

Paula M. Jacobs, Ph.D.

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Positions

National Cancer Institute, Division of Cancer Treatment & Diagnosis

Office of the Director
Expert Advisor, 2020-present

National Cancer Institute, Center for Cancer Research

Adjunct Investigator, Molecular Imaging Program, 2015-present

National Cancer Institute, Division of Cancer Treatment & Diagnosis

Cancer Imaging Program
Expert Advisor, 2018-2020
Associate Director, 2012- 2018
Acting Associate Director, 2010 to 2011
Deputy Associate Director, 2009 to 2011

SAIC-Frederick, Frederick, MD

Operations and Technical Support (OTS) Contractor for the National Cancer Institute at Frederick
Contracted to: Cancer Imaging Program/DCTD/NCI/ NIH
Director of Regulatory Affairs, 2006-2009

Advanced Magnetics, Inc, Cambridge, MA (Now AMAG Pharmaceuticals)
Pharmaceuticals: MRI Contrast agents, iron therapy; US and International
Vice President Development, 1986–2005

Seragen, Inc., Boston, MA

Research and Diagnostic Kits: Prostaglandins, cell separation
General Manager—Research Products 1983–1985
Director of Production and Manufacturing Development—1981–1983

Clinical Assays (Division of Baxter Travenol), Cambridge MA

In Vitro Diagnostics: clinical test kits, solid phase immunoassay
Director Of Scientific Operations—1981-1982
Director Of Technical Support—1980-1981
Group Leader, Technical Support—1978-1980

Childrens Cancer Research Foundation

Research Assistant—1968-1970: folate antagonists

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Post-Doctoral Research

Harvard Medical School

Associate In Radiology—1977-1979

Peter Bent Brigham Hospital

Associate In Radiology—1977-1979

Northeastern University

Research Associate—1976-1978

The Massachusetts Institute Of Technology

Research Fellow—1975-1976

Northeastern University

Research Associate—1973-1974

Education

Ph.D., Organic Chemistry

Northeastern University—1973

M.S., Organic Chemistry

Tufts University—1968

S.B., Chemistry

The Massachusetts Institute of Technology—1966

National Merit Scholar

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Professional Societies

American Chemical Society
American Association for Cancer Research
American Society of Clinical Oncology
Society of Nuclear Medicine
Radiological Society of North America
Sigma Xi

Inactive:

American Association for the Advancement of Science
American Heart Association
American Roentgen Ray Society
American Society of Nephrology
International Society for Magnetic Resonance Imaging in Medicine
International Society of Nephrology
National Kidney Foundation
New York Academy of Sciences
Society for Molecular Imaging
Royal Chemical Society

Committee Memberships

FDA Medical Imaging Drugs Advisory Committee, 2017-present
Medical Imaging and Data Resource Center, Internal Advisory Board, 2020-present
Integrated Canine Data Commons Steering Committee and Best Practices Subcommittee, NCI/DCTD, 2018-present
SNMMI member Artificial Intelligence Task Force 6/2020-6/2022
APOLLO Data Analysis Working Group, 2016 to present
APOLLO Imaging Working Group, 2016- present
NExT Development Committee, NCI/DCTD, 2009-2019
NExT Senior Advisory Committee, NCI/DCTD, 2009-2019
NExT Discovery Committee, NCI/DCTD, 2009-2018
Imaging Drug Group, NCI/DCTD 2007-2010

Editorial Boards

Editorial Board, Academic Radiology, 6/2022 to present
Associate Editor, American Journal of Nuclear Medicine and Molecular Imaging

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Reviewer

Annals of Surgery
Cancer Research
Clinical Cancer Research
Lancet Digital Health
Journal of Clinical Oncology: Clinical Cancer Informatics
Journal of Nuclear Medicine
Kidney International
Molecular imaging and Biology
Nature Reviews Oncology
Nature Machine Intelligence
Radiology
Radiology Artificial Intelligence
Radiology Cancer Imaging
Radiology Thoracic Imaging
Science Translational Medicine
World Journal of Surgery

Awards

NIH Merit Award, 2011, Leadership
NIH Merit Award, 2014, Quantitative Imaging Network Team

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Trial Protocols

NCT03206060 17C0087A Lu-177-DOTATATE (Lutathera) in Therapy of Inoperable Pheochromocytoma/Paraganglioma

NCT03181867 17C0109. 18F-DCFPyL PET/CT in High Risk and Recurrent Prostate Cancer

CTEP # 8826 Clinical Center 11-C-0061 Phase I Trial of Z-Endoxifen in Adults With Refractory Hormone Receptor–Positive Breast Cancer, Desmoid Tumors, Gynecologic Tumors, or Other Hormone Receptor–Positive Solid Tumors

NCT02190279. CTEP# 9622 14-C-0140 A Pilot Study of 18F-DCFBC PET/CT in Prostate Cancer. Completed

NCT02192541. CTEP #9605 Phase I Study of Ganetespib and Ziv-Aflibercept in Refractory Gastrointestinal Carcinomas, Non-Squamous Non-Small Cell Lung Carcinomas, Urothelial Carcinomas, and Sarcomas. Terminated

NCT02141490 , NCI 14-C-0107 Evaluation of Ferumoxytol Enhanced MRI for the Detection of Lymph Node Involvement in Genitourinary (Prostate, Bladder and Kidney) Cancers. Completed

