Allan E. David

John W. Brown Assistant Professor
Auburn University, Auburn AL

Professional Preparation

Institution	Major	Degree	Year
University of Michigan, Ann Arbor	Pharmaceutical Sciences	Post-doc	2005-2008
University of Maryland, College Park	Chemical Engineering	Ph.D.	2004
University of Maryland, College Park	Chemical Engineering	B.S.	1997

Appointments

2012-present	John W. Brown Asst. Professor	Department of Chemical Engineering, Auburn University, Auburn, AL
2009-2012	Adjunct Assistant Professor	Department of Pharmaceutical Sciences, University of Michigan, Ann Arbor, MI
2004-2010	Technical Manager	Industrial Science & Technology Network, York, PA
1997-1998	Thermal Engineer	Dynatherm Corporation, Hunt Valley, MD

Honors and Awards

2015 Auburn Alumni Engineering Junior Faculty Research Award for Excellence

1st Place: Dobson C, Pickering C, **David AE**, Panizzi P, Arnold R. *Development of gold-lipid nanocomposites as a theranostic platform*. 2015 AIChE Annual Meeting Poster Competition; Food, Pharmaceuticals and Biotechnology Division.

3rd Place: Hanley A, **David AE**. *Developing "smart" nanostructures using Janus nanoparticles synthesized via a new methods with potential for scalability*. 2015 Graduate Engineering Research Showcase, Auburn AL. 2015 Oct.

Honorable Mention: Kelly A, **David AE**. *Evaluation of polymer coated silica nanoparticle cytotoxicity*. 2015 Graduate Engineering Research Showcase, Auburn AL. 2015 Oct.

3rd Place: Anani T, Langford L, Webb M, Rogers H, Choi YS, **David AE**. Magnetic nanoparticles for enhanced prostate cancer targeting and diagnosis. Science and Technology Open House, Montgomery, AL. 2015 Feb.

2014 President's Outstanding Collaborative Units Award

2013 1st place poster competition: Rogers HB, Anani T, Read C, Bittner S, **David AE**. *Magnetic nanoparticles as multimodal contrast agents for the diagnosis of prostate cancer*

2nd place in Food, Pharmaceutical, and Biotechnology: Milton A, Fan X, Choi YS, Park YJ, Yang AJ, **David AE**. *"Smart" nanocomposite for enhanced drug delivery of insulin*. 2013 AIChE Annual Meeting, San Francisco CA. 2013 Nov. (poster)

Publications (Dr. David's advisees indicated by *)

