

## CURRICULUM VITAE

### MAXIMILIAN DIEHN, M.D., PH.D.

Jack, Lulu & Sam Willson Professor in Cancer Biology  
Division Chief, Radiation and Cancer Biology Division  
Vice Chair of Research

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#### **Academic History**

##### Colleges and University Attended

1993–1997 A.B., Biochemical Sciences, Harvard University; *Summa cum laude*  
1997–2004 M.D./Ph.D., Medical Scientist Training Program, Stanford University

##### Scholarships and Honors

1993 Valedictorian, Ridgefield High School  
1993 Recipient, Boehringer Ingelheim Scientific Scholar  
1993–1997 National Science Scholar  
1993–1997 Robert Byrd Honors Scholar  
1993–1997 Four-time recipient, John Harvard Scholarship  
1994 Recipient, Harvard College Research Program Fellowship  
1997 Thomas Temple Hoopes Prize for outstanding senior thesis, Harvard University  
1997–2004 Medical Scientist Training Program, Stanford University

##### Postdoctoral and Residency Training

2004–2005 Internship, Internal Medicine, Stanford University Medical Center  
2005–2009 Residency, Radiation Oncology, Stanford University Medical Center  
2008–2009 Chief Resident, Radiation Oncology, Stanford University Medical Center  
2006–2009 Postdoctoral Scholar, Institute for Stem Cell Biology and Regenerative Medicine;  
Laboratories of Drs. Michael F. Clarke and Irving L. Weissman

##### Board Certification

2005–present Licensed by the Medical Board of California  
2010–present Certified by the American Board of Radiology (Radiation Oncology),  
May 25<sup>th</sup>, 2010

#### **Employment History**

7/1/2009–present Attending Physician, Radiation Oncology, Stanford University Medical Center  
7/1/09–6/30/10 Acting Assistant Professor, Dept. of Radiation Oncology, Stanford Cancer  
Institute, and Institute for Stem Cell Biology & Regenerative Medicine,  
Stanford University  
7/1/10–2/28/18 Assistant Professor, Dept. of Radiation Oncology, Stanford Cancer Institute,  
and Institute for Stem Cell Biology & Regenerative Medicine,  
Stanford University  
3/1/18–present Associate Professor (with tenure), Dept. of Radiation Oncology, Stanford  
Cancer Institute, and Institute for Stem Cell Biology & Regenerative Medicine,  
Stanford University  
6/1/20–present Division Chief of Radiation and Cancer Biology, Dept. of Radiation Oncology,  
Stanford University  
6/1/20–present Vice Chair of Research, Dept. of Radiation Oncology, Stanford University  
1/1/22–present Professor (with tenure), Dept. of Radiation Oncology, Stanford Cancer Institute,  
and Institute for Stem Cell Biology & Regenerative Medicine, Stanford  
University

## **Public and Professional Service**

1991–2002	Instructor, Cold Spring Harbor Laboratory Course Series; <i>Making &amp; Using DNA Microarrays</i> 1992-2000
2010	Thesis defense committee chair for Mark Chao (Cancer Biology)
2010–present	Member, Medical Scientist Training Program Committee, Stanford University
2010–2016	Member, Radiological Society of North America (RSNA) Research Development Committee
2011	Thesis defense committee chair for Katherine Jameson (Khavari Lab)
2011	Qualifying exam committee member for Ryan Corces-Zimmerman (Cancer Biology)
2011	Abstract reviewer for International Association for the Study of Lung Cancer's (IASCL) World Lung Congress meeting in Amsterdam
2012	Member, Search committee for bioinformatics faculty member recruitment, Institute for Stem Cell Biology & Regenerative Medicine, Stanford University
2012	Reviewer, California Institute of Regenerative Medicine Postdoctoral Scholar Award
2014–present	Qualifying exam committee member for Tyler Prestwood (Stem Cell Biology and Regenerative Medicine)
2014	ASTRO Annual Meeting Abstract Reviewer
2014	Thesis committee member for Muthukumar Ramanathan (Stem Cell Biology and Regenerative Medicine)
2012–2019	Member, Cancer Biology Graduate Program Admissions Committee, Stanford University
2013–present	Associate Member, Canary Center at Stanford for Cancer Early Detection
2013–2015	Member, Search committee for faculty member in Canary Center, Stanford University
2013–2014	Chair, Search committee for radiation oncology faculty member recruitment, Stanford University
2013–2017	Member, Stem Cell Biology and Regenerative Medicine Graduate Program Admissions Committee, Stanford University
2014–2019	Scientific Advisory Board, Annual Next Generation Diagnostics Summit
2015	Thesis committee member for David Kurtz (Bioengineering)
2015–2018	RSNA Radiation Oncology & Radiobiology Subcommittee of the Scientific Program Committee
2016	Thesis committee member for Dawson Wong (Electrical Engineering)
2016	Thesis committee member for Adam Rubin (Stem Cell Biology and Regenerative Medicine)
2016–2017	ASCO-CAP Liquid Biopsies Working Group
2017	Qualifying exam committee member for Alice Yu (Biomedical Informatics)
2017–2018	Member, 2018 AACR Annual Meeting Scientific Program Committee
2017	Session Chair, AACR-NCI-EORTC Molecular Targets and Cancer Therapeutics Conference
2017–2019	Thesis committee member for Cesar Marquez (Cancer Biology)
2017–2019	AACR Exhibits Committee
2018–2019	Chair, Search Committee for Physician Scientist in Dept. of Radiation Oncology, Stanford University
2018–2019	ASCO Continuing Education Committee
2018–present	ASCO Annual Meeting Scientific Program Committee
2018–present	IASLC World Lung Cancer Conference Program Committee
2018–2019	Session chair and co-organizer, 11 <sup>th</sup> International Symposium on Circulating Nucleic Acids in Plasma and Serum (Jerusalem, Israel)
2018–2019	Member, Planning Committee for 2019 ASTRO Research Workshop “Treatment of Oligometastatic Disease”

2018–2020	Co-chair, AACR conference on “Advances in Liquid Biopsies” (Miami, FL)
2019–present	Member, Ad hoc Working Group on Radiation Oncology, NCI Clinical Trials and Translational Research Advisory Committee
2019	Thesis committee chair for Bin Bin Chen (Genetics)
2019–2021	ASTRO Science Council - Research Grants Evaluation Subcommittee
2019–2020	Member, 2020 AACR Annual Meeting Scientific Program Committee
2020–present	ASCO Cancer Research Committee
2020	ASCO Steering Group on Cancer Care Delivery and Research in a Post-Pandemic Environment
2020–2021	2021 ASCO Annual Meeting Scientific Program Committee Non-Small Cell Local-regional/Small Cell/Other Track Leader
2020–present	Lungevity Scientific Advisory Board
2020–present	National Cancer Institute Thoracic Malignancy Steering Committee
2021–present	ASTRO Science Council - Scientific Review Panel
2021–present	ESMO Translational Research and Precision Medicine Working Group
2021–present	ASCO Plenary Series Scientific Review Committee – Lung Cancer Track

### ***Post-Degree Honors and Awards***

2005	Franklin G. Ebaugh, Jr. Award for Research, Department of Medicine, Stanford University
2006	Annual Meeting Basic Science Travel Grant Award, American Society for Therapeutic Radiology and Oncology (ASTRO).
2006–2009	Holman Research Pathway, American Board of Radiology (ABR)
2008	Roentgen Resident/Fellow Research Award, Radiological Society of North America (RSNA)
2008–2009	Chief Resident, Radiation Oncology, Stanford University
2009	Malcolm A. Bagshaw Award, Stanford University
2010	Sidney Kimmel Scholar Award
2010	Doris Duke Clinical Scientist Development Award
2012	Henry S. Kaplan Memorial Prize for Teaching
2012–present	CRK Faculty Scholar
2013	V Scholar Award
2013	NIH New Innovator Award
2016	American Red Cross Blood Services Hero Award
2017	Election to American Society for Clinical Investigation
2017-2018	ASCO Leadership Development Program
2021	Elected to the National Academy of Medicine

### ***Grants Awarded***

#### Current

NIH-NCI (R01), **Principal Investigator**

NIH

“A Genomic Framework for Molecular Risk Prediction & Individualized Lymphoma Therapy”

Period: 8/01/19-7/31/24

NIH-NCI (R01), **Principal Investigator**

NIH

“Analysis of urine tumor nucleic acids for detection and personalized surveillance of bladder cancer”

Period: 07/01/20-06/30/25

Tobacco Related Disease Research Program High Impact Pilot Research Award, **Principal Investigator**

TRDRP

“Developing a blood-based assay for early lung cancer detection”

