

CURRICULUM VITAE

Kenith E. Meissner II, Ph.D. FInstP

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Education/Training

Post-Doc	1994-1995	Surface Physics Division Sandia National Laboratories, Albuquerque, NM
Ph.D.	1994	<i>Optical Sciences</i> – Supervisor: Prof Nasser Peyghambarian University of Arizona, Tucson, AZ
B.S.	1987	<i>Electrical Engineering</i> Lehigh University, Bethlehem, PA

Academic and Corporate Experience

University of Texas at El Paso

Dean and Riter Professor of Engineering (2022 to present)
Professor, Metallurgy, Materials and Biomedical Engineering (2022 to present)

Swansea University

Pro Vice-Chancellor/Executive Dean, Faculty of Science & Engineering (2020 to present)
Department Head, Physics (2016 to 2020)
Professor of Physics (2016 to present)
Research Group Head: Centre for Applied Biological & Chemical Systems (2015 to 2016)
Professor of Medical Engineering (2014 to present)
Chair, Centre for Nanohealth (2014 to present)

Texas A&M University

Adjunct Professor, Biomedical Engineering (2014 to present)
College of Engineering Dean's Fellow for Undergraduate Honors (2013-2014)
Director, Engineering Scholars Program/Engineering Honors (2010-2014)
Associate Professor, Biomedical Engineering/Materials Science Program (2010 to 2014)
Assistant Professor, Biomedical Engineering/Materials Science Program (2004 to 2010)

Virginia Polytechnic Institute and State University

Sr. Research Scientist, Optical Sciences and Engineering Research Center (2000 to 2004)

Industrial

Principal Scientist, Instrumentation Metrics, Inc., Tempe, AZ (1997 to 2000)
Optical Scientist, Biotronics Technologies, Inc, Waukesha, WI (1995 to 1997)

Postdoctoral

Postdoctoral Researcher, Sandia National Laboratories Surface Physics Group, Supervisor:
Dr. Paul Gourley (1994 to 1995)

Leadership & Management Accomplishments

- My appointment as the founding PVC/Executive Dean coincided with Swansea University embarking on a major transformation precipitated by financial difficulties, changing higher education landscape and a complex structure. Structurally, the largest change was moving from 7 Colleges to 3 Faculties. Under my leadership, we have built the Faculty of Science & Engineering (FSE) from the former College of Science and College of Engineering. The FSE has 6,500+ undergraduates in 15 departments, 1,000+ graduate students, 350 tenured/tenure track equivalent faculty and >\$170M annual income, including \$62M in research income. During this year, the FSE accomplished:
 - **Student Experience:** Increased NSS Student Satisfaction with 10 programs ranked in the national top 10; increased primary recruiting for AY21/22 by 14%; increased co-curricular opportunities.
 - **Diversity, Equality & Inclusivity:** Participated in student-led reverse mentoring; started inclusive supports for early career researchers, a training programme for leaders and a promotion mentoring programme around equality; created new ED&I structure in the FSE.
 - **National/International Recognition:** Increased academic and business nominations to international rankings in all departments (QS subject rankings not yet available).
 - **Research:** Increased research grant capture by 30% to \$62M, the highest ever; established Interdisciplinary Research Institutes (IRIs) in areas including Medical Technology & Sport, Advanced Materials & Manufacturing, Data Science & AI, Climate Change, and Sustainable Futures in order to remove field barriers and pursue more impactful grants.
 - **Internationalization:** Developed a teaching program with Princess Nourah University in Saudi Arabia; exploring transnational educational opportunities including a Joint Educational Institute in China and a jointly managed campus in South Korea.
 - **Engagement and Outreach:** Started formation of Industrial Affiliates; engaging with Welsh government to develop holistic support for Welsh education.
 - **Planning & Operations:** Met the university requirement for permanent financial savings; developing a sustainable financial model for research institutes in FSE; developing strategic plan that integrates with new university strategic plan.
 - **Development:** Engaging with alumni and Welsh potential donors, foundational industry partners (e.g. Tata Steel and Rolls Royce) and local professional sports teams; efforts have already yielded significant donations to support students from underserved areas in Wales; personality recognized as good for engagement and, therefore, have become the lead academic contact for a number of high value donors in the US.
- As PVC/Executive Dean, I am a member of Swansea's core decision making body, the Senior Leadership Team ([SLT](#)). I bring the faculty voice to the university level in process and structure development as well as building new business planning and financial models that will enable our strategic plan by providing operational transparency and sustainability. I am also part of the Academic Career Pathways strategy group that is refreshing the annual review and promotion process to better serve academic staff.
- Under my leadership as Department Head (7/16-9/20), the Physics Department went through accreditation and excelled across student experience, teaching, diversity/inclusivity, research and outreach. The department consisted of 400+ students and 28+ tenured/tenure track equivalent faculty. Major accomplishments of Physics under my leadership include:
 - **Student Experience:** Employing a student-centered approach, Physics rated as high as #1 in student experience, #1 for teaching and #2 for overall satisfaction in National Student Survey

