







**Sheryl Roberts, MChem, Ph.D.**



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 <https://www.ncbi.nlm.nih.gov/pubmed/?term=Roberts%2C+Sheryl>

## **Current Position**

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03/2022- present      Assistant Professor (tenure-track), Department of Oncology, School of Medicine, Wayne State University, Detroit, MI, USA

03/2022- present      Member, Karmanos Cancer Institute, Detroit, MI, USA

11/2022- 11/2025      Assistant Professor (tenure-track), Biomedical Engineering, College of Engineering, Wayne State University, Detroit, MI, USA

## **Education**

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### **Postgraduate Training**

11/2020 – 03/2022      Research Associate, Reiner Lab & Pillarsetty Lab Department of Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, USA

12/2017 – 10/2020      Research Scholar, Thomas Reiner Lab, Department of Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, USA

### **Education**

10/2013– 11/2017      Ph.D. in Medical Life Science and Technology, School of Medicine, Technische Universität München, Munich, Bavaria, Germany  
Mentor: Gil G. Westmeyer, Ph.D., Thesis Committee: Vasilis Ntziachristos, Ph.D., Thorsten Bach, Ph.D., External: Agnes Görlach, Ph.D.

09/2006 – 06/2011      Masters in Chemistry with Medicinal Chemistry (MChem (*Hons*)), Department of Chemistry, University of St. Andrews, St. Andrews, Fife, Scotland

## **Hospital or Other Professional Appointments**

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09/2020 – 03/2022      Chief Fellow, Department of Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, USA

11/2016 – 11/2017      Graduate Research Assistant, Mentor: Thomas Reiner Lab, Department of Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, USA

11/2012 – 11/2016      Guest Researcher, Mentor: Gil Westmeyer Lab, Institute of Medical Imaging and Biology (IBMI), Helmholtz Zentrum München (HMGU), Neuherberg, Munich, Germany

11/2012 – 11/2016	Ph.D. Candidate, Mentor: Gil Westmeyer Lab, School of Medicine, Technische Universität München (TUM), Munich, Bavaria, Germany
10/2011 – 05/2012	Science and Engineering Program in Law Trainee, Industrial Chemistry Processes, European Patent Office (EPO), Munich, Bavaria, Germany
09/2009 – 08/2010	Industrial Placement, Agfa-Gevaert Group N.V., Physics and Analytics Group Antwerp, Belgium
06/2008 – 08/2008	Summer Intern, Ceimig Ltd., Fine Chemicals, Dundee, Scotland
02/2008 – 05/2008	Undergraduate Research Intern, University of St. Andrews, Department of Chemistry, St. Andrews, Fife, Scotland

## Professional Society Memberships

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2018 – present	Member of New York Academy of Sciences (NYAS)
2018 – present	Member of American Association for the Advancement of Science (AAAS)
2017 – present	Member of World Molecular Imaging Conference (WMIC)
2013 – present	Member of European Molecular Imaging Meeting (EMIM)
2013 – 2016	Amnesty International Munich
2006 – present	Member of Royal Society Chemistry (RSC)

## Honors / Awards

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2022	Alavi-Mandell Award, Society of Nuclear Medicine and Molecular Imaging (SNMMI)
2021	ITARSc Award 2021, Radiological Society of North American (RSNA), Travel \$1000, one applicant per department, USA
2016	Laura-Bassi Award, Technische Universität München, Germany Research stipend (salary + consumables) support for outstanding women in science
2016	EXCITE: Biomedical Imaging, ETH Zürich, Zurich, Switzerland Summer school as one of the top 50 selected applicants worldwide. Travel and full board accommodation support
2016	Executive MBA in Innovation & Business Creation Scholarship, Technische Universität München, Munich, Germany, Awarded €19,500, part-time and modular in tandem with Ph.D., I declined.
2014	Sino-German DFG Travel Award, German Research Foundation, DGF-funded all-inclusive travel and accommodation to The Third Military Medical University (TMMU), Chongqing, China
2013	Life Science and Technology Award, Faculty of Medicine, Technische Universität München, Munich, Germany, 1st ranked Ph.D. candidate in the program, 1-year fellowship (salary and €5000 for consumables)

2013	Medical Life Science and Technology Program, Faculty of Medicine, Technische Universität München, Munich, Germany, highly competitive Ph.D. training program at TUM
2009	Erasmus+ Mobility Award, British Council, UK, Award for promoting International Work Relationship, 1-year monetary support for living in Antwerp, Belgium

## **Biographical Citations**

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2020	Ones to Watch 2020, Society of Nuclear Medicine and Molecular Imaging (SNMMI) Nominated and awarded as “Ones to Watch” in 2020 <a href="https://www.snmmi.org/NewsPublications/NewsDetail.aspx?ItemNumber=33498">https://www.snmmi.org/NewsPublications/NewsDetail.aspx?ItemNumber=33498</a>
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## **Teaching**

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### **Postdoctoral Trainees**

10/2023- present	Saheed Ayodeji, Ph.D.
03/2023- present	Chandra Prakash Sharma, Ph.D.
08/2022- 01/2023	Marlon Profeta de Almeida, Ph.D

### **Graduate (Masters, Ph.D., Pharm. D., etc.)**

06/2021– 03/2022	Justin Hackey, Weill Cornell Medicine, Ph.D. Candidate, support mentor, oversee the project with fluorescent molecules targeting ATM, Lewis Laboratory, MSK, NY, USA
09/2019 – 02/2020	Christopher Wittman, University of Vienna, Master Student, coordination chemistry, analytical chemistry, Reiner Laboratory, MSK, NY, USA Position 2020: Ph.D. Candidate, University of Vienna, Vienna, Austria
02/2017 – 06/2017	Madhu Jayaraman, Manipal Academy of Higher Education, Master Student, “Characterization of Near-infrared dyes”, Data analysis training and writing – 1 published paper together, 1st ranked in Master Thesis class, Reiner Laboratory, MSK, NY, USA

