

Daniel F. Hayes, M.D.
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University of Michigan Comprehensive Cancer Center
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Curriculum Vitae

Updated April 21, 2019

Education and Training

May 1974	A.B.	Indiana University, Bloomington, Indiana
May 1977	M.S.	Indiana University, Bloomington, Indiana
June 1979	M.D.	Indiana University School of Medicine, Indianapolis, Indiana

Postdoctoral Training

Internship and Residencies:

July 1979–June 1980	Intern in Medicine, Parkland Memorial Hospital, University of Texas Southwestern Medical School, Dallas, Texas
July 1980–June 1981	Junior Assistant Resident, Parkland Memorial Hospital
July 1981–June 1982	Senior Assistant Resident, Parkland Memorial Hospital

Clinical Fellowships:

July 1982–June 1985	Clinical Fellow in Medicine, Harvard Medical School, Boston
July 1982–June 1985	Fellow in Medical Oncology, Dana-Farber Cancer Institute, Boston
July 1982–June 1985	Clinical Fellow in Medicine, Brigham and Women's Hospital, Boston

Licensure and Certification

Board Certifications:

September 1982	American Board of Internal Medicine, Certificate No. 88573
November 1985	American Board of Internal Medicine, Medical Oncology, Certificate, No. 88573

State Licenses:

June 1979	Indiana License Registration No. 29468 (inactive)
July 1979	Texas Institutional Permit (inactive)
Nov 1982–Nov 06, 2009	Commonwealth of Massachusetts Board of Registration in Medicine, License No. 49272 (inactive)
February 1996	District of Columbia Registration No. 22014 (inactive)
June 2001–Jan 31, 2014	State of Michigan, Physician License ID No. 4301078842

Aug 31, 2011–Aug 30, 2013 VA Ann Arbor Healthcare System, Without Compensation
Consultant, Hematology/Oncology

Academic, Administrative, and Clinical Appointments

Academic Appointments:

July 1985–June 1988 Instructor in Medicine, Harvard Medical School
July 1988–June 1996 Assistant Professor of Medicine, Harvard Medical School
July 1996–June 2001 Associate Professor in Medicine, Georgetown University
Medical Center
July 2001–Present Professor of Internal Medicine, University of Michigan Health
System
December 2008–Present Stuart B. Padnos Professorship in Breast Cancer, University of
Michigan Comprehensive Cancer Center

Administrative Appointments:

2001–2004, University of Michigan Comprehensive Cancer Center Protocol Review
Committee
2001–2017 University of Michigan Comprehensive Cancer Center Breast Oncology
Program: Clinical Director
2001–2017 University of Michigan Comprehensive Cancer Center Breast Care Task
Force Committee: Member
2002–2003 University of Michigan Comprehensive Cancer Center Pharmacy
Committee: Chairperson
2002–2003 University of Michigan Comprehensive Cancer Center Operations
Committee: Interim Medical Director
2002 University of Michigan Comprehensive Cancer Center Clinical Executive
Committee: Chairperson
2002–2009 University of Michigan Comprehensive Cancer Center Protocol Data
Safety Monitoring Board
2006–2017 University of Michigan Comprehensive Cancer Center
Clinical/Translational Resource Allocation Committee (CTRAC)
2007–2015 University of Michigan, Department of Internal Medicine Advisory
Promotion and Tenure Committee
2008 University of Michigan Department of Internal Medicine Research
Incentive Program Committee
2009–2010 University of Michigan Medical School, Dean’s Committee for NCRC
Biointerfaces Technology Collaborations
1/25/13 – UofM NCRC Biointerfaces Institute Challenge: Detecting Rare
Cells and Particles, invited clinician speaker
2011–2016 University of Michigan Comprehensive Cancer Center
Head & Neck SPORE Scientific Advisory Board
2011– University of Michigan Comprehensive Cancer Center

GI SPORE Scientific Advisory Board

2012–2016	University of Michigan Medical School Office of Research Inaugural Central Biorepository (CBR) Oversight and Governance Committee
2014–2015	CBR Regulatory and Compliance Working Group Charter Committee
2013–2016	University of Michigan Medical School Office of Research Biorepository Pilots Implementation Committee
2013–2014	University of Michigan Comprehensive Cancer Center Director Search Committee
2017–	Michigan Medicine, Comprehensive Cancer Center, Ovarian Cancer Initiative (OCI) Advisory Committee

Clinical Appointments:

1985–1988	Clinical Associate in Medicine, Dana-Farber Cancer Institute
1985–1996	Associate Physician, Brigham and Women’s Hospital
1988–1992	Assistant Physician, Dana Farber Cancer Institute
1992–1996	Medical Director, Breast Evaluation Center, Dana-Farber Cancer Institute
1992–1996	Assistant Professor of Medicine, Dana-Farber Cancer Institute
1996–2001	Clinical Director, Breast Cancer Program, Lombardi Cancer Center, Georgetown University Medical Center
2001–2017	Clinical Director, Breast Oncology Program, University of Michigan Comprehensive Cancer Center
2001–	Attending Physician, Medical Oncology Service, University Hospital, University of Michigan Health System

Past Administrative/Clinical Appointments:

Dana-Farber Cancer Institute:

1984–1991	Chief Physician, Staff Health Department
1985–1996	Attending Physician, Medical Oncology Service
1986–1996	Staff Physician, Breast Evaluation Center
1991–1996	Medical Director, Breast Evaluation Center Brigham and Women’s Hospital
1984–1994	Chairperson, Journal Club/Cancer Biology Seminars
1985–1992	HIV Research Safety Committee
1985–1996	Fellowship Selection Committee
1987–1996	Ambulatory Services Committee
1988–1996	Evaluation Committee for the American Board of Internal Medicine Medical Oncology Subspecialty Examination

1991, 1993 Planning Committee, Department of Medicine Retreat
1993–1996 Scientific Review Committee
1993–1996 Strategic Planning Committee, Women’s Cancers Program
1993–1996 Clinical Research Working Group Long Range Information Services
Planning Committee
1994 Clinical Re-engineering Committee
1994–1995 Clinical Executive Committee

Georgetown University Medical Center:

1996–2001 Clinical Director, Breast Cancer Program
1996–2001 Attending Physician, Medical Oncology Service
1998–2001 Teaching Attending Physician, General Medical Service
1996–2001 Clinical Research Committee
1996–2001 Program Leader, Clinical Breast Cancer
1996–2001 Histopathology Shared Resource Committee
1996–2001 Blood and Nipple Aspirate Shared Resource Committee
1997–2001 Institutional Principle Investigator, Cancer and Leukemia Group B

Research Interests

- Breast Cancer
- Biomarkers
- Circulating tumor cells
- New drug development

GRANTS

Current Peer-Reviewed Grants and Contracts

Sponsor: NIH – National Cancer Institute: T32CA009357 (Reddy, PI)
Hayes Role: Co-Investigator (0.36 CM)
Title: Oncology Research Training Grant
Total Project Period: 07/01/2018 – 06/30/2023
Annual Direct Costs: \$338,714
UM ORSP*: 18-PAF00003

Sponsor: Breast Cancer Research Foundation (BCRF-17-132) (Rae, PI)
Hayes Role: Co-Investigator (0.60 CM)
Title: Pharmacogenomic predictors of breast cancer endocrine response
Total Project Period: 10/01/2018 – 09/30/2019
Annual Direct Costs: \$208,333
UM ORSP*: 17-PAF07580

Sponsor: Breast Cancer Research Foundation (BCRF-17-179) (Hayes, PI)
Hayes Role: Principal Investigator (0.36 CM)
Title: Financial support for the Breast Cancer Intergroup Correlative Science Studies
Total Project Period: 10/01/2018 – 09/30/2019
Annual Direct Costs: \$208,333
UM ORSP*: 17-PAF08391

Sponsor: HHS, NIH 2 U01 CA166104
Hayes Role: Co-I
Title: Advancing quantification of diffusion MRI for oncologic imaging (Chenevert, Galban, Ross, PI)
Total Project Period: 09/22/2015 – 08/31/2020
Annual Direct Costs: \$378,828
UM ORSP*

Sponsor: Conquer Cancer Foundation of ASCO (American Society of Clinical Oncology)
Hayes Role: PI
Title: Predicting brain metastases in breast cancer patients through molecular profiling.
Total Project Period: 07/01/2016 – 06/30/2019
Annual Direct Costs: \$187,400
UM ORSP*: 16-PAF01301

Pending Support

Current Contract with Pharmaceutical/Commercial Interests

Sponsor (Direct): Menarini Silicon Biosystems, Inc.

Former Sponsor (Direct): Janssen Diagnostics, Inc.

