



WAWRZYNIEC L. DOBRUCKI

Associate Professor of Bioengineering

Curriculum Vitae

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Qualifications Summary

Ph.D. in chemistry, M.Sc. in biomedical engineering, and postdoctoral training in molecular imaging and nuclear cardiology. Extensive, 20+ years working knowledge of small animal microSPECT-CT, microPET-CT hybrid, and dedicated microCT imaging systems. Experience with optical imaging, ultrasonography, microPET, microSPECT-CT imaging, and design of implantable biosensors to detect reactive oxygen and nitrogen species in vivo. Currently directing Experimental Molecular Imaging Laboratory (EMIL) at Beckman Institute. An established track record of research publications. Proven independent researcher, principal investigator on federal, state, and professional societies grants, able to secure external funding and collaborate with academic and industrial partners. Proficiency in multimodal targeted radiotracer synthesis, and developing and applying advanced imaging protocols to study biological processes in animal models of disease. Skills include microsurgery, preparation, and quality control of radiotracers, image acquisition, reconstruction and processing, programming (Python, LabView, MatLab, Mathematica). Administration of computer network consisting of 20+ client workstations (Linux, Windows, macOS). Involved in student supervision and training of medical and academic personnel. Invited speaker at national and international professional meetings.

Areas of Research

The combination of different imaging modalities and technologies for mapping biomolecular and biological processes within a single cell or whole organs has an extraordinary potential for revolutionizing the diagnosis and treatment of pathophysiological disorders and thus mitigating the significant social and economic costs associated with the clinical management of diseases. The focus of Dr. Dobrucki's research is to develop such integrated imaging approaches to noninvasively monitor and track physiologic processes, including cancer progression, peripheral and myocardial angiogenesis, and vascular remodeling using functional and anatomical imaging modalities including SPECT/PET, optical imaging and X-ray CT. Such imaging strategies will eventually lead to individualized programs for disease prevention through advanced diagnosis, risk stratification, and targeted cell therapies resulting in more successful and efficient health care.

Keywords

PET, SPECT, X-ray CT, optical, molecular imaging, image analysis, multimodal imaging probes, translational imaging, angiogenesis, arteriogenesis, cancer, inflammation, tissue microenvironment

Education

2003 - 2008	Postdoctoral training	Yale University School of Medicine, New Haven, CT
2000 - 2003	Ph.D. in Chemistry	Ohio University, Athens, OH
1998 - 2000		Oakland University, Rochester, MI
1991 - 1997	M.Sc. in Bioengineering	Technical University of Wroclaw, Poland
1994 - 1997	B.S. in Bioengineering	Technical University of Hamburg, Germany

Employment

2021 - present	Health Innovation Professor	Carle-Illinois College of Medicine, University of Illinois at Urbana-Champaign, Urbana, IL
2019 - present	Associate Professor	College of Engineering, University of Illinois at Urbana-Champaign, Urbana, IL
2019 - present	Associate Professor	Carle-Illinois College of Medicine, University of Illinois at Urbana-Champaign, Urbana, IL
2018 - present	Research Scientist	Medical University of Gdansk, Gdansk, Poland
2013 - present	Full-time faculty	Beckman Institute for Advanced Science and Technology, Urbana
2017 - 2019	Assistant Professor	Carle-Illinois College of Medicine, University of Illinois at Urbana-Champaign, Urbana, IL
2013 - 2019	Assistant Professor	College of Engineering, University of Illinois at Urbana-Champaign, Urbana, IL
2010 - 2013	Senior Research Scientist	Beckman Institute for Advanced Science and Technology, Urbana
2009 - 2010	Associate Research Scientist	Yale University School of Medicine, New Haven, CT
2003 - 2009	Postdoctoral Associate	Yale University School of Medicine, New Haven, CT
2002 - 2003	Visiting Assistant Professor	Ohio University, Athens, OH
2000 - 2003	Graduate Research Assistant	Ohio University, Athens, OH
1998 - 2000	Graduate Research Assistant	Oakland University, Rochester, MI
1997 - 1998	Regional Sales Manager	Stryker Corporation Endoscopy Section, Warsaw, Poland
1996 - 1997	Biostatistics Engineer	proDERM Institute, Hamburg, Germany
1995 - 1996	Research Associate	University of the Federal Armed Forces, Hamburg, Germany

Honors

2002	John Houk Memorial Research Award, Ohio University, Athens, OH
2002	Ohio University's Outstanding Student Research Award, Ohio University, Athens, OH
2004	Young Investigator Award, American Society of Nuclear Cardiology, Bethesda, MD
2005	Best Regional Abstract, ICNC7, Lisbon, Portugal
2005	Alexander-Hudson Brown-Coxe Fellowship Research Award, Yale University, New Haven, CT
2005	American Heart Association Postdoctoral Fellowship Award
2006	Academy of Molecular Imaging Travel Scholarship, Orlando, FL
2006	American Heart Association Postdoctoral Fellowship Award
2006	Juvenile Diabetes Research Foundation Advanced Postdoctoral Award
2009	SNM Basic Science Research Award
2011	University of Illinois Research Board Award
2012	Siemens Preclinical Image of the Year Award
2015 - 2017	Senator, University of Illinois at Urbana-Champaign Senate
2015 - 2017	Excellent Teachers List, University of Illinois at Urbana-Champaign, Urbana, IL
2019 - 2021	Excellent Teachers List, University of Illinois at Urbana-Champaign, Urbana, IL
2021	Health Innovation Professor, Carle-Illinois College of Medicine, Urbana, IL

Professional Affiliations

2000	American Physiological Society, Member
2007	Society of Nuclear Medicine and Molecular Imaging, Member
2007	The New York Academy of Sciences, Member
2010	World Molecular Imaging Society (WMIS), Member
2010	American Heart Association (AHA), Full Member
2013	UIC Cancer Center, Member
2013	Biomedical Engineering Society (BMES), Full Member
2014	Cancer Center at Illinois (CCIL), Member

