 Biomedical Optics Graduate level course (my specific discipline of research) (now including 3 laboratory components)
- ECEN5783 Medical Imaging Graduate level course (my associated area of research)
- ECEN4743 Introduction to Biomedical Modeling and Systems Undergraduate course with graduate credits

Within the existing **ECE curriculum**, I contributed actively and creatively in the following aspects:

- Substantially revised the laboratory section of ECEN3714 Network Analysis (4-credits) that was formed after combining a theory course ECEN3713 Network Analysis (3-credits) and a laboratory course ECEN3021 Methods II (1-credit).
- Introduced projects with inter-connections to the Capstone Design (Senior Design II) course to enhance the students' learning of developing a project having connections with and constrictions by the upper-stream and down-stream projects as is common to large-scale projects.
- Re-opened ECEN4843 Designs of Lasers and Systems (3-credit) that has included approximately 12 laboratory components.
- Engaged in offering ECEN3513 Signal Analysis (3-credits) course.
- Assigned to re-open ECEN3903 Introduction to Semiconductor Devices (3-credits).

Courses Taught

Course #	**Course name**	**Existing or newly offered or reopened**	**Semesters taught**
ECEN3713	Network Analysis	Existing (3-credits)	2005F/
ECEN3021	Methods II Laboratory	Existing (1-credit)	2005F/
ECEN3513	Signal Analysis	Existing (3-credits)	2019S
ECEN3714	Network Analysis	(combining ECEN3713 & ECEN3021) (4-credits)	2008F/2009F/2010F/2011F/ 2012F/2013F/2014/F/2015F/ 2016F/2017F/2018S/2018F/2019F/2021S
ECEN3903	Introduction to Semicond. Devices	Re-opened (3-credits)	2020S (first-time teaching) 2021/S
ECEN3913	Solid State Electronics Devices	(3-credits)	2020F (first-time teaching) 2021F
ECEN4024 (4-credits)	Capstone Design	Existing (4-credits)	2016F/

ECEN4743	Introduction to Biomedical Modeling and Systems	Newly offered (Graduate credit) (3-credits)	2006F/2007F/2008F/2009F/ 2010F/2011F/2013F/2014F/ 2015F/2017F/
ECEN4843	Design of Lasers and Systems	Lecture & laboratory (3-credits)	2018F/2019F/2020F/2021F
ECEN5683	Biomedical Optics	Newly offered (3-credits)	2009S/2011S/2013S/2016S/
ECEN5783	Medical Imaging	Newly offered (3-credits)	2006S/2007S/2008S/2010S/ 2012S/2014S/2017S/
ECEN6001	PhD Seminar Series	Offered one new lecture (1-credit)	2006S/2007S/2008S/2009S/ 2010S/2011F/2012F/2013F/ 2015F/2020F

ECEN 3713---Network Analysis (later combined with 3021 to become 3714)

Term	**05F**
Enrollment	28
Instructor Eval.	2.58/4
Course Eval.	2.84/4

ECEN 3021---Methods II Laboratory (later combined with 3713 to become 3714)

Term	**05F**
Enrollment	26
Instructor Eval.	3.63/4
Course Eval.	3.83/4

ECEN 3513---Signal Analysis

Term	**19S**
Enrollment	30
Instructor Eval.	3.44/5.0
Course Eval.	2.72/4.0

ECEN 3714---Network Analysis

Term	**08F**	**09F**	**10F**	**11F**	**12F**	**13F**	**14F**	**15F**	**16F**	**17F**
Enrollment	8	31	27	22	39	35	36	46	49	46(24)
Instruct. Eval.	3.40/4	2.82/4	3.42/4	3.00/4	3.26/4	3.13/4	2.93/4	4.15/5	3.98/5	4.2/5
Course Eval.	3.80/4	3.43/4	3.47/4	3.36/4	3.56/4	3.27/4	3.21/4	3.24/4	3.00/4	3.26/4

Term	**18S(le)**	**Lab**	**18F (Lect.)**	**Lab**	**19F (Lect.)**	**19F (Lab)**	**20S (Lect)**	**20S (lab)**		
Enrollment	38	38	37		45		51	51		
Instruct. Eval.	4.48/5	4.72/5	4.07/5		4.40/5	4.14				
Course Eval.	3.28/4	3.59/4	3.13/4		3.41/4	3.32/4				

ECEN 3903---Introduction to Semiconductor Devices

Term	20S	21S
Enrollment	67	36
Instructor Eval.	3.62/5.0	
Course Eval.	2.87/4.0	

ECEN 3913—Solid-state Electronic Devices (first-time teaching)

Term	20F
Enrollment	9
St. Evaluation	4.5/5.0

ECEN 4743 (5060)---Introduction to Biomedical Modeling and Systems (newly introduced to ECEN)

Term	06F	07F	08F	09F	10F	11F	13F	14F	15F	17F
Enrollment	5	3	4	2	1	1	5	3	4	1
Instruct. Eval.	3.60/4	4.00/4	2.00/4	4.00/4	4.00/4	N/A	3.67/4	4.00/4	N/A	N/A
Course Eval.	3.80/4	4.00/4	4.00/4	4.00/4	4.00/4	N/A	4.00/4	4.00/4	N/A	N/A