CIP/NCI #: 7832 CC#: 07C0101 A Phase 0 Trial of 111-Indium CHX-A" DTPA trastuzumab Imaging in Cancer. Completed

NCT01296139 Evaluation of Ferumoxytol enhanced MRI for the detection of lymph node involvement in prostate cancer. Completed

PUBLICATIONS & PRESENTATIONS

ORCID ID: 0000-0002-9423-6473

As of 2/2024

1. Tatum, J.L., Kalen, J.D., Jacobs, P.M. *et al.* [3'-\[¹⁸F\]fluoro-3'-deoxythymidine \(\[¹⁸F\]FLT\) Positron Emission Tomography as an In Vivo Biomarker of inhibition of CDK 4/6-Rb pathway by Palbociclib in a patient derived bladder tumor.](https://doi.org/10.1186/s12967-022-03580-8) *J Transl Med* **20**, 375 (2022). <https://doi.org/10.1186/s12967-022-03580-8>
2. Jacobs PM, Springfield SA. [Deep Disparities Persist in Lung Cancer Screening Eligibility.](https://doi.org/10.1148/radiol.2021211632) *Radiology* 2021; 301:721–723 . doi: 10.1148/radiol.2021211632. Epub ahead of print Sept 21 2021
3. Kalen JD, Clunie DA, Liu Y, Tatum JL, Jacobs PM, Kirby J, Freymann JB, Wagner U, Smith KE, Suloway C, Doroshow JH. Design and Implementation of the Pre-Clinical DICOM Standard in Multi-Cohort Murine Studies. *Tomography*. 2021; 7(1):1-9. <https://doi.org/10.3390/tomography7010001>
4. Wheeler et al., Molecular Features of Cancers Exhibiting Exceptional Responses to Treatment, *Cancer Cell* 39:38-53 (2021), <https://doi.org/10.1016/j.ccell.2020.10.015> (epub ahead of print 19 November 2020)
5. Conley et al, The Exceptional Responders Initiative: Feasibility of a National Cancer Institute Pilot Study, *J Natl Cancer Inst* (2021): 113, 27-37 <https://doi.org/10.1093/jnci/djaa061> (epub ahead of print 4/27/2020)
6. Boxerman JL, et al., Consensus recommendations for a dynamic susceptibility contrast MRI protocol for use in high-grade gliomas *Neuro-Oncology*, Volume 22, Issue 9, September 2020, Pages 1262–1275, <https://doi.org/10.1093/neuonc/noaa141>
7. Tatum, J. L., Kalen, J. D., Ileva, L. V., Riffle, L. A., Keita, S., Patel, N., Jacobs, P. M., Sanders, C., James, A., Difilippantonio, S., Thang, L., Hollingshead, M. G., Phillips, J., Evrard, Y., Clunie, D. A., Liu, Y., Suloway, C., Smith, K. E., Wagner, U., Doroshow, J. H. (2020). *Imaging characterization of a metastatic patient derived model of adenocarcinoma colon: PDMR-997537-175-T* [Data set]. The Cancer Imaging Archive. <https://doi.org/10.7937/TCIA.2020.BRY9-4N29>
8. Tatum, J. L., Kalen, J. D., Ileva, L. V., Riffle, L. A., Jacobs, P. M., Hollingshead, M. G., Doroshow, J. H, Clunie, D. A, Smith, K. E, Wagner, U., Freymann, J. B. (2019). *Imaging characterization of a metastatic patient derived model of bladder cancer: BL0293F (PDMR-BL0293-F563)* [Data set]. The Cancer Imaging Archive. <https://doi.org/10.7937/tcia.2019.b6u7wmqw>
9. Tatum, J., Kalen, J., Ileva, L., R., S, K., N, P., Jacobs, P., Sanders, C., A, J., Difilippantonio, S., L, T., hollingshead, melinda, J, P., Y, E., Clunie, D., Y, L., Suloway, C., Smith, K., U, W., ... Doroshow, J. (n.d.). *Imaging characterization of a metastatic patient derived model of*