Teaching and Instruction

2010 - present	BIOE-120	Introduction to Bioengineering (invited lecturer)
2010 - present	BIOE-436	Senior Design (faculty sponsor)
2011 - 2021	BIOE-507	Advanced Bioinstrumentation (invited lecturer)
2011 - 2017	NPRE-435	Principles of Imaging with Ionizing Radiation (laboratory)
2013 - 2021	BIOE-414	Biomedical Instrumentation (course director and lecturer)
2013 - present	BIOE-498	Preclinical Molecular Imaging (course director and lecturer)
2016 - 2021	BIOE-571	Biological Measurement I (section lecturer)
2016 - 2021	BIOE-572	Biological Measurement II (section lecturer)
2018 - 2021	BIOE-572	Biological Measurement II (online course, section lecturer)
2018 - present	CIMED	Cardiovascular Module (engineering co-director)
2020 - present	BIOE-575	M.Eng. Capstone Project (faculty sponsor)
2021 - present	CIMED	Capstone Project (faculty sponsor, co-metor)
2021 - present	BIOE-598	Principles of Bioinstrumentation Design (course director)

Publications



ORCID Profile: orcid.org/0000-0002-6807-217X

Google Scholar Profile: scholar.google.com/citations?user=G7pJdK4AAAAJ

All years: Total citations: 5246. H-index: 38. i10-index: 71.

Since 2017: Total citations: 2395. H-index: 26. i10-index: 52.

Peer reviewed manuscripts

1. Brovkovich, V., L. W. Dobrucki, S. Brovkovich, I. Dobrucki, C. A. Do Nascimento, A. Burewicz, and T. Malinski (1999). Nitric oxide release from normal and dysfunctional endothelium. *J Physiol Pharmacol* **50**(4), 575–586.
2. Frenzel, T., A. Krüll, R. Schmidt, W. Dobrucki, B. Malys, and W. Box (1999a). Ein Computerlernprogramm für die Strahlentherapie. *Zeitschrift für Medizinische Physik* **9**(1), 56–59.
3. Frenzel, T., A. Krüll, R. Schmidt, W. Dobrucki, B. Malys, and W. Box (1999b). Ein Computerlernprogramm für die Strahlentherapie. *Zeitschrift für Medizinische Physik* **9**(1), 56–59.
4. Dobrucki, L. W., L. Kalinowski, W. Uracz, and T. Malinski (2000). The protective role of nitric oxide in the brain ischemia. *J Physiol Pharmacol* **51**(4 Pt 1), 695–703.
5. Kidd, G. A., L. W. Dobrucki, V. Brovkovich, D. F. Bohr, and T. Malinski (2000). Nitric oxide deficiency contributes to large cerebral infarct size. *Hypertension* **35**(5), 1111–1118.
6. Brovkovich, V., L. W. Dobrucki, S. Brovkovich, I. Dobrucki, L. Kalinowski, F. Kiechle, and T. Malinski (2001). Nitric oxide measurements during endotoxemia. *Clin Chem* **47**(6), 1068–1074.
7. Dobrucki, L. W., C. L. Cabrera, D. F. Bohr, and T. Malinski (2001). Central hypotensive action of clonidine requires nitric oxide. *Circulation* **104**(16), 1884–1886.
8. Dobrucki, L. W., L. Kalinowski, I. T. Dobrucki, and T. Malinski (2001). Statin-stimulated nitric oxide release from endothelium. *Med Sci Monit* **7**(4), 622–627.
9. Kalinowski, L., L. W. Dobrucki, and T. Malinski (2001). Nitric oxide as a second messenger in parathyroid hormone-related protein signaling. *The Journal of endocrinology* **170**(2), 433–40.
10. Kalinowski, L., L. W. Dobrucki, V. Brovkovich, and T. Malinski (2002). Increased nitric oxide bioavailability in endothelial cells contributes to the pleiotropic effect of cerivastatin. *Circulation* **105**(8), 933–938.
11. Wiemer, G., L. W. Dobrucki, F. R. Louka, T. Malinski, and H. Heitsch (2002). AVE 0991, a nonpeptide mimic of the effects of angiotensin-(1-7) on the endothelium. *Hypertension* **40**(6), 847–852.
12. Kalinowski, L., L. W. Dobrucki, M. Szczepanska-Konkel, M. Jankowski, L. Martyniec, S. Angielski, and T. Malinski (2003). Third-Generation β -Blockers Stimulate Nitric Oxide Release From Endothelial Cells Through ATP Efflux. *Circulation* **107**(21), 2747–2752.
13. Linz, W., G. Itter, L. W. Dobrucki, T. Malinski, and G. Wiemer (2003). Ramipril improves nitric oxide availability in hypertensive rats with failing hearts after myocardial infarction. *J Renin Angiotensin Aldosterone Syst* **4**(3), 180–185.