- (NSS); increased progression rate to > 90%; modernized curriculum by embedded soft and transferrable skills training as well as expanding active learning.
- **Diversity, Equality & Inclusivity:** Increased the female portion of the undergraduate cohort by 40%; awarded [Juno](#) Practitioner and [Athena Swan](#) Bronze national diversity certifications for first time in departmental history; Physics continued to develop provisions to support the highest percentage of students with disabilities at Swansea.
 - **National/International Recognition:** Rose from 44/44 to as high as 7/44 in Guardian rankings; Physics entered QS rankings for first time in 2017, currently 401-450;
 - **Research:** Started [Applied Physics & Materials](#) research group including high profile hires (staff with h-index of 61 and 101); doubled annualized grant income and graduate student cohort; developed a £90M [Centre for Integrative Semiconductor Materials](#) in industry partnership; with Engineering, awarded first EPSRC Programme Grant in Swansea history (£5.6M); attracted department's first Centers for Doctoral Training (CDTs) from UKRI in [Artificial Intelligence](#) and STFC in *Data Intensive Science*; diversified funding to include US, European and medical funding sources for first time;
 - **Internationalization:** Developed international dual PhD program with VUB, Belgium; started international UG reciprocal exchange program with U. of Houston.
 - **Engagement and Outreach:** Spun-out the first companies from departmental labs; developed a STEM outreach center in Swansea city center ([Oriol Science](#)); attracted £2M funding for underserved secondary school engagement (S4).
 - **Planning & Operations:** Physics ranked as high as #1 for Organisation & Management in NSS; guided department through accreditation; reallocated departmental space to increase faculty/student interactions; *college level*, independently organized and led a team to define the "Workload Norms" for Research-, Teaching-, and Innovation & Engagement-focused faculty; *university level*, spearheading a 4-point plan to improve the quantity and quality of the PhD student cohort, and drove two changes to the Professional Development/ Promotion process to improve the process for faculty.
 - **Development:** Worked with the nascent development office to build the relationships; set a strategy to engage with alumni and organized the first alumni development function.
 - I was the founding Group Head of the Centre for Applied Biological and Chemical Systems (6/15-7/16) at Swansea University and had line management responsibility for 9 tenured/ tenure track equivalent faculty. We formed a highly interdisciplinary research group and I mentored 2 staff members to promotion.
 - As the Director of the Engineering Scholars/Engineering Honors Program (2010-2014) and Dean's Fellow (2013-2014) at Texas A&M, I led a cross-college team from 13 departments to transform the honors program in Engineering to be more inclusive with broadened co-curricular activities. The resulting Engineering Honors structure remains in place. I led college efforts in recruiting National Merit Scholars to Engineering, helping keep Texas A&M in the top 5 for public institutions. From this position, I also served the broader University Honors program, yielding the Director's award in 2014.
 - While at Texas A&M, I developed a reciprocal undergraduate exchange program with Swansea University in Biomedical Engineering. This program now operates across all engineering departments at both Texas A&M and Swansea.
 - In fundraising, I have experience in helping raise \$40M in venture capital with Instrumentation Metrics. At Texas A&M, I spearheaded an effort that resulted in funding National Instrument

for an undergraduate Bioinstrumentation Lab as well as engagement with the O'Donnell Foundation.