### **Medical Student**

11/2023- present	Cassidy McColl, M1 Research Electives, School of Medicine, Wayne State University
12/2022- present	Juwan Taylor, M2 Research Electives, School of Medicine, Wayne State University

### **Pre-Medical Student**

04/2018 – 07/2020	Navjot Guru, train day-to-day laboratory activities, Reiner Laboratory, MSK, NY, USA
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Position 2020: DO/Ph.D. Candidate, New York Institute of Technology

11/2016 – 07/2018 Patrick Donabedian, radiochemistry training, Data analysis training and writing – 1 published paper together, Reiner Laboratory, MSK, NY, USA  
Position 2019: Medical Student, School of Medicine, University of Florida

### **Undergraduate**

09/2023 – present Destina Unaegbu, 3<sup>rd</sup> year, Department of Chemistry, College of Liberal Arts and Sciences, Wayne State University

11/2022 – present Kareem Krayem, 2<sup>nd</sup> year, Department of Chemistry, College of Liberal Arts and Sciences, Wayne State University

06/2021 – 08/2021 Kaitlin Rhee, Berkeley University, Undergraduate Student, “Synthesis and purification of Affibodies”, direct mentor, training day-to-day activities, Pillarsetty Lab, MSK, NY, USA  
Position 2022: PhD Candidate, Chemical Biology, Harvard University

09/2019 – 06/2021 Cien Huang, Hunter College, Undergraduate Student, confocal microscopy and cell culture techniques, training for figures and manuscript writing – 1 published together, in preparation, Reiner Laboratory, MSK, NY, USA  
Position 2022: Medical Student, Jonas E. Salk Scholar, Albert Einstein College of Medicine

06/2020 – 08/2020 Nina R. Filippone, Binghamton University, Undergraduate Student, trained in writing review during COVID lockdown – 1 published paper together, Reiner Laboratory, MSK, NY, USA

06/2019 – 08/2019 Dylan Manuele, Rochester University, HPLC training, Reiner Laboratory, MSK, NY, USA

11/2016 – 05/2019 Crystal Choi, Hunter College, Undergraduate Student, “Synthesis of Near-infrared Nanoemulsions”, Data analysis training and writing – 1 published paper together, Reiner Laboratory, MSK, NY, USA  
Position 2020: Medical Student, SUNY Downstate College of Medicine

### **Lab Technician**

04/2023 – 10/2023 William Grace, Karmanos Cancer Institute, Detroit, USA

01/2023 – 03/2023 Lubna Kader, Karmanos Cancer Institute, Detroit, USA

06/2022 – 11/2022 Punita Bhardwaj, Karmanos Cancer Institute, Detroit, USA

06/2021 – 03/2022 Delissa Johnson, train day-to-day laboratory activities, mouse handling and in vivo work, Pillarsetty Lab, MSK, NY, USA

09/2020 – 03/2022 Tara Viray, direct teaching on cell culture techniques and purification techniques, direct mentor for “PARPi-FL stability in various conditions”, figures and manuscript training, Reiner Laboratory, MSK, NY, USA

### **High School Student**

06/2017 – 08/2017 Abby Hunt, “Evaluation of logP of near infrared red dyes”, under my direct mentorship, Reiner Laboratory, MSK, NY, USA

### Essays/Theses/Dissertations

07/2023 – present Navjot Guru, Doctoral, tbd, Dissertation (External Committee Member)

04/2022 – present Kelli Chapman, Doctoral, tbd, Co-mentor (Advisor/Mentor)

### Research Support

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- 03/2022 – 04/2027: Start Up Fund- Karmanos Cancer Institute
- 09/2022 – 09/2024: Faculty Competition for Postdoctoral Fellows
- 2022 – 2023: KCI Strategic Research Initiative Grant, KCI-SRIG Award

### Publications

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#### Peer Reviewed

#### Original Observations

1. B. McLarney\*, K Mijin‡, **S. Roberts S‡**, M. Skubal‡, H. Hsu, A. Ogirala, E. Pratt, NVK Pillarsetty, D. Heller, J.S. Lewis, J. Grimm\*. Ambient Light Resistant Shortwave Infrared Fluorescence Imaging for Preclinical Tumor Delineation via the pH Low-Insertion Peptide Conjugated to Indocyanine Green. [J. Nucl. Med.](#), 08/24/2023;64(10):1647-1653, PMID: 37620049, doi: 10.2967/jnumed.123.265686, IF: 10.06
2. PDS. França, T. Viray, **S. Roberts**, A. Michel, M. Abrahão, SG. Patel, I. Ganly, H. Schöder, C. Brand, T. Reiner, NVK Pillarsetty\*. Polyethylene Glycol 3350 (PEG 3350) as a Practical Vehicle for Rapid Reconstitution of PARPi-FL Formulations for Clinical Use. [Molecular Imaging and Biology](#), 2023, 25(2):294-302, PMID: 35882728. doi: 10.1007/s11307-022-01756-8, IF: 3.1
3. A. Sahu\*, J. Cordero, X. Wu, S. Kossatz, U. Harris, PDS França, N. Kurtansky, N Everett, S. Dusza, J. Monnier, P. Kumar, C. Alessi-Fox, C. Brand, [S. Roberts](#), K. Kose, W. Phillips, E. Lee, C.J. Chen, A. Rossi, K. Nehal, M. Pulitzer, C. Longo, A. Halpern, T. Reiner, M. Rajadhyaksha, M. Jain\*, Combined PARP1-targeted nuclear contrast and reflectance contrast enhances confocal microscopic detection of human basal cell carcinoma, [J. Nucl. Med.](#), 2021, just accepted, PMID: 34649941, DOI: 10.2967/jnumed.121.262600, IF: 10.06
4. T. Wilson, G. Pirovano, G. Xiao, Z. Samuels, [S. Roberts](#), T. Viray<sup>Ψ</sup>, N. Guru<sup>Ψ</sup>, P. Zanzonico, M. Gollub, T. Reiner\*, J. Bargonetti\*, PARP Targeted Auger Therapy in p53 Mutant Colon Cancer Xenograft Mouse Models, [Mol. Pharmaceutics](#), 2021, 18(9), 3418-3428, PMID: 34318678, DOI: 10.1021/acs.molpharmaceut.1c00323, IF: 4.94
5. C. Huang#, N.R. Filippone#, T. Reiner, [S. Roberts](#)\*, Sensors and Inhibitors for the Detection of Ataxia Telangiectasia Mutated (ATM) Protein Kinase, [Mol. Pharmaceutics](#), 2021, 18, 7, 2470-2481, PMID: 34125542, DOI: 10.1021/acs.molpharmaceut.1c00166, IF: 4.94