Period: 07/01/20-06/30/22

NIH-NCI (R01), **Principal Investigator**

NIH

“Molecularly-based outcome and toxicity prediction after radiotherapy for lung cancer”

Period: 08/01/20-07/31/25

NIH/NCI (R01), **Co-Principal Investigator**

NIH

“Imaging and circulating DNA markers to assess early response and predict treatment failure patterns in lung cancer”

02/01/19-01/31/24

NIH/NCI (R01), **Co-Principal Investigator**

NIH

“Circulating Genomic Determinants of Treatment Failure in Hodgkin Lymphoma

03/01/21-02/28/26

DOD, **Co-Investigator**

DOD Congressionally Directed Medical Research

“Novel biomarkers to direct stereotactic ablative radiotherapy in castration-sensitive oligometastatic prostate cancer

06/01/21-05/31/24

#### Completed

NIH-NCI (R01), **Principal Investigator**

NIH

“Non-invasive monitoring of lung cancer patients treated with radiotherapy”

Period: 06/15/15-05/31/21 (NCX)

Investigator initiated trial award, **Principal Investigator**

Varian Medical Systems

“Stereotactic Ablative Radiotherapy and Anti-TGF-beta Combination (SABR ATAC) Trial”

Period: 5/01/2016-4/30/21

Sharp Award for Innovation, **Principal Investigator**

Stand Up To Cancer

“Non-invasive monitoring of tumor phenotype by interrogation of plasma cell-free RNA”

Period: 5/01/19-4/30/21

NIH-NCI (U01), **Co-investigator** (PI: Pierre Massion)

NIH

“Cellular, Molecular and Quantitative Imaging Analysis of Screening-Detected Lung Adenocarcinoma”

Period: 8/1/15-7/31/20

Stand Up To Cancer Lung Cancer Interception Translational Award, **Co-Leader** (Leader: Lecia Sequist)

Stand Up To Cancer

“Blood-based early interception of lung cancer”

Period: 1/1/18-3/31/19

Albert Institute for Bladder Cancer Care Research Pilot Grant, **Co-investigator** (PI: Joe Liao)  
“Molecular profiling of high-risk bladder cancer to predict BCG responsiveness”  
Period: 5/01/2017-4/30/18

JIMB Research Seed Grant, **Principal Investigator**  
JIMB  
“Development of a next generation sequencing method to detect and quantify cell-free tumor DNA in urine”  
Period: 4/1/16-3/31/18

Tobacco Related Disease Research Program High Impact Pilot Research Award, **Principal Investigator**  
TRDRP  
“A Molecular Approach for Early Diagnosis of Lung Cancer”  
Period: 07/01/17-06/30/19

Movember-PCF Challenge Award, **Co-investigator** (PI: Phuoc Tran)  
Prostate Cancer Foundation  
“Altering the natural history of metastatic prostate cancer using stereotactic ablative radiotherapy and immune stimulation”  
Period: 8/1/15-7/31/19

NIH-NCI (P01), **Co-Investigator** (PI: Amato Giaccia)  
NIH  
“Hypoxia: Molecular Studies and Clinical Exploitation”  
Period: 06/01/13–05/31/18

NIH New Innovator Award (DP2), **Principal Investigator**  
NIH-NCI  
“Developing a genomic approach for cancer screening”  
Period: 10/01/2013-7/31/18

NIH-NCI (U01), **Co-Investigator** (PI: Sylvia Plevritis)  
NIH  
“Clinically-Relevant Regulatory Networks in the Lung Tumor Microenvironment”  
Period: 09/01/11-08/31/17 (NCX)

BRCA Foundation Grant, **Co-principal Investigator** (Co-PI: James Ford)  
BRCA Foundation  
“Understanding BRCA1- and BRCA2-associated Cancers”  
Period: 9/1/15-8/31/17

Canary Foundation Seed Grant, **Co-investigator** (PI: Vish Nair)  
Canary Foundation  
“Lung Airway Genomics for Lung Cancer Detection”  
Period: 9/01/2016-8/31/17

LCRP Promising Clinician Research Award, **Co-Investigator** (PI: Bill Loo)  
Dept. of Defense  
“EF5 PET of tumor hypoxia: a predictive imaging biomarker of response to stereotactic ablative radiotherapy (SABR) for early lung cancer”  
Period: 09/01/2012-08/31/2015

Translational Research Developmental Cancer Research Award, **Principal Investigator**

Stanford Cancer Institute  
“Personalized Genomic Analysis of Circulating Tumor DNA to Monitor Advanced Solid Tumors.”  
Period: 9/1/2013-2/28/2015

V Scholar Award, **Principal Investigator**  
V Foundation  
“Investigating the KEAP1-NRF2 Pathway in Lung Stem Cells and Lung Cancer”  
Period: 10/1/13-9/30/15  
Investigating the KEAP1-NRF2 Pathway in Lung Stem Cells and Lung Cancer

LCRP Promising Clinician Research Award, **Principal Investigator**  
Dept. of Defense  
“A Genomic Strategy for Residual Disease Monitoring in Non-small Cell Lung Cancer”  
Period: 09/01/2012-08/31/2015

LCRP Early Investigator Synergistic Idea Award, **Co-Investigator** (PI: Peter Maxim)  
Dept. of Defense  
“Improving the Diagnostic Specificity of CT for Early Detection of Lung Cancer: 4D CT-Based Pulmonary Nodule Elastometry”  
Period: 09/01/2012-08/31/2015

Varian-Stanford SAVR Collaboration, **Co-Investigator** (PI: Joseph Shrager)  
Varian Medical Systems  
“A Phase I Study of Stereotactic Ablative Volume Reduction (SAVR) for Severe Emphysema”  
Period: 10/01/2012-12/31/15

TRDRP Research Project Award, **Principal Investigator**  
Tobacco-related Disease Research Program  
“A Molecular Approach for Early Detection of Lung Cancer”  
*Awarded but declined*

Walter H. Coulter Translational Research Grant Program, **Principal Investigator**  
Walter H. Coulter Foundation  
“Cancer Profiling in Plasma by Deep Sequencing: Ultrasensitive detection of tumor-derived circulating nucleic acid species using deep sequencing for non-invasive cancer screening”  
Period: 07/01/2013-06/30/2014

Departmental Seed Grant, **Principal Investigator**  
Stanford University  
“A prospective clinical trial targeting cancer stem cells in HER2- breast cancers via HER2 inhibition”  
Period: 01/01/13-12/31/13

Donald E. and Delia B. Baxter Foundation Faculty Scholar Award, **Principal Investigator**  
“Genetic Analysis of Non-small Cell Lung Cancer Subpopulations”  
Period: 07/01/11-06/30/12

Doris Duke Clinical Scientist Development Award, **Principal Investigator**  
Doris Duke Charitable Foundation  
“Investigating the Role of Breast Tumor Initiating Cells in Treatment Resistance”  
Period: 07/01/10-12/31/14

Sidney Kimmel Scholar Award, **Principal Investigator**  
Sidney Kimmel Foundation

“Exploring Metabolic Properties of Tumor Initiating Cells”

Period: 07/01/10-06/30/13

Edward Mallinckrodt, Jr. Foundation Grant, **Principal Investigator**

Edward Mallinckrodt, Jr. Foundation

“Targeting Stem Cell–associated Gene Expression Signatures in Tumor Initiating Cells”

Period: 03/01/10-02/28/14

NIH-NCI (P01 CA139490-01), **Co-Investigator** (PI: Michael Clarke)

NIH

“Identification of cancer stem cell therapeutic targets”

Period: 4/1/2009-3/31/2014

RSNA Research Resident/Fellow Grant, **Principal Investigator**

RSNA

“Investigating the mechanism of cancer stem cell radioresistance”

Period: 7/01/07-6/30/09

ASTRO Residents in Radiation Oncology Research Seed Grant, **Principal Investigator**

ASTRO

“Molecular profiling of human cancer stem cells and analysis of their sensitivity to ionizing radiation”

Period: 7/01/07-6/30/08

### **Professional Associations and Learned Societies**

American Society for Therapeutic Radiology and Oncology (ASTRO)

American Society of Clinical Oncology (ASCO)

Radiological Society of North America (RSNA)

International Association for the Study of Lung Cancer (IASLC)

American Association for Cancer Research (AACR)

American College of Radiology (ACR)

Radiation Research Society (RRS)

### **Peer-Reviewed Original Research Articles**

1. Bunnell SC, **Diehn M**, Yaffe MB, Findell PR, Cantley LC, Berg LJ. Biochemical interactions integrating ITK with the T cell receptor-initiated signaling cascade. *J Biol Chem*. 275:2219-30, 2000.
2. **Diehn M**, Eisen MB, Botstein D, Brown PO. Large-scale identification of secreted and membrane-associated gene products using DNA microarrays. *Nat Genet* 25:58-62, 2000.
3. Casagrande R, Stern P, **Diehn M**, Shamu C, Osario M, Zuniga M, Brown PO, Ploegh H.. Degradation of proteins from the ER of *S. cerevisiae* requires an intact unfolded protein response pathway. *Mol Cell* 5:729-35, 2000.
4. Boldrick JC, Alizadeh AA, **Diehn M**, Dudoit S, Liu C, Belcher CE, Botstein D, Staudt LM, Brown PO, Relman DA. Stereotyped and specific gene expression programs in human innate immune responses to bacteria. *Proc Natl Acad Sci U S A* 99:972-7, 2002.
5. **Diehn M\***, Alizadeh AA\*, Rando OJ\*, Liu C\*, Stankunas K, Botstein D, Crabtree GR, Brown PO. Genomic expression programs and the integration of the CD28 costimulatory signal in T-cell activation. *Proc Natl Acad Sci U S A* 99:11796-801, 2002.