Committee Service and Experience

National

Institute of Physics National Awards Committee – Leader of Optics Awards

Swansea University

University Academic Career Pathway Working Group Member (2020-present)

University League Table Improvement Working Group Member (2018-2020)

Swansea University ACP Working Group: Teaching *ad hoc* Member (2019-2020)

Founded the College of Science Head of Department Forum (2016-2020)

Texas A&M University

College of Engineering Honors Committee Chair (2013-2014)

University Honors Program Advisory Committee (2010-2014)

University Radiological Safety Committee Member (2006-2014)

University Goldwater Selection Committee Member (2005-2012)

BMEN Growth Committee (2014)

BMEN Instrumentation Track Committee Chair (2012-2013)

MSEN Graduate Admission Committee (2011-2013)

BMEN Awards Committee (2010-2014)

MSEN Graduate Admission Committee for Spring 2010 (fall 2009)

Alpha Eta Mu Beta (BMEN Honor Society), Faculty Advisor (2006-2011)

Engineering Scholars Program, Departmental Coordinator (2005-2010)

BMEN Department Curriculum Committee (2005-2013)

BMEN Department Space Committee (2005-2006)

Honors and Awards

Fellow, Institute of Physics, 2018- present

TAMU Honors Director's Award for Outstanding Service to Honors Programs, 2014

William Keeler Faculty TEES Research Fellow, 2012

BMES Commitment to Students Award, Texas A&M University, 2006 & 2012

Big 12 Faculty Fellow, Texas A&M College of Engineering, 2009

Association of Former Students Distinguished Achievement Award in Teaching, 2009

Caterpillar Teaching Excellence Award, 2009

Freshman Fish-camp Namesake, Texas A&M University, 2006

AT&T Graduate Research Fellowship, 1990-1994

E.E. Undergraduate Award at Lehigh University, AT&T, 1986

Undergraduate Award, Lehigh University, Instrumentation Society of America, 1986

President's Award, Lehigh University, 1986, 1985, 1984

Selected Refereed Journal Publications – demonstrating breadth of independent research

1. J. Plácido, S. C. Bustamante-López, K. E. Meissner, D. E. Kelly, S. L. Kelly, "Microalgae biochar-derived carbon dots and their application in heavy metal sensing in aqueous systems", *Science of the Total Environment* **656**, 531-539 (2019).
2. J. Wills, H. Summers, N. Hondow, S. Aishwarya, K. E. Meissner, P. White, P. Rees, A. Brown, S. Doak, "Characterising nanoparticles in biological matrices: tipping points in agglomeration state and cellular dosimetry in vitro", *ACS Nano* **11**(12), 11986-12000 (2017).