ECEN 4843---Design of Lasers and Systems

Term	18F	19F	20F
Enrollment	4	4	6 (4U, 2G)
Instructor Eval.	N/A	N/A	
Course Eval.	N/A	N/A	4.5/5.0

(Lab: 4.55/5.0, lecture: 4.45/5.0)

ECEN 4024---Capstone Design

Term	16F
Enrollment	21
Instructor Eval.	3.74/5
Course Eval.	2.94/4

ECEN 5683---Biomedical Optics (newly introduced to ECEN)

Term	09S	11S	13S	16S
Enrollment	5	3	7	5
Instructor Eval.	3.60/4	4.00/4	4.00/4	NA
Course Eval.	3.60/4	3.50/4	3.67/4	NA

ECEN 5783---Medical Imaging (newly introduced to ECEN)

Term	06S	07S	08S	10S	12S	14S	17S
Enrollment	7	7	3	6	3	4	1
Instructor Eval.	4.00/4	3.83/4	3.00/4	3.25/4	4.00/4	4.00/4	5.00/5
Course Eval.	3.80/4	3.50/4	3.67/4	3.50/4	4.00/4	3.50/4	4.00/4

ECEN6001---PhD Seminar Series (contributing 1 lecture)

Term	06S	07S	08S	09S	10S	10F	11F	12F	13F	15F
Enrollment	15	~15	~15	~15	~21	~25	~20	~3	9	6

Advising Capstone Design Team or /ECE student assigned to interdisciplinary project

Term	Project	Team Member	Proposed the project?
2007 (S)	TRE-blood oximeter	Shelton, Ryan Co, Christine Hess, Lesley	Yes
2007 (F)	Mini MRI	Clark, Nathan Haworth, Erik Sinton, James Andrews, Matt	Yes
2008 (F)	Eye-tracking headlight	Names not kept in record	Yes
2011 (F)	Sky-climber	Names not kept in record	Yes
2012 (F)	Phototherapy monitoring system	Watson, Roger Colbert, Brady Hall, Jeremy Tollison, Brian	Yes
2013 (F)	LED Dimmer Circuit	Etter, Neal Lindsey, Joshua Smith, Alex Wade, Jordan	
2015 (F)	MHz range gaussmeter	Jett, Brent Mayer, Aaron Thomas, Kevin	Yes
2016 (S)	Trailer Backup Warning System	Allen, Austin Gotwald, Mjchael Harman, Jacob Lothe, Ryan	Yes
2018 (S)	Plasma speaker	Vasudevan, Karthikeyan Linzy, Kayle Ledoux, Dillon	
2019 (F)	Interdisciplinary Capstone Design Project	Victoria Bauer (project 1) Kyle Cowan (project 2)	
2020 (F)	Champion and Mentor Interdisciplinary Capstone Design Project SONOR (Electro-Mechanical-Optical) Surgery Aid	ECE students: Landon Drebes Jiyeol Meang	Yes

MENTORING

PhD Dissertation Supervised to Completion (*Advisor and Chair of the Committee*):

Year of completion	Name	Thesis Topic	First or Current Position
2010, Spring	JIANG, Zhen (Jason)	Study of trans-rectal near-infrared diffuse oprical tomography concurrent with trans-rectal ultrasound for prostate imaging	Now Sr. Engineer R&D LightLab Imaging Inc. (acquired by St. Jude Medical)
2011, Fall	XU, Guan (Gary)	Enhancement of near-infrared diffuse optical tomography for prostate cancer imaging	Research Investigator University of Michigan Dept. of Radiology
2012, Fall	ZHANG, Anqi (Andrew)	Investigations of trans-lumenal photon diffusion in steady- state and frequency-domain	Post-Doctoral Fellow University of Washinton Dept. of Biomedical Engineering
2019, Fall	SUN, Tengfei (Owen)	Models and methods of quantitative single fiber reflectance spectroscopy of tissue properties	Post-Doctoral Fellow University of Kentucky Dept. of Biomedical Engineering

PhD Dissertation Currently Supervising (*Advisor and Chair of the Committee*):

Starting Year/sem.	Name	Thesis Topic	Committee

PhD Dissertation involved in significant advising

Year of Completion	Name	Thesis Topic	Committee
2014	MUKHERJEE, Sovanlal	Microwave-induced thermo-acoustic tomography for extra-lumenal and intra-lumenal geometry	BUNTING, Charles F WEST, James C PIAO, D

MS Thesis Supervised to Completion (*Advisor and Chair of the Committee*):

Year of completion	Name	Thesis Topic	Committee
2008, Spring	XIE, Hao (Harry)	Dual-spectral endoscopic near-infrared optical tomography for assessment of hemoglobin concentration and oxygen saturation	PIAO, Daqing BUNTING, Charles F KRASINSKI, Jerzy S. WEST, James C
2011, Spring	JIANG, Yuanyuan (Kathernie)	Feasibility of minimally invasive fiber based evaluation of chondrodystrophoid canine intervertebral disc by reflective spectroscopy	PIAO, Daqing BUNTING, Charles F BARTELS, Kenneth E **(CVHS)**
2013, Summ	PALANDE, Dhanashree	Transrectal optical tomography reconstruction using 3-dimensional spatial prior extracted from sparse 2-	Piao, Daqing Hagan, Martin Fan, Guoliang

		dimentional transrectal ultrasound imagery	
2013, Fall	TOKALA, Krishna Teja	Fluroescence diffuse optical tomography reconstruction based on geometric-sensitivity-difference method	Piao, Daqing Bunting, Charles F West, James C
2014, Spring	Chalasani, Vasumathi	Dynamic thermography derived perfusion as a potential tool for evaluating cutaneous perfusion changes in response to low-level-laser-irradiation	Piao, Daqing Bartels, Kenneth E Chandler, Damon
2015, Spring	Sultana, Nigar (changed to Interdisciplinary Sciences Program)	In vivo per-cutaneous single fiber reflectance spectroscopy of hepatic steatosis in a rat model: quantitative assessment with respect to histopathology	Piao, Daqing Bartels, Kenneth E Holyoak, G. Reed Ritchey, Jerry R