6. Lossos IS\*, Alizadeh AA\*, **Diehn M**, Warnke RA, Brown PO, Botstein D, Levy R. Transformation of follicular lymphoma to diffuse large-cell lymphoma: alternative patterns with increased or decreased expression of c-myc and its regulated genes. *Proc Natl Acad Sci U S A* 99:8886-91, 2002.
7. DePrimo SE, **Diehn M**, Nelson JB, Reiter RE, Matese J, Fero M, Tibshirani R, Brown PO, Brooks JD. Transcriptional programs activated by exposure of human prostate cancer cells to androgen. *Genome Biol* 3:RESEARCH0032, 2002.
8. Sayama K, **Diehn M**, Matsuda K, Lunderius C, Tsai M, Tam S, Botstein D, Brown PO, Galli SJ. Transcriptional response of human mast cells stimulated via the Fc $\epsilon$ RI and identification of mast cells as a source of IL-11. *BMC Immunol* 3:5, 2002.
9. Clément K, Viguerie N, **Diehn M**, Alizadeh AA, Barbe P, Thalamas C, Storey JD, Brown PO, Barsh GS, Langin D. In vivo regulation of human skeletal muscle gene expression by thyroid hormone. *Genome Res* 12:281-91, 2002.
10. **Diehn M\***, Sherlock G, Binkley G, Jin H, Matese JC, Hernandez-Boussard T, Rees CA, Cherry MJ, Botstein D, Brown PO, Alizadeh AA\*. SOURCE: A unified genomic resource of functional annotations, ontologies, and gene expression data. *Nucleic Acids Res* 31:219-223, 2003.
11. Whitney AR, **Diehn M**, Popper SJ, Alizadeh AA, Boldrick JC, Relman DA, Brown PO. Exploring natural gene expression variation in peripheral blood of healthy adults. *Proc Natl Acad Sci U S A*. 100:1896-901, 2003.
12. Schaner ME, Ross DT, Ciaravino G, Sorlie T, Troyanskaya O, **Diehn M**, Wang YC, Duran GE, Sikic TL, Caldeira S, Skomedal H, Tu IP, Hernandez-Boussard T, Johnson SW, O'Dwyer PJ, Fero MJ, Kristensen GB, Borresen-Dale AL, Hastie T, Tibshirani R, Van De Rijn M, Teng NN, Longacre TA, Botstein D, Brown PO, Sikic BI. 2003. Gene expression patterns in ovarian carcinomas. *Mol Biol Cell* 14:4376-86.
13. Roose JP, **Diehn M**, Tomlinson MG, Lin J, Alizadeh AA, Botstein D, Brown PO, Weiss A. T cell Receptor-independent basal signaling via Erk and Abl kinases suppresses RAG gene expression. *PLoS Biol*. 1:E53, 2003.
14. Piedras-Renteria ES, Pyle JL, **Diehn M**, Glickfeld LL, Harata NC, Cao Y, Kavalali ET, Brown PO, Tsien RW. Presynaptic homeostasis at CNS nerve terminals compensates for lack of a key Ca<sup>2+</sup> entry pathway. *Proc Natl Acad Sci U S A*. 101:3609-14, 2004.
15. Tu IP, Schaner M, **Diehn M**, Sikic BI, Brown PO, Botstein D, Fero MJ. A method for detecting and correcting feature misidentification on expression microarrays. *BMC Genomics* 5:64, 2004.
16. Liang Y\*, **Diehn M\***, Aldape KD, Nicholas MK, Bollen AW, Lamborn KR, Berger MS, Botstein D, Brown PO, Israel MA. Gene expression profiling reveals molecularly and clinically distinct subtypes of glioblastoma multiforme. *Proc Natl Acad Sci U S A* 102:5814-9, 2005.
17. Diehn JJ, **Diehn M**, Marmor MF, Brown PO. Differential gene expression in anatomical compartments of the human eye. *Genome Bio*. 6(9):R74, 2005.
18. **Diehn M**, Bhattacharya R, Botstein D, Brown PO. 2006. Genome-scale identification of membrane-associated human mRNAs. *PLoS Genet* 2(1):e11, 2006.
19. Palmer C, **Diehn M**, Alizadeh AA, Brown PO. Cell-type specific gene expression profiles of leukocytes in human peripheral blood. *BMC Genomics* 7:115, 2006.



20. Liang Y, **Diehn M**, Bollen AW, Israel MA, Gupta N. Type I collagen is overexpressed in medulloblastoma as a component of tumor microenvironment. *J Neurooncol* 86:133-41, 2008.
21. Cho R, Wang X, **Diehn M**, Gurney A, Lewicki J, Shedden K, Chen GY, Dalerba P, Sherlock G, Clarke MF. Isolation and molecular characterization of cancer stem cells in MMTV-*Wnt-1* murine breast tumors. *Stem Cells* 26:364-71, 2008.
22. **Diehn M**, Nardini C, Wang DS, McGovern S, Jayaraman M, Liang Y, Aldape K, Cha S, Kuo M. 2008. Identification of non-invasive imaging surrogates for brain tumor gene expression modules. *Proc Natl Acad Sci U S A* 105:5213-8, 2008. PMID: PMC2278224
23. **Diehn M\***, Cho RW\*, Lobo NA, Kalisky T, Dorie MJ, Kulp AN, Qian D, Lam JS, Ailles L, Wong M, Joshua B, Kaplan MJ, Wapnir I, Dirbas F, Somlo G, Garberoglio C, Paz B, Shen J, Lau SK, Quake SR, Brown JM, Weissman IL, Clarke MF. Association of reactive oxygen species levels and radioresistance in cancer stem cells. *Nature* 458:780-3, 2009. NIHMSID: NIHMS154208.
24. Shimono Y, Zabala M, Cho RW, Lobo N, Dalerba P, Qian D, **Diehn M**, Liu H, Panula SP, Chiao E, Dirbas FM, Somlo G, Pera RA, Lao K, Clarke MF. Downregulation of miRNA-200c links breast cancer stem cells with normal stem cells. *Cell* 138:592-603, 2009. PMID: PMC2731699.
25. Chan KS, Espinosa I, Chao M, Wong D, Ailles L, **Diehn M**, Gill H, Presti J Jr, Chang HY, van de Rijn M, Shortliffe L, Weissman IL. 2009. Identification, molecular characterization, clinical prognosis, and therapeutic targeting of human bladder tumor-initiating cells. *Proc Natl Acad Sci U S A* 106:14016-21, 2009. PMID: PMC2720852.
26. Hong JC, Yu Y, Rao AK, Dieterich S, Maxim PG, Le Q, **Diehn M**, Sze Y, Kothary N, Loo BW. High retention and safety of percutaneously implanted endovascular embolization coils as fiducial markers for image-guided stereotactic ablative radiotherapy of pulmonary tumors. *Int J Radiat Oncol Biol Phys* 81:85-90, 2011.
27. Kozak MM, Murphy JD, Schipper ML, Donington JS, Zhou L, Whyte RI, Shrager JB, Hoang CD, Bazan J, Maxim PG, Graves EE, **Diehn M**, Hara WY, Quon A, Le Q, Wakelee HA, Loo BW. Tumor volume as an imaging-based predictor of outcome in preoperative chemoradiotherapy and surgery for locally advanced non-small cell lung cancer. *J Thorac Oncol* 6:920-6, 2011.
28. Johnston E, **Diehn M**, Murphy JD, Loo BW, Maxim PG. Reducing 4D CT artifacts using optimized sorting based on anatomic similarity. *Med Phys* 5:2424-9, 2011.
29. Terezakis SA, Heron DE, Lavigne RF, **Diehn M**, Loo BW. What the Diagnostic Radiologist Needs to Know about Radiation Oncology. *Radiology* 261:30-44, 2011.
30. Trakul N, Chang CN, Harris, J, Chapman, C, Rao A, Shen J, Quinlan-Davidson S, Filion EJ, Wakelee HA, Colevas AD, Whyte RI, Dieterich S, Maxim PG, Hristov D, Tran P, Le Q, Loo BW<sup>#</sup>, **Diehn M<sup>#</sup>**. Tumor volume-adapted dosing in stereotactic ablative radiotherapy of lung tumors. *Int J Radiat Oncol Biol Phys* 84:231-7, 2012.
31. Li R, Mok E, Chang DT, Daly M, Loo BW, **Diehn M**, Le QT, Koong A, Xing L. Intrafraction Verification of Gated RapidArc by Using Beam-Level Kilovoltage X-Ray Images. *Int J Radiat Oncol Biol Phys*. 83:e709-15, 2012.
32. Trakul N, Harris, J, Le Q, Hara WY, Maxim PG, Loo BW<sup>#</sup>, **Diehn M<sup>#</sup>**. Stereotactic Ablative Radiotherapy for Reirradiation of Locally Recurrent Lung Tumors. *J Thorac Oncol* 7:1462-5, 2012.