3. S. C. Bustamante Lopez and K. E. Meissner, "Characteristics of carrier erythrocytes for biosensing applications," *Journal of Biomedical Optics* **22** (9), 091510 (2017).
4. Z. Meng, S. C. Bustamante Lopez, K. E. Meissner and V. V. Yakovlev, "Subcellular measurements of mechanical and chemical properties using dual Raman-Brillouin microspectroscopy," *Journal of Biophotonics* **9** (3), 201-207 (2016).
5. D. W. Howell, S.-P. Tsai, K. Churion, J. Patterson, C. Abbey, D. Porterpan, Y.-H. You, K. E. Meissner, K. J. Bayless, S. E. Bondos, "Identification of multiple dityrosine bonds in materials composed of the *Drosophila* protein Ultrabithorax," *Advanced Functional Materials* **25**, 5988–5998 (2015).
6. M. J. Ware, B. Godin, N. Singh, R. Majithia, S. Shamsudeen, R. E. Serda, K. E. Meissner, P. Rees, and H. D. Summers, "Analysis of the Influence of Cell Heterogeneity on Nanoparticle Dose Response," *ACS Nano* **8**, 6693–6700 (2014).
7. A. Tarat, C. K. Nettle, D. T. J. Bryant, D. R. Jones, M. W. Penny, R. Brown, R. Majithia, K. E. Meissner and T. G. G. Maffei, "Microwave-assisted synthesis of layered basic zinc acetate nanosheets and their thermal decomposition into nanocrystalline ZnO," *Nanoscale Research Letters* **9**, 11:1-8 (2014).
8. R. Majithia, J. Speich and K. E. Meissner, "Mechanism of Generation of ZnO Microstructures by Microwave-Assisted Hydrothermal Approach," *Materials* **6** (6), 2497-2507 (2013).
9. R. Majithia, J. Patterson, S. E. Bondos and K. E. Meissner, "On the Design of Composite Protein – Quantum Dot Biomaterials via Self-assembly," *Biomacromolecules* **12**, 3629-3637 (2011).
10. A. Romoser, D. Ritter, R. Majitha, K. E. Meissner, M. McShane and C. M. Sayes, "Mitigation of Quantum Dot Cytotoxicity by Microencapsulation," *PLoS ONE* **6**, e22079 1-7 (2011).
11. S. Ritter, M. Milanick and K. E. Meissner, "Encapsulation of FITC to monitor extracellular pH: A step towards the development of red blood cells as circulating blood analyte biosensors," *Biomedical Optics Express* **2**, 2012-2021 (2011).
12. H. T. Beier, G. L. Cote and K. E. Meissner, "Modeling Whispering Gallery Modes in Quantum Dot Embedded Polystyrene Microspheres," *J. Opt. Soc. Amer. B* **27**, 536-543 (2010).
13. S. Pang, A. T. Yeh, C. Wang and K. E. Meissner, "Beyond $1/T_p$ limit: two-photon fluorescence using pulses as short as sub-10-fs," *Journal of Biomedical Optics* **14** 054041 1-7 (2009).
14. Z. Sun, A. Juriani, G. A. Meininger and K. E. Meissner, "Probing Cell Surface Interactions Using AFM Cantilevers Functionalized for Quantum Dot-Enabled FRET", *Journal of Biomedical Optics* **14**, 040501 1-3 (2009).
15. W.B. Spillman Jr., J. L. Robertson, K. E. Meissner, J. Jesselli, J.D. Bourland, M.C. Robbins and E.G. Shaw, "Shape factor analysis of progressive rat hepatoma," *Journal of Biomedical Optics* **13**(1), 014030-1 – 8 (2008).
16. K. E. Meissner, C. Holton and W. B. Spillman Jr., "Optical Characterization of quantum dots entrained in microstructured optical fibers," *Physica E* **26**, 377 (2005).
17. W. B. Spillman Jr., J. L. Robertson, B. S. Govindan and K. E. Meissner, "Fractals, complexity, disease time and cancer," *Physical Review E* **70**, 061911-1 -12 (2004).

18. W. B. Spillman Jr., M. Meyer, J. Bennett, J. Gong, K. E. Meissner, B. Davis, R. O. Claus, A. A. Muelenaer and X. Xu, "A smart bed for non-intrusive monitoring of patient physiological factors," *Measurement Science and Technology* **15**, 1614 (2004).