MS Thesis Currently Supervising (*Advisor and Chair of the Committee*):

Year/sem.	Name	Thesis Topic	Committee

MS Thesis Co-Advised to Completion (Provided more than 75% of the financial support):

Year of completion	Name	Thesis Topic	Committee Chair
2007, Fall	MUSGRTOVE, Cameron	Issues related to the forward problem for endoscopic near-infrared diffuse optical tomography	BUNTING, Charles F

MS Thesis Co-advised to Completion (Provided more than 50% of the financial support):

Year of completion	Name	Thesis Topic	Committee Chair
2008, Spr.	WHITE, Ben	VLSI design comparison of multi-port SRAM versus multi-bank SRAM	STINE, James E

MS (Creative Component) Student Supervised

Year of completion	Name	Thesis Topic	Committee
2010, Spring	BEZA, Habramu	Creative component	
2010, Fall	SUN, Wei	Creative component	
2014, Sum	DIVYA, Bandi	Creative component	

MS Thesis-student Supervised (did not complete):

Year/sem.	Name	Thesis Topic	Committee

2018, Summ 2019, Spring	Brahmandam, Divija	Magnetic hyperthermia combined antimicrobial targeting of bone pathogen	

Undergraduate Student Supervised

Year/sem.	Name	Thesis Topic	
2012-2013	Awoyele, Toluwani	OK-LSAMP Scholar	Undergraduate research assistant
2013 Fall	Rice, Parker D	The Honors College	
2012 Fall	Semien, Jason E	The Honors College	
2014 Fall	DeKoning, Matthew	The Honors College	
2016 Fall	Becker, Devin Elkhalid, Samer Strecker, Karl Underwood, Alexander	The Honors College	
2017 Fall	Christian Bailey	Involved in the LiteCure research	
2018 Spr	Jump, Cameron Ravi, Vignesh	The Honors College	
2019 Fall	Brown, Lauren Long, Olivia	The Honors College	

CEAT Freshmen Scholar Supervised:

Year/sem.	Name		
2007 Fall	Holland, Jashua,		

Member of Graduate Thesis Committee

Doctoral Thesis Committee

Year of Completion	Name	Department/Major	Thesis Advisor
2006	Chanwimaluang, Thitiporn	ECE	Fan, Guoliang
2009	Singh, Ranjian	ECE	Zhang, Weili
2010	Li, Zhiqiu	Engineering (Dartmouth College)	Pogue, Brian W.
2011	Chen, Yongyao	ECE	Zhang, Weili
2013	Tao, Lizheng	Mathematics	Wu, Jiahong
2014	Cao, Wei	ECE	Zhang, Weili
2014	Musgrove, Cameron	ECE	West, James C.
2015	Coutinho De Souza, Patricia	Veterinary Biomedical Sciences	Ritchey, Jerry W
2015	Ge, Song	ECE	Fan, Guoliang
2016	Xu, Ningning	ECE	Zhang, Weili
2016	Ahmed, Md Foiez	Physics	Yukihara, Eduardo G.
2019	Cheng, Hao	ECE	Hutchens, Chriswell G.
2019	Dang, Jie	BAE	Wang, Ning
2019	Ektate, Kalyani	VBSC	Ranjan, Ashish

2019	Hanson, Oliver	Physics	Yukihara, Eduardo G.
2019	Panthi, Rajesh	Physics	Benton, Eric R.
2019	Shrestha, Nishan	Physics	Yukihara, Eduardo G.
2020	Singh, Mohit	VBSC	Ranjan, Ashish
Ongoing	Singh, Leena	ECE	Zhang, Weili
Ongoing	Tavakoli, Meysam	Physics	Benton, Eric R.
Ongoing	Stoltz, Kyle	Physics	Stephen Mckeever

Master's Thesis Committee

Year of Completion	Name	Department/Major	Thesis Advisor
2010	Imade, Osayamen O.	ECE	Chandler, Damon
2011	Carrerro, Christopher	ECE	West, James C.
2011	Huang, Ran	ECE	Zhang, Weili
2012	Srinivasan, Harisha	ECE	Sheng, Weihua
2013	Guo, Lin	ECE	Grischkowsky, Daniel R.
2015	Singh, Leena	ECE	Zhang, Weili
2017	Hao, Cheng	ECE	Hutchens, Chriswell G.
Ongoing	Nebah, Percy	Physics	Choi, Jongmin

Master's Creative Component Committee

Year of Completion	Name	Department/Major	Thesis Advisor
2013	Datzman, Alexander	ECEN	West, James C.
2013	Zheng, Liansheng	ECEN	Zhang, Weili
2017	Thomas, Kevin	ECEN	Stine, James E.