14. Nanobashvili, J., C. Neumayer, A. Fuegl, A. Punz, R. Blumer, M. Mittlbock, M. Prager, P. Polterauer, L. W. Dobrucki, I. Huk, and T. Malinski (2004). Combined L-arginine and antioxidative vitamin treatment mollifies ischemia-reperfusion injury of skeletal muscle. *J Vasc Surg* **39**(4), 868–877.
15. Hua, J., L. W. Dobrucki, M. M. Sadeghi, J. Zhang, B. N. Bourke, P. Cavaliere, J. Song, C. Chow, N. Jahanshad, N. van Royen, I. Buschmann, J. A. Madri, M. Mendizabal, and A. J. Sinusas (2005). Noninvasive Imaging of Angiogenesis With a 99m Tc-Labeled Peptide Targeted at $\alpha v \beta 3$ Integrin After Murine Hindlimb Ischemia. *Circulation* **111**(24), 3255–3260.
16. Su, H., F. G. Spinale, L. W. Dobrucki, J. Song, J. Hua, S. Sweterlitsch, D. P. Dione, P. Cavaliere, C. Chow, B. N. Bourke, X. Y. Hu, M. Azure, P. Yalamanchili, R. Liu, E. H. Cheesman, S. Robinson, D. S. Edwards, and A. J. Sinusas (2005). Noninvasive targeted imaging of matrix metalloproteinase activation in a murine model of postinfarction remodeling. *Circulation* **112**(20), 3157–3167.
17. Goyal, A., Y. Wang, H. Su, L. W. Dobrucki, M. Brennan, P. Fong, A. Dardik, G. Tellides, A. Sinusas, J. S. Pober, W. M. Saltzman, and C. K. Breuer (2006). Development of a model system for preliminary evaluation of tissue-engineered vascular conduits. *J Pediatr Surg* **41**(4), 787–791.
18. Lindsey, M. L., G. P. Escobar, L. W. Dobrucki, D. K. Goshorn, S. Bouges, J. T. Mingoia, D. M. McClister Jr., H. L. Su, J. Gannon, C. MacGillivray, R. T. Lee, A. J. Sinusas, F. G. Spinale, D. M. McClister, H. L. Su, J. Gannon, C. MacGillivray, R. T. Lee, A. J. Sinusas, and F. G. Spinale (2006). Matrix metalloproteinase-9 gene deletion facilitates angiogenesis after myocardial infarction. *American Journal of Physiology-Heart and Circulatory Physiology* **290**(1), H232–h239.
19. Luo, D., Y. Luo, Y. He, H. Zhang, R. Zhang, X. Li, W. L. Dobrucki, A. J. Sinusas, W. C. Sessa, and W. Min (2006). Differential functions of tumor necrosis factor receptor 1 and 2 signaling in ischemia-mediated arteriogenesis and angiogenesis. *The American journal of pathology* **169**(5), 1886–98.
20. Sinusas, A. J. and L. W. Dobrucki (2007). “Imaging of Angiogenesis”. In: *Cardiovascular Molecular Imaging*. Ed. by R. J. Gropler, D. K. Glover, and A. J. Sinusas. Informa Healthcare, pp.233–250.
21. Kalinowski, L., L. W. Dobrucki, D. F. Meoli, D. P. Dione, M. M. Sadeghi, J. A. Madri, and A. J. Sinusas (2008). Targeted imaging of hypoxia-induced integrin activation in myocardium early after infarction. *J Appl Physiol* **104**(5), 1504–1512.
22. Dobrucki, L. W., D. P. Dione, L. Kalinowski, D. Dione, M. Mendizabal, J. Yu, X. Papademetris, W. C. Sessa, and A. J. Sinusas (2009). Serial noninvasive targeted imaging of peripheral angiogenesis: validation and application of a semiautomated quantitative approach. *J Nucl Med* **50**(8), 1356–1363.
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25. Qian, X., M. P. Brennan, D. P. Dione, W. L. Dobrucki, M. P. Jackowski, C. K. Breuer, A. J. Sinusas, and X. Papademetris (2009). A non-parametric vessel detection method for complex vascular structures. *Medical Image Analysis* **13**(1), 49–61.
26. Suh, J. W., D. Scheinost, D. P. Dione, L. W. Dobrucki, A. J. Sinusas, and X. Papademetris (2009). A non-rigid registration method for serial microCT mouse hindlimb images. *Med Image Comput Comput Assist Interv* **12**(Pt 1), 688–695.
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29. Razavian, M., J. Zhang, L. Nie, S. Tavakoli, N. Razavian, L. W. Dobrucki, A. J. Sinusas, D. S. Edwards, M. Azure, and M. M. Sadeghi (2010). Molecular imaging of matrix metalloproteinase activation to predict murine aneurysm expansion in vivo. *J Nucl Med* **51**(7), 1107–1115.