33. Abelson JA, Murphy JD, Trakul N, Maxim PG, Graves EE, Le Q, **Diehn M<sup>#</sup>**, Loo BW<sup>#</sup>. Metabolic imaging metrics correlate with survival in early stage lung cancer treated with stereotactic ablative radiotherapy. *Lung Cancer* 78:219-24, 2012.
34. Shultz DB, Grecula JC, Hayman J, **Diehn M<sup>#</sup>**, Loo BW<sup>#</sup>. The optimal use of radiotherapy in small cell lung cancer. *J Natl Compr Canc Netw* 11:107-14, 2013.
35. Hong JC, Eclov NCW, Yu Y, Rao AK, Dieterich S, Le QT, **Diehn M**, Sze DY, Loo BW, Kothary N, Maxim PG. Migration of implanted markers for image-guided lung tumor stereotactic ablative radiotherapy. *J App Clin Med Phys* 14:4046, 2013.
36. Yamamoto T, Kabus S, Lorenz C, Johnston E, Maxim PG, **Diehn M**, Eclov N, Barquero C, Loo BW, Keall PJ. 4D CT lung ventilation images are affected by the 4D CT sorting method. *Med Phys* 40:101907, 2013.
37. Liu MB, Eclov NC, Trakul N, Murphy J, **Diehn M**, Dieterich S, Maxim PG, Loo BW. Clinical impact of dose overestimation by effective path length calculation in stereotactic ablative radiotherapy of lung tumors. *Pract Radiat Oncol* 3: 294-300, 2013.
38. Jamshidi N, **Diehn M**, Bredel M, Kuo MD. Illuminating Radiogenomic Characteristics of Glioblastoma Multiforme through Integration of MR Imaging, Messenger RNA Expression, and DNA Copy Number Variation. *Radiology* 270(1):1-2, 2014.
39. Li R, Han B, Meng B, Maxim PG, Xing L, Koong AC, **Diehn M<sup>#</sup>**, Loo BW<sup>#</sup>. Clinical implementation of intrafraction CBCT imaging during lung tumor SABR. *Int J Radiat Oncol Biol Phys*. 87:917-23, 2013.
40. Lee CY, Lin Y, Bratman S, Feng W, Kuo A, Scheeren F, Engreitz JM, Varma S, West R, **Diehn M**. Neuregulin autocrine signaling promotes self-renewal of breast tumor-initiating cells by triggering HER2/HER3 activation. *Cancer Res* 74:341-52, 2014.
41. Zhou B, Damrauer JS, Hadzic T, Jeong Y, Clark K, Fan C, Murphy L, Troester MA, Miller CR, Jin J, Darr D, Perou CM, Levine R, **Diehn M**, Kim WY. Erythropoietin promotes breast cancer tumorigenesis through tumor initiating cell self-renewal. *J Clin Invest* 124:553-63, 2014.
42. Harris JP, Murphy JD, Le QT, Loo BW, **Diehn M**. A population-based comparative effectiveness study of radiation therapy techniques in stage III non-small-cell lung cancer. *Int J Radiat Oncol Biol Phys* 88:872-84, 2014.
43. Feng W, Gentles A, Nair RV, Huang M, Lin Y, Lee CY, Cai S, Scheeren F, Kuo A and **Diehn M**. Targeting Unique Metabolic Properties of Breast Tumor Initiating Cells. *Stem Cells* 32:1734-45, 2014.
44. Shultz DB, Jang SS, Hanlon AL, **Diehn M**, Loo BW<sup>#</sup>, Maxim PG<sup>#</sup>. The effect of arm position on the dosimetry of thoracic stereotactic ablative radiotherapy using volumetric modulated arc therapy. *Pract Radiat Oncol* 4:192-7, 2014.
45. Shultz DB, Trakul N, Abelson J, Murphy J, Maxim PG, Le Q, Loo BW, **Diehn M**. Imaging-based biomarkers of progression after stereotactic ablative radiotherapy for stage I non-small cell lung cancer. *Clin Lung Cancer* 15:294-301, 2014.
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**Peer-Reviewed Other (Reviews, Commentaries, Editorials, etc.)**

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#### **Non-peer Reviewed Publications (Editorials, Commentaries, Letters, etc.)**

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### **Book Chapters**

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9. Binkley M, **Diehn M**, Eke I, Willers H. 2020. "Mechanisms and Markers of Clinical Radioresistance" in *Molecular Targeted Radiosensitizers: Opportunities and Challenges*. Ed: Willers H and Eke I, 2020.

### **Current Clinical Trials**

1/02-present	Principal investigator, "Novel Serum Markers for Monitoring Response to Anti-Cancer Therapy" (NCT00349830)
8/11-present	Co-investigator, "Molecular Analysis of Thoracic Malignancies" (NCT01385722)
1/16-present	Co-principal investigator, "CT Perfusion Imaging in Predicting Treatment Response in Patients With Non-small Cell Lung Cancer or Lung Metastases Treated With Stereotactic Ablative Radiation Therapy" (NCT02693080)
8/16-present	Principal investigator, "SABR-ATAC: A Trial of TGF-beta Inhibition and Stereotactic Ablative Radiotherapy for Early Stage Non-small Cell Lung Cancer" (NCT02581787)
5/17-present	Translational co-chair, "Maintenance Chemotherapy With or Without Local Consolidative Therapy in Treating Patients With Stage IV Non-small Cell Lung Cancer" (NRG LU002 - NCT03137771)
6/17-present	Co-investigator, "Radical-Dose Image Guided Radiation Therapy in Treating Patients With Metastatic Non-small Cell Lung Cancer Undergoing Immunotherapy" (NCT03176173)
4/21-present	Co-principal investigator, "Adjuvant Durvalumab for Early Stage NSCLC patients with ctDNA Minimal Residual Disease" (NCT04585477)
4/21-present	Principal investigator, "Personalized Escalation of Consolidation Treatment Following Chemoradiotherapy and Immunotherapy in Stage III NSCLC" (NCT04585490)

### **Past Clinical Trials**

8/10-5/13	Principal Investigator, "Breath Analysis for Evaluation of Radiation Exposure in Lung Cancer Patients Treated with Radiation" (NCT01182155)
10/11-12/19	Principal Investigator, "Phase II Trial of Individualized Lung Tumor Stereotactic Ablative Radiotherapy (iSABR)" (NCT01463423)
3/13-3/17	Co-investigator, "Pilot FLT-PET/CT Evaluation of Suspected Local Recurrence after Thoracic Stereotactic Ablative RT"

### **Invited Talks/Oral Presentations**

#### Local and National

1. Eos Biotechnology, Inc. South San Francisco, CA. "Large-scale identification of secreted and membrane-associated gene products using DNA microarrays." 2000.
2. Incyte Genomics, Inc. Palo Alto, CA. "Identification of secreted and membrane-associated gene products using DNA microarrays." 2000.
3. ILSI Seminar. Amelia Island, FL. "Advanced Pathologic Techniques: An Introduction to the Use of Gene Expression Analysis." 2000.
4. Cold Spring Harbor Press Book Workshop. Cold Spring Harbor, NY. "Isolation of membrane-bound polysomal RNA." 2001.
5. Advances in Genome Biology and Technology. Marco Island, FL. "Genomic expression programs and the integration of the CD28 costimulatory signal in T-cell activation." 2002.
6. American Society for Therapeutic Radiology and Oncology Annual Meeting. Philadelphia, PA. "Neuroimaging Characteristics Reflect Tumor Gene Expression Signatures and Predict Survival in Glioblastoma Multiforme." October 2006.