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- adenocarcinoma pancreas: PDMR-292921-168-R. The Cancer Imaging Archive. <https://doi.org/10.7937/TCIA.2020.PCAK-8Z10>
10. Tatum, J., Kalen, J., Ileva, L., Riffle, L., Keita, S., Patel, N., Jacobs, P., Sanders, C., James, A., Difilippantonio, S., Thang, L., Hollingshead, M., Phillips, J., Evrard, Y., Clunie, D., Yanling, Smith, K., Wagner, U., Freymann, J., Doroshov, J. (2020). *Imaging tissue characterization of a patient derived xenograft model of adenocarcinoma pancreas: PDMR-833975-119-R* [Data set]. The Cancer Imaging Archive. <https://doi.org/10.7937/TCIA.0ECK-C338>
 11. Tatum, J. L., Kalen, J. D., Jacobs, P. M., Ileva, L. V., Riffle, L. A., Keita, S., Patel, N., Sanders, C., James, A., Difilippantonio, S., Thang, L., Hollingshead, M. G., Phillips, J., Edmondson, E., Evrard, Y., Clunie, D. A., Liu, Y., Smith, K. E., Wagner, U., Doroshov, J. H. (2020). *Imaging characterization of a metastatic patient derived model of melanoma: PDMR-425362-245-T* [Data set]. The Cancer Imaging Archive. <https://doi.org/10.7937/TCIA.2020.7YRS-7J97>
 12. Tatum, J., Kalen, J., Jacobs, P., Ileva, L., Riffle, L., Keita, S., Patel, N., Sanders, C., James, A., Difilippantonio, S., Thang, L., Hollingshead, M., Evrard, Y., Edmondson, E., Clunie, D., Liu, Y., Suloway, C., Smith, K., Wagner, U., Freymann, J. B., Kirby, J., Doroshov, J. (2022). *Imaging characterization of a metastatic patient derived model of adenocarcinoma pancreas: (PDMR-521955-158-R4) (Version 1)* [Data set]. The Cancer Imaging Archive. <https://doi.org/10.7937/q37d-vh79>
 13. [Ferumoxylol-enhanced MR lymphography for detection of metastatic lymph nodes in genitourinary malignancies: A prospective study](#)
Turkbey B., Czarniecki M., Shih J.H., Harmon S.A., Agarwal P.K., Apolo A.B., Citrin D.E., Gulley J.L., Harisinghani M., Madan R.A., Metwalli A.R., Paquette E., Pinto P.A., Rais-Bahrami S., Rowe L.S., Wood B.J., Jacobs P.M., Lindenberg L., Dahut W., Choyke P.L. *American Journal of Roentgenology* 2020 214:1 (105-113)
 14. James L. Tatum; Joseph D. Kalen; Paula M. Jacobs; Lilia V. Ileva; Lisa A. Riffle; Melinda G. Hollingshead; James H. Doroshov A spontaneously metastatic model of bladder cancer: imaging characterization, *J Transl Med.* 2019 Dec 19;17(1):425. [doi:10.1186/s12967-019-02177-y](https://doi.org/10.1186/s12967-019-02177-y)
 15. Basu A, Warzel D, Eftekhari A, Kirby, Freymann J, Knable J, Sharma A, Jacobs P, A Call for Data Standardization: Lessons Learned and Recommendations in an Imaging Study, *JCO Clin Cancer Inform.* 2019 Nov;3:1-11. <https://doi.org/10.1200/CCI.19.00056>
 16. Gambhir SS, Shankar LK, Rosenthal E, Warram JM, Ghesani M, Hope TA, Jacobs PM, Jacobson GB, Wilson T, Siegel BA. [Proceedings: Pathways for Successful Translation of New Imaging Agents and Modalities-Phase III Studies.](#) *J Nucl Med.* 2019 Jun;60(6):736-744. doi: 10.2967/jnumed.118.219824. Epub 2019 Mar 8. No abstract available.
 17. Young CR, Adler S, Eary JF, Lindenberg ML, Jacobs PM, Collins J, Kummar S, Kurdziel KA, Choyke PL, Mena E. [Biodistribution, Tumor Detection, and Radiation Dosimetry of ¹⁸F-5-](#)