Capstone Design Team Advisor

Term	Project	Team Member	Proposed the project?
2007 (S)	TRE-blood oximeter	Shelton, Ryan Co, Christine Hess, Lesley	Yes
2007 (F)	Mini MRI	Clark, Nathan Haworth, Erik Sinton, James Andrews, Matt	Yes
2008 (F)	Eye-tracking headlight		Yes
2011 (F)	Sky-climber		Yes
2012 (F)	Phototherapy monitoring system	Watson, Roger Colbert, Brady Hall, Jeremy Tollison, Brian	Yes
2013 (F)	LED Dimmer Circuit	Etter, Neal Lindsey, Joshua Smith, Alex Wade, Jordan	
2015 (F)	MHz range gaussmeter	Jett, Brent Mayer, Aaron	Yes

		Thomas, Kevin	
2016 (S)	Trailer Backup Warning System	Allen, Austin Gotwald, Mjchael Harman, Jacob Lothe, Ryan	Yes
2018 (S)	Plasma Speaker	Dillon LeDoux Karthykeyan Vasudevan Kyle Lynzy	No
2020 (F)	Interdisciplinary Capstone Design Project: SONOR	ECE students: Landon Drebes Jiyeol Meang	Yes Champion and Mentor

Visiting Professor Hosted

[1] ZHU, Jingping (Aug. 2006---Aug. 2007)
Professor in Xi'an Jiaotong University, Xi'an, China

[2] WANG, Hongjian (Sep. 2014—Aug. 2015)
Associate Professor, Chongqing Technology and Business University, Chongqing, China

Visiting Student Hosted

[1] He, Jie (Jane) (May 2011)
Brian Wilson's group, Univ. Toronto.

[2] Hu, Wenyan (Wendy) (Sep 2017—Mar 2018) (Published one journal paper in 2019)
China Agricultural University,

SERVICES

Abbreviations:
ECE: School of Electrical and Computer Engineering
CEAT: College of Engineering, Architecture and Technology
OSU: Oklahoma State University

Service at the School Level

Year	Role	Organization/Program
2006---Pres	Member	Publicity and Recruiting Committee, now Publicity Committee
2012---2014	Liaison	2+2 program with Southwest Jiaotong University (SWJTU) of China
2013---2015	Member	Undergraduate Programs and Assessment Committee
2015 (F)--2016(S)	Member	Capstone Design (Senior Design II) Committee
2016 (S)	Vice-Chair	Capstone Design (Senior Design II) Committee
2016 (F)	**Chair**	Capstone Design (Senior Design II) Committee
2016 (F)	Member	Senior Design I Ad Hoc Committee
2015---2016	Member	Faculty Search Committee (Circuits, Electronics and Sensors)
2016---2017	**Chair**	Faculty Search Committee (Signal Electronics, Antennas and Sensors)
2015	**Chair**	Cumulative Review Committee, reviewing for 2 Associate Professors
2005F/2008S	Judge	Capstone Design (Senior Design II)
2007(S)/2007(F)/ 2008(F)/2011(F)/ 2012(F)/2013(F)/ 2015(F)	**Advisor**	Capstone Design (Senior Design II) Projects
2017(F)----Pres	**Advisor**	OSU Student Branch of the IEEE
2017(F)---Pres	**Chair**	ECE Machine Shop Committee
2019-Pre	**Chair**	ECE Laboratory Committee
2019-Pre	**Chair**	ECE Laser Committee
2020	**Chair**	ECE Search Committee

Service at the College Level

Year	Role	Organization/Program
2006/2007/ 2009/2010	Interviewer (for ECE)	CEAT Freshmen Scholar Program
07/28/2011	Presenter	CEAT Freshmen Summer Bridge Program
2013-2014	Member (representing ECE)	CEAT Faculty Research Council (FRC)
2013	Reviewer	University-wide Interdisciplinary Development Proposal
2018	Reviewer	President's Cup Interdisciplinary Development Proposal

Service at the University Level

Year	Role	Organization/Program
2008---2009	Member	University Retirement and Fringe Benefit Committee
2012---2015	Member	University Faculty Council Termination Hearing Board
2013---2016	Member **Chair (2014F)**	University Faculty Council Diversity Committee
2014	Member (representing CEAT)	Animal Care and Use Working Group (report to VPR)

Service to Community

Year	Role	Organization/Program
2007---09	Principal	Stillwater Chinese Language Class
09/25/2010	Presenter	First-Lego League (9-14 years old) Challenge Event
2013---2014	Faculty Advisor	OSU Chinese Friendship Association
2016/2017	Treasure/President	OSU Chinese Scholars Association

PROFESSIONAL ACTIVITIES

Editor for Journals

Associate Editor, *IEEE Photonics Journal*, 01/2015----12/31/2020

2018, 2019 **Program Committee,** "*Therapeutics and Diagnostics in Urology*" Conference, International Symposium on Biomedical Optics, SPIE, San Francisco, CA.
(resigned from the committee in 2020)

Technical Program Committee, 13th Pacific Rim Conference on Lasers and Electro-Optics (CLEO Pacific Rim, CLEO-PR 2018) will be held at the Hong Kong Convention and Exhibition Centre, Hong Kong SAR from 29 July to 3 August 2018.