Issued Patents

1. J.D. Bennet, K.E. Meissner II, W.B. Spillman Jr., M.F. Mayer, J. Gong, "System, device and method for detecting perturbations," Australian Patent #2003291003, May 7, 2009.
2. E. Herz, C. Holton, K. Meissner and C. Paye, "Optical fiber with quantum dots," U.S. Patent #7,362,938, April 22, 2008.
3. K.E. Meissner II and W.B. Spillman Jr., "System, device and method for detecting perturbations," U.S. Patent #7,196,317, March 27, 2007.
4. W.B. Spillman Jr., K.E. Meissner II, J. Gong, M.F. Mayer and J.D. Bennett, "System, device and method for detecting perturbations via a fiber optic sensor," U.S. Patent #7,189,958, March 13, 2007.
5. E. Herz, C. Holton, K. Meissner and C. Paye, "Optical fiber with quantum dots," U.S. Patent #7,142,758, November 28, 2006.
6. E. Herz, C. Holton, K. Meissner and C. Paye, "Optical fiber with quantum dots," U.S. Patent #7,054,513, May 30, 2006.
7. B.J. Wenzel, S.L. Monfre, T.L. Ruchti, K. Meissner, F. Grochocki, T. Blank and J. Rennert, "Method for quantification of stratum corneum hydration using diffuse reflectance spectroscopy," U.S. Patent #6,668,181, December 23, 2003.
8. T. Stippick, G. Acosta and K. Meissner, "Oscillating mechanism driven monochromator," U.S. Patent #6,587,196, July 1, 2003.
9. B.J. Wenzel, S.L. Monfre, T.L. Ruchti, K. Meissner, F. Grochocki, T. Blank and J. Rennert, "Method for quantification of stratum corneum hydration using diffuse reflectance spectroscopy," U.S. Patent #6,442,408, August 27, 2002.

Research Support/Grants

1. Cancer Research UK Programme Project, *TEP-eDx: Validating the use of Tumour Educated Platelets for Early Cancer Detection*, 2021-2025 (dates TBD), £682,000, co-PI
2. Welsh Government Ser Cymru Covid-19, *CoV Trap*, 10/7/2020–3/31/202, £39,500, PI
3. Swansea/Grenoble Collaborative Program, *Understanding novel protein-derived biopolymers to enable biomimetic device*, 1/1/18–12/31/21, £120,000, co-PI
4. Welsh Government Ser Cymru Cofund, *Quantum Physics*, 9/1/17–8/31/22, £200,329, PI
5. Welsh Government Ser Cymru Rising Star, *Next-generation semiconductors for photodetectors and optoelectronics*, 10/16/17–11/05/22, £1,000,000, PI
6. COST Action Network, *Brillouin Light Scattering Microspectroscopy for Biological and Biomedical Research and Applications*, 2/28/17–2/27/21, Networking Grant, (co-I, substitute Managing Committee)
7. EPSRC Platform, *Engineering Blood Diagnostics: Integrated Platforms for Advanced Detection and Analysis*, 2/1/16–1/31/22, £1,502,075, co-PI
8. Cancer Research UK Sandpit Project Award, *Tumour Educated Platelets for Early Cancer Detection (TEP-eDx)*, 12/1/18–11/30/19, £100,000, co-PI
9. EPSRC Standard Award, *Translational alliance in biophotonics for cytometry*, 1/3/16–28/2/19, £201,932, co-I
10. Research Triangle Institute, *Nanoparticle Biocompatibility*, 1/15/13–5/14/13, \$11,528, PI
11. NIH R21, *Developing a Non-Invasive Monitoring System Using NIR Dyes Inside Erythrocytes*, 9/01/12–8/31/14, \$137,941, co-I (PI at TAMU)