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- [Fluoro-2'-Deoxycytidine with Tetrahyrouridine in Solid Tumors](#). J Nucl Med. 2019 Apr;60(4):492-496. doi: 10.2967/jnumed.118.216994. Epub 2018 Nov 2.
18. Srivastava S, Ghosh S, Kagan J, Mazurchuk R; National Cancer Institute's HTAN Implementation. [The Making of a PreCancer Atlas: Promises, Challenges, and Opportunities](#). Trends Cancer. 2018 Aug;4(8):523-536. doi: 10.1016/j.trecan.2018.06.007. Epub 2018
 19. McDonald RJ, Levine D, Weinreb J, Kanal E, Davenport MS, Ellis JH, **Jacobs PM**, Lenkinski RE, Maravilla KR, Prince MR, Rowley HA, Tweedle MF, Kressel HY. Gadolinium Retention: A Research Roadmap from the 2018 NIH/ACR/RSNA Workshop on Gadolinium Chelates. Radiology. 2018 Nov;289(2):517-534. doi: 10.1148/radiol.2018181151
 20. Jaffray DA, Das S, **Jacobs PM**, Jeraj R, Lambin P. [How Advances in Imaging Will Affect Precision Radiation Oncology](#). Int J Radiat Oncol Biol Phys. 2018 Jun 1;101(2):292-298. doi: 10.1016/j.ijrobp.2018.01.047
 21. Harmon SA, Bergvall E, Mena E, Shih JH, Adler S, McKinney Y, Mehralivand S, Citrin DE, Couvillon A, Madan R, Gulley J, Mease RC, **Jacobs PM**, Pomper MG, Turkbey B, Choyke PL, Lindenberg ML. [A Prospective Comparison of ¹⁸F-Sodium Fluoride PET/CT and PSMA-targeted ¹⁸F-DCFBC PET/CT in Metastatic Prostate Cancer](#). J Nucl Med. 2018
 22. Mena E, Lindenberg ML, Shih JH, Adler S, Harmon S, Bergvall E, Citrin D, Dahut W, Ton AT, McKinney Y, Weaver J, Eclarinal P, Forest A, Afari G, Bhattacharyya S, Mease RC, Merino MJ, Pinto P, Wood BJ, **Jacobs P**, Pomper MG, Choyke PL, Turkbey B, [Clinical impact of PSMA-based ¹⁸F-DCFBC PET/CT imaging in patients with biochemically recurrent prostate cancer after primary local therapy](#). Eur J Nucl Med Mol Imaging. 2018 Jan;45(1):4-11. doi: 10.1007/s00259-017-3818-x. Epub 2017 Sep 11.
 23. Shields AF, **Jacobs P**, Sznol M, Graham MM, Germain R, Lum L, Jaffee E, de Vries EGE, Nimmagadda S, Van den Abbeele AD, Leung D, Wu AM, Sharon E, Shankar LK. [Immune Modulation Therapy and Imaging: Workshop Report](#). J Nucl Med. 2017 Aug 17. pii: jnumed.117.195610. doi: 10.2967/jnumed.117.195610. [Epub ahead of print]
 24. [Lindenberg L](#), [Adler S](#), [Turkbey IB](#), [Mertan F](#), [Ton A](#), [Do K](#), [Kummar S](#), [Gonzalez EM](#), [Bhattacharyya S](#), [Jacobs PM](#), [Choyke P](#), Dosimetry and first human experience with ⁸⁹Zr-panitumumab. [Am J Nucl Med Mol Imaging](#). 2017 Sep 1;7(4):195-203. eCollection 2017.
 25. [Turkbey B](#), [Mena E](#), [Lindenberg L](#), [Adler S](#), [Bednarova S](#), [Berman R](#), [Ton AT](#), [McKinney Y](#), [Eclarinal P](#), [Hill C](#), [Afari G](#), [Bhattacharyya S](#), [Mease RC](#), [Merino MJ](#), [Jacobs PM](#), [Wood BJ](#), [Pinto PA](#), [Pomper MG](#), [Choyke PL](#). ¹⁸F-DCFBC Prostate-Specific Membrane Antigen-Targeted PET/CT Imaging in Localized Prostate Cancer: Correlation With Multiparametric MRI and Histopathology, [Clin Nucl Med](#). 2017 Oct;42(10):735-740. doi: 10.1097/RLU.0000000000001804.