1. Hanot CC*, Choi YS*, Anani TB*, Soundarrajan D*, **David AE**. *Effects of Iron-Oxide Nanoparticle Surface Chemistry on Uptake Kinetics and Cytotoxicity in CHO-K1 Cells*. Intl J of Molecular Sciences (2015) 17(1), 54. (Contribution: 100%; Impact Factor: 2.86; Times Cited: 0)
2. Rogers HB*, Anani T*, Choi YS*, Beyers RJ, **David AE**. *Exploiting size-dependent drag and magnetic forces for size-specific separation of magnetic nanoparticles*. Intl J of Molecular Sciences (2015) 16: 20001-19. (Contribution: 95%; Impact Factor: 2.86; Times Cited: 0)
3. Soheilian R, Choi YS*, **David AE**, Abdi H, Maloney CE, Erb RM. *Toward accumulation of magnetic nanoparticles into tissues of small porosity*. Langmuir (2015) 31(30): 8267-74. (Contribution: 30%; Impact Factor: 4.46; Times Cited: 0)
4. Shin MC, Zhang J, Min KA, He H, **David AE**, Huang Y, Yang VC. *PTD-Modified ATTEMPTS for Enhanced Toxin-based Cancer Therapy: An In Vivo Proof-of-Concept Study*. Pharmaceutical Research (2015) 32(8): 2690-2703. (Contribution: 5%; Impact Factor: 3.42; Times Cited: 0)
5. Wang K, **David AE**, Choi YS*, Wu Y, Buschle-Diller G. *Scaffold materials from glycosylated and PEGylated bovine serum albumin*. J of Biomedical Materials Research Part A (2015) 103(9): 2839-2846. (Contribution: 5%; Impact Factor: 3.37; Times Cited: 1)
6. Choi YS*, **David AE**. *Cell penetrating peptides and the mechanisms for intracellular entry*. Curr Pharm Biotechnol. (2014) 15(3):192-199. (Contribution: 100%; Impact Factor: 2.51; Times Cited: 16)
7. Choi YS*, Lee MY, **David AE**, Park YS. *Nanoparticles for gene delivery: therapeutic and toxic effects*. Mol Cell Toxicol (2014) 10:1-8. (Contribution: 70%; Impact Factor: 1.27; Times Cited: 5)
8. Shin MC, Zhang J, Min KA, Lee K, Byun Y, **David AE**, He H, Yang VC. *Cell-penetrating peptides: achievements and challenges in application for cancer treatment*. J Biomed Mater Res A (2014) 102(2):575-587. (Contribution: 5%; Impact Factor: 3.37; Times Cited: 40)
9. Shin MC, Zhang J, **David AE**, Trommer WE, Kwon YM, Min KA, Kim JH, Yang VC. *Chemically and biologically synthesized CPP-modified gelonin for enhanced anti-tumor activity*. J Control Release (2013) Nov 28; 172(1):169-78. (Contribution: 10%; Impact Factor: 7.71; Times Cited: 9)
10. He H, **David AE**, Chertok B, Cole A, Lee K, Zhang J, Wang J, Huang Y, Yang VC. *Magnetic nanoparticles for tumor imaging and therapy: a so-called theranostic system*. Pharm Res. (2013) Oct; 30(10):2445-58. (Contribution: 5%; Impact Factor: 3.42; Times Cited: 23)
11. He H, Sheng J, **David AE**, Kwon YM, Zhang J, Huang Y, Wang J, Yang VC. *The use of low molecular weight protamine chemical chimera to enhance monomeric insulin intestinal absorption*. Biomaterials. 2013 Oct; 34(31):7733-43. (Contribution: 5%; Impact Factor: 8.56; Times Cited: 16)
12. Zhou J, Zhang J, **David AE**, Yang VC. *Magnetic tumor targeting of β-glucosidase immobilized iron oxide nanoparticles*. Nanotechnology 2013 Sep 20; 24(37): 375102, (Contribution: 10%; Impact Factor: 3.82; Times Cited: 10)
13. Zhang J, Shin MC, **David AE**, Zhou J, Lee K, He H, Yang VC. *Long-circulating heparin-functionalized magnetic nanoparticles for potential application as a protein drug delivery platform*. Molecular Pharm 2013 Aug 19; 10 (10): 3892–3902. (Contribution: 10%; Impact Factor: 4.38; Times Cited: 11)
14. Park YS, **David AE**, Park KM, Lin CY, Than KD, Lee K, Park JB, Jo I, Park KD, Yang VC. *Controlled release of simvastatin from in situ forming hydrogel triggers bone formation in MC3T3-E1 cells*. AAPS J. 2013 Apr; 15(2):367-76. (Contribution: 20%; Impact Factor: 3.80; Times Cited: 10)
15. Min KA, Shin MC, Yu F, Yang M, **David AE**, Yang VC, Rosania GR. *Pulsed Magnetic Field Improves the Transport of Iron Oxide Nanoparticles through Cell Barriers*. ACS Nano 2013 Feb 1; 7(3): 2161-2171. (Contribution: 5%; Impact Factor: 12.88; Times Cited: 10)
16. Wang J, Huang Y, **David AE**, Chertok B, Zhang L, Yu F, Yang VC. *Magnetic nanoparticles for MRI of brain tumors*. Current Pharmaceutical Biotechnology (2012); 13(12):2403-2416. (Contribution: 5%; Impact Factor: 2.51; Times Cited: 10)
17. Park YS, **David AE**, Huang Y, Park JB, He H, Byun Y, Yang YC. *In vivo delivery of cell permeable antisense-HIF1α-oligonucleotide to adipose tissue reduces adiposity of in obese rats*. Journal of Controlled Release 2012; 161(1):1-9. (Contribution: 5%; Impact Factor: 7.71; Times Cited: 15)

18. **David AE**, Gong J, Chertok B, Domszy RC, Moon, C, Park YS, Wang NS, Yang VC, Yang AJ. *Immobilized thermolysin for highly efficient, large-scale production of low molecular weight protamine – an attractive cell-penetrating peptide for macromolecular drug delivery applications*. J of Biomed Materials Research Part A 2012; 100(1):211-219. (Contribution: 100%; Impact Factor: 3.37; Times Cited: 3)