Record of Reviewing New Manuscript for Journal
(Re-reviewing of revised manuscript and declined review request are not counted)

Year	Journal	# of review (year)	# of review (career)
Pre 2005	*Optical Engineering* *Optics Letters*	4	4
2006	*Applied Physics Letters* *Expert Review of Medical Devices* *Journal of Biomedical Optics*	3	7
2007	*IEEE Journal of Selected Topics in Quantum Electronics* *Journal of Biomedical Optics* *Optics Express*	4	11
2008	*Optics Express* *Journal of Biomedical Optics* *Optical Engineering*	9	20
2009	*Chinese Optics Letters* *BioMedical Engineering Online* *IEEE Journal of Selected Topics in Quantum Electronics* *IEEE Photonics Technology Letters* *Journal of Biomedical Optics* *Review of Scientific Instruments* *Optics Express* *Optics Letters*	17	37
2010	*Biomedical Optics Express* *IEEE Photonics Technology Letters* *Journal of Biomedical Optics* *Journal of Healthcare Engineering* *Journal of X-ray Science and technology* *Lasers in Surgery and Medicine* *Medical Physics*		

	Optics Express *Review of Scientific Instruments*	15	52
2011	*Applied Optics* *Applied Physics Letters* *Biomedical Optics Express* *Chinese Optics Letters* *IEEE Journal of Selected Topics in Quantum Electronics* *IEEE Photonics Technology Letters* *International Journal of Optics* *Journal of Biomedical Optics* *Journal of Clinical & Experimental Ophthalmology* *Lasers in Surgery and Medicine* *Medical Physics* *Optics Communications* *PLoS One* *Review of Scientific Instruments*	21	73
2012	*Applied Spectroscopy* *Chinese Optics Letters* *IEEE Photonics Technology Letters* *IEEE Transactions on Information Technology in BioMedicine* *Journal of Biomedical Optics* *J. Visualization, Image Processing and Computation in Biomedicine* *Journal of X-ray Science and Technology* *Medical Physics* *PLoS One*	19	92
2013	*Academic Radiology* *Applied Optics* *Applied Physics Letters* *Applied Spectroscopy* *Biomedical Optics Express* *Journal of Applied Physics* *IEEE Journal of Biomedical and Health Informatics* *IEEE Transactions on Biomedical Engineering* *IEEE Photonics Technology Letters* *Journal of Biomedical Optics* *Medical Physics* *Optical Engineering* *Review of Scientific Instruments*	22	114
2014	*Academic Radiology* *Applied Optics* *Biomedical Optics Express* *Biomedical Signal Processing and Control* *Computational and Mathematical Methods in Medicine* *IEEE Photonics Technology Letters* *International Journal of Nanomedicine* *Journal of Biomedical Optics* *Nanomedicine: Nanotechnology, Biology, and Medicine* *Optics Communications* *Review of Scientific Instruments* *Ultrasonic Imaging* *Urology*	19	133
2015	*Annals of Biomedical Engineering*	24	157

	Applied Physics B: Lasers and Optics *Biomedical Optics Express* *Chinese Optics Letters* *IEEE Journal of Selected Topics in Quantum Electronics* *IEEE Photonics Journal* *IEEE Sensors Journal* *IEEE Transactions on Education* *International Journal of Biomedical Imaging* *Journal of Biomedical Optics* *Journal of X-ray Science and Technology* *Nanoscale* *Optical Engineering* *Physics in Medicine and Biology* *Review of Scientific Instruments* *Urology*		
2016	*Applied Optics* *Applied Physics Letters* *Biomedical Optics Express* *Environmental Science & Technology* *IEEE Photonics Journal* *IEEE Photonics Technology Letters* *Journal of Biomedical Optics* *Journal of Biophotonics* *Journal of X-ray Science and Technology* *Neuroimage* *Optics Letters* *Photochemical & Photobiological Sciences* *Scientific Reports* *Theranostics* *Urology*	17	174
2017	*Biomedical Optics Express* *Journal of Applied Physics* *Journal of Biomedical Optics* *Journal of Biophotonics* *Neuroimage* *Optics Communications* *Optical Engineering*	12	186
2018	*Journal of Biomedical Optics (2) (SPIE)* *Journal of Biophotonics (2)* *Journal of Applied Physics (APS)* *Academic Radiology (4)* *IEEE JSTQE (2)* *IEEE TBME* *Biomedical Optics Express (2) (OSA)* *Photonics Journal, IEEE* *NeuroQuantology* *Review of Scientific Instruments (APS)*	16	202
2019	*Academic Radiology* *IEEE Access (IEEE)* *Journal of Biophotonics* *Journal of Translational Biophotonics* *iScience (CellPress)* *Experimental Biology and Medicine*	17	229

	Applied Optics (Optical Society of America) *Optics Letters (Optical Society of America)* *Technology in Cancer Research and Treatment* *Neurophotonics (SPIE)* *IEEE Transactions on Biomedical Engineering (IEEE)* *Lasers in Surgery and Medicine*		
2020	*Academic Radiology* *Advanced Drug Delivery Reviews* *Engineering Science and Technology, an International Journal* *IEEE Photonics Journal* *IEEE Transactions on Medical Imaging* *Journal of Biomedical Optics* *Microscopy Research and Technique* *Open Biomedical Engineering Journal* *Review of Scientific Instruments*	10	239

Referee for the following journals:

Academic Radiology
Advanced Drug Delivery Reviews
Annals of Biomedical Engineering
Applied Optics (Optical Society of America)
Applied Physics B: Lasers and Optics
Applied Physics Letters
Applied Spectroscopy
BioMedical Engineering Online
Biomedical Optics Express
Biomedical Signal Processing and Control
Chinese Optics Letters
Computational and Mathematical Methods in Medicine
Engineering Science and Technology, an International Journal
Environmental Science & Technology
Experimental Biology and Medicine
Expert Review of Medical Devices
IEEE Access (IEEE)
IEEE Journal of Biomedical and Health Informatics
IEEE Journal of Selected Topics in Quantum Electronics
IEEE Photonics Journal
IEEE Photonics Technology Letters
IEEE Sensor Journal
IEEE Transactions on Biomedical Engineering (IEEE)
IEEE Transactions on Education
IEEE Transactions on Information Technology in BioMedicine
IEEE Transactions on Medical Imaging
International Journal of Biomedical Imaging
International Journal of Optics
iScience (CellPress)
Journal of Applied Physics
Journal of Biomedical Optics
Journal of Biophotonics
Journal of Clinical & Experimental Ophthalmology

Journal of Healthcare Engineering
Journal of Translational Biophotonics
Journal of Visualization, Image Processing and Computation in Biomedicine
Journal of X-ray Science and technology
Lasers in Surgery and Medicine
Medical Physics
Microscopy Research and Technique
Nanomedicine: Nanotechnology, Biology, and Medicine
Neuroimage
Neurophotonics (SPIE)
NeuroQuantology
Open Biomedical Engineering Journal
Optical Engineering
Optics Communications
Optics Express
Optics Letters (Optical Society of America)
PLoS One
Photochemical & Photobiological Sciences
Review of Scientific Instruments
Scientific Reports
Theranostics
Technology in Cancer Research and Treatment
Ultrasonic Imaging
Urology

Grant Proposal Reviewer

Year	Role	Organization/Program
10/2005	Reviewer	U.S. Civilian Research and Development Foundation Cooperative Research Program
10/2006	Panelist	NSF, CAREER Panel (Biophotonics)
07/2010	Panelist	NSF, Nano-engineering Undergraduate Education Panel
03/2011	External Reviewer	University of Central Oklahoma, Faculty On-campus Grant Program
11/2012	External Reviewer	Tianjin University, Tianjin, China, Applications to Faculty Positions
03/2013	External Reviewer	University of Central Oklahoma, Faculty On-campus Grant Program
2013/2014	Panelist	NSF, Graduate Research Fellowship Program (Biomedical Engineering)
2014	Postal Reviewer	Science Foundation Ireland, Spokes Program
2014	Postal Reviewer	Vienna Science and Technology Fund
2014	External Reviewer	Tianjin University Faculty Promotion Review
2015	Postal Reviewer	Swiss Cancer Research
2017	External Reviewer	Singapore-MIT Alliance for Research and Technology (SMART)
2018	External Reviewer	University of Macau, Internal Research Proposal
2018	Internal Reviewer	OSU President's Cup
2019	External Reviewer	Nanyang Technological University Tier-I Research Proposal

External Reviewer for Faculty Appointment/Promotion/Tenure

Year	Type of Review	Organization/Program
2019	Tenure	University of Arkansas
2019	Tenure Mid-term	Shanghai Tech University

2020	Promotion to Full Professor	University of Kansas

External Doctoral Dissertation Reviewer

Year	Role	Organization/Program
2018	External reviewer	Nanyang Technological University, Singapore
2019	External reviewer	Nanyang Technological University, Singapore

Conference Paper Reviewer and Organizer

Reviewer,

The 2nd International Symposium on Optical Engineering and Photonic Technology: OEPT 2010, Jun. 29- Jul. 02, 2010, Orlando, Florida, USA.

Sess. Chair,

SPIE International Symposium on Biomedical Optics (BIOS'08), Conference 6850, Multimodal Biomedical Imaging III, Jan. 19-24, 2008, San Jose, CA.

Program Committee (2018, 2019)

"*Therapeutics and Diagnostics in Urology*" Conference, International Symposium on Biomedical Optics, SPIE, San Francisco, CA.

Technical Program Committee

13th Pacific Rim Conference on Lasers and Electro-Optics (CLEO Pacific Rim, CLEO-PR 2018) Hong Kong SAR 29 July--3 August 2018.

Consultant

2014 MaxQ Research LLC, Stillwater, OK
2018 Member, Veterinary Health Advisory Board, LiteCure LLC.

INVITED PROFESSIONAL TALKS

Invited Professional Talks

[32]. 02/23/2018, University of Central Oklahoma,
Title: Magneto-acoustic differential-frequency imaging of magnetic nanoparticle with magnetic spatial localization: A theoretical prediction

[31]. 04/27/2017, Graduate Program, Center for Veterinary Health Sciences, Oklahoma State University
Title: Biophotonics approaches to identifying vital structures during minimally-invasive surgery

[30]. 04/13/2017, Oklahoma Transplant Center, Inaugural Research Seminar Series, Inaugural talk,
Title: In vivo percutaneous diffuse reflectance spectroscopy of fatty liver development in a rat model and one recent development of biophotonics for surgical applications

[29]. 07/03/2015, ***University of Macau***, Faculty of Health Sciences, Macau, China
Title 1: Percutaneous single-fiber reflectance spectroscopy: in vivo assessment of hepatic steatosis in

a diet-induced rat model.
Title 2: Approaching the geometry-dependence of differential pathlength factor in near-infrared spectroscopy.