6. PDS. França, S. Kossatz, C. Brand, D. Zanoni Karassawa, S. Roberts, N. Guru<sup>‡</sup>, D. Adilbay, A. Mauguen, C. Mayor Valero, WA Weber, H. Schöder, RA Ghossein, I. SG. Patel\*, T. Reiner\*, A phase I study of a PARP1-targeted topical fluorophore for the detection of oral cancer, [Eur J Nucl Med Mol Imaging](#), 2021, 48 (11), 3618- 3630, PMID: 33954826, DOI: 10.1007/s00259-021-05372-6, IF: 7.23  
➔ Phase I Clinical Trial Results (NCT03085147)
7. S. Roberts, E. Khera, C. Choi<sup>#</sup>, T. Navaratna, J. Grimm, GM. Thurber, and T. Reiner\*, Optoacoustic imaging of GLP-1 Receptor with a near-infrared exendin-4 analog, [J. Nucl. Med.](#), 2021, 62(6), 10, PMID: PMC8729860, DOI: 10.2967/jnumed.120.252262, IF: 10.06
8. PDS. França, N. Guru, AR. Kostolansky, A. Mauguen, G. Pirovano, S. Kossatz, S. Roberts, M. Abrahao, SG. Patel, T. Reiner\*, and E. Jewell\*, Poly(ADP-ribose)polymerase1: A potential molecular marker to identify cancer during colposcopy procedures, [J. Nucl. Med.](#), 2021, 62(7), 941- 948, PMID: 33188153, DOI: 10.2967/jnumed.120.253575, IF: 10.06  
➔ Invited for journal video promotion
9. RJ. Young<sup>‡</sup>, PDS. França <sup>‡</sup>, G. Pirovano, AF. Piotrowski, PJ. Nicklin, CC. Riedl, JSchwartz, TA. Bale, PL. Donabedian, S. Kossatz, EM Burnaz, S Roberts, SK. Lyashchenko, AM. Miller, NS. Moss, M. Fiasconaro, Z. Zhang, A. Mauguen, T. Reiner\*, and M.P. Dunphy\*, Preclinical and first-in-human-brain-cancer applications of [18F]poly-(ADP-ribose) polymerase inhibitor PET/MR, [Neuro-Oncology Advances](#), 2020, 2, 1, vdaa119, PMID: 33392502, DOI: 10.1093/oaajnl/vdaa119  
➔ Phase I Clinical Trial Results (NCT04173104)
10. PMR. Pereira<sup>‡</sup>, S. Roberts<sup>‡</sup>, F. Figueira, JPC. Tome, T. Reiner, JS. Lewis\*, PET/CT imaging with a 18 F-labeled galactodendritic unit in a galectin-1 overexpressing orthotopic bladder cancer model, [J. Nucl. Med.](#), 2020, 61(9), 1369-1375, PMID: 32005776, DOI: PMC7456169, IF: 10.06  
➔ <sup>‡</sup> These authors contributed equally to this work
11. PDS. França, S. Roberts, S. Kossatz, N. Guru, C. Mason, DK. Zanoni, M. Abrahão, H. Schöder, I. Ganly, SG Patel, T. Reiner\*, Fluorine-18 labeled poly (ADP-ribose) polymerase1 inhibitor as a potential alternative to 2-deoxy-2-[<sup>18</sup>F]fluoro-d-glucose positron emission tomography in oral cancer imaging, [Nuclear Medicine and Biology](#), 2020, 84-85, 80-87, PMID: 32135475, DOI: 10.1016/j.nucmedbio.2020.01.004, IF: 2.41
12. PDS. França, N. Guru, S. Roberts, S. Kossatz, C. Mason, M. Abrahão, RA. Ghossein, SG. Patel, T. Reiner\*, Fluorescence-guided resection of tumors in mouse models of oral cancer, [Scientific Reports](#), 2020, 10, 11175, 202, PMID: 32636416, DOI: 10.1038/s41598-020-67958-8, IF: 4.0
13. HM. Schöder, PDS. França, R. Nakajima, EM Burnazi, S. Roberts, C. Brand, M. Grkovski, A. Mauguen, MPS Dunphy, R. Ghossein, SK Lyashchenko, JS Lewis, JA O'Donoghue, I. Ganly, SG. Patel, LY Nancy, T. Reiner\*, Safety and feasibility of PARP1/2 imaging with 18F-PARPi in patients with head and neck cancer, [Clinical Cancer Research](#), 2020, 26, 3110-6, PMID: 32245901, DOI: 10.1158/1078-0432.CCR-19-3484, IF: 10.11  
➔ Phase I Clinical Trial Results (NCT03631017)
14. K. Haedicke, L. Agemy, M. Omar, A. Berezhnoi, S. Roberts, C. Longo-Machado, M. Skubal, K. Nagar, H. Hsu, K. Kim, T. Reiner, J. Coleman, V. Ntziachristos, A. Scherz, J. Grimm\*, High-resolution optoacoustic imaging of tissue responses to vascular-targeted therapies, [Nature Biomedical Engineering](#), 2020, 4, 286-297, PMID: 32165736, DOI: 10.1038/s41551-020-0527-8, IF: 18.95