7. Radiological Society of North America Annual Meeting, Chicago Illinois. "Microarray Analysis in Cancer Biology." November 2006.
8. American Society for Therapeutic Radiology and Oncology Annual Meeting. Los Angeles, CA. "Analyzing the Sensitivity of Breast Cancer Stem Cells to Ionizing Radiation and Chemotherapy." October 2007.
9. RRS/ASTRO Mini-Symposium at American Society for Therapeutic Radiology and Oncology Annual Meeting. Boston, MA. "Investigating the Mechanisms of Cancer Stem Cell Radioresistance." September 2008.
10. Dana Farber Cancer Institute Department of Radiation Oncology Seminar. Boston, MA. "Investigating Cancer Stem Cell Radioresistance and Survival Mechanisms." September 2008.
11. University of Wisconsin Department of Radiation Oncology Seminar, Madison, WI. "Investigating Cancer Stem Cell Radioresistance Mechanisms and Gene Expression Programs." October 2008.
12. University of Chicago Department of Radiation Oncology Seminar, Chicago, IL. "Investigating Cancer Stem Cell Radioresistance and Gene Expression Programs." November 2008.
13. University of California Los Angeles Department of Radiation Oncology Seminar. Los Angeles, CA. "Investigating Cancer Stem Cell Radioresistance Mechanisms and Gene Expression Programs." November 2008.
14. University of Pennsylvania Department of Radiation Oncology Seminar. Philadelphia, PA. "Investigating Cancer Stem Cell Radioresistance Mechanisms and Gene Expression Programs." December 2008.
15. Stanford Cancer Center Seminar. Stanford, CA. "Investigating Cancer Stem Cell Radioresistance Mechanisms and Gene Expression Programs." January 2009.
16. Oncomed Pharmaceuticals, Inc., Redwood City, CA. "Investigating Mechanisms of Cancer Stem Cell Radioresistance." August 2009.
17. Stanford Institute for Stem Cell Biology & Regenerative Medicine Symposium. Stanford, CA. "Therapeutically Targeting Solid Tumor Cancer Stem Cells." December 2009.
18. Stanford University Cancer Biology Program Symposium. Asilomar, CA. "Therapeutically Targeting Solid Tumor Cancer Stem Cells." August 2010.
19. Fourth Comprehensive Cancer Research Training Program at Stanford University. Menlo Park, CA. "Therapeutic Resistance of Cancer Stem Cells." September 2010.
20. Radiological Society of North America Annual Meeting. Chicago, IL. "Applications of PET in Radiation Oncology." November 2010.
21. Stanford University Pulmonary Medicine and Biology Grand Rounds. Stanford, CA. "Stereotactic Ablative Radiation Therapy for Lung Tumors." December 2010.
22. Regenerative Medicine Seminar Series at Stanford University. Stanford, CA. "Radical approaches to targeting cancer stem cells." January 2011.
23. Radiation Therapy Oncology Group (RTOG) Meeting, Lung Translational Research Program Committee. San Diego, CA. "Lung Cancer Stem Cells." January 2011.

24. Society for Interventional Radiology Annual Meeting. Chicago, IL. "Clinical Implications of Recent Advances in Cancer Genomics." March 2011.
25. Society for Interventional Radiology Annual Meeting. Chicago, IL. "Therapeutic Implications of Cancer Stem Cells." March 2011.
26. Society for Thoracic Surgery Annual Meeting, Fort Lauderdale, FL. Symposium on "Treating High-Risk Operable Early Stage NSCLC - What's New in 2012." January 2012.
27. Molecular Medicine Tri-Conference, San Francisco, CA. Targeting Cancer Stem Cells Symposium. February 2012.
28. Cancer Education Seminar Series, Stanford, CA. "Radiotherapy for Early Stage Lung Cancer." March 2012.
29. Society for Interventional Radiology Annual Meeting. San Francisco, CA. "The Evolving Landscape in Oncology: What the IO Needs to Know." March 2012.
30. SWOG Annual Meeting. San Francisco, CA. "Cancer Stem Cells and Clinical Trials: Challenges and Opportunities." April 2012.
31. Doris Duke Charitable Foundation Clinical Scientist Meeting. Chicago, IL. "Analyzing molecular properties of breast tumor initiating cells in clinical specimens." April 2012.
32. Institute of Medicine: Emerging Technologies Clinical Forum - Innovative Radiation Therapy. St. Louis, MO. "Advances in Radiotherapy for Lung Cancer." May 2012.
33. NCI Integrative Cancer Biology Principal Investigators Meeting. Burlingame, CA. "Clinically-Relevant Regulatory Networks in the Lung Tumor Microenvironment." May 2012.
34. Ludwig Institute for Cancer Research Symposium. Stanford, CA. "Targeting Unique Metabolic Properties of Breast Tumor Initiating Cells." May 2012.
35. Varian Research Symposium. Monterey, CA. "Advancing Radiotherapy for Lung Cancer through Cancer Genomics and Molecular Therapeutics." September 2012.
36. Sixth Comprehensive Cancer Research Training Program at Stanford University. Menlo Park, CA. "Therapeutic Resistance of Cancer Stem Cells." September 2012.
37. Lung Development, Physiology and Cancer Symposium. Stanford, CA. "Personalized Tumor Biomarkers for Non-Small Cell Lung Cancer." September 2012.
38. Radiation Research Society Annual Meeting. San Juan, Puerto Rico. "Targeting Metabolic Properties of Breast Tumor Initiating Cells." October 2012.
39. American Society for Therapeutic Radiology and Oncology Annual Meeting. Boston, MA. "Acute Changes in Exhaled Breath Composition Predict Radiation Pneumonitis Following Stereotactic Ablative Radiotherapy." October 2012.
40. Radiological Society of North America Annual Meeting. Chicago, IL. "Stereotactic Ablative Radiotherapy for Oligometastatic Lung Tumors." November 2012.
41. SABR/SBRT Symposium. Stanford, CA. "SABR/SBRT for Lung Tumors." November 2012.
42. Regenerative Medicine Seminar Series at Stanford University. Stanford, CA. "The Role of HER2/HER3 Signaling in Tumor Initiating Cells of HER2-low Breast Cancers." January 2013.

43. Canary Center at Stanford for Early Cancer Detection. Palo Alto, CA. "Noninvasive and Ultrasensitive Quantitation of Circulating Tumor DNA by Deep Sequencing." February 2013.
44. American Association for Cancer Research Annual Meeting. Washington, DC. "Monitoring tumor-derived cell-free DNA: Principles and methods." April 2013.
45. Stanford Cancer Institute Annual Retreat. Palo Alto, CA. "How can we make translational research at Stanford more effective?" April 2013.
46. RTOG/NRG Semi Annual Meeting. Philadelphia, PA. "Ultrasensitive detection of circulating tumor DNA in non-small cell lung cancer." June 2013.
47. 8th Fall Midwest Thoracic & GI Oncology Conference. Omaha, NE. "Stereotactic Ablative Radiotherapy (SABR) for Lung Tumors." October 2013.
48. Visiting Professor at the University of Nebraska, Dept. of Radiation Oncology. "Stereotactic Ablative Radiotherapy (SABR) for Non-small Cell Lung Cancer: Methods and Frontiers." October 2013.
49. Visiting Professor at Princess Margaret Hospital, Dept. of Radiation Oncology, University of Toronto. "Ultrasensitive detection of circulating tumor DNA by deep sequencing." October 2013.
50. Canary Center-Agilent Symposium. Stanford, CA. "Ultrasensitive detection of circulating tumor DNA by deep sequencing." January 2014.
51. Molecular Medicine Tri-Conference. San Francisco, CA. "Detection of Circulating Tumor DNA by Deep Sequencing." February 2014.
52. Siebel Symposium. Stanford, CA. "Detection of Circulating Tumor DNA by Deep Sequencing." March 2014.
53. Radiation Biology Research Retreat. Stanford, CA. "Incorporating Circulating Tumor DNA Analysis into Radiotherapy Trials." March 2014.
54. American Association for Cancer Research Annual Meeting. San Diego, CA. "Analysis of circulating tumor DNA to optimize therapeutic outcomes." April 2014.
55. ASTRO 2014 State of the Art Radiation Therapy Symposium. San Antonio, TX. "Role of Functional Imaging, Genomics, and Targeted Agents in Lung Cancer Treatment." May 2014.
56. Canary Center-SRI Symposium. Palo Alto, CA. "Ultrasensitive detection of circulating tumor DNA by deep sequencing." May 2014.
57. Invited seminar at Duke University. Durham, NC. "Ultrasensitive detection of circulating tumor DNA by deep sequencing." May 2014.
58. Health Matters Conference. Stanford, CA. "Cancer Risk Factors: Revolutionary Genomic Techniques for Early Cancer Detection and Monitoring." May 2014.
59. Integrative Cancer Biology Program PI Meeting. Bethesda, MD. "Clinically-Relevant Regulatory Networks in the Lung Tumor Microenvironment." May 2014.
60. Invited seminar at the University of North Carolina. Chapel Hill, NC. "Ultrasensitive detection of circulating tumor DNA by deep sequencing." May 2014.