19. He H, **David AE**, Zhang J, Park YS, Wang J, Huang Y, Wang J, Yang VC. *Low molecular weight protamine/insulin formulation with potential to attenuate protamine-masqueraded insulin allergy*. Macromolecular Research 2011; 19(12): 1224-1226. (Contribution: 25%; Impact Factor: 1.60; Times Cited: 6)

20. **David AE**, Cole AJ, Yang VC. *Magnetically-targeted nanoparticles for brain tumor therapy: What does the future hold?* Nanomedicine 2011; 6(7): 1133-1135 (Invited editorial). (Contribution: 100%; Impact Factor: 5.41; Times Cited: 6)

21. **David AE**, Cole AJ, Chertok B, Park YS, Yang VC. *A combined theoretical and in vitro modeling approach for predicting the magnetic capture and retention of magnetic nanoparticles in vivo*. Journal of Controlled Release 2011; 152: 67-75. (Contribution: 100%; Impact Factor: 7.71; Times Cited: 23)

22. Cole AJ, **David AE**, Wang J, Galban CJ, Yang VC. *Magnetic brain tumor targeting and biodistribution of long-circulating PEG-modified, cross-linked starch-coated iron oxide nanoparticles*. Biomaterials 2011; 32(26): 6291-6301. (Contribution: 15%; Impact Factor: 8.56; Times Cited: 88)

23. Cole AJ, Yang VC, **David AE**. *Cancer theranostics: the rise of targeted magnetic nanoparticles*. Trends in Biotechnology 2011; 29(7): 323-332. (Contribution: 100%; Impact Factor: 11.96; Times Cited: 161)

24. Chertok B, **David AE**, Yang VC. *Brain tumor targeting of magnetic nanoparticles for potential drug delivery: Effect of administration route and magnetic field topography*. Journal of Controlled Release 2011; 155(3):393-399. (Contribution: 20%; Impact Factor: 7.71; Times Cited: 60)

25. Chertok B, **David AE**, Yang VC. *Magnetically-enabled and MR-monitored selective brain tumor protein delivery in rats via magnetic nanocarriers*. Biomaterials 2011; 32(26):6245-6253. (Contribution: 15%; Impact Factor: 8.56; Times Cited: 30)

26. Cole AJ, **David AE**, Wang J, Galban CJ, Hill HL, Yang VC. *Polyethylene glycol modified, cross-linked starch-coated iron oxide nanoparticles for enhanced magnetic tumor targeting*. Biomaterials 2011; 32(8): 2183-2193. (Contribution: 15%; Impact Factor: 8.56; Times Cited: 98)

27. Chertok B, **David AE**, Yang VC. *Polyethyleneimine-modified iron oxide nanoparticles for brain tumor drug delivery using magnetic targeting and intra-carotid administration*. Biomaterials 2010; 31(24): 6317-6324. (Contribution: 20%; Impact Factor: 8.56; Times Cited: 164)

28. Huang Y, Park YS, Moon C, **David AE**, Chung HS, Yang VC. *Synthetic skin-permeable proteins enabling needleless immunization*. Angewandte Chemie 2010; 49(15): 2724-2727. (Contribution: 5%; Impact Factor: 11.26; Times Cited: 26)

29. Park YS, Huang Y, Park YJ, **David AE**, White L, He H, Chung HS, Yang VC. *Specific down regulation of 3T3-L1 adipocyte differentiation by cell-permeable antisense HIF1α-oligonucleotide*. Journal of Controlled Release 2010; 144: 82-90. (Contribution: 10%; Impact Factor: 7.71; Times Cited: 11)

30. Yu F, Zhang L, Huang Y, Sun K, **David AE**, Yang VC. *The magnetophoretic mobility and superparamagnetism of core-shell iron oxide nanoparticles with dual targeting and imaging functionality*. Biomaterials 2010; 31(22): 5842-5848. (Contribution: 10%; Impact Factor: 8.56; Times Cited: 40)