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26. Willemieke S. Tummers, Jason M. Warram, Kiranya E. Tipirneni, John Fengler, Paula Jacobs, Lalitha Shankar, Lori Henderson, Betsy Ballard, Brian W. Pogue, Jamey P. Weichert, Michael Bouvet, Jonathan Sorger, Christopher H. Contag, John V. Frangioni, Michael F. Tweedle, James P. Basilion, Sanjiv S. Gambhir and Eben L. Rosenthal, [Regulatory Aspects of Optical Methods and Exogenous Targets for Cancer Detection](#), *Cancer Res* April 20 2017
DOI:10.1158/0008-5472.CAN-16-3217
27. Jacobs, PM, " Overview of FDA approval paths optical surgical navigation ", *Proc. SPIE* 10049, *Molecular-Guided Surgery: Molecules, Devices, and Applications III*, 100490S (February 8, 2017); doi:10.1117/12.2257152; <http://dx.doi.org/10.1117/12.2257152>
28. Frank I. Lin, E. M. Gonzalez, S. Kummar, K. Do, J. Shih, S. Adler, K. A. Kurdziel, A. Ton. B. Turkbey, P. M. Jacobs, S. Bhattacharyya, A. P. Chen, J. M. Collins, J. H. Doroshov, P. L. Choyke, M. L. Lindenberg, Utility of 18F-fluoroestradiol (18F-FES) PET/CT imaging as a pharmacodynamic marker in patients with refractory estrogen receptor-positive solid tumors receiving Z-endoxifen therapy *Eur J Nucl Med Mol Imaging*. 2017 Mar;44(3):500-508. doi: 10.1007/s00259-016-3561-8
29. Rieves D and Jacobs P, [The Use of Published Clinical Study to Support the United States Food and Drug Administration Approval of Imaging Agents](#), *J Nucl Med* 2016: J Dec;57(12):2022-2026. online first July 21 2016 as doi: [10.2967/jnumed.116.178814](https://doi.org/10.2967/jnumed.116.178814)
30. Rosenthal EL, Warram JM, de Boer E, Basilion JP, Biel MA, Bogoyo M, Bouvet M, Brigman BE, Colson YL, DeMeester SR, Gurtner GC, Ishizawa T, **Jacobs PM**, Keereweer S, Liao JC, Nguyen QT, Olson JM, Paulsen KD, Rieves D, Sumer BD, Tweedle MF, Vahrmeijer AL, Weichert JP, Wilson BC, Zenn MR, Zinn KR, van Dam GM. [Successful Translation of Fluorescence Navigation During Oncologic Surgery: A Consensus Report](#). *J Nucl Med*. 2016; **57**:144-150
31. Ellingson BM, Bendszus M, Boxerman J, Barboriak D, Erickson BJ, Smits M, Nelson SJ, Gerstner E, Alexander B, Goldmacher G, Wick W, Vogelbaum M, Weller M, Galanis E, Kalpathy-Cramer J, Shankar L, **Jacobs P**, Pope WB, Yang D, Chung C, Knopp MV, Cha S, van den Bent MJ, Chang S, Yung WK, Cloughesy TF, Wen PY, Gilbert MR; Jumpstarting Brain Tumor Drug Development Coalition Imaging Standardization Steering Committee. [Consensus recommendations for a standardized Brain Tumor Imaging Protocol in clinical trials](#). *Neuro-Oncology* 17(9), 1188–1198, 2015
32. Fahey F, Zukotynski K, Jadvar H, Capala J; organizing committee, contributors, and participants of the second NCI–SNMMI Workshop on Targeted Radionuclide Therapy. [Proceedings of the Second NCI-SNMMI Workshop on Targeted Radionuclide Therapy](#). *J Nucl Med*. 2015 Jul;56(7):1119-29.
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34. Turkbey B, Agarwal HK, Shih J, Bernardo M, McKinney YL, Daar D, Griffiths GL, Sankineni S, Johnson L, Grant KB, Weaver J, Rais-Bahrami S, Harisinghani M, **Jacobs P**, Dahut W, Merino MJ, Pinto PA, Choyke PL, [A Phase I Dosing Study of Ferumoxytol for MR Lymphography at 3 T in Patients With Prostate Cancer.](#), AJR 2015 Jul;205(1):64-9
35. Sibaprasad Bhattacharyya, Nimit L.Patel, Ling Wei, Lisa A.Riffle, JosephD.Kalen, G.CraigHill, Paula M.Jacobs, Kurt R. Zinn and EbenRosenthal, [Synthesis and biological evaluation of panitumumab-IRDye800 conjugate as a fluorescence imaging probe for EGFR-expressing cancers.](#), Med. Chem. Commun., 2014, **5**,1337
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37. Aberle DR, DeMello S, Berg CD, Black WC, Brewer B, Church TR, Clingan KL, Duan F, Fagerstrom RM, Gareen IF, Gatsonis CA, Gierada DS, Jain A, Jones GC, Mahon I, Marcus PM, Rathmell JM, Sicks J; National Lung Screening Trial Research Team, [Results of the two incidence screenings in the National Lung Screening Trial.](#), NEJM, 2013:369:920-31
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39. Farrell BT, Hamilton BE, Dósa E, Rimely E, Nasseri M, Gahramanov S, Lacy CA, Frenkel EP, Doolittle ND, Jacobs PM, Neuwelt EA. [Using iron oxide nanoparticles to diagnose CNS inflammatory diseases and PCNSL.](#)Neurology. 2013 Jul 16;81(3):256-63.
40. National Lung Screening Trial Research Team, Aberle DR, Adams AM, Berg CD, Black WC, Clapp JD, Fagerstrom RM, Gareen IF, Gatsonis C, Marcus PM, Sicks JD. [Reduced lung-cancer mortality with low-dose computed tomographic screening.](#) N Engl J Med. 2011 Aug 4;365(5):395-409.
41. National Lung Screening Trial Research Team, Aberle DR, Adams AM, Berg CD, Black WC, Clapp JD, Fagerstrom RM, Gareen IF, Gatsonis C, Marcus PM, Sicks JD. [Reduced lung-cancer mortality with low-dose computed tomographic screening.](#) N Engl J Med. 2011 Aug 4;365(5):395-409. doi: 10.1056/NEJMoa1102873. Epub 2011 Jun 29.
42. National Lung Screening Trial Research Team, Aberle DR, Adams AM, Berg CD, Black WC, Clapp JD, Fagerstrom RM, Gareen IF, Gatsonis C, Marcus PM, Sicks JD. N Engl J Med. 2011 Aug 4;365(5):395-409. doi: 10.1056/NEJMoa1102873. Epub 2011 Jun 29. PMID: 21714641
43. National Lung Screening Trial Research Team, Aberle DR, Berg CD, Black WC, Church TR, Fagerstrom RM, Galen B, Gareen IF, Gatsonis C, Goldin J, Gohagan JK, Hillman B, Jaffe C,