Former Sponsor (Prime): Johnson & Johnson subsidiary

Hayes Role: PI

Title: Research Funding Agreement

Total Project Period: 01/01/2015–04/28/2019

Annual Direct Costs: \$241,158

UM ORSP* 15-PAF05311

Sponsor (Direct): Parexel International Corporation

Sponsor (Prime): Pfizer

Hayes Role: PI

Title: Multicenter, randomized, double-blind, placebo-controlled, phase 3 trial of fulvestrant (Faslodex) with or without PD-0332991 (Palbociclib) goserelin in women with hormone receptor-positive, HER2-negative metastatic breast cancer whose disease progressed after prior endocrine therapy.

Total Project Period: 01/01/2014–12/31/2019

Annual Direct Costs: \$147,916

UM ORSP* 15-PAF01944; 16-PAF03903

Sponsor (Direct): Parexel International Corporation

Sponsor (Prime): Merrimack Pharmaceuticals, Inc.

Hayes Role: PI

Title: A randomized, multicenter, open label study of MM-302 plus Trastuzumab vs. chemotherapy of physician's choice plus Trastuzumab in anthracycline naïve patients with locally advanced/metastatic HER2-positive breast cancer.

Total Project Period: 01/24/2015–02/02/2020

Annual Direct Costs: \$266,257

UM ORSP* #15-PAF00841

Sponsor (Direct): Merrimack Pharmaceuticals, Inc.

Hayes Role: PI

Title: A pilot study in patients treated with MM-398 to determine tumor drug levels and to evaluate the feasibility of ferumoxytol magnetic resonance imaging to measure tumor associated macrophages and to predict patient response to treatment.

Total Project Period: 08/01/2016–07/31/2019

Annual Direct Costs: \$305,315

UM ORSP* 16-PAF06481

Past Pharmaceutical Contracts

1990–91	Centocor, Inc. “Clinical Investigations of the CA15-3 Antigen”	PI
1991–92	Amgen, Inc. “A Phase I Trial of Recombinant Methionyl Human Stem Cell Factor in Patients with Advanced Breast Cancer”	PI
1988–96	Adria Laboratories/Pharmacia/Orion Corporation “A Phase III Clinical Trial Comparing Toremifene to Tamoxifen in Postmenopausal Patients with Metastatic Breast Cancer”	PI
1993–96	Centocor, Inc. “Monitoring with the CA15-3 Radioimmunoassay to Detect Rapid Progression in Patients Receiving Chemotherapy for Metastatic Breast Cancer”	PI
1993–96	Genentech, Inc. “Intravenous Recombinant Humanized Anti-p185 HER-2 Monoclonal Antibody Plus Cisplatin in Patients with Metastatic Breast Cancer”	PI
1995–96	Burroughs Wellcome Co. “A Phase I Trial of Navelbine Given By Three Consecutive Day Dosing with Filgrastim Support in Metastatic Breast Cancer Refractory to Prior Chemotherapy”	PI
1995–96	Amgen, Inc. “A Phase I Trial of Navelbine Given By Three Consecutive Day Dosing with Filgrastim Support in Metastatic Breast Cancer Refractory to Prior Chemotherapy”	PI
2004–07	UMCC #2004.031 Wyeth-Ayerst.Pharmaceuticals, Inc. “A Phase III Randomized, Placebo Controlled, Double-Blind, Study of Oral CCI-779 Administered in Combination with Letrozole vs. Letrozole Alone as First Line Hormonal Therapy in Postmenopausal Women with Locally Advanced or Metastatic Breast Cancer”	PI
2003–09	UMCC #2-19 Wyeth-Ayerst Pharmaceuticals, Inc. “A Phase II Randomized Open-Label Study of Letrozole in Combination with Two Dose Levels and Schedules of Oral CCI-779, or Letrozole Alone, in Postpartum Women with Locally Advanced or Metastatic Breast Cancer”	PI
2006–09	UMCC# 2005.115 GlaxoSmithKline “A Phase II Study of Lapatinib for Brain Metastases in Subjects with ErbB2-Positive Breast Cancer Following Trastuzumab-based Systemic Therapy and Cranial Radiotherapy”	PI
2005–09	UMCC #2005.074 Pfizer "A Multi-Center Randomized Clinical Trial Correlating the Effects of 24 Months of Exemestane or Letrozole on Surrogate Markers of Response with Aromatase Polymorphism" Note: Part of a NIH/NIGMS grant (5U01GM061373); PI effort is supported by the original grant.	PI
2005–10	Pfizer (sub-study) Characterization of Rheumatic Symptoms Associated with AIs	

Note: Part of a NIH/NIGMS grant (5U01GM061373); PI effort is supported by the original grant.