12. National Science Foundation, *Energy Transfer between Nanomaterials: Fundamentals and Sensor Applications*, 8/15/11–7/31/14, \$380,000, co-PI
13. NIH PPG, *Mechanisms of Microvascular Control and Coordination in Health and Disease*, 4/1/10–3/31/15, \$8,450,000, co-I
14. EPSRC, *Quantum Dots For The Study of Distribution and Toxicity in Cell Cultures*, 10/1/10 - 7/31/13, £1,067,482, co-I
15. National Science Foundation, *IDR Collaborative Research: Evanescent Field-Enabled Atomic Force Microscopy for Nanoscale Imaging of Cell Membrane Dynamics*, 9/15/09–8/31/12, \$398,398, co-PI
16. NASA STTR, *Lightweight Metal Rubber Wire and Cable for Space Power Systems*, 3/4/11–3/2/12, \$45,000, PI on subcontract
17. National Science Foundation, *Planning Visit: Multidisciplinary International Collaboration between Texas A&M University and Swansea University*, 8/15/09–8/14/10, \$20,000, PI
18. Center for Integration of Medicine & Innovative Technology, *CIMIT Student Prize for Primary Healthcare Finalist, Digital Camera-Coupled Ophthalmoscope*, 2/9/09-5/30/09, \$10,000, PI
19. TAMU – Health Science Center/State of Texas, *Digital Ophthalmoscope*, 2/1/09-8/31/09, \$25,739, PI
20. TAMU – Health Science Center/State of Texas, *Ophthalmoscope Usage for Capturing Digital Retinal Images*, 6/1/08-10/31/08, \$13,200, PI
21. AP Strategies Inc., Dallas, TX, *Development of Virtual Instrumentation: Optical Microscope and Spectrophotometer*, 11/1/06-12/31/08, \$97,511, PI
22. NIH R21, *An Atomic Force-Multi-optical Imaging Microscope for Study of Cell*, 9/22/06-8/31/09, \$185,000 co-PI
23. NSF SBIR, *Low Cost Self-Assembled Bulk Thermoelectric Materials*, 7/1/05-12/31/05, \$10,000, PI on subcontract
24. Carilion Biomedical Institute, Roanoke, VA, *Smart Bed Biosensor*, 7/1/03-6/30/04, \$46,000, PI
25. Virginia Tech ASPIRES, *Tunable Laser for the UV/Visible Spectral Region for Nanoscale Ultrafast Dynamics*, 12/12/01-6/30/02, \$17,600, PI
26. American Cancer Society- I.R.G., *Development of Fluid-based Microarray Technology Using Microspheres and Quantum Dots*, 9/10/01-6/30/02, \$18,756, PI
27. Carilion Biomedical Institute, Roanoke, VA, *Photodynamic Therapy Minicenter*, 7/01/01-6/30/03, \$200,000, co-PI

Students Graduated and Researchers Supervised

Ph.D. Students (US and UK)

1. Karol Szuba-Jablonski (BSc Swansea University) – Swansea University Applied Physics, in progress, 1st Supervisor
2. Laura O’Dea (MSc Swansea University) – Swansea University Nanotechnology, in progress, 2nd Supervisor
3. Valeria Italia (MSc Politecnico di Milano, Italy) – Swansea University Applied Physics, in progress, 1st Supervisor
4. Andrew Fisher (B.S. Texas A&M) – Swansea University, Nanotechnology, “Application of Optical Analyses to Cancer Therapeutics and Diagnostics”, 2020, 1st Supervisor
5. Daniel Watson (MEng Swansea University) – Swansea University Nanotechnology, “Numerical Study of Lymph Mechanics”, 2021, 2nd Supervisor

6. Sandra Bustamonte-Lopez (B.S. Boston University) - Texas A&M University BMEN, “Erythrosensor cellular characterization”, 2017, Advisor
7. Sarah Ritter (B.S. Louisiana Tech) – Texas A&M University BMEN, “Application of luminescent materials to optical sensing”, 2014, Advisor
8. Aishwarya Soorsh (B.S. Anna University, India) – Texas A&M University MSEN, “Synthesis, Characterization and Toxicity of Nanoparticles for Real World Applications”, 2014, Advisor
9. Sina Amini (M.S. Razi University, Iran) – Texas A&M University BMEN, “Atomic force microscope based near-field imaging for probing cell surface interactions”, 2013, Advisor
10. Ravish Majithia (M.S. Louisiana Tech) – Texas A&M University MSEN, “Microwave-assisted Synthesis of II-VI Semiconductor Micro- and Nanoparticles towards Sensor Applications”, 2013, Advisor
11. Hope Beier (B.S. TAMU) – Texas A&M BMEN, “Whispering-gallery modes in quantum dot embedded microspheres for sensing applications”, 2009, co-Advisor
12. Xing Jin (M.S. Louisiana State University) – Texas A&M BMEN, “Microwave-induced thermoacoustic tomography: Applications and corrections for the effects of acoustic heterogeneities”, 2007, co-Advisor
13. Bryan Dickerson (M.S. Virginia Tech) – Virginia Tech, “Organometallic synthesis kinetics of CdSe quantum dots”, 2005, Committee Member/Research Advisor