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- Kramer BS, Lynch D, Marcus PM, Schnall M, Sullivan DC, Sullivan D, Zylak CJ. [The National Lung Screening Trial: overview and study design](#). *Radiology*. 2011 Jan;258(1):243-53.
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53. Landry R, Jacobs PM, Davis R, Shenoda M, Bolton WK. Pharmacokinetic Study of Ferumoxytol: A New Iron Replacement Therapy in Normal Subjects and Hemodialysis Patients, *Am J Nephrol* 2005; 25: 400-410
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BOOK CHAPTERS

1. P. M. Jacobs and D. Rieves, "Bringing an Imaging Product into the Clinic," Chapter 4 in *Translational Research in Biophotonics: Four National Cancer Institute Case Studies*, R. J. Nordstrom, Ed., SPIE Press, Bellingham, Washington, pp. 67-81 (2014)
2. Daniel C. Sullivan and Paula M. Jacobs, Cost-Effectiveness Analysis/Economics of Probe Development, in *Molecular Imaging: Principles and Practice*. Weissleder, Ross, Rehemtulla, and Gambhir, ed. 2010, PMPH USA
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PRESENTATIONS

1. Paula M. Jacobs; Yan Chen; Charles Kahn Jr; Katherine P. Andriole, Looking Beyond the Hype: A Scientific Perspective on AI in Imaging, Radiological Society of North America, 2021 Annual Meeting, November 2021
2. Paula M. Jacobs, James L. Tatum, Joseph D. Kalen, Lilia V. Ileva, Lisa A. Riffle, Keita Saito, Nimit L. Patel, Jessica Phillips, Melinda Hollingshead, Yvonne A. Evrard, Michelle Gottholm-Ahalt, Chelsea Sanders, Amy James, Simone Difilippantonio, Elijah F. Edmondson, James H. Doroshow Imaging Characterization of NCI Patient Derived Model Repository (PDMR) Xenografts Co-Clinical Imaging Research Resources Program, 2021 Annual Meeting, virtual June 2021
3. Paula M. Jacobs, PhD, James L. Tatum, MD, Joseph D. Kalen, PhD, Lisa A. Riffle, BS, Nimit L. Patel, MS, Jessica Phillips, Melinda Hollingshead, DVM, PhD, Yvonne A. Evrard, PhD, Michelle Gottholm-Ahalt, PhD, Chelsea Sanders, BS, Simone Difilippantonio, PhD, James H. Doroshow, MD. Baseline 18F fluorodeoxyglucose(FDG)-positron emission tomography (PET) in patient derived (PD) xenograft models from the National Cancer Institute Patient Derived Model Repository (PDMR). SNMMI 2021 Annual Meeting, virtual 6/2021; Journal of Nuclear Medicine May 2021, 62 (supplement 1) 1470
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28. Jacobs PM, Goodwin HA, Rosenberg IH, and Meienhofer J, Synthesis of Peptide Homologs of Folic Acid, Presented at the 2nd Northeast Regional Meeting of the American Chemical Society, Providence, R. I., 20 October 1970

Invited Presentations

1. Jacobs, PM, Imaging over the Horizon, Seeing is Believing, Advances in Medical Imaging, UC Davis, Sept 2019
2. Jacobs, PM. Sharing datasets for machine learning and AI in oncology, The 3rd Sanming Project Symposium on Specialist Education and Advances in Radiation Oncology & the 1st Program on Multicenter Clinical Trials Design Training, June 2019, Shenzhen China
3. Jacobs, PM, Moving PET Tracers from the Bench to FDA, Blood Brain Barrier Consortium, March 2019, Portland OR

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4. Jacobs, PM, The Cancer Imaging Archive TCGA projects: A model for research to individualize treatment care in radiation oncology, 4R symposium, Rutgers University, Feb 2017
5. Jacobs, PM, Overview of FDA approval paths optical surgical navigation, Biophotonics West, January 2017, San Francisco
6. Jacobs, PM, The Cancer Imaging Archive TCGA projects: A model for research to individualize treatment care in radiation oncology, June 2016, Precision Medicine in Radiation Oncology, Bethesda
7. Jacobs, PM, Supply of IND agents to Multicenter Trials, June 2016, SNMMI, San Diego
8. Jacobs, PM, The Cancer Imaging Archive, April 2016, AACR, Boston
9. Jacobs, PM, The NCI (formerly GE) IND for C-13 Pyruvate: A resource for the community. Fourth International Workshop on Hyperpolarized Carbon-13, February 2016, Philadelphia
10. Jacobs, PM, Supply of IND Agents to NCI-sponsored trials by Skilled Academic Sites, ECOG-ACRIN fall meeting, November 2015, Orlando FL
11. Jacobs, PM, The Cancer Imaging Archive, FNIH Biomarker Consortium Cancer Steering Committee Annual Meeting, October 2015, Rockville, MD
12. Jacobs, PM, NCI: New and Current Initiatives that Support Imaging in Precision Medicine, World Congress of Molecular Imaging, September 2015, Honolulu HI
13. Jacobs, PM, New and Current Initiatives that Support Imaging in Precision Medicine: Funding and Resources at NCI for Molecular Imaging Agents, World Congress of Molecular Imaging, September 2015, Honolulu HI
14. Jacobs, PM, Advancing Prostate Cancer Imaging: NCI Perspective, SNMMI Annual Meeting, June 2015 Baltimore MD
15. Jacobs, PM, Funding and Resources at NCI/NIH for Translation of Molecular Imaging Agents, SNMMI Annual Meeting, June 2015 Baltimore MD
16. Jacobs, PM, NCI Resources for Translational Molecular Imaging, 21st Blood Brain Barrier Meeting, March 2015 Skamania, WA
17. Jacobs, PM, Getting Your Drug into Early Trials - Clearing the Regulatory Hurdles, 21st Blood Brain Barrier Meeting, March 2015 Skamania, WA
18. Jacobs, PM NCI Resources for Translational Molecular Imaging, 3rd Theranostics World Congress on Gallium 68 and PRRT, March 2015, Baltimore, MD