30. Spinale, F. G., R. Mukherjee, J. A. Zavadzkas, C. N. Koval, S. Bouges, R. E. Stroud, L. W. Dobrucki, and A. J. Sinusas (2010). Cardiac Restricted Overexpression of Membrane Type-1 Matrix Metalloproteinase Causes Adverse Myocardial Remodeling following Myocardial Infarction. *Journal of Biological Chemistry* **285**(39), 30316–30327.
31. Criscione, J. M., L. W. Dobrucki, Z. W. Zhuang, X. Papademetris, M. Simons, A. J. Sinusas, and T. M. Fahmy (2011). Development and Application of a Multimodal Contrast Agent for SPECT/CT Hybrid Imaging. *Bioconjugate Chemistry* **22**(9), 1784–1792.
32. Hibino, N., G. Villalona, N. Pietris, D. R. Duncan, A. Schoffner, J. D. Roh, T. Yi, L. W. Dobrucki, D. Mejias, R. Sawh-Martinez, J. K. Harrington, A. Sinusas, D. S. Krause, T. Kyriakides, W. M. Saltzman, J. S. Pober, T. Shin'oka, and C. K. Breuer (2011). Tissue-engineered vascular grafts form neovessels that arise from regeneration of the adjacent blood vessel. *The FASEB Journal* **25**(8), 2731–2739.
33. Liu, Y.-H., Z. Sahul, C. a. Weyman, D. P. Dione, W. L. Dobrucki, C. Mekkaoui, M. P. Brennan, W. J. Ryder, and A. J. Sinusas (2011). Accuracy and Reproducibility of Absolute Quantification of Myocardial Focal Tracer Uptake from Molecularly Targeted SPECT/CT: A Canine Validation. *Journal of Nuclear Medicine* **52**(3), 453–460.
34. Razavian, M., S. Tavakoli, J. Zhang, L. Nie, L. W. Dobrucki, a. J. Sinusas, M. Azure, S. Robinson, and M. M. Sadeghi (2011). Atherosclerosis Plaque Heterogeneity and Response to Therapy Detected by In Vivo Molecular Imaging of Matrix Metalloproteinase Activation. *Journal of Nuclear Medicine* **52**(11), 1795–1802.
35. Sahul, Z. H., R. Mukherjee, J. Song, J. McAteer, R. E. Stroud, D. P. Dione, L. Staib, X. Papademetris, L. W. Dobrucki, J. S. Duncan, F. G. Spinale, and A. J. Sinusas (2011). Targeted imaging of the spatial and temporal variation of matrix metalloproteinase activity in a porcine model of postinfarct remodeling: relationship to myocardial dysfunction. *Circulation. Cardiovascular imaging* **4**(4), 381–391.
36. Suh, J. W., D. Scheinost, D. P. Dione, L. W. Dobrucki, A. J. Sinusas, and X. Papademetris (2011). A non-rigid registration method for serial lower extremity hybrid SPECT/CT imaging. *Med Image Anal* **15**(1), 96–111.
37. Tavakoli, S., M. Razavian, J. S. Zhang, L. Nie, R. Marfatia, L. W. Dobrucki, A. J. Sinusas, S. Robinson, D. S. Edwards, and M. M. Sadeghi (2011). Matrix Metalloproteinase Activation Predicts Amelioration of Remodeling After Dietary Modification in Injured Arteries. *Arteriosclerosis Thrombosis and Vascular Biology* **31**(1), 102–109.
38. Domagala, T. B., A. Szeffler, L. W. Dobrucki, J. Dropinski, S. Polanski, M. Leszczynska-Wiloch, K. Kotula-Horowitz, J. Wojciechowski, L. Wojnowski, A. Szczeklik, and L. Kalinowski (2012). Nitric oxide production and endothelium-dependent vasorelaxation ameliorated by N1-methylnicotinamide in human blood vessels. *Hypertension* **59**(4), 825–832.
39. Hedhli, N., L. W. Dobrucki, A. Kalinowski, Z. W. Zhuang, X. Wu, R. R. Russell 3rd, A. J. Sinusas, and K. S. Russell (2012). Endothelial-derived neuregulin is an important mediator of ischaemia-induced angiogenesis and arteriogenesis. *Cardiovascular Research* **93**(3), 516–524.
40. Tang, L., X. Yang, L. W. Dobrucki, I. Chaudhury, Q. Yin, C. Yao, S. Lezmi, W. G. Helderich, T. M. Fan, and J. Cheng (2012). Aptamer-Functionalized, Ultra-Small, Monodisperse Silica Nanoconjugates for Targeted Dual-Modal Imaging of Lymph Nodes with Metastatic Tumors. *Angewandte Chemie (International ed. in English)*, 1–7.
41. Li, S., A. J. Sinusas, L. W. Dobrucki, and Y.-H. Liu (2013). New approach to quantification of molecularly targeted radiotracer uptake from hybrid cardiac SPECT/CT: methodology and validation. *Journal of nuclear medicine : official publication, Society of Nuclear Medicine* **54**(12), 2175–81.
42. Xing, H., L. Tang, X. Yang, K. Hwang, W. Wang, Q. Yin, N. Y. Wong, L. W. Dobrucki, N. Yasui, J. A. Katzenellenbogen, W. G. Helderich, J. Cheng, and Y. Lu (2013). Selective Delivery of an Anticancer Drug with Aptamer-Functionalized Liposomes to Breast Cancer Cells and. *J Mater Chem B Mater Biol Med* **1**(39), 5288–5297.
43. Yin, Q., R. Tong, Y. Xu, K. Baek, L. W. Dobrucki, T. M. Fan, and J. Cheng (2013). Drug-initiated ring-opening polymerization of O-carboxyanhydrides for the preparation of anticancer drug-poly(O-carboxyanhydride) nanoconjugates. *Biomacromolecules* **14**(3), 920–929.
44. Yin, Q., F. Y. Yap, L. Yin, L. Ma, Q. Zhou, L. W. Dobrucki, T. M. Fan, R. C. Gaba, and J. Cheng (2013). Poly(iohexol) nanoparticles as contrast agents for in vivo X-ray computed tomography imaging. *J Am Chem Soc* **135**(37), 13620–13623.

45. Mehra, V. C., E. Jackson, X. M. Zhang, X. C. Jiang, L. W. Dobrucki, J. Yu, P. Bernatchez, A. J. Sinusas, G. I. Shulman, W. C. Sessa, T. O. Yarovinsky, and J. R. Bender (2014). Ceramide-activated phosphatase mediates fatty acid-induced endothelial VEGF resistance and impaired angiogenesis. *Am J Pathol* **184**(5), 1562–1576.
46. Tang, L., X. Yang, Q. Yin, K. Cai, H. Wang, I. Chaudhury, C. Yao, Q. Zhou, M. Kwon, J. A. Hartman, I. T. Dobrucki, L. W. Dobrucki, L. B. Borst, S. Lezmi, W. G. Helderich, A. L. Ferguson, T. M. Fan, and J. Cheng (2014). Investigating the optimal size of anticancer nanomedicine. *Proceedings of the National Academy of Sciences of the United States of America* **111**(43), 15344–9.
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51. Mu, Z., L. W. Dobrucki, and Y.-H. Liu (2016). SPECT Imaging of 2-D and 3-D Distributed Sources with Near-Field Coded Aperture Collimation: Computer Simulation and Real Data Validation. *Journal of Medical and Biological Engineering* **36**(1), 32–43.
52. Wang, H., L. Tang, Y. Liu, I. T. Dobrucka, L. W. Dobrucki, L. Yin, and J. Cheng (2016). In Vivo Targeting of Metabolically Labeled Cancers with Ultra-Small Silica Nanoconjugates. *Theranostics* **6**(9), 1467–1476.
53. Yin, Q., L. Tang, K. Cai, R. Tong, R. Sternberg, X. Yang, L. W. Dobrucki, L. B. Borst, D. Kamstock, Z. Song, W. G. Helderich, J. Cheng, and T. M. Fan (2016). Pamidronate functionalized nanoconjugates for targeted therapy of focal skeletal malignant osteolysis. *Proceedings of the National Academy of Sciences* **113**(32), E4601–e4609.
54. Hedhli, J., A. Czerwinski, M. Schuelke, A. Płoska, P. Sowinski, L. L. Hood, S. B. Mamer, J. A. Cole, P. Czaplewska, M. Banach, I. T. Dobrucki, L. Kalinowski, P. Imoukhuede, and L. W. Dobrucki (2017). Synthesis, Chemical Characterization and Multiscale Biological Evaluation of a Dimeric-cRGD Peptide for Targeted Imaging of $\alpha V \beta 3$ Integrin Activity. *Scientific Reports* **7**(1), 3185.
55. Hedhli, J., C. J. Konopka, S. Schuh, H. Bouvin, J. A. Cole, H. D. Huntsman, K. A. Kilian, I. T. Dobrucki, M. D. Boppart, and L. W. Dobrucki (2017). Multimodal Assessment of Mesenchymal Stem Cell Therapy for Diabetic Vascular Complications. *Theranostics* **7**(16), 3876–3888.
56. Kim, M., C. K. Abbey, J. Hedhli, L. W. Dobrucki, and M. F. Insana (2017). Expanding Acquisition and Clutter Filter Dimensions for Improved Perfusion Sensitivity. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control* **64**(10), 1429–1438.
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58. Lee, J., A. A. Abdeen, J. Hedhli, K. L. Wycislo, I. T. Dobrucka, T. M. Fan, L. W. Dobrucki, and K. A. Kilian (2017). Melanoma topology reveals a stem-like phenotype that promotes angiogenesis. *Science Advances* **3**(10), e1701350.
59. Wang, H. et al. (2017). Selective in vivo metabolic cell-labeling-mediated cancer targeting. *Nature Chemical Biology* **13**(4), 415–424.
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59. Lenczowski E, Konopka C, Dobrucki IT, Dobrucki LW "Psoriasis: It's All the RAGE" *Loyola University, St. Alberts Day 2017* (oral presentation), Chicago, IL
60. Hedhli J, Konopka C, Ploska A, Schuh S, Kalinowski L, Dobrucka I, Dobrucki LW "Molecular imaging of tumor microenvironment to study synergistic effects of therapy with doxorubicin and CAMs" *J Nucl Med 2017*; 58 (Suppl 1): 1021
61. Kim M, Hedhli J, Dobrucki LW, Abbey K, Insana MF "Optimal Filtering for Improved Perfusion Sensitivity" *IEEE International Ultrasonics Symposium 2017*, Article number 8092680
62. Huynh T, Hedhli J, Konopka C, Lee J, Kilian K, Dobrucki LW "Cellular Topological Growth Limits Affect Melanoma Phenotype" *BMES 2017*, Phoenix, AZ