[28]. 05/13/2010, ***Hebei University of Technology,*** College of Information Technology, Tianjin, China
Title 1: Probing the Prostate with Diffusive Photons (1): Principles, Practices, and Diagnostic Prospects;
Title 2: Probing the Prostate with Diffusive Photons (2): Procession of Photon Diffuse Propagation in Cylinder-Applicator Geometry

[27]. 05/12/2010, ***Tianjin University,*** Department of Biomedical Engineering, Tianjin, China
Title 1: Probing the Prostate with Diffusive Photons (1): Principles, Practices, and Diagnostic Prospects;
Title 2: Probing the Prostate with Diffusive Photons (2): Procession of Photon Diffuse Propagation in Cylinder-Applicator Geometry

[26]. 02/04/2010, ***Oklahoma State University,*** Department of Physics, Stillwater, OK.
Title: Probing the Prostate with Diffusive Photons (1): Principles, Practices, and Diagnostic Prospects;

[25]. 09/17/2009, ***Oklahoma State University,*** Center for Veterinary Health Sciences, Stillwater, OK.
Title: Optical Imaging of Prostate Cancer

[24]. 05/01/2009, ***University of Oklahoma Health Science Center,*** Department of Urology, Grand Round, Oklahoma City, OK.
Title: Optical Imaging of Prostate Cancer---from TRUS to TRUST

[23]. 03/18/2009, ***University of Missouri--Columbia,*** Department of Physics and Astronomy, Columbia, MO.
Title: In Vivo Non-invasive Detection of Canine Prostate Tumor by Trans-rectal Ultrasound-coupled Optical Tomography (TRUST)

[22]. 11/27/2008, ***Oklahoma State University,*** Bioengineering Seminar, Stillwater, OK.
Title: Shining Light on Prostate---Approach of Trans-Rectal Optical Tomography to Enhance Cancer Targeting for Prostate Biopsy

[21]. 04/18/2008, ***Oklahoma State University,*** CEAT Associates Meeting
Title: Shining Light on Prostate Cancer

[20]. 11/14/2007, ***I2E Luncheon----Tulsa ,*** Tulsa, OK, "Featured Innovator"
Title: Shining Light on Prostate Cancer

[19]. 09/17/2007, ***The Catholic University of America***, Biomedical Engineering Department, Washington DC.
Title: Trans-rectal Prostate Optical Tomography to Enhance Cancer-biopsy Targeting (ProTECT)

[18]. 07/25/2007, ***Nomadics Inc***., Stillwater, OK.
Title: Trans-rectal Prostate Optical Tomography

[17]. 03/20/2007, ***Siemens Corporate Research***, Division of Imaging and Visualization, Princeton, NJ.
Title: Trans-rectal Prostate Optical Tomography

[16]. 03/01/2007, ***Big 12 Innovation and Capital Formation Conference,*** Kansas City, MO.
Title: Trans-rectal Optical Prostate Imaging

[15]. 02/07/2007, ***Washington University in St. Louis***, Department of Biomedical Engineering, St. Louis, MO.
Title: Trans-Rectal Optical Prostate Imaging for Cancer-diagnostic (TROPIC): The "Inside" Story of Near-Infrared Optical Tomography

[14]. 02/06/2007, ***University of Missouri--Columbia,*** Department of Biological Engineering, Columbia, MO.
Title: Trans-Rectal Optical Prostate Imaging for Cancer-diagnostic (TROPIC): The "Inside" Story of Near-Infrared Optical Tomography

[13]. 12/15/2006, ***University of Connecticut***, Electrical & Computer Engineering Department, Storrs, CT.
Title: Near-Infrared Optical Tomographic Imaging---The "Inside" Story

[12]. 12/12/2006, ***Dartmouth College,*** Thayer School of Engineering, Hanover, NH.
Title: Near-Infrared Optical Tomographic Imaging---The "Inside" Story

[11]. 11/09/2005, **HKN of *Oklahoma State University,*** Stillwater, OK.
Title: Optical Imaging—Near-infrared Diffuse Optical Tomography in Small Scale

[10]. 10/26/2005, ***Nomadics Inc***., Stillwater, OK.
Title: Biomedical Optical Imaging: Acquiring the contrast from Diffuse Optical Tomography & Achieving High Resolution by Coherent Optical Tomography

[09]. 10/1/2/2005, ***Multi-Agent, Robotics, Hybrid and Embedded Systems Laboratory,*** Stillwater, OK
Title: Biomedical Optical Imaging---Diffuse Optical Tomography & Coherent Optical Tomography

[08]. 09/16/2005, ***University of Oklahoma***, Bioengineering Center, Norman, OK.
Title: Imaging of Vulnerable Coronary Plaque by Combined Positron Detection/Optical Coherence Tomography

[07]. 04/29/2005, ***Marquette University***, Department of Biomedical Engineering, Milwaukee, WI.
Title: Imaging of Vulnerable Coronary Plaque by Combined Positron Detection/Optical Coherence Tomography