- 2005-11 Novartis (sub-study) PI
A multi-center randomized clinical trial correlating the effects of 24 months of Exemestane or Letrozole on surrogate markers of response with aromatase polymorphism.
Note: Part of a NIH/NIGMS grant (5U01GM061373); PI effort is supported by the original grant.
- 2010-12 Janssen Diagnostics, Inc. (Johnson & Johnson subsidiary) PI
A pilot single institutional study to determine the feasibility of quantifying ER, HER2, Ki-67, and Bcl-2 expression in circulating tumor cells (CTC) in a single blood draw from women undergoing a new treatment for metastatic breast cancer.
- 2011-14 Janssen Diagnostics, Inc. (Johnson & Johnson subsidiary) PI
Investigations into the biology of circulating tumor cells in metastatic breast cancer patients.
- 2012-14 Janssen Research and Development, LLC (Johnson & Johnson subsidiary) PI
Randomized, open-label study of abiraterone acetate (JNJ-212082) plus prednisone with or without exemestane in postmenopausal women with ER+ metastatic breast cancer
- 2013-13 University of Texas San Antonio
Significance of circulating tumor cells in metastatic triple negative breast cancer: Results of an open label, randomized phase II trial of nanoparticle albumin-bound paclitaxel with or without the anti-death receptor 5 (DR5) Tigatuzumab (TBCRC 019).
- 2013-14 Janssen Diagnostics, Inc. (Johnson & Johnson subsidiary) PI
COMETI P2 Trial: Characterization of Circulating Tumor Cells from Patients with Metastatic Breast Cancer Using the CTC-Endocrine Therapy Index
- 2013-15 Janssen Diagnostics, Inc. (Johnson & Johnson subsidiary) PI
Research funding agreement: Support for Hayes' laboratory regarding CellSearch™ discovery studies
- 2013-18 Washington University at St. Louis PI
Puma Biotechnology, Inc
A Phase II Study of Neratinib in Metastatic HER2 Non-amplified but HER2 Mutant Breast Cancer; plus, Ame#1 of same.
- 2013-18 Translational Research in Oncology (TRIO)
A randomized, multicenter, double-blind phase 3 study of PD-0332991 (oral CDK 4/6 inhibitor) plus letrozole versus placebo plus letrozole for the treatment of postmenopausal women with ER (+), HER2 (-) breast cancer who have not received any prior systematic anti-cancer treatment for advanced disease.
- 2015-16 Astra Zeneca AB PI
Preclinical studies of a dose escalation and pharmacodynamics monitoring of an oral selective estrogen receptor downregulator (SERD): a comparison of oral SERD activity in wild type and mutated ER positive breast cancer models.
- 2015-19 Eli Lilly and Company Foundation PI
A phase 2 study of abemaciclib in patients with brain metastases secondary to hormone receptor positive breast cancer.

2017-19	Astra Zeneca AB Performance of circulating tumor cell-endocrine therapy index as Central Laboratory for a Phase I trial of an oral selective estrogen receptor downregulator in patients with ER positive metastatic breast cancer	PI
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Past Peer Reviewed Grants and Contracts

1985	American Cancer Society Physician’s Research Training Fellowship	PI
1985–88	National Cancer Institute Clinical Investigator Award (K08) “Immunodiagnostic Approaches to Breast Cancer”	PI
1991–93	National Cancer Institute (R03) “Circulating c-neu Protein in Breast Cancer Patients”	PI
1992	CALGB Chairman’s Development Award	PI
1992–95	National Institutes of Health P20 SPORE Grant (Donald W. Kufe, M.D., PI)	Investigator
	Project 5: “DF3 Expression in Human Breast Cancer” (Donald W. Kufe, M.D., PI)	Investigator
	Project B “Tissue Bank Core” (Frederick P. Li, M.D., PI)	Investigator
1994–95	National Institutes of Health: Small Business Innovation Research Program (SBIR)	
	“A Videotape for Recruitment to Oncology Clinical Trials” (Nancy Avis, Ph.D., PI)	Investigator
1992–96	National Surgical Adjuvant Breast and Bowel Project “Studies of Adjuvant Therapy for Breast Cancer”	PI
1994–99	National Institutes of Health U01 (CA64057) “Correlative Studies of Angiogenesis in Breast Cancer”	PI
1994–99	Department of Defense, U.S. Army Medical Research Admin “Linkage of Molecular and Epidemiological Breast Cancer Investigation with Treatment Data: A Specialized Registry” (O. Ross McIntyre, M.D., PI)	Investigator
1996–2001	SPORE in Breast Cancer, Lombardi Cancer Center (Marc E. Lippman, PI)	Investigator; Director, Core
1