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19. Jacobs, PM, Is validation and dissemination of imaging of interest for the NCI?, Definition of a New Paradigm for the Validation and Dissemination of Radiopharmaceuticals: Unmet Needs and Opportunities in Prostate Cancer in Washington, D.C., on February 15-16, 2015
20. Jacobs, PM and Rieves, RD, Obtaining an IND – FDA Regulatory Issues, Fluorescence Guided Surgery Symposium: Clinical Translation of Molecular Imaging for Surgical Navigation, American Society of Image Guided Surgery, Feb 2015, Eden Roc, Miami
21. Jacobs, PM, NCI's Quantitative Imaging Network (QIN): Progress and Impact on Clinical Trials, RSNA, Chicago , Nov 30- Dec 5, 2014
22. Jacobs, PM, Getting your Drug into Early Clinical Trials – Clearing the Regulatory Hurdles, Targeted Radionuclide Therapy, NIH campus, Oct 24-25, 2014
23. Jacobs, PM, The Cancer Imaging Archive, FNIH Biomarker Consortium, Annual Meeting, Rockville, Oct 24, 2014
24. Jacobs, PM, Clinical Translation of Molecular Imaging: the Role of NCI, International Symposium on Molecular Imaging and Translational Medicine, Beijing, Sept 13-15, 2014
25. Jacobs, PM, Getting your Drug into Early Clinical Trials – Clearing the Regulatory Hurdles, Gordon Research Conference, Metals in Medicine, June 22-25, 2014 Proctor Academy, Andover, NH
26. Jacobs, PM, Session moderator: FDA updates on diagnostic radiopharmaceuticals, SNMMI annual meeting, June 7-11, 2014, St. Louis
27. Jacobs, PM, Supply of IND Agents to ECOG-ACRIN by Skilled Academic Sites, ECOG-ACRIN Spring meeting, Chicago, May 8-10, 2014
28. Jacobs, PM, Translating Imaging Agents into Clinical Trials, University of Wisconsin Radiology Grand Rounds, Madison, WI, April 10, 2014
29. Jacobs, PM, BBB's 20th Meeting. Where has imaging been? Where is imaging going?, Blood Brain Barrier Consortium 20th annual meeting, Sunriver Oregon, March 19-23, 2014
30. Jacobs, PM, NCI's Quantitative Imaging Network (QIN): Progress and Impact on Clinical Trials, RSNA, Chicago , Dec 1- Dec 6, 2013
31. Jacobs, PM, NCI Resources for Translational Molecular Imaging Research, Advanced Molecular Imaging and Its Clinical Translation, Univ. of Ala Comprehensive Cancer Center, Annual Retreat, Birmingham, Nov 5, 2013
32. Jacobs, PM, Supply of IND Agents, Experimental Imaging Science Committee ECOG-ACRIN Fall Meeting, Hollywood FL Nov 14-16, 2013

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33. Jacobs, PM, NCI Resources for Translational Molecular Imaging Research, Advanced Molecular Imaging and Its Clinical Translation, Oct 27-30, 2013
34. Jacobs, PM, NCI Programs in Translational Molecular Imaging Research, NIBIB Workshop on Clinical Translation of Molecular Imaging Probes and Technology Lister Hill Auditorium, National Institutes of Health, Bethesda, MD, August 2, 2013
35. Jacobs, PM, Moderator, FDA and NIH: Critical Concepts for Diagnostic Radiopharmaceutical Research. Society of Nuclear Medicine and Molecular Imaging, June 2013 Vancouver BC
36. Jacobs, PM Overcoming Regulatory Hurdles in Molecular Imaging: The NCI Experience, Society of Nuclear Medicine and Molecular Imaging June 2013 Vancouver BC
37. Jacobs, PM, Translational Molecular Imaging: Promises and Pitfalls, [6th Imaging in Drug Discovery and Development Conference](#), Boston MA **May 8-10, 2013**
38. Jacobs, PM, Moderator, NCI resources for Imaging Research, AACR Annual Meeting, Washington DC, April 6-10, 2013
39. Jacobs, PM, Facilitating Access to Investigational Imaging Agents, AACR Annual Meeting, Washington DC, April 6-10, 2013
40. Jacobs, PM, Lessons learned: NCI's PET INDs and F-18 NaF NDA, 34th Annual High Country Nuclear Medicine Conference, Vail, CO, March 2013
41. Jacobs, PM, New FDA Guidance: Investigational New Drug Applications (INDs) for Positron Emission Tomography (PET) Drugs, Bio/Pharmaceutical Imaging Forum, December 2012, Philadelphia, PA
42. Jacobs, PM, Translational Molecular Imaging: A View from the NCI, Radiological society of North America (RSNA), November 2012, Chicago, IL
43. Jacobs, PM, The National Cancer Institute's NExT Program, Molecular Imaging: Preclinical and Clinical Advances, Harvard Medical School, October 2012, Boston, MA
44. Jacobs, PM, Overcoming Regulatory Hurdles in Investigational Molecular Imaging: The NCI Experience, ADAPT Congress Session, September 2012, Washington, DC
45. Jacobs, PM, NCI's Initiative in INDs: Update on Investigational Radiopharmaceuticals, Society of Nuclear Medicine and Molecular Imaging, 2012 Annual Meeting, June 2012, Miami Beach, FL
46. Jacobs, PM, NCI Cancer Imaging Program Quantitative Imaging Network (QIN) & Network for Translational Research (NTR), Society of Nuclear Medicine and Molecular Imaging, 2012 Annual Meeting, June 2012, Miami Beach, FL