- ➔ Front cover, March Issue 3
- ➔ Highlighted in several news outlets

15. S. Roberts, A. Strom#, C. Choi#, C. Andreou, S. Kossatz, C. Brand, T. Williams, M. Bradbury, MF. Kircher, YK. Reshetnyak, J. Grimm, JS. Lewis, T. Reiner\*, Acid specific dark quencher QC1 pHLP for multi-spectral optoacoustic diagnoses of breast cancer, [Scientific Reports](#), 2019, 9(1), 8550, PMID: 31189972, DOI: 10.1038/s41598-019-44873-1, IF: 4.0
16. G. Pirovano, S. Roberts, T. Reiner\*, TOPKi-NBD: a fluorescent small molecule for tumor imaging, [Eur J Nucl Med Mol Imaging](#), 2019, 47, 1003-1010, PMID: 31734783, DOI: 10.1007/s00259-019-04608-w, IF: 7.23
17. G. Pirovano, S. Roberts, C. Brand, PL. Donabedian, C. Mason, PDS Franca, GS Higgins, T. Reiner\*, [18F]FE-OTS964: a Small Molecule Targeting TOPK for In Vivo PET Imaging in a Glioblastoma Xenograft Model, [Molecular Imaging and Biology](#), 2019, 21(4), 705-712, PMID: 30357568, DOI: 10.1007/s11307-018-1288-6, IF: 3.34
18. E. Khera‡, L. Zhang‡, S. Roberts, I. Nessler, D. Sandoval, T. Reiner, G. Thurber\*, Blocking Glucagon Like Peptide-1 Receptors in the Exocrine Pancreas Improves Specificity for Beta Cells in a Mouse Model of Type 1 Diabetes, [J. Nucl. Med.](#), 2019, 60(11), 1635-1641, PMID: 31076502, DOI: 10.2967/jnumed.118.224881, IF: 10.06
19. S. Roberts, C. Andreou, C. Choi#, P. DonabedianΨ, M. Jayaraman≠, EC Pratt, J. Tang, C. Pérez-Medina, MJ. Cruz, WJM Mulder, J. Grimm, M. Kircher, T. Reiner\*, Sonophore-enhanced nanoemulsions for optoacoustic imaging of cancer, [Chem. Sci.](#), 2018, 9(25), 5646-5657, PMID: 30061998, DOI: PMC6049522, IF: 9.35
20. J. Gonzales, S. Kossatz, S. Roberts, G. Pirovano, C. Brand, C. Pérez-Medina, P. Donabedian, MJ. Cruz, WJM Mulder, T. Reiner\*, Nanoemulsion-based delivery of fluorescent PARP inhibitors in mouse models of small cell lung cancer, [Bioconjugate Chem.](#), 2018, 29(11), 3776-3782, PMID: 30354077, DOI: 10.1021/acs.bioconjchem.8b00640, IF: 4.35
21. S. Roberts, M. Seeger, Y. Jiang, A. Mishra, F. Sigmund, A. Stelzl, A. Lauri, P. Symvoulidis, H. Rolbieski, M. Preller, XL Deán-Ben, D. Razansky, T. Orschmann, SC Desbordes, P. Vetschera, T. Bach, V. Ntziachristos, G.G Westmeyer\*, Calcium Sensor for Photoacoustic Imaging, [J. Am. Chem. Soc.](#), 2018, 140(8), 2718-2721, PMID: 28945084, DOI: 10.1021/jacs.7b03064, IF: 15.42
  - ➔ Front cover, Feb, Issue 8
  - ➔ Highlighted in several news outlets
22. A. Mishra, Y. Jiang, S. Roberts, V. Ntziachristos, G.G Westmeyer\*, Near-infrared photoacoustic imaging probe responsive to calcium, [Anal. Chem.](#), 2016, 88(22), 10785-10789, PMID: 27779396, DOI: 10.1021/acs.analchem.6b03039, IF: 6.79
23. RA. Aitken, G. Barker, LP Cleghorn, EJ Reid, S. Roberts, Formation of unexpected heterocyclic products from pyrolysis of thiocarbonyl stabilized phosphonium ylides, [Heterocycles](#), 2014, 88(2), 1135-1147, IF: 1.08

## **Review Articles**



1. G. Pirovano, S. Roberts, S. Kossatz, T. Reiner\*, Optical imaging modalities: principles and applications in preclinical research and clinical settings, *J. Nucl Med.*, 2020, 61(10), 1419- 1427, PMID: 32764124, DOI: 10.2967/jnumed.119.238279, IF: 10.06  
→ Continuing Education (invitation only), invited review

## **Theses**

1. S. Roberts, “Design and Synthesis of Calcium Sensors for Photoacoustic Imaging”, Ph.D. Thesis, Technische Universität München (TUM), Munich, Germany, Chair of Biological Imaging, DOI: <http://mediatum.ub.tum.de/?id=1506222>, Mentor: Dr. Gil G. Westmeyer, Thesis Committee: Dr. Vasilis Ntziachristos, Dr. Thorsten Bach, 2017
2. S. Roberts, “Syntheses of New Chiral Ligands from  $\beta$ -thiocarbonyl Phosphonium Ylides”. MChem Thesis, University of St. Andrews, St. Andrews, UK, Department of Chemistry, Mentor: Dr. Alan A. Aitken, 2011
3. S. Roberts, “Determination of Hansen Solubility Parameters (HSP) of Different Amigo II Plate Components to Quantify Chemical Resistance”, Physics and Analytics Group, AGFA N.V., 52-page company thesis, Mortsel, Antwerpen, Belgium, Mentor: Bart Wuytens, 2010
4. S. Roberts, “The Effect of Co-solvents and Varying its Concentration on the Stability of Dispersion Inks”, Physics and Analytics Group, AGFA N.V., 46-page company thesis, Mortsel, Antwerpen, Belgium, Mentor: Bart Wuytens, 2009
5. S. Roberts, “Determining the Mechanism for the Formation of Titanate Nanotubes using SEM and HRTEM for Scanning Process and Image Formation”, Undergraduate Research Thesis, University of St. Andrews, St. Andrews, UK, Department of Chemistry, Mentor: Dr. Wuzong Zhou, 2008