31. Chertok B, Cole AJ, **David AE** and Yang VC. *Comparison of electron spin resonance spectroscopy and inductively-coupled plasma optical emission spectroscopy for biodistribution analysis of iron-oxide nanoparticles*. Molecular Pharmaceutics 2010; 7(2): 375-385. (Contribution: 25%; Impact Factor: 4.38; Times Cited: 33)

32. Chertok B, **David AE** and Yang VC. *Substantiating in vivo magnetic brain tumor targeting of cationic iron oxide nanocarriers via adsorptive surface masking*. Biomaterial 2009; 30: 6780-6787. (Contribution: 20%; Impact Factor: 8.56; Times Cited: 46)

33. Zhang L, Yu F, Cole AJ, Chertok B, **David AE**, Wang J, Yang VC. *Gum Arabic-coated magnetic nanoparticles for potential application in simultaneous magnetic targeting and tumor imaging*. The AAPS Journal 2009; 11(4): 693-699. (Contribution: 10%; Impact Factor: 3.80; Times Cited: 45)

34. Kwon YM, Chung HS, Moon C, Yockman J, Park YJ, Gitlin SD, **David AE**, Yang VC. *L-Asparaginase encapsulated intact erythrocytes for treatment of acute lymphoblastic leukemia (ALL)*. Journal of Controlled Release 2009; 139(3): 182-189. (Contribution: 5%; Impact Factor: 7.71; Times Cited: 47)
35. Chertok B, **David AE**, Yang VC. *Delivery of functional proteins to brain tumor using MRI-monitored, magnetically-targeted nanoparticles*. Journal of Controlled Release 2008; 132(3):e61-e62. (Contribution: 25%; Impact Factor: 7.71; Times Cited: 5)
36. Chertok B, Moffat BA, **David AE**, Yu F, Bergemann C, Ross BD, Yang VC. *Iron oxide nanoparticles as a drug delivery vehicle for MRI monitored magnetic targeting of brain tumors*. Biomaterials 2008; 29: 487-496. (Contribution: 10%; Impact Factor: 8.56; Times Cited: 448)
37. Chertok B, **David AE**, Huang, Y, Yang VC. *Glioma selectivity of magnetically targeted nanoparticles: A role of abnormal tumor hydrodynamics*. Journal of Controlled Release 2007; 122(3): 315-323. (Contribution: 25%; Impact Factor: 7.71; Times Cited: 65)
38. **David AE**, Wang NS, Yang VC, Yang AJ. *Chemically surface modified gel (CSMG): An excellent enzyme-immobilization matrix for industrial processes*. Journal of Biotechnology 2006; 125(3): 395-407. (Contribution: 100%; Impact Factor: 2.87; Times Cited: 77)
39. Wang T, Yang Z, Emregul E, **David AE**, Balthasar JP, Liang J, Yang VC. *Strategies for improving the functionality of an affinity bioreactor*. International Journal of Pharmaceutics 2005; 306: 132-141. (Contribution: 5%; Impact Factor: 3.65; Times Cited: 2)
40. Emregul E, **David AE**, Balthasar JP, Yang VC. *A GPIIb/IIIa bioreactor for specific treatment of immune thrombocytopenic purpura (ITP), an autoimmune disease. Preparation, in vitro characterization, and preliminary proof-of-concept animal studies*. Journal of Biomedical Materials Research Part A 2005; 75A(3): 648-655. (Contribution: 5%; Impact Factor: 3.37; Times Cited: 0)

Book Chapters

1. **David AE**, Yang AJ, Wang NS. (2011). *Enzyme stabilization and immobilization by sol-gel entrapment*. In Minteer SD (Ed.), Methods in Molecular Biology, Vol. 679: Enzyme Stabilization and Immobilization (pp. 49-66). New York, NY: Springer. (Contribution: 100%; Impact Factor: 1.29; Times Cited: 17)