61. Stanford University Pulmonary Medicine and Biology Grand Rounds. Stanford, CA. "Monitoring Circulating Tumor DNA in Non-Small Cell Lung Cancer using Next Generation Sequencing." June 2014.
62. NRG Oncology Bi-Annual Meeting. Chicago, IL. "Ultrasensitive detection of circulating tumor DNA by deep sequencing." July 2014.
63. Keynote speaker at Next Generation Dx Summit. Washington, DC. "Ultrasensitive detection of circulating tumor DNA by deep sequencing." August 2014.
64. 9<sup>th</sup> Early Detection Research Network (EDRN) Scientific Workshop. Bethesda, MD. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." September 2014.
65. SBRT Symposium. Stanford, CA. "Incorporation of cfDNA as a Biomarker to Guide Treatment Decisions for Lung Cancer." September 2014.
66. Elisabeth R. Woods Foundation Lung Cancer Early Detection and Prevention Workshop. Cold Spring Harbor, NY. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." September 2014.
67. Stanford Cancer Institute Symposium on Tumor Heterogeneity. Stanford, CA. "Monitoring Tumor Heterogeneity via Analysis of Circulating Tumor DNA." October 2014.
68. SelectBio Biofluid Biopsies & Companion Diagnostics 2014 Meeting. San Diego, CA. "Detection of Circulating Tumor DNA by Deep Sequencing." October 2014.
69. Keynote speaker at OHSU Solid Tumors & Quantitative Oncology Retreat 2014. Portland, OR. "Ultrasensitive detection of circulating tumor DNA by deep sequencing." October 2014.
70. Lung Cancer Awareness Community Symposium. Palo Alto, CA. "Stereotactic Ablative Radiotherapy (SABR) for Early Stage Lung Cancer." November 2014.
71. AACR Radiation Oncology Think Tank: Optimizing Cancer Care through Advancements in Radiation Science and Medicine. Fort Myers, FL. "Analysis of Circulating Tumor DNA for Precision Radiation Medicine." January 2015.
72. Gilead Sciences. Foster City, CA. "Ultrasensitive Detection of Circulating Tumor DNA by Deep Sequencing." January 2015.
73. NRG Oncology Translational Science Lung Cancer Subcommittee Meeting. San Diego, CA. "Analysis of Circulating Tumor DNA in Non-Small Cell Lung Cancer." February 2015.
74. Cancer ground rounds seminar series at the University of Pennsylvania. Philadelphia, PA. "Ultrasensitive Detection of Circulating Tumor DNA by Deep Sequencing." March 2015.
75. Department of Radiation Oncology seminar series at the University of Pennsylvania. Philadelphia, PA. "Recent Advances and New Frontiers in Radiotherapy for Lung Tumors." March 2015.
76. The Clinical Cancer Genome 2015. San Francisco, CA. "Ultrasensitive Detection of Circulating Tumor DNA by Deep Sequencing." June 2015.
77. Next Generation Dx Summit. Washington, DC. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." August 2015.

78. Individualizing Medicine Conference. Rochester, MN. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." September 2015
79. World Conference on Lung Cancer. Denver, CO. "NSCLC Stems Cells: Are They a Real Target? – Current Therapeutic Targets and Ongoing Trials." September 2015.
80. AACR Breast Cancer. Bellevue, WA. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." October 2015.
81. ASTRO "Discussant: Imaging and Circulating Biomarkers." San Antonio, Texas. October 2015.
82. SelectBiosciences Liquid Biopsies Meeting. Boston, MA. "Ultrasensitive Detection of Circulating Tumor DNA by Deep Sequencing." November 2015.
83. San Antonio Breast Cancer Conference. San Antonio, TX. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." December 2015.
84. AACR Translational Lung Cancer Meeting. San Diego, CA. "Deep Sequencing of Circulating Tumor DNA for Personalized Lung Cancer Detection and Radiotherapy Response Monitoring." January 2016.
85. Personalized Medicine World Conference. Mountain View, CA. "Analysis of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." January 2016.
86. Regenerative Medicine Series. Stanford, CA. "Role of KEAP1 in Airway Stem Cells and Squamous Cell Lung Cancers." January 2016.
87. Molecular Med Tri-Con 2016. San Francisco, CA. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." March 2016.
88. Invited Speaker at MD Anderson. Houston, TX. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." March 2016.
89. Prime Oncology Young Investigator Meeting. Chicago, IL. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." March 2016.
90. AACR Annual Meeting Methods Workshop. New Orleans, LA. "NGS-based approaches for ctDNA analysis – Bioinformatics." April 2016.
91. Stanford Lung Cancer Course. Stanford, CA. "Analysis of Circulating Tumor DNA for Personalized Lung Cancer Detection and Monitoring." April 2016.
92. NCI Future of Radiobiology Workshop. Bethesda, MD. "Predictive Markers in Radiobiology and Radiation Oncology: The Role of Liquid Biopsies." May 2016.
93. Visiting professor and Radiation Oncology Grand Rounds at Memorial Sloan Kettering Cancer Center. New York, NY. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." May 2016.
94. ASCO Annual Meeting 2016. Chicago, IL. "Stereotactic Body Radiation Therapy for Early-Stage Disease." June 2016.
95. SARC Annual Meeting. Chicago, IL. "Circulating Tumor DNA: Overview and Applications for Sarcoma." June 2016.

96. Coffey-Holden Prostate Cancer Meeting. San Diego, CA. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." June 2016.
97. Sondland-Durant Early Cancer Detection Conference. Portland, OR. "Deep Sequencing of Circulating Tumor DNA for Cancer Detection and Monitoring." June 2016.
98. Gordon Conference: Circulating Tumor Cells and Other Tumor Products in the Circulation. South Hadley, MA. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." August 2016.
99. Next Generation Dx Summit. Washington, DC. "Clinical Applications of Cell-Free DNA." August 2016.
100. IASLC Chicago Multidisciplinary Symposium in Thoracic Oncology. Chicago, IL. "Next generation sequencing of circulating tumor DNA for lung cancer genotyping and monitoring." September 2016.
101. NCI Workshop on Circulating Tumor DNA assays in Clinical Cancer Research. Bethesda, MD. "Deep Sequencing of Circulating Tumor DNA for Cancer Detection and Monitoring." September 2016.
102. Radiation Research Society Annual Meeting. Kona, HI. "Deep Sequencing of Circulating Tumor DNA for Personalized Lung Cancer Detection and Monitoring." October 2016.
103. Association for Molecular Pathology Annual Meeting. Charlotte, NC. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." October 2016.
104. NRG semi-annual meeting. Houston, TX. "Analysis of ctDNA for detection of minimal residual disease in localized lung cancer." January 2017.
105. Molecular Med Tri-Con 2017. San Francisco, CA. "Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." February 2017.
106. Molecular Med Tri-Con 2017. San Francisco, CA. "Analysis of circulating tumor DNA for early cancer detection." February 2017.
107. Prime Oncology Young Investigator Meeting. Atlanta, GA. "How my career is taking shape." March 2017.
108. Prime Oncology Young Investigator Meeting. Atlanta, GA. "Detection of molecular residual disease in localized lung cancer via circulating tumor DNA profiling." March 2017.
109. Multidisciplinary Thoracic Cancers Symposium. San Francisco, CA. "Analysis of Circulating Tumor DNA in Lung Cancer." March 2017.
110. Stanford Lung Cancer Course. Stanford, CA. "Current State of Radiation Therapy for Stage III Non-Small Cell Lung Cancer." March 2017
111. Stanford Lung Cancer Course. Stanford, CA. "Analysis of Circulating Tumor DNA in Lung Cancer." March 2017
112. AACR Radiation Science and Medicine Working Group Town Hall Meeting. Washington, DC. "Circulating Tumor DNA for Radiation Response Prediction." April 2017.
113. AACR Annual meeting 2017. Washington, DC. "Personalized cancer detection and monitoring via deep sequencing of circulating tumor DNA." April 2017.