MSc by Research Students (UK)

1. Thomas Argue (BSc Swansea University) – Swansea University Applied Physics, “Creating an antimicrobial protein matrix from Ultrabithorax, cospun with Hybrisan Ltd's P1.2 antimicrobial solution using a needleless electrospinning device for medical applications”, 2021, 1st Supervisor
2. Edd Dibley (BSc Swansea University) – Swansea University Applied Physics, “Crosslinking ultrabithorax to produce fibres using an LED and Tris(2,2'bipyridyl)ruthenium (II)”, 2020, 1st Supervisor
3. Karol Szuba-Jablonski (BSc Swansea University) – Swansea University Nanotechnology, “The Mechanical and Electrical Properties of Ultrabithorax Materials”, 2020, 1st Supervisor
4. Patrick Jolomba (BSc Keel University) – Swansea University Nanotechnology, “Analysing the RBC adhesion to the dialysis membrane using the Flow cell system: Analysis of the RBC morphology”, 2020 1st Supervisor

M.S. Students (US)

1. Marta Taghavi (Islamic Azad University, Iran) “Investigation of nanoparticles for use in microwave system in biomedicine” 2013, Advisor
2. Ameet Juriani (B.S. Thadomal Shahani Engineering College) “Investigation of the emission properties of quantum dot-thermoreponsive polymer nanocomposite hydrogels with temperature” 2010, Advisor
3. Shuo Pang (B.S. Tsinghua University) “Whispering Gallery Modes in Quantum Dot-Embedded Dielectric Microspheres for Tagless Remote Refractometric Sensing” 2008, Advisor
4. Bhavik Bharat Nathwani (B.S. Saurashtra University) “Developing Luminescent Nanoprobes for Labeling Focal Adhesion Complex Proteins” 2008, Advisor
5. Suhani Shah (B.S. Nirma Institute of Technology) “Modeling Scattered Intensity from Microspheres in an Evanescent Field” 2007, Advisor

6. Haribhaskar Balasubramanian (B.S. Lokmanya Tilak College) “Two Photon Luminescence from Quantum Dots Using Broad- and Narrow-band Ultrafast Laser Pulses” 2007, Advisor
7. Shankarapandian Muthukumar (B.S. University of Madras) “Spectral Multiplexing using Quantum Dot Tagged Microspheres with Diffusing Colloidal Probe Microscopy” 2007, Advisor
8. Adam Allen (B.S. Texas A&M University) “Modeling Scattered Intensities for Multiple Particle TIRM Using Mie Theory” 2006, Advisor
9. Aaron Keho (B.S. Rice University) “Iron Oxide Nanoparticles as a Contrast Agent for Thermoacoustic Tomography” 2006, Advisor

Undergraduate Research Students (USRG, REU and Honors Fellows) at Texas A&M University
 Michelle Garst, 2006; Clark Needham, 2008; Kyle Borque, 2008; Mei Zhang, 2009; Teddy Bao, 2009; Juana Gomez, 2010; Jeffrey Speich, 2010; Morgan Holmes, 2010; Ritvik Bansal, 2011; Megan Poorman 2012

Courses Taught (* indicates developed course)

Swansea University

EGA100/221	Numerical Methods for Biomedical Engineers*
EGNM08	Nanophotonics*
PH-M35/356	Nanobiophysics*

Texas A&M University

ENGR 111	Foundations of Engineering I
ENGR 281H	ESP Seminar I
BMEN 289	Computing for BMEN*
BMEN 289	Signals, Systems and Circuits*
ENGR 381H	ESP Seminar II
BMEN 489/689	Light Scattering and Absorption for Biomedicine*
BMEN 305	Bioinstrumentation Laboratory*
BMEN 306	Biomeasurements Laboratory,
BMEN 321	Biomedical Electronics,
BMEN 343	Introduction to Biomaterials*
BMEN 424/624	Biomedical Imaging and Sensing at the Nanoscale*

Virginia Tech

PHYS 4714	Introduction to Biophysics*
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