Invited Seminars and Lectures

1. **David AE**. *Three strategies to improve drug efficacy with "smart" nanomaterials*. 2015 Fall International Convention of the Pharmaceutical Society of Korea, Daegu, S. Korea. 2015 Oct 23.
2. **David AE**. *Enhancing cancer therapy through dual cellular and subcellular targeting*. The First Annual AURIC Cancer Research Meeting, Auburn University, Auburn, AL. 2015 Aug 28.
3. **David AE**. *Nanomaterials and drug delivery*. ENGR 1110 Introduction of Chemical Engineering, Department of Chemical Engineering, Auburn University, Auburn, AL. 2015 Apr 20.
4. **David AE**. *"Smart" materials for improved drug targeting*. Center for NanoBiotechnology and Life Sciences Research, Alabama State University, Montgomery, AL. 2015 Apr 02.
5. **David AE**. *Surface functionalization of nanomaterials and its implications for targeted drug delivery*. Dept. of Materials Science & Engineering, University of Alabama at Birmingham, Birmingham, AL. 2015 Mar 03.
6. **David AE**. *"Smart" nanomaterials for biomedical applications*. AU Nano-Biosciences Cluster Hire Initiative. 2014 Dec 01.
7. **David AE**. *Surface modification of nanomaterials for targeted drug delivery*. CMB Undergraduate Summer Research Scholars program. 2014 Jun 18.
8. **David AE**. *Nanomaterials for drug delivery*. PYPS7050 Novel Dosage Forms, Department of Pharmacal Science, Auburn University, Auburn AL. 2014 Mar 18, 20.
9. **David AE.** *Surface modification of nanomaterials for targeted drug delivery*. CHEN 5660 Macroscale assembly & applications of nanomaterials, Department of Chemical Engineering, Auburn University, Auburn, AL. 2014 Mar 04.

10. **David AE**. *Modulating the surface properties of nanomaterials to enhance drug delivery*. Department of Chemical and Biomolecular Engineering, Vanderbilt University, Nashville TN. 2013 Oct. 28.
11. **David AE**. *Surface modification of nanomaterials for targeted drug delivery*. Department of Mechanical Engineering, Northeastern University, Boston, MA. 2013 Oct 11.
12. **David AE**. *Surface modification of nanomaterials for targeted drug delivery*. MATL 5979/6979 Biomaterials, Materials Research and Education Center, Auburn University, Auburn, AL. 2013 Feb 19.
13. **David AE**. *Surface modification of nanomaterials and targeted drug delivery*. Department of Pharmacal Science, Auburn University, Auburn AL. 2013 Feb 19.
14. **David AE**. *"Smart" nanomedicine: Enhancing the targeted delivery of drugs*. 2012 Biomaterials and Drug Delivery Symposium, Development Center for Biotechnology, Taiwan. 2012 Sep 20.

National Presentations (Dr. David's advisees indicated by *)

1. Hanley A*, **David AE**. *Preventing antibiotic-resistant bacterial infections using an antimicrobial coating composed of "Janus" nanoparticles*. 2015 AIChE Annual Meeting, Salt Lake City UT. 2015 Nov. (oral)
2. Pickering C, Dobson C, Eggert M, **David AE**, Panizzi P, Arnold R. *Development of novel gold-lipidic nanocomposites for improved imaging and drug delivery to prostate cancer*. 2015 AIChE Annual Meeting, Salt Lake City UT. 2015 Nov. (oral)
3. Cullum RL*, Riese II DJ, **David AE**. *Targeted nanocarriers for the delivery of novel metastatic melanoma chemotherapeutics*. 2015 AIChE Annual Meeting, Salt Lake City UT. 2015 Nov. (oral)
4. Kelly A*, Arnold R, **David AE**. *Biocompatibility of lipid coated nanocomposites*. 2015 AIChE Annual Meeting, Salt Lake City UT. 2015 Nov. (oral)
5. Paul K*, Kelly AL*, **David AE**. *Optimization of Polymer-Coated Silica Nanoparticles for Therapeutic Drug Delivery*. 2015 AIChE Annual Meeting, Salt Lake City, UT. 2015 Nov. (poster)
6. Fan X*, Yang AJ, **David AE**. *Smart contact lenses loaded with pH-responsive nanocomposite particles for ophthalmic drug delivery*. 2015 AIChE Annual Meeting, Salt Lake City UT. 2015 Nov. (oral)
7. Anani T*, Choi YS*, Panizzi P, **David AE**. *Magnetic nanoparticles for multispectral optoacoustic imaging of proteolytic activity in the tumor microenvironment*. 2015 AIChE Annual Meeting, Salt Lake City UT. 2015 Nov. (oral)
8. Sangle P*, Choi YS*, **David AE**. *Degrading the toxic chemicals deposited in the lungs*. 2015 AIChE Annual Meeting, Salt Lake City UT. 2015 Nov. (oral)
9. Yeh B*, **David AE**. *Continuous separation of magnetic nanoparticles to enhance size and surface homogeneity*. 2015 AIChE Annual Meeting, Salt Lake City UT. 2015 Nov. (oral)
10. Dobson C, Pickering C, **David AE**, Panizzi P, Arnold R. *Development of gold-lipid nanocomposites as a theranostic platform*. 2015 AIChE Annual Meeting, Salt Lake City UT. 2015 Nov. (poster)
11. Bhavnani N*, Choi YS*, Yeh B*, Soheilian R, Erb R, **David AE**. *Increased penetration of magnetic nanoparticles through utilization of an alternating magnetic field for purposes of drug delivery*. 2015 AIChE Annual Meeting, Salt Lake City UT. 2015 Nov. (poster)
12. Hanley A*, **David AE**. *Scalable synthesis methods to produce Janus nanoparticles*. 2014 AIChE Annual Meeting, Atlanta GA. 2014 Nov. (poster)
13. Anani T*, Choi YS*, **David AE**. *Magnetic nanoparticles for non-invasive quantification of prostate cancer aggressiveness*. 2014 AIChE Annual Meeting, Atlanta GA. 2014 Nov. (oral)
14. Soundarrajan D*, Bhavnani N*, Hanley A*, **David AE**. *Development of "smart" nanostructures for hemostatic application*. 2014 AIChE Annual Meeting, Atlanta GA. 2014 Nov. (poster)
15. Kelly A*, Arnold R, **David AE**. *Size control of nanocarriers for enhanced tumor targeting*. 2014 AIChE Annual Meeting, Atlanta GA. 2014 Nov. (poster)
16. Carnes GB*, Price R*, Kelly AL*, **David AE**. *Synthesis of monodisperse silica nanoparticles for drug delivery to solid tumors*. 2014 AIChE Annual Meeting, Atlanta GA. 2014 Nov. (poster)