114. UCLA Bioinformatics Seminar Series. Los Angeles, CA. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." May 2017.
115. ASCO-AACR Joint Symposium on Liquid Biopsies at ASCO Annual Meeting 2017. Chicago, IL. "Update on circulating tumor DNA." June 2017.
116. ASTRO-SITC-NCI Immunotherapy Workshop. Bethesda, MD. "Circulating tumor DNA analysis for personalized cancer detection and monitoring in immuno-oncology." June 2017.
117. Annual Taubman Scholar Visiting Professor. Ann Arbor, MI. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." June 2017.
118. Computational oncology seminar speaker at Memorial Sloan Kettering. New York, NY. "Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." June 2017.
119. State of the Science Lung Cancer Course. San Jose, CA. "Analysis of circulating tumor DNA in lung adenocarcinomas." July 2017.
120. ASCO Advantage Meeting. Washington, DC. "Stage III Chemoradiation for NSCLC." August 2017.
121. Next Generation Dx Summit. Washington, DC. "Early Detection of Molecular Residual Disease in Localized Cancers via Circulating Tumor DNA Profiling." August 2017.
122. IASLC Chicago Multidisciplinary Symposium in Thoracic Oncology. Chicago, IL. "Blood-based Biomarkers in Thoracic Oncology." September 2017.
123. Stanford Symposium on Contemporary Topics in Radiation Oncology Course. Stanford, CA. "Circulating Tumor DNA as a Biomarker to Guide Treatment Decisions in Radiation Oncology." September 2017.
124. AACR-NCI-EORTC Molecular Targets and Cancer Therapeutics Conference. Philadelphia, PA. "Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." October 2017.
125. Center for Cancer Systems Biology Seminar Series. Stanford, CA. "Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." October 2017.
126. FDA and AACR Workshop on Liquid Biopsies in Oncology Drug and Device Development. Washington, DC. "New Developments in Analysis of Circulating Tumor DNA." October 2017.
127. Leopold Koss Lecture at the American Society of Cytopathology annual meeting. Phoenix, AZ. "Liquid Biopsies - Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." November 2017.
128. GI ASCO Colon Task Force Meeting. San Francisco, CA. "Early Detection of Molecular Residual Disease in Localized Cancers via Circulating Tumor DNA Profiling." January 2018.
129. NRG Head and Neck Cancer Translational Research Program. San Antonio, TX. "KEAP1/NFE2L2 – A commonly altered pathway in aerodigestive cancer with clear therapeutic potential." January 2018.
130. Precision Medicine World Conference. Mountain View, CA. "Application of Circulating Tumor DNA to Guide Treatment Decisions." January 2018.

131. IASLC Targeted Therapy Meeting. Santa Monica, CA. "Circulating Tumor DNA Profiling for Detection of Minimal Residual Disease in Localized Lung Cancers." February 2018.
132. Molecular Medicine TriCon. San Francisco, CA. "Early Detection of Molecular Residual Disease in Localized Cancers via Circulating Tumor DNA Profiling." February 2018.
133. FDA-IASLC Workshop on Neoadjuvant Therapy in Lung Cancer. Bethesda, MD. "Measuring the Activity of Neoadjuvant Therapies via Circulating Tumor DNA or Circulating Tumor Cells." March 2018.
134. AACR Annual Meeting. Chicago, IL. "Genomics-based biomarkers for personalizing treatment of patients receiving radiotherapy." April 2018.
135. FDA Accelerating Anticancer Agent Development and Validation (AAADV) Meeting. Bethesda, MD. "Innovative Approaches to ctDNA Detection and Clinical Applications." May 2018.
136. AACR Radiation Science and Medicine Think Tank. Philadelphia, PA. "Liquid biopsies as radiation predictors." June 2018.
137. ASCO Annual Meeting. Chicago, IL. "Methods and Applications of cfDNA Analysis." June 2018.
138. Huntington Beach Lung Cancer Meeting. Huntington Beach, CA. "New Strategies for Early Detection of Lung Cancer." July 2018.
139. Next Generation Dx Summit. Washington, DC. "Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." August 2018.
140. NCI Linear and Non-Linear Metastasis Workshop. Bethesda, MD. "Detection of Micrometastatic Disease via Circulating Tumor DNA analysis." September 2018.
141. Radiation Research Society Annual Meeting. Chicago, IL. "Analysis of circulating tumor DNA for detection of molecular residual disease after radiotherapy." September 2018.
142. Presidential Symposium at ASTRO Annual Meeting 2018. San Antonio, TX. "Liquid Biopsies: Transformative Biomarkers for Radiation Oncology." October 2018.
143. Rocky Mountain Oncology Society. Denver, CO. "Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." October 2018.
144. Visiting Professor at University of Colorado. "Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." October 2018.
145. Precision Medicine World Conference. San Jose, CA. Keynote address: "Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." January 2019.
146. Stand Up To Cancer Annual Meeting. Santa Monica, CA. "Blood-Based Early Interception of Lung Cancer." January 2019.
147. IASLC Targeted Therapies of Lung Cancer Meeting. Santa Monica, CA. "ctDNA Analysis for Immune Checkpoint Inhibition." February 2019.
148. MD Anderson Radiation Oncology Grand Rounds. Houston, TX. "Liquid biopsies for personalized monitoring and detection of cancer". March 2019.
149. AstraZeneca Advisory Board. Washington, DC. "ctDNA MRD in Localized Lung Cancer." April 2019.



150. AACR Combination Therapies Workshop. Washington, DC. "Application of Liquid Biopsies for Combination Therapy Selection." June 2019.
151. Discussant in Locoregional Lung Cancer Oral Session, ASCO Annual Meeting. Chicago, IL. "Neoadjuvant Immunotherapy: Why, How, When?" June 2019.
152. ASTRO Oligometastasis Workshop. Washington, DC. "Biomarkers for Local Therapy in Patients with Oligometastatic Disease." June 2019.
153. ASTRO-ESTRO Joint Session at ASTRO Annual Meeting. Chicago, IL. "Liquid Biopsies for Precision Radiation Oncology." September 2019.
154. Vanderbilt Ingram Cancer Center. Nashville, TN. "Circulating Tumor DNA Analysis for Personalized Cancer Monitoring and Detection." October 2019.
155. Radiation Research Society Annual Meeting. San Diego, CA. "Role of KEAP1/NFE2L2 Mutations in Clinical Radioresistance of NSCLC." November 2019.
156. Duke University Cancer Center Seminar. Durham, NC. "Circulating Tumor DNA Analysis for Personalized Cancer Monitoring and Detection." December 2019.
157. AACR Advancing Precision Medicine Drug Development. San Diego, CA. "Circulating Tumor DNA Analysis for Personalized Cancer Monitoring and Detection." January 2020.
158. AACR Advances in Liquid Biopsies Conference. Miami, FL. "Circulating Tumor DNA Analysis for Personalized Cancer Monitoring and Detection." January 2020.
159. IASLC Targeted Therapies of Lung Cancer Meeting. Santa Monica, CA. "ctDNA." February 2020.
160. AACR Annual Meeting Educational Session (Chair). Virtual. "Analysis of cfDNA for Detection of Minimal Residual Disease." June 2020.
161. University of Iowa Genetics Department Retreat Keynote Address. Virtual. "Circulating Tumor DNA Analysis for Personalized Cancer Monitoring and Detection." September 2020.
162. AATS International Thoracic Surgical Oncology Summit 2020. Virtual. "The Emerging Role of ctDNA as a Biomarker for MRD and Treatment Decision-Making in NSCLC." October 2020.
163. ASTRO Annual Meeting. Virtual. "Genomics-based Liquid Biopsy Approaches for Lung Cancer Treatment Response Assessment." October 2020.
164. Discussant for Biology Special Session: Prediction and Monitoring of Radiation Response at ASTRO Annual Meeting. Virtual. October 2020.
165. ECOG-ACRIN Fall 2020 Group Meeting. Virtual. "Role of ctDNA in minimal residual disease." October 2020.
166. IASLC 2020 Hot Topic Meeting: Liquid Biopsy. Virtual. "Liquid Biopsies and Checkpoint Immunotherapy." October 2020.
167. Radiation Research Society Annual Meeting. Virtual. "The Role of KEAP1/NFE2L2 Mutations in Lung Cancer Radiation Resistance." October 2020.
168. New York Lung Cancer Symposium. Virtual. "The Emerging Role of ctDNA as a Biomarker for MRD and Treatment Decision-Making in NSCLC." November 2020.