63. Konopka C, Hedhli J, Lee J, Huynh T, Dobrucki IT, Kilian K, Dobrucki LW "A non-invasive analysis of the tumor microenvironment in a novel stem-like cancer cell xenograft model" BMES 2017 (oral presentation), Phoenix, AZ
64. Shahid H, Au J, Goel V, Hadley P, Hasnain A, Hwang B, Kizerwetter M, Lew J, Saadah B, Soares C, Sunny L, Yang T, Yeh H, Dobrucki LW "Myocardial phantom for dynamic multimodal imaging calibration and modeling methods" BMES 2017 (oral presentation), Phoenix, AZ
65. Hedhli J, Konopka C, Schuh S, Bouvin H, Huynh T, Cole J, Huntsman H, Kilian K, Dobrucki IT, Boppart M, Dobrucki LW "Mesenchymal stem cell therapy for diabetic vascular complications exerts multifaceted effects on ischemic tissue microenvironment" AHA Scientific Sessions 2017, Anaheim, CA (2017 Jay D. Coffman Early Career Investigator Award)
66. Wozniak M, Konopka C, Hedhli J, Ploska A, Siekierzycka A, Dobrucki IT, Kalinowski L, Dobrucki LW "Synthesis, Characterization and Biological Evaluation of Multimodal Dendrimer-based Probe for Targeted Imaging of Receptor for Advanced Glycation End-products" Europe Biobank Week 2018 Conference, Antwerp, Belgium (poster presentation)
67. Hedhli J, Kim M, Knox H, Huynh T, Dobrucki IT, Chan J, Sinusas AJ, Insana MF, Dobrucki LW "A Multimodal Noninvasive Imaging Strategy to Quantitatively Assess Functional Recovery in Preclinical Model of Peripheral Arterial Disease" BMES Annual Meeting 2018, Atlanta, GA (oral presentation, travel award)
68. Konopka C, Snyder A, Nguyen Q, Dobrucka IT, Rhodes J, Dobrucki LW "Evaluation Of A User-Friendly Method for Regional Analysis Of Cerebral Blood Perfusion Using SPECT-CT" BMES Annual Meeting 2018, Atlanta, GA (oral presentation)
69. Wallon, R. C., Adoni, N., and Dobrucki, L. W. "Using an engineering lens and a clinical lens to view cardiovascular imaging: A comparison of instructor and student perspectives on an integrated lecture series". Poster to be presented at the annual meeting of the Association of American Medical Colleges Central Group on Educational Affairs 2019, Grand Rapids, MI.
70. Blair, S., Garcia, M., Konopka, C., Dobrucki, L.W., Gruev, V. "A 27-band snapshot hyperspectral imaging system for label-free tumor detection during image-guided surgery" Progress in Biomedical Optics and Imaging - Proceedings of SPIE 2019, Volume 10890, 2019, Article number 108900G
71. Konopka, C., Paton, A.M., Skokowska, A., Rowles, J.L., Erdman, J.W., Dobrucki, I.T., Dobrucki, L.W. "Examining the role of dietary advanced glycation end products in prostate cancer using molecular imaging" (oral presentation), Nutrition 2019, June 8-11, 2019
72. Applegate, C.C., Hedhli, J., Miller, R.J., Dobrucki, L.W., O'Brian, W.D., Erdman, J.W. "Impact of dietary tomato on prostate carcinogenesis and progression in overweight/obese TRAMP mice" Nutrition 2019, June 8-11, 2019
73. Davila, G., Gholizadeh, M.A., Dobrucki, L.W., Dobrucki, I.T., Druhan, J.L. "Imaging the effects of CO2 injection on fluid transport properties in sandstone using Positron Emission Tomography". Goldschmidt 2019 conference, Barcelona, August 18-23, 2019
74. Insana, M., Zhu, Y., Kim, M., Dobrucki, L.W. "Advances in pulsed Doppler methods for peripheral perfusion imaging". 2019 IEEE International Ultrasonics Symposium (IUS) October 6-9, 2019, Glasgow, Scotland
75. Medina, D., Hedhli, J., Huynh, T., Dobrucki, I.T., Dobrucki, L.W. "Multimodal image visualization for diagnostic purposes" BMES 2019, Philadelphia, PA
76. Breen, E., Konopka, C., Dobrucki, L.W. "Effects of Dietary Advanced Glycation End Products on Prostate Cancer Progression" BMES 2019, Philadelphia, PA
77. Blair, S., Garcia, M., Konopka, C., Dobrucki, L.W., Gruev, V. "A 27-band snapshot hyperspectral imaging system for label-free tumor detection during image-guided surgery". Paper presented at the Progress in Biomedical Optics and Imaging - Proceedings of SPIE (2019), 10890 doi:10.1117/12.2508944
78. Radulska, A., Pelikant-Malecka, I., Gocek, E., Dobrucki, L.W., Kozera, L., Kalinowski, L. "The methylarginines in human serum: effects of age, gender, total cholesterol and C-reactive protein" Europe Biobank Week 2019, Lubeck, Germany, October 8-11, 2019