17. Sangle P*, **David AE**. *Sensor paper for food safety applications using enzyme immobilization on diatoms*. 2014 AIChE Annual Meeting, Atlanta GA. 2014 Nov. (poster)
18. Dobson C, Pickering C, **David AE**, Panizzi P, Arnold R. *Development of gold-lipid nanocomposites as a two-stage drug delivery system*. 2014 AIChE Annual Meeting, Atlanta GA. 2014 Nov. (poster)
19. Fan X*, **David AE**. *Silica/Biopolymer nanocomposites for enhanced oral drug delivery*. 2014 AIChE Annual Meeting, Atlanta GA. 2014 Nov. (poster)
20. Milton A*, Fan X*, Choi YS*, Park YJ, Yang AJ, **David AE**. *"Smart" nanocomposite for enhanced drug delivery of insulin*. 2013 AIChE Annual Meeting, San Francisco CA. 2013 Nov. (poster)
21. Fan X*, Milton A*, Choi YS*, Park YJ, Yang AJ, **David AE**. *"Smart" nanocomposites for enhanced oral drug delivery*. 2013 AIChE Annual Meeting, San Francisco CA. 2013 Nov. (poster)
22. Rogers HB*, Anani T*, Read C*, **David AE**. *Magnetic nanoparticles as multimodal contrast agents for the diagnosis of prostate cancer*. 2013 AIChE Annual Meeting, San Francisco CA. 2013 Nov. (poster)
23. Anani T*, Read C*, Rogers H*, Choi YS*, **David AE**. *Magnetic nanoparticles as multimodal contrast agents for measuring prostate cancer aggressiveness*. 2013 AIChE Annual Meeting, San Francisco CA. 2013 Nov. (poster)

Regional/Local Presentations (Dr. David's advisees indicated by *)