[06]. 04/14/2005, ***Oklahoma State University***, School of Electrical & Computer Engineering, Stillwater, OK.
Title 1: Imaging of Vulnerable Coronary Plaque by Combined Positron Detection/Optical Coherence Tomography
Title 2: Vide-rate Near-Infrared Diffuse Optical Tomography

[05]. 04/11/2005, ***University of Minnesota***, BME Department and & BME Institute, Minneapolis, MN.
Title: Imaging of Vulnerable Coronary Plaque by Combined Positron Detection/Optical Coherence Tomography

[04]. 04/08/2005, ***University of Texas at Arlington***, Department of Biomedical Engineering, Arlington, TX.
Title 1: Imaging of Vulnerable Coronary Plaque by Combined Positron Detection/Optical Coherence Tomography
Title 2: Vide-rate Near-Infrared Diffuse Optical Tomography

[03]. 04/07/2005, ***University of Texas Southwestern Medical Center***, BME Program, Dallas, TX.
Title: Imaging of Vulnerable Coronary Plaque by Combined Positron Detection/Optical Coherence Tomography

[02]. 01/18/2005, ***Dartmouth Hitchcock Medical Center***, Norris Cotton Cancer Center, Lebanon, NH.
Title: Real-time Near-infrared Tomography System by Spectrally-encoded Parallel Source Implementation

[01]. 05/07/2004, ***Dartmouth College,*** Thayer School of Engineering, Hanover, NH.
Title: Flow Velocity Quantification in Doppler Optical Coherence Tomography

Invited Conference Talks

[14]. Piao D, *"*Approaching the Geometry-Dependence of Differential Pathlength Factor in Nirs*"*. ***Symposium on Biophotonics and Optical Biomedicine***, 06/28-07/03, 2015, Singapore.

[13]. Piao D, *"*Single-fiber reflectance spectroscopy in assessing hepatic steatosis*"*. ***Symposium on Biophotonics and Optical Biomedicine***, 06/28-07/03, 2015, Singapore.

[12]. Piao D, Bartels KE, Postier RG, Holyoak RG, Ritchey JW, *"*Trans-duodenal ultrasound-coupled diffuse optical tomography of proximal pancreas*"*. ***IEEE International Symposium on Biomedical Imaging,*** 04/28-05/02, 2014, Beijing, China..

[11]. Piao D, McKeirnan K, Sultana N, Breshears MA, Zhang A, Piao D, Holyoak GR, Ritchey JW, Bartels KE, "Per-cutaneous single-fiber reflectance spectroscopy for in vivo assessment of liver steatosis in a rat model and post-morterm evaluation of mineral degeneration in canine intervertebral disc" ***International Symposium on Biomedical Optics***, paper 8936-16, 02/01-02/06, 2014, San Jose, CA.

[10]. 04/20-22, 2012, ***American Society for Laser Medicine and Surgery (ASLMS) Annual Conference, Apr. 20-22, 2012, Kissimmee, FL.*** Piao D, Jiang Y, McKeirnan KL, Bartels KE, *"Single-fiber spectroscopy to probe visible/near-infrared scattering of mineralized canine intervertebral disc for percutaneous-laser-disc-ablation,"* Date: Friday, 20 April, 2011.

[09]. 01/22-27, 2011, ***International Symposium on Biomedical Optics,*** paper 7895-18, San Francisco, CA
"Optical biopsy of the prostate: can we TRUST (trans-rectal ultrasound-coupled spectral tomography)?"

[08]. 10/05-08, 2010, ***Fall Meeting'09***, Saratov, Russia, Internet invited lecture
"Recent advancements of photon diffusion modeling for intra-menal and extra-lumenal sensing"

[07]. 07/19-07/23, 2010, ***Image-guided Spectroscopy***, Hanover, NH, invited talk.
"NIRFAST in the Prostate"

[06]. 09/21-09/24, 2009, ***Saratov Fall Meeting'09***, Saratov, Russia, Internet invited lecture
"In vivo optical absorption, reduced scattering, and effective attenuation tomography of intact normal and cancerous canine pelvic canal including the prostate"

[05]. 09/23-09/26, 2008, ***Saratov Fall Meeting'08***, Saratov, Russia, Internet invited lecture
"In vivo trans-rectal optical tomography of normal canine prostate---demonstration of optical contrast of intact prostate over its peripheral tissue"

[04]. 01/19-01/24, 2008, ***International Symposium on Biomedical Optics***, paper 6850-13, San Jose, CA.
"Approach on trans-rectal optical tomography probing for the imaging of prostate with trans-rectal ultrasound correlation"

[03]. 01/20-01/25, 2007, ***International Symposium on Biomedical Optics***, paper 6431-02, San Jose, CA.
"Near-infrared optical tomography: endoscopic imaging approach"

[02]. 09/26-09/29, 2006, ***Saratov Fall Meeting'06***, Saratov, Russia, Internet invited lecture
"The use of low coherence source for rapid near-infrared diffuse optical tomography and endoscopic near-infrared diffuse optical tomography"

[01]. 09/27-09/30, 2005, ***Saratov Fall Meeting'05***, Saratov, Russia, Internet invited lecture

"Rapid NIR optical tomography at 35 frames per second by spectrally-encoded parallel light delivery"

Press Coverage

Research Oklahoma Story, "New method to improve prostate cancer detection," *The Oklahoman*, July 18, 2006.