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47. Jacobs, PM, The Role of NIH/NCI in Molecular Imaging Trials. Society of Nuclear Medicine and Molecular Imaging, 2012 Annual Meeting, June 2012, Miami Beach, FL
48. Jacobs, PM, Axelrad J, Yang L, Gelovanni J, Challenges to Translational of Molecular Imaging and Therapy, Panel, 3rd Multimodality Cardiovascular Molecular Imaging Symposium, April 2012, Bethesda, MD
49. Jacobs, PM, Alternative Sources of Funding from the National Cancer Institute, 10th YHLC Business of Biotechnology, Yale University, March 2012, New Haven CO
50. Jacobs PM, Advances and opportunities in CNS imaging 18th Annual Neuro-Oncology and Blood-Brain Barrier Consortium Meeting, March 2012, Skamania WA
51. Jacobs, PM, Lessons learned: NCI's PET INDs and F-18 NaF NDA, 33rd Annual High Country Nuclear Medicine Conference, Steamboat Springs, CO, March 2012
52. Jacobs, PM, Translating Molecular Imaging into Phase 3 Trials, 5th EORTC-NCI-ASCO Annual Meeting on "Molecular Markers in Cancer", Brussels, Belgium, October 2011
53. Jacobs PM, Strategies and Pathways: Translating Molecular Imaging Agents into Phase 3 and Beyond, Society of Nuclear Medicine 2011 Annual Meeting, San Antonio, June 2011
54. Chair: Bioimaging and Other Applications for Disease And Treatment Evaluation; 2010 Second Annual American Society for Nanomedicine Conference – October 14-16 – Potomac, Maryland
55. Moderator: Industry Panel on the logistical and regulatory issues of experimental PET agents; ACRIN Fall meeting, October 3, 2010 in Pentagon City
56. Jacobs, PM, Navigating the Regulatory Shoals: Transitioning Your Imaging Agent to the Clinic, Society of Nuclear Medicine 2010 Annual Meeting, Salt Lake City, June 2010
57. Jacobs, PM, Lessons learned: NCI's FLT F-18 IND and F-18 NaF NDA, Two Topic Imaging Workshop: Standards For Imaging Endpoints And Manufacturing Of PET Radiopharmaceutical Products In Clinical Trials, Bethesda, MD
58. Jacobs, PM, Accessing NCI Resources: Imaging Imaging Agent Development, NCI Translational Science Meeting, November, 2009, Vienna, VA
59. Jacobs, PM, What is an IND and How Does It Affect ACRIN Clinical Trials, ACRIN 2009 Fall Meeting, Pentagon City, VA, October 2009
60. Jacobs, PM, The NCI Cancer Imaging Program: Developing imaging tools for drug development, American Association for Cancer Research, 100th Annual Meeting, Denver, CO, April 2009

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61. Jacobs, PM, CMC Requirements in INDs, Society of Nuclear Medicine 2009 Winter Meeting, Clearwater, Florida, February 2009
62. Jacobs PM, Imaging Probes: Regulatory Guidelines, Availability, and Considerations for Research, ACRIN Fall Meeting, October 2008, Pentagon City VA
63. Jacobs PM, The IND Process: How to get your experimental drug into human trials, Fourteenth Annual Neuro-Oncology and Blood-Brain Barrier Consortium Meeting, March 2008, Skamania WA
64. Jacobs PM, Regulatory Considerations for Trials of Imaging Drugs and Devices: FDA, INDs, IDEs, RDRC, IRBs, DSMBs, CTEP, Radiological Society Of North America Clinical Trials Methodology Workshop, Scottsdale, Arizona January 5-11, 2008
65. Jacobs, PM, What's in an Investigational New Drug Application (IND)? Workshop: Clinical Development of Small Molecules National Cancer Institute, January 2008 Bethesda, Maryland
66. Jacobs, PM, Economics of Contrast Agent Development, The Molecular Imaging Biomarker Development and Clinical Trials, Clinical Pre-conference at AMI-SMI Joint Meeting September 2007, Providence Rhode Island
67. Jacobs, PM, The IND Process and the Exploratory IND for Molecular Imaging Agent, The Molecular Imaging Biomarker Development and Clinical Trials Clinical Pre-conference at AMI-SMI Joint Meeting September 2007, Providence Rhode Island
68. Jacobs, PM, Nuts and Bolts--You Too Can Prepare an IND, Workshop, Phase 0 Trials in Oncologic Drug Development, Division of Cancer Treatment and Diagnosis, National Cancer Institute, September 5, 2007, Bethesda, MD
69. Jacobs PM, What is an IND and How Does It Affect ACRIN Clinical Trials. Presented to at the American College of Radiology Imaging Network meeting October 5- 7, 2006 Pentagon City, VA
70. Jacobs PM, Use Of Imaging Agents In Pediatric Cancer Management: Regulatory Issues, at the Pediatric Oncology Imaging Frontiers Workshop, Oct 23-24, 2006 Washington, DC
71. Jacobs PM, The IND Process and the Exploratory IND for Molecular Imaging Agents Academy of Molecular Imaging Meeting, March 29, 2006, Orlando FL. Presented in Session: Translational Molecular and Biomarker Development
72. Jacobs PM, Economics of Contrast Agent Development Academy of Molecular Imaging Meeting, March 29, 2006, Orlando FL. Presented in Session: Translational Molecular and Biomarker Development

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73. Jacobs, PM, Iron Oxide Drugs: Medical Uses for Rust, Radiology Research Conference, October 14, 2005, U. Mass. Medical School, Worcester, MA. Emphasis on MR imaging uses of iron oxides
74. (Oral Presentation and session moderator). Jacobs, PM, Cell and Molecular Imaging in the CNS, Eleventh Annual Neuro-Oncology and Blood-Brain Barrier Consortium Meeting, March 2005, Portland, OR.
75. Short presentation on the economics of imaging agents at the 6th National Forum on Biomedical Imaging in Oncology, April 7-8, 2005, Bethesda, MD. .
<http://www.cancer.gov/dctd/presentations05.html>
76. Confidential invited lecture September 2000 to FDA: "Iron Oxide Drugs: Medical Uses for Rust." Seminar presented at the FDA at the invitation of a reviewing chemistry group, emphasis on chemistry and manufacturing of nanoparticle iron oxide drugs.