1. Hanley AM*, **David AE**. *Developing smart nanostructures using Janus nanoparticles synthesized via a new method with potential for scalability*. Graduate Engineering Research Showcase, Auburn University, Auburn, AL. 2015 Oct. (poster)
2. Kelly AL*, Arnold RA, **David AE**. *Evaluation of polymer coated silica nanoparticle cytotoxicity*. Graduate Engineering Research Showcase, Auburn University, Auburn, AL. 2015 Oct. (poster)
3. Anani T*, Panizzi P, Choi YS*, **David AE**. *Magnetic nanoparticles for non-invasive and quantitative imaging of proteolytic activity for cancer diagnosis*. AURIC Cancer Research Meeting, Opelika, AL. 2015 Aug. (poster)
4. Hanley AM*, **David AE**. *Developing an antimicrobial coating using Janus nanoparticles to prevent antibiotic resistant bacterial infections*. This is Research: Student Symposium, Auburn University, Auburn, AL. 2015 April. (poster)
5. Price RL*, Carnes GB*, Paul K*, Kelly AL*, **David AE**. *Production of polymer coated silica nanoparticles for therapeutic drug delivery*. This is Research: Student Symposium, Auburn University, Auburn, AL. 2015 April. (poster)
6. Kelly AL*, Arnold RA, **David AE**. *Detection of lipid coated silica nanocomposites*. This Is Research: Student Symposium, Auburn University, Auburn, AL. 2015 Apr. (poster)
7. Anani T*, Langford L*, Webb M*, Rogers H*, Choi YS*, **David AE**. *Tracking proteolytic activity in prostate cancer with multimodal magnetic nanoparticles*. Science and Technology Open House, Montgomery, AL. 2015 Jan.
8. Hanley, AM*, **David AE**. *Scalable synthesis methods for developing Janus nanoparticles*. Graduate Engineering Research Showcase, Auburn University, Auburn, AL. 2014 Oct. (poster)
9. Kelly AL*, Arnold RA, **David AE**. *Combining nanocarries for enhanced tumor targeting*. Graduate Engineering Research Showcase, Auburn University, Auburn, AL. 2014 Oct. (poster)
10. Anani T*, Langford L*, Webb M*, Rogers H*, Choi YS*, **David AE**. *Bioprocess-sensitive magnetic nanoparticles as a screening tool to distinguish between aggressive and indolent prostate cancer*. Graduate Engineering Research Showcase, Auburn University, Auburn, AL. 2014 Oct. (poster)
11. Anani T*, Langford L*, Webb M*, Rogers H*, Choi YS*, **David AE**. *Magnetic nanoparticles for enhanced prostate cancer targeting and diagnosis*. Science and Technology Open House, Montgomery, AL. 2014 Feb.
12. Rogers H*, **David AE**. *Multimodal contrast agents for the diagnosis of prostate cancer*. Alabama EPSCoR Science and Technology Open House, Montgomery, AL. 2013.

Synergistic Activities

2015 Oct	Member, 2016/01 ZCA1 TCRB-T (J1) S, NIH/NCI Review Panel
2015 Sept	Session moderator, This is Research: Faculty Symposium, Auburn University, Auburn, AL
2015	Co-Chair, MRS Spring Meeting, San Francisco, CA
2015	Member, AU Honors College Assoc. Director Search
2014 -	Board Member, Auburn University Research Initiative in Cancer (AURIC)
2014 -	Chair, Graduate Recruiting Committee, Department of Chemical Engineering
2014	Co-Chair, Hybrid Biomaterials; 2014 AIChE Annual Meeting, Atlanta GA
2014	Judge, NSEF Poster Competition, 2014 AIChE Annual Meeting, Atlanta GA
2013 -	Member, AU Dept. of Chemical Engineering Faculty Search Committee
2013 -	Senator, Dept. of Chemical Engineering Representative to the University Senate
2013 -	Advisor, Omega Chi Epsilon Honor Society
2013 -	Co-Organizer, Chemical Engineering E-Day display
2013	Co-Chair, Biomaterials for Drug Delivery; 2013 AIChE Annual Meeting, San Francisco
2013	Judge, AIChE Undergraduate Poster Competition, San Francisco CA
2012 – 2014	Judge, South's BEST Regional Robotics Championship
2012	Judge, AU Graduate Engineering Research Showcase
2012	Judge, ENGR 1110 Class Car Competition
Peer reviewer	Biomaterials; Current Pharmaceutical Biotechnology, Drug Delivery and Translational Research; Expert Review of Molecular Diagnostics; Indian Journal of Cancer; Journal of Controlled Release; MDPI Materials; Nanomedicine; Protein and Peptide Letters; Therapeutic Delivery; Toxicology Reports

Professional Memberships

The American Institute of Chemical Engineers (AIChE)

American Association of Pharmaceutical Scientists (AAPS)

Materials Research Society (MRS)