## **Non-Peer Reviewed**

## **Original Observations**

1. D. Adilbay, J. Gonzales, PDS Franca, S. Roberts, S. Patel, T. Viray, C. Chow, G.F. King, S.K. Jain, A.A. Ordonez, L.S. Carroll, N. Pillarsetty, T. Reiner\*, Non-invasive Imaging of Sense of Smell by Tracking the Voltage-Gated Sodium Channel Nav1.7, preprint [bioRxiv](https://doi.org/10.1101/2021.10.07.463532), 2021, DOI: 10.1101/2021.10.07.463532v1  
→ Under review

## **Published Abstracts**

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1. S. Sahu, J. Cordero, X. Wu, PDS Franca, S. Kossatz, U. Harris, N. Kurtansky, N. Everett, S. Dusza, J. Monnier, P. Kumar, C. Fox, C. Brand, S. Roberts, K. Kose, W. Phillips, E. Lee, C. J. Chen, A. Rossi, K. Nehal, M. Pulitzer, C. Longo, A. Halpern, T. Reiner, M. Rajadhyaksha, and M. Jain, Combining PARPi-FL fluorescence and reflectance contrast for improved detection of basal cell carcinoma (BCC), Biophotonics Congress, [Optical Molecular Probes, Imaging and Drug Delivery](#), OTh2D.4, 2021, DOI: 10.1364/OMP.2021.OTh2D.4
2. I. Serganova, K. Vemuri, I. Cohen, M. Lubin, S. Roberts, M. Maeda, M. Mane, H. Mann, T. Reiner, E. Chan, D. Yarin, K. M-T, R. Zappasodi, T. Merghoub, J. Koutcher, R. Blasberg, Vessel normalization following LDH-A knockdown in murine breast tumors, AACR Annual Meeting, [Cancer Research](#), 80, 16, abstract 1476, Philadelphia, PA, USA, 2020, DOI: 10.1158/1538-7445.AM2020-1476



## Media

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1. iThera Medical Seminar, 2020: <https://www.youtube.com/watch?v=eXBJn27D65U>
2. World Molecular Imaging Society 2020: <https://register.gotowebinar.com/recording/2241008513520205583>

## Presentations

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### Invited Presentations

#### Regional / Local

1. S. Roberts, “Imaging and therapy of the fibroblasts activation protein (FAP)”, KCI-Molecular Imaging Program Series; Detroit, MI, USA, Apr. 2023.  
*Leader: Dr. Nerissa Viola*
2. S. Roberts S., “Molecular imaging with optoacoustics”, Biomedical Engineering Seminar, Detroit, MI, USA, ; Apr. 2023  
*Host: Dr. Jitao Zhang*
3. S. Roberts, et al., “Exendin-4 analog for optoacoustic imaging of the GLP-1 Receptor”, Eastern Analytical Symposium (EAS), Princeton, NJ, USA, Nov. 2022.  
*Session Chair: Dr. Fay Nicolson (Dana-Farber Cancer Institute)*
4. S. Roberts, “Therapy and Imaging in the near-infrared window of the fibroblast activation protein (FAP)” Prostate Cancer Research Team (PCRT) Monthly Seminar, Detroit, MI, USA, Jun. 2022,  
*Leader: Dr. Elisabeth Heath*
5. S. Roberts et al., “Targeting the Oncogene HPV16 E7 with Affibody Molecules in Head and Neck Cancer”, Eastern Analytical Symposium & Exposition, New Jersey, USA, Nov. 2021
6. S. Roberts et al., “New Chemistry and Multi-modal Approaches for Molecular Imaging”, Radiopharmaceutical Chemistry, Department of Chemistry, University of Helsinki, Finland, Faculty Candidate, virtual, Oct. 2021
7. S. Roberts et al., “Near infrared optoacoustic nanoemulsions for in vivo optoacoustic imaging”, Weill Cornell Medicine lecture, New York, USA, Jan. 2020
8. S. Roberts et al., “Optoacoustics and optical- complementary modalities for molecular imaging”, iThera Medical’s webinar, <https://www.youtube.com/watch?v=eXBJn27D65U>, virtual, May 2020
9. S. Roberts et al., “Optoacoustic chemical imaging probes for exploring cancer biology”, World Molecular Imaging Society (WMIS), Early Professionals Webinars,  
<https://register.gotowebinar.com/recording/2241008513520205583>, virtual, Apr, 2020
10. S. Roberts et al., “Sensors for Optoacoustic Detection”, Chemical Biology Monthly Seminar, Chaired by Dr. Derek Tan, MSK, NY, USA, Jul. 2020
11. S. Roberts et al., “The use of optoacoustic tomography for cancer detection”, Imaging Sciences Seminar, MSK, NY, USA, Nov. 2019

12. S. Roberts et al., “Chemical Sensors for Optoacoustic Imaging”, Chemical Biology Monthly Seminar, Chaired by Dr. Derek Tan, MSK, NY, USA, Mar. 2019
13. S. Roberts et al., “Chemical Tools for the Optoacoustic Imaging of Cancer”, Radiology Science Slam, MSK, NY, USA, Sept. 2018
14. S. Roberts et al., “pHLIP® technology with optoacoustic imaging”, Bracco Diagnostics Inc. (company visit for interest in agent acquisition), MSK, NY, USA, Apr. 2018
15. S. Roberts et al., “Neurosensing using Photoacoustics”, Invited seminar for a postdoctoral position in the Laboratory of Dr. Thomas Reiner, MSK, NY, USA, Jul. 2016

### **International / National**

1. Roberts S. “Imaging with optoacoustics. from macroscopic to mesoscopic scale”, World Molecular Imaging Conference, Prague, Czech Republic, Sept. 2023  
*Session Chair: Lacey McNally (University of Oklahoma)*
2. S. Roberts, “New Chemistry and Multi-modal Approaches for Molecular Imaging”, Radiopharmaceutical Chemistry, Department of Chemistry, University of Helsinki, Finland, Faculty Candidate, virtual, Oct. 2021
3. S. Roberts et al., “Leveraging Chemistry for Molecular Imaging”, Invited seminar for a Radio-Pharmacology-Molecular Imaging/Therapy Laboratory Head Position, Oncology Research, Novartis Institutes of Biomedical Research (NIBR), Novartis Pharma AG, virtual, Basel, Switzerland, Sept. 2021
4. S. Roberts et al., “Chemical Probes for Molecular Imaging of Cancer”, Department of Oncology, Karmanos Cancer Institute, Wayne State University, Faculty Candidate, virtual, Sept. 2021
5. S. Roberts et al., “Imaging Pancreatic  $\beta$ -cells with Optoacoustic Biomarkers for Diabetes Detection”, iThera Medical Optoacoustic Imaging Symposium, Montreal, Canada, Sept. 2019
6. S. Roberts et al., “Calcium Selective Photoacoustic Agent and its Design Principles”, ETH Zürich, Zurich, Switzerland, Sept. 2016
7. S. Roberts et al., “Chemical Functional Sensors for Photoacoustics”, Institute of Biological and Medical Imaging (IBMI) Meeting, Helmholtz Zentrum Munich, Munich, Germany, Jun. 2016
8. S. Roberts et al., “Dynamic contrast agents for non-invasive optoacoustic imaging of neural activations”, Invited interview for postdoctoral position in industry (in German/English), Roche Diagnostics GmbH, Penzberg, Bavaria, Munich, Germany, May 2016
9. S. Roberts et al., “Functional Sensors for NIR Fluorescence and MSOT”, Institute of Biological and Medical Imaging (IBMI) 3-day Retreat, Helmholtz Zentrum Munich, Munich, Germany, Jun. 2015

### **Oral Presentations as Presenting Author**

#### **International / National**

1. S. Roberts et al. “Acid specific dark quencher QC1 pHLIP for multi-spectral optoacoustic diagnoses of breast cancer”, European Molecular Imaging Meeting (EMIM), Glasgow, Scotland, Mar. 2019

2. S. Roberts et al., “Dark yet bright: non-radiative and high performance optoacoustic nanoemulsions”, World Molecular Imaging Conference, Philadelphia, USA, Sept. 2017

### **Regional / Local**

1. S. Roberts et al., “Near-infrared exendin-4 analog for optoacoustic imaging of the GLP-1 receptor”, Pacific Basin Societies, virtual, Dec. 2021
2. S. Roberts et al., “[124I]-ATMi for in vivo PET imaging of ataxia telangiectasia mutated (ATM) kinase in mouse models of glioblastoma”, World Molecular Imaging Conference (WMIC), virtual, Oct. 2021.

### **Oral Presentations as Co-Author**

#### **International / National**

1. B. McLarney et al., “Shortwave infrared preclinical tumor screening and resection via pHLIP ICG”, Photonics West, SPIE, San Francisco, CA, USA, Jan. 2023  
*Session: Reporters, Markers, Dyes, Nanoparticles, and Molecular Probes for Biomedical Applications XIV*
2. PDS Franca et al., “Improving Oral Cancer detection using PARPi-FL in vivo imaging: A Phase I/II Clinical Trial”, International Academy of Oral Oncology (IAOO), Chicago, USA, June 2022
3. PDS Franca et. al. “PARP1 Targeted Tracers to Enhance Diagnosis and Treatment of Oral Cancers”, Brazilian Head and Neck Society, Oct. 2020
4. PDS Franca et. al. “PARPi-FL Imaging of Head and Neck Oral Cancer”, SECCAPE-USP, Brazil, May 2019
5. PDS Franca et. al. “Detection and Delineation of oral cancer with a PARP-1 targeted optical imaging agent, Peter McCullough Cancer Center, Melbourne, Australia, Jun. 2019
6. PDS Franca et. al. “A potential fluorescent tracers for in vivo cancer delineation” WMIC, Sept. 2020
7. PDS Franca et. al. “PARP1 imaging as a potential solution for the pitfalls seen with 18FDG-PET/CT Imaging of Head and Neck tumors”, WMIC, Sept. 2019
8. S. Roberts...G. Westmeyer, “Optoacoustic Imaging of Calcium”, European Molecular Imaging Meeting (EMIM), San Sebastian, Spain, Mar. 2018  
→ Spotlight session
9. S. Roberts...G. Westmeyer, “Calcium Sensors for Photoacoustics”, World Molecular Imaging Conference, Seattle, USA, Sept 2018

### **Regional / Local**

1. D. Adilbay et. al., “Imaging of olfactory nerve using a selective Nav1.7 sodium channel inhibitor in the diagnosis of smell disorders”, WMIC, virtual, 2021
2. PDS Franca, et. al., “PARP1 targeted tracers to enhance diagnosis and treatment of oral cancers”, World Molecular Imaging Society (WMIS), Early Professionals Webinars, Jul. 2020
3. PDS Franca et. al. PARPi-FL as a molecular marker for fluorescence-guided resection of tumors in mouse or oral cancer, Postdoc Symposium MSK, Sept. 2020

4. PDS Franca et. al. "18F-PARPi: A potential new PET/CT tracer or Head and Neck Cancers" NYHNS, Oct. 2019  
     ➔ Awarded Best Research 2019 among Head and Neck (HN) Fellow at the New York HN Society

### **Poster Presentations as Presenting Author**

#### **International / National**

1. Roberts S et al., E7-specific affibody for HPV-positive Head and Neck Cancer. World Molecular Imaging Conference, Miami, FL, USA, Sept 2022
2. S. Roberts et al., "pH specific dark quencher enables multi-spectral optoacoustic imaging of breast cancer", World Molecular Imaging Conference, Seattle, USA, Sept 2018
3. S. Roberts et al., "Near infrared optoacoustic exendin-4 analog for  $\beta$ -cell cluster imaging", World Molecular Imaging Conference, Montreal, Canada, Sept. 2019
4. S. Roberts et al., "Optoacoustic diagnoses of cancer with sonophore-enhanced nanoemulsions", European Molecular Imaging Meeting (EMIM), Glasgow, Scotland, Mar. 2019
5. S. Roberts et al., "Calcium Selective Photoacoustic Agent and its Design Principles", EXCITE Summer School, ETH Zürich, Zürich, Switzerland, 2016

#### **Regional / Local**

1. S. Roberts et al., "Targeting the acidic environment of cancer using a pH low insertion peptide for multi-spectral optoacoustic tomography", New York Academy of Sciences (NYAS), New York, USA, 2019

### **Poster Presentations as Presenting Co-Author**

1. B. McLarney et al., Shortwave infrared fluorescence imaging for preclinical tumor screening and resection via pHLIP ICG. WMIC; 09/2023; Prague, Czech Republic
2. PDS Franca et al., PARPi-FL use in fluorescence-guided resection of oral cancer, Pacificchem, Virtual Conference, 2021
3. PDS Franca et al., PARP1 targeted imaging and theranostics, Memorial Sloan Kettering's Imaging and Radiation Sciences Program, Virtual Seminar, Nov. 2021
4. A. Michel<sup>Ψ</sup> et al., Optimizations of PARPi-FL imaging with the clinical Quest System, World Molecular Imaging Congress, virtual, 2021
5. T. Viray<sup>Ψ</sup> et al., PARPi-FL in polyethylene glycol 3350 (PEG3350) as a practical vehicle for clinical use, World Molecular Imaging Congress, Miami, USA cancelled, virtual, 2021
6. PDS Franca et al., Improving Oral Cancer detection using PARPi-FL: A Phase I Clinical Trial, World Molecular Imaging Congress, Miami, USA cancelled, virtual, 2021
7. PDS Franca et al., PARP1 derived tracers for imaging of Head and neck tumors, New technologies applied to Head and Neck Surgery. Brazilian Head and Neck Surgery Society, Virtual Symposium 2020

8. PDS Franca et al., Fluorescence-guided resection of tumors in mouse models of oral cancer, World Molecular Imaging Congress, Virtual Conference 2020
9. PDS Franca et al., PARP1 Targeted Tracers to Enhance Diagnosis and Treatment of Oral Cancers, World Molecular Imaging Society, Webinar, 2020
10. PDS Franca et al., Innovations and Advanced Techniques in Head and Neck Surgery, Head and Neck Brazilian Surgery Society online symposium on Head and Neck Surgery, Webinar 2020
11. PDS Franca et al., PARP1 imaging as a potential solution for the pitfalls seen with [18F]FDG - PET/CT Imaging of Head and Neck Tumors, World Molecular Imaging Congress, Montreal, CA, 2019
12. PDS Franca et al., Detection and Delineation of Oral Cancer with a PARP1-Targeted Optical Imaging Agent, Peter MacCallum Cancer Center, Melbourne, AU, 2019
13. PDS Franca et al., Detection and Delineation of Oral Cancer with a PARP1-Targeted Optical Imaging Agent, Hollywood Private Hospital, Perth, AU, 2019
14. PDS Franca et al., Principles of molecular imaging, PARPi-FL Imaging of Head and Neck Oral Cancer, 6<sup>o</sup> SECCAPE, USP Head and Neck Surgery Week, Sao Paulo, BR, 2019
15. PDS Franca et al., Imaging of Head and Neck Cancer Tissue Sample with PARP Tracers and the use of artificial intelligence to read stained slides, University of Sao Paulo, Sao Paulo, BR, 2019
16. D. Manuele# et al., Fluorescence Imaging of Peripheral Nerves by Hsp1a-FL targeting Nav1.7, Molecular Imaging Summer Program, MSK, New York, NY, 2019
17. C. Choi# et al., Optoacoustic Imaging of Breast Cancer Using Dark Quencher QC1 pHLIP, Hunter College Research Conference, New York, NY, USA, 2019
18. C. Choi# et al., Optoacoustic Imaging of Breast Cancer Using Dark Quencher QC1 pHLIP, Annual Biomedical Research Conference for Minority Students, Abstract O-021, Indianapolis, IN, 2018
19. C. Choi# et al., The Synthesis of Near Infrared Dye-Encapsulated Nanoemulsions, Hunter College Research Conference, 2018
20. C. Choi# et al., The Synthesis of Near Infrared Dye-Encapsulated Nanoemulsions, American Medical Student Association Convention & Exposition, Washington D.C., 2018

\* corresponding author

# undergraduate student

≠ masters student

Ψ lab technician

## **Service**

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### **Wayne State University- School/College**

03/2023

Judge, 12th Annual Cancer Biology Research Symposium, School of Medicine

01/2023	Judge, 26th Annual Graduate Student Research Presentation Day, School of Medicine
01/2023	Panelist, Cancer biology graduate recruitment day, School of Medicine
09/2022- 05/2023	Member, KCI monthly seminar series, School of Medicine
09/2022	Judge, Shark tank trainees, Annual KCI Molecular Imaging Retreat, School of Medicine
09/2022	Panelist, Meet-and-Greet session M1 Research Elective, School of Medicine

## **Wayne State University- Department/Division**

### **Other Professionally Related Service**

#### **Professional**

09/2023- 03/2024	Chair, Ultrasound & Optoacoustic Technologies, European Molecular Imaging Meeting (EMIM)
12/2022	Member, Optical Molecular Probes, Imaging and Drug Delivery (OMP), Optica's Biophotonics Congress: Optics in the Life Sciences, formerly OSA
09/2022	Member, Opto-Acoustic Methods and Applications in Biophotonics, SPIE
2021 – 2022	Chief Fellow (Radiology), organizing events, liaising between faculty and postdocs/students/trainees

#### **Community**

06/2021 – 2022	Moderator and Organizer, Molecular Imaging and Biology Journal Club hosted by WMIC
07/2017 – 2022	Active Mentor, McNulty Mentor for STEM Program, Hunter College, NY, USA
07/2021	Navigating career after undergraduate and graduate studies, MSK Lecture, MSK Summer Undergraduate Research Program, NY, USA.
07/2020	Career Path & Science: Dream, Explore, Discover", MSK Lecture, MSK Summer Undergraduate Research Program, NY, USA
06/2020	Hosted Journal Club, MSK Summer Research Undergraduate Program, NY, USA
03/2020	Hosted class session "Funding and Negotiation Workshop" for McNulty Scholars at Hunter College, NY, USA
08/2008 – 11/2009	Volunteer and active member for Charity, ChildReach International, London, UK. ➔ Ran and organized events, fundraised £40,000 ➔ Participated in building schools in Kilimanjaro regions, Tanzania, Africa

2013 – 2016 Women's Rights Campaign Volunteer, Amnesty International, Munich, Germany  
 ➔ Organized monthly events to increase social awareness, ran in German/English  
 ➔ Organized the premiere of the movie "Difret" in Munich (2015), "My body, my rights" campaign (2014), writing Urgent Actions for press release, monitoring international press.

09/2010 – 06/2010 Class Liaison Representative, University of St. Andrews, St. Andrews, Scotland

## **Peer-Reviewed Journals**

### **Editorship**

06/2021 – present Guest Editor, Journal of Visualized Experiments (JoVE)

### **Manuscript Review (Invited)**

11/2023 Biomedical Optics Express, Optica (IF: 3.56)  
 11/2023 Journal of Nuclear Medicine (IF: 10.06)  
 04/2023 Photoacoustics, Elsevier (IF: 9.66)  
 05/2021 Chemical Society Review (IF: 54.56)  
 02/2021 Molecular Imaging and Biology (IF: 3.34)  
 02/2021 Advanced Therapeutics (IF: tbd)  
 01/2021 Frontiers Oncology (IF: 4.85)  
 10/2020 Nature Scientific Reports (IF: 4.0)  
 07/2020 Molecular Pharmaceutics (IF: 4.32)  
 07/2020 Molecular Imaging and Biology (IF: 3.34)  
 06/2020 Journal of Nuclear Medicine (IF: 10.06)  
 05/2020 Journal of Nuclear Medicine (IF: 10.06)  
 06/2019 Molecular Imaging and Biology (IF: 3.34)  
 08/2019 Journal of Nuclear Medicine (IF: 10.06)  
 10/2018 Nature Communications (IF: 14.92)  
 08/2018 Chemical Science (IF: 9.35)  
 07/2018 Theranostics (IF: 11.56)  
 06/2018 ACS Applied Materials & Interfaces (IF: 9.23)  
 05/2018 Nanotheranostics (IF: 4.41)

### **Abstract Review**

02/2023- 03/2023 Reviewer / Evaluator, European Conferences on Biomedical Optics (ECBO), SPIE  
 12/2022- 01/2023 Reviewer / Evaluator, Late-breaking abstracts in Cancer Prevention, Detection & Diagnosis, EMIM  
 11/2022- 12/2022 Reviewer / Evaluator, Cancer Prevention, Detection & Diagnosis, EMIM  
 2022 International Symposium on Radiopharmaceutical Sciences (iSRS), 15 abstracts  
 2019 European Molecular Imaging Meeting (EMIM), 10 late-breaking abstracts



## Participation in Workshops, Conferences, Seminars

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- ☐ Introduction to Academic Radiology for Scientists (ITARS) program, Chicago, USA, 28 Nov- 02 Dec. 2021
  - ➔ Faculty tracks for imaging scientists, building and organizing a lab, commercial partnerships, IP, tech transfers and clinical collaborations
- ☐ Chemical Biology Program, Joint monthly group meetings with Chairman Dr. Derek Tan, MSK, NY, USA, 2019- present
- ☐ Radiology weekly meetings, Joint weekly meetings with Dr. Jason S. Lewis, MSK, NY, USA, 2016- present
- ☐ The New York Head and Neck Society Meeting, 2019
- ☐ MATLAB (1.5 h/lecture, ×7) basics from the Molecular Cytology Core, MSK, NY, USA, 2019
- ☐ Molecular and Advanced Imaging in Oncology, MSK, NY, USA, 2017
- ☐ Molecular Medicine (one-week intensive course), TUM, Munich, Germany, 2015
- ☐ Basic Proteomics (one-week intensive course), TUM, Munich, Germany, 2015
- ☐ Statistics (one-week intensive course), TUM, Munich, Germany, 2015
- ☐ Preclinical Imaging (one-week intensive course), TUM, Munich, Germany, 2014
- ☐ Basic Principles of Light Microscopy (one-week intensive course), Ludwig Maximilian University (LMU), Munich, Germany, 2014
- ☐ Human In Vivo Multi-modal Neuroimaging: from signals to measure (one-week intensive course), TUM, Munich, Germany, 2014
- ☐ Neuroscience (one-week intensive course), TUM, Munich, Germany, 2015
- ☐ Principles of Neurobiological Imaging and Engineering (one-week intensive course), TUM, Munich, Germany, 2014
- ☐ Two-photon functional imaging in the living brain: theory and practice (one-week intensive course), The Third Military Medical University (TMMU), Chongqing, China, 2014
- ☐ Working and Presenting Scientific Results in Intercultural Environments, HELENA Orientation, Helmholtz Zentrum Munich, Neuherberg, Germany, May 2014
- ☐ 2-day Symposium for young scientist in Munich, Munich, Germany, Mar. 2013
- ☐ Physics of Biological System Visualization and Manipulation of Cellular Communities, Quantissue Meeting 2014, Helmholtz Zentrum Munich, Munich, Germany, 8-10<sup>th</sup> Oct. 2014

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