79. Szymanowski, J., Dobrucki, L.W., Skokowski, J., Kalinowski, L. "Architecture approach to the Polish Biobank Network central IT tools" urope Biobank Week 2019, Lubeck, Germany, October 8-11, 2019
80. Wozniak, M., Dobrucki, L.W., Kalinowski, L. "Evaluation of Novel Platform for the Digitization of Image Data (PDID) as a tool for examining the role of dietary advanced glycation end products in prostate cancer" Europe Biobank Week 2019, Lubeck, Germany, October 8-11, 2019
81. Dvoretzkiy, S., Wu, Y-F., Garcia, G., Konopka, C., Dobrucki, L.W., Boppart, M.D. "The Impact of Mechanical Strain and Immobilization on the Capacity for Skeletal Muscle-Resident CD146+ Pericytes to Secrete Extracellular Vesicles" ACSM Annual Meeting, San Francisco, CA, May 26-30, 2020
82. Shaheb, R., Misiewicz, P.A., Godwin, R.J., Dickin, E., White, D.R., Mooney, S., Dobrucki, I., Dobrucki, L.W., Grift, T.E. "A Quantification of Soil Porosity Using X-ray Computed Tomography of a Drummer silty clay loam soil" ASABE Annual International Meeting, Omaha, NE, July 12-15, 2020

Invited Talks (2010-present)

1. Dobrucki LW "Current state-of-the-art imaging techniques to assess therapeutic angiogenesis in the cardiovascular system" presented as planary opening lecture at XXI Congress of Polish Pharmaceutical Society on September 12, 2010, Gdansk, Poland
2. Dobrucki LW "The basics of PET, SPECT, and CT and the Siemens Inveon system" presented at the Focus Group for Nuclear Imaging meeting in Beckman Institute, Urbana, IL on March 16, 2011
3. Dobrucki LW "Molecular Nuclear Targeted Imaging of Ischemia-induced Angiogenesis. A journey from a single cell to the human body" presented at the Department of Bioengineering, UIUC on March 17, 2011
4. Dobrucki LW "The basics of PET, SPECT, and CT. The structure and function at high resolution and sensitivity" presented at the Department of Bioengineering, UIUC on April 13, 2011
5. Dobrucki LW "Imaging Cardiovascular System with Multimodal Probes and Targeted Agents" presented at the UIUC Biophotonics School in Beckman Institute on May 31, 2011
6. Dobrucki LW "Overview of Molecular Imaging Laboratory (MIL) at Beckman Institute" presented in Beckman Institute, Urbana, IL, October 4, 2011
7. Dobrucki LW "PET-SPECT-CT Imaging with Targeted Agents" Bioengineering Career Talk presented at the University of Illinois on October 12, 2011
8. Dobrucki LW "Molecular Nuclear Targeted Imaging of Ischemia-Induced Angiogenesis" presented at the Medical University of Gdansk, Poland, November 13, 2011
9. Dobrucki LW "Medical Imaging Modalities" presented at the Medical University of Gdansk, Poland on November 14, 2011
10. Tang L, Yang X, Xing H, Yin Q, Chaudhury IM, Hwang K, Wang W, Yasui N, Dobrucki LW, Katzenellenbogen JA, Helferich WG, Fan TM, Lu Y, Cheng J. "Development of Anticancer Nanomedicine" presented at the Cancer Community at Illinois Symposium, April 5, 2012
11. Dobrucki LW "Radiolabelled Imaging of Angiogenesis" presented at the 3rd Multimodality Cardiovascular Molecular Imaging Symposium at NIH, Bethesda, MD, April 20, 2012
12. Dobrucka IT, Schuelke M, Lapi S, Dobrucki LW "Novel Cu-64-labeled Targeted Agent Provides Favorable Biodistribution, High-purity, and Stability for PET Imaging of Angiogenesis" presented at the Society of Nuclear Medicine Annual Meeting, June 10, 2012
13. Dobrucki LW "Development and application of a multimodal contrast agent for SPECT/CT hybrid imaging" presented at the Imaging at Illinois, University of Illinois, Urbana, IL, June 1, 2012
14. Dobrucki LW "Medical Imaging Modalities" Bioengineering Career Talk presented at the University of Illinois on October 16, 2012
15. Dobrucki LW "Targeted Molecular Imaging. A new tool to diagnose vascular complications in diabetes" presented at the Medical University of Gdansk on November 5, 2012

16. Dobrucki LW "Seeing is believing: current molecular imaging strategies in medical diagnosis and treatment" Carrer Talk presented at the Medical University of Gdansk, Poland on November 6, 2012
17. Dobrucki LW "An overview of nuclear molecular imaging. Structure and function at high resolution and sensitivity" presented at the Division of Nutritional Sciences, UIUC on February 20, 2013
18. Dobrucki LW "Monitoring Disease Progression and the Efficacy of Therapeutic Interventions" presented during Faculty Enrichment in Life Science at Hudson County Community College, April 6, 2013
19. Dobrucki LW "Radiotracer Based Imaging of Angiogenesis" presented during the Experimental Biology 2013 in Boston, MA on April 21, 2013
20. Dobrucki LW "Evaluation of novel dimeric-cRGD peptide for targeted PET-CT imaging of peripheral angiogenesis in diabetic mice" presented during the Society of Nuclear Medicine and Molecular Imaging annual meeting in Vancouver, CA on June 10, 2013
21. Dobrucki LW "Imaging Applications in Cardiology" presented during PRIMA IV workshop on "Preclinical Imaging" in Savannah, GA on September 26, 2013
22. Dobrucki LW "Development of multimodal multifunctional probes for image-guided surgery" presented at HCESC-JUMP Symposium on Septemeber 10, 2014
23. Dobrucki LW "Targeted Molecular Imaging of Peripheral and Myocardial Angiogenesis with Multimodal Probes" UIC Angiogenesis Symposium, Chicago, IL on September 19, 2014
24. Dobrucki LW "Multimodal Molecular Imaging with Nanoparticles" presented at BioNanotechnology Seminar (IGERT UIUC) on November 12, 2014
25. Dobrucki LW "Targeted Imaging of Cellular Receptors. New Tool in Medical Diagnostics" presented during Gdansk 2014 Symposium Series, Gdansk, Poland on December 1, 2014
26. Dobrucki LW "Radiotracer-based imaging of angiogenesis. A New Tool in Medical Diagnostics" Department of Bioengineering, Ohio State University, Columbus, OH on February 26, 2015
27. Dobrucki LW "RAGE Imaging in prostate cancer" University of Illinois Cancer Center Research Forum, Chicago, IL on October 25, 2015
28. Dobrucki LW "PET-Optical Imaging of RAGE with Molecularly Targeted Nanoparticles" University of Illinois at Urbana-Champaign on January 27, 2016
29. Dobrucki LW "Nanoparticles As Contrast Agents for in Vivo X-ray Computed Tomography Imaging" iOptics Seminar Series, February 19, 2016
30. Dobrucki LW "Multimodal Multiscale Targeted Imaging of Molecular Signatures" University of Illinois at Chicago, Rockford, IL on February 24, 2016
31. Shahid H, Dobrucki LW "Dynamic Myocardial Phantom for Calibration of Multimodal Imaging and Modeling Methods" JUMP ARCHES Symposium on September 8, 2016
32. Dobrucki LW "Multimodal Cardiac Phantom for Imaging-based Modeling, Simulation, and Standardization" JUMP ARCHES Symposium on September 8, 2016
33. Rendeiro C, Rhodes J, Dobrucki LW "Cocoa flavanols and the aging brain" CNLM Investigators Meeting, May 10, 2016
34. Dobrucki LW "Multiscale Imaging with Molecularly Targeted Multimodal Agents" Carle HVI Symposium, October 19, 2016
35. Dobrucki LW "Multimodal Imaging Approaches for Quantitative Assessment of Tissue Microenvironments" University of Illinois at Chicago, Rockford, IL on October 18, 2017
36. Dobrucki LW "Multimodal Imaging Approaches for Quantitative Assessment of Tissue Microenvironments" *SNMMI Annual Meeting* CMIIT Emerging Technologies Session, June 12, 2017
37. Dobrucki LW "Multimodal Imaging Approaches for Quantitative Assessment of Tissue Microenvironments" *University of Nebraska-Lincoln* December 8, 2017
38. Dobrucki LW "Molecular Imaging in Quantitative Evaluations of Biological Specimens" *II National Polish Biobank Conference, BBMRI.pl* October 11, 2018 (keynote lecture)

39. Dobrucki LW "Multimodal Imaging Approaches for Quantitative Assessment of Tissue Microenvironments"
Beckman Institute Director's Seminar April 5, 2018

Current and Past Trainees

Past Undergraduate Trainees

Camille McAllister	Graduate student enrolled in Public Health at UCLA
Trang Trach	Project Director at Brigham and Women's Hospital
Marie-Stella Essilfie	Local Operations Director of REACH Ghana
Jason Soares	STEM teacher at East Haven High School, CT
Jason Criscione	CTO and Co-Founder at PixarBio Corporation
Matthew Schuelke	MD/PhD student at Mayo Clinic, Rochester, MN
Wolfgang Rubrecht	Engineering Leadership Development Program at Siemens
Anna Oleksiewicz	Associate Electrical Engineer at Continental
Andrew Stawarz	PhD student at Northwestern University
Christine Promisel	undergraduate BioE student at UIUC
Joseph Caffarini	MS student at Northwestern University
Stephanie Slania	PhD student at John Hopkins University
Jadin Elliott	Senior at Mahomet-Seymour High School, Mahomet, IL
Davy Ea	MS student in mechanical engineering, University of Lille, France
Leo Fabre	MS student in mechanical engineering, University of Lille, France
Quyen Nguyen	recent graduate, Chemical Engineering at UIUC
Sarah Schuh	MD student at SIU, Springfield, IL
Aditi Warhekar	recent graduate, Bioengineering at UIUC
Nirali Shah	recent graduate, NPRE at UIUC
Luke LaHood	recent graduate, Bioengineering at UIUC
Aashay Patel	OSF Peoria, IL
Megan Walusiak	undergraduate BioE student at UIUC
Akshaya Thananjeyan	undergraduate ChemE student at UIUC
Yifu Mao	M.Eng. recent graduate at UIUC
Linsun Sunny	M.Eng. recent graduate at UIUC
Congnyu Che	PhD student at UIUC, Urbana, IL
Aleksandra Skokowska	undergraduate student, Chemistry, Medical University of Gdansk, Poland
Emily Condic	undergraduate student, undeclared engineering, UIUC
Eric Michael	MS graduate student, ETH Zurich, Switzerland
Than Huynh	Medical Student at University of Wisconsin Madison
Antonios Skondras	Medical Student at Rush Medical College
Stanley Fayn	Center for Cancer Research, NIH National Cancer Institute
Haran Anand	Medical Student at University of Missouri-Kansas City School of Medicine
Jadin Elliott	graduate student at University of Delaware

Current Undergraduate Trainees

Yamenah Ambreen	undergraduate student, University of Illinois at Urbana-Champaign
Karl Baumgartel	undergraduate student, University of Illinois at Urbana-Champaign

Past Graduate Trainees

Jamila Hedhli	Brown-Beckman postdoctoral fellow
Christian Konopka	MD/PhD student in BioE at UIUC
Denise Medina Almora	Regulatory Affairs Specialist at Cook Medical
Angelo Miskalis	PhD student in BioE at UIUC
Yicheng Zhang	M.Eng. student in BioE at UIUC

Current Graduate Trainees

Leopold Pinot	MS student in BioE at UIUC
Michael Nelappana	Ph.D. student in BioE at UIUC
Goodluck Okoro	Ph.D. student in BioE at UIUC

Current Postdoctoral Fellows

Agata Ploska	Visiting Scholar, Medical University of Gdansk, Poland
Jamila Hedhli	Brown-Beckman postdoctoral fellow
Marcin Wozniak	Carle-Beckman postdoctoral fellow
Catherine Applegate	Beckman postdoctoral fellow

Service

University of Illinois at Urbana-Champaign

Department of Bioengineering

2013 - present BioE Qualifying Exam Committee, Member
 2014 - 2021 BioE Graduate Admissions Committee, Member
 2015 - 2017 BioE Graduate Admissions Committee, Chair
 2014 - 2018 BioE Executive Committee, Elected Member
 2014 - 2017 BioE Faculty Search Committee, Member
 2015 - 2016 Everitt Remodeling Committee, Member
 2015 - 2019 Diversity Advocate
 2017 - 2021 Internal Advisory Committee, Member
 2019 - 2021 Professional Master's in Engineering (MENG) Program, Director
 2019 - present BioE Leadership Committee, Member
 2021 - present BioE Graduate Admissions Committee, Chair
 2021 - present Associate Head for Graduate Programs

Beckman Institute for Advanced Science and Technology

2011 - present Nuclear Imaging Steering Committee, Member
 2011 - present Focus Group for Nuclear Imaging, Member
 2012 - present Pilot Award Selection Committee, Member
 2013 - 2020 Graduate Fellowships Committee, Member
 2013 Imaging at Illinois Conference, Session chair
 2016 1st IVIS Optical-Nuclear Imaging Workshop, organizer
 2017 - present Center for Optical Molecular Imaging, Steering Committee, Member
 2017 - 2019 Program Advisory Committee, Member
 2019 - present Integrative Imaging Theme, co-Chair
 2019 - present Beckman Institute Executive Committee, Member

College of Engineering

2013 - 2018 IT Governance Committee, Member
 2015 - 2016 CoE Growth Task Force, Graduate Education and Research, Member
 2018 Ad-hoc Committee of Executive Committee of the College of Engineering, Member
 2019 - present CoE Fellowship Board, Member

Carle-Illinois College of Medicine

2017 - 2018 Medical Sciences Building - Carle Illinois College of Medicine Renovation, add-hoc member
 2017 - 2021 Admissions Committee, Member
 2017 - 2019 Competencies Subcommittee, Chair
 2017 - present Cardiovascular Module, Engineering co-Director
 2019 - present Department of Biomedical and Translational Sciences Executive Committee, Member
 2021 - present Health Innovation Professor
 2021 - 2022 Health Innovation Research Day, Planning and Program Committee, co-chair
 2022 - present Engineering and Innovation Committee, Member

UIUC Campus

2011 - present Radiation and Laser Safety Committee, Member
 2015 - 2017 University of Illinois Senate, Elected Senator
 2016 - 2018 The Graduate Image of Research Selection Committee, Member
 2016 - 2019 Admissions Committee, University of Illinois Senate, Member
 2022 Search Committee for Radiation Safety Director, Member

Other Professional Services

Entrepreneurial Activities

2017 - 2019 ImagoSura, Inc., scientific consultant
 2017 - 2019 PhantomCor, Inc., VP for Research and co-owner

Biobanking and Biomolecular Research Resources

2017 - present Biobanking and Biomolecular Resources Research Infrastructure Poland, Consultant
 2017 - present Central Bank of Frozen Tissues and Genetic Specimens, Medical University of Gdansk, Consultant

Society of Nuclear Medicine and Molecular Imaging (SNMMI)

2012 - present Center for Molecular Imaging Innovation and Translation (CMIIT), Member
2012 - present CMIIT's Preclinical Task Force, Member
2012 - present SNMMI Central Chapter, Member
2013 - present Abstract reviewer

World Molecular Imaging Congress (WMIC)

2013 - present Abstract reviewer

American Heart Association (AHA)

2010 - present Regular member
2017 - present PVD Panel, member

Biomedical Engineering Society (BMES)

2015 - present Abstract reviewer
October 2015 Session chair (Multimodal Imaging session)
October 2016 Session chair
October 2018 Session chair
October 2019 Session chair

American Physiological Society (APS)

2013 - present Abstract reviewer
April 2013 Session chair and co-organizer (Imaging of angiogenesis session)

Advisory and Grant Selection Panels

2011 - present Foundation for Polish Science
2012 - present Ministry of Science and Higher Education, Poland
2017 - present The Chancellery of the President of the Republic of Poland, ad-hoc scientific consultant

Editorial Board Activities

2010 - present Associate Editorial Board, American Journal of Nuclear Medicine and Molecular Imaging (AJNMMI)
2014 - 2016 Associate Editor, IEEE Transactions in Medical Imaging (IEEE-TMI)
2018 - present Advisory Board, European Journal of Translational and Clinical Medicine
2019 - present Associate Editorial Board, Angiogenesis

Peer-review Activities

2009 - present Journal of Nuclear Medicine (reviewer)
2009 - present American Journal of Physiology (ad-hoc reviewer)
2011 - present IEEE Photonics (ad-hoc reviewer)
2012 - present Journal of Applied Physiology (ad-hoc reviewer)
2013 - present Journal of Angiogenesis (ad-hoc reviewer)
2014 - present Cancer Biotherapy & Radiopharmaceuticals (ad-hoc reviewer)
2014 - present IEEE Transactions in Medical Imaging (reviewer)
2014 - present Molecular Imaging and Biology (reviewer)
2015 - present Molecular Pharmaceutics (ad-hoc reviewer)
2015 - present Biomaterials (ad-hoc reviewer)
2016 - present Future Medicinal Chemistry (reviewer)
2016 - present Medical Physics (reviewer)
2016 - present Angiogenesis (reviewer)
2016 - present American Chemical Society journals (reviewer)
2018 - present Theranostics (reviewer)
2019 - present European Journal of Nuclear Medicine and Molecular Imaging (reviewer)