169. Keynote speaker for IASLC Targeted Therapies of Lung Cancer Meeting. Virtual. "Cell Free DNA in Localized NSCLC." February 2021.
170. Columbia University Irving Medical Center Distinguished Seminar Series. Virtual. "Circulating Tumor DNA Analysis for Personalized Cancer Monitoring and Detection." March 2021.
171. Icahn School of Medicine at Mount Sinai Lung Cancer Group Seminar. Virtual. "Circulating Tumor DNA Analysis for Detection and Monitoring of Localized Lung Cancer." April 2021.

International

1. International Association for the Study of Lung cancer (IASLC) 14<sup>th</sup> World Conference on Lung Cancer. Amsterdam, The Netherlands. "Cancer Stem Cells and Radioresistance." July 2011.
2. PneumoTrieste 2015 meeting. Trieste, Italy. "Circulating Tumor DNA: Are Liquid Biopsies Ready for Prime Time?" April 2015.
3. Hokkaido University GI-CoRE lecture. Hokkaido, Japan. "Clinical and Genomic Strategies for Personalized Medicine in Non-small Cell Lung Cancer." July 2015.
4. Japanese Society of Medical Oncology Annual Meeting Presidential Symposium. Hokkaido, Japan. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." July 2015.
5. Japanese Society for Therapeutic Radiology and Oncology/Japanese Society of Medical Oncology Joint Symposium. Hokkaido, Japan. "Applications of Circulating Tumor DNA Analysis in Radiation Oncology." July 2015.
6. Freiburg Tumor Liquid Biopsy Symposium. Freiburg, Germany. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." October 2015.
7. ELCC Satellite Symposium. Geneva, Switzerland. "CAPP-Seq Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." April 2016.
8. International Symposium on Minimal Residual Cancer (ISMRC). Hamburg, Germany. "Analysis of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." March 2016.
9. Next Generation Lung Cancer Diagnostics Meeting. London, England. "CAPP-Seq Circulating Tumor DNA Analysis for Personalized Lung Cancer Detection and Monitoring." November 2016.
10. National Cancer Research Institute Annual Meeting. Liverpool, England. "Deep Sequencing of Circulating Tumor DNA for Personalized Cancer Detection and Monitoring." November 2016.
11. International Association for the Study of Lung cancer (IASLC) World Conference on Lung Cancer. Vienna, Austria. "CAPP-Seq Circulating Tumor DNA Analysis for Personalized Lung Cancer Detection and Monitoring." December 2016.
12. Keynote presentation at Princess Margaret Cancer Center Symposium on Applied Cancer Genomics and Tumor Immunotherapy. Toronto, Canada. "Clinical Applications of High Throughput Sequencing-Based Circulating Tumor DNA Analysis." November 2017.
13. Lecture at JSMO/ASCO Young Oncologist Workshop. Tokyo, Japan. "New Developments in Liquid Biopsies." February 2018.
14. Sixth JCA-AACR Special Joint Conference on the Latest Advances in Lung Cancer Research: From Basic Science to Therapeutics. Kyoto, Japan. "Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." July 2018.

15. International Association for the Study of Lung cancer (IASLC) 19<sup>th</sup> World Conference on Lung Cancer. Toronto, Canada. "Biomarkers in Oligometastatic Patients." September 2018.
16. Stanford Medicine Symposium: Advances in Multidisciplinary Management of Lung Cancer in China and USA. Beijing, China. "Liquid Biopsies – Current Status and Future Applications." November 2018.
17. EMBL-EBI Workshop: Liquid Biopsies in clinical practice. Cambridge, UK. "Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." December 2018.
18. Canadian Lung Cancer Conference. Vancouver, Canada. "Liquid Biopsies: Transformative Biomarkers for Radiation Oncology." February 2019.
19. University of Manchester Director's Seminar. Manchester, UK. "Liquid Biopsies for Personalized Monitoring and Detection of Cancer." May 2019.
20. 2<sup>nd</sup> Cologne Conference on Lung Cancer. Cologne, Germany. "Circulating Tumor DNA for Characterization and Monitoring of Lung Cancer." June 2019.
21. 11<sup>th</sup> International Symposium on Circulating Nucleic Acids in Plasma and Serum. Jerusalem, Israel. "Cell-free DNA Analysis for Detection and Personalized Monitoring of Cancer." September 2019.
22. Medical Center of the Johannes Gutenberg University Mainz. Mainz, Germany. "Circulating Tumor DNA Analysis for Personalized Cancer Monitoring and Detection." October 2019.
23. 2<sup>nd</sup> Annual Canadian Immuno-Oncology Symposium. London, Ontario, Canada (virtual). "Noninvasive Early Identification of Therapeutic Benefit from Immune Checkpoint Inhibition." February 2021.
24. Cell Press and the Beijing Municipal Science and Technology Commission Conference - Precision Oncology: Progress, Challenges and Promises. Beijing, China (virtual). "Circulating Tumor DNA Analysis for Personalized Cancer Detection and Monitoring." March 2021.

### **Editorial Boards/Reviewer**

#### Editorial boards

2016-present Editorial board member for *JCO Precision Oncology*  
 2019-present Scientific Editor for *Cancer Discovery*

#### Ad hoc reviewer

2002-present *Cell*  
*Nature*  
*Nature Genetics*  
*Nature Medicine*  
*Nature Cancer*  
*Journal of Clinical Oncology*  
*Cancer Discovery*  
*Cancer Cell*  
*Science Translational Medicine*  
*Genome Biology*  
*JAMA Oncology*  
*JCO Precision Oncology*  
*PLoS Medicine*  
*Cancer Research*  
*Clinical Cancer Research*

*Cell Reports*  
*Molecular Cancer Research*  
*Oncogene*  
*Oncotarget*  
*International Journal of Radiation Oncology, Biology, and Physics*  
*Radiation Research*  
*Radiation Oncology*  
*PLoS One*  
*Breast Cancer Research and Treatment*

**Grant Reviews**

2010	Department of Defense Congressionally Directed Medical Research Program (DOD-CDMRP) Breast Cancer Research Program, Pathobiology Panel for Idea Awards
2011	Medical Research Council Molecular and Cellular Medicine Board, ad hoc reviewer
2012	Department of Defense Congressionally Directed Medical Research Program (DOD-CDMRP) Lung Cancer Research Program, Cell and Molecular Biology Panel for Concept Awards
2012	Research Grant Council of Hong Kong Biology & Medicine Panel, ad hoc reviewer
2014-present	Radiological Society of North America Radiation Oncology Study Section
2014	Medical Research Council Molecular and Cellular Medicine Board, ad hoc reviewer
2015	Medical Research Council Molecular and Cellular Medicine Board, ad hoc reviewer
2015	Ad hoc reviewer, Cancer Genetics Study Section, NIH
2016	BioTechMed (Austria), ad hoc reviewer
2016	Welcome Trust, ad hoc reviewer
2017	Kom op tegen Kanker (Netherlands), ad hoc reviewer
2017	Clinical and Translational Imaging R01 NIH review panel, ad hoc reviewer.
2017	Doris Duke Clinical Scientist Development Award review panel
2019	Ad hoc reviewer, Radiation Therapeutics and Biology Study Section, NIH
2020-present	ASTRO Study Section
2020	Ad hoc reviewer, Cancer Biomarkers Study Section, NIH
2021-present	Permanent member, Cancer Biomarkers Study Section, NIH

**Patents (including provisional)**

2009	Methods and Compositions for Treating Carcinoma Stem Cells (US20110124032A1)
2010	Methods and Systems For Analysis of Single Cells (US9850483B2)
2010	A 4D Computed Tomography Anatomically Based Image Selection Procedure (US8526702B2)
2013	Identification and Use of Circulating Tumor Markers (US14774518)

- 2015 Methods and compositions for assessing patients with non-small cell lung cancer (US20170073763A1)
- 2014 Identification and Use of Circulating Nucleic Acid Tumor Markers (US20160032396A1)
- 2019 Methods of Treatments Based Upon Updated Probabilities of Clinical Outcome (62/870,411)
- 2019 Methods and Systems for Assessment and Treatment of Cancer (62/931,688)
- 2020 Methods of Analyzing Cell Free Nucleic Acids and Applications Thereof (62/980,972)
- 2020 Noninvasive Immunotherapy Response Classification (63/003,737)
- 2020 Chromatin Accessibility Patterns in Cell-Free DNA Reveal Tumor Heterogeneity (63/023,728)
- 2020 Methods to predict outcomes to chimeric antigen receptor T-cells in lymphoma from cell-free DNA and genetic mutations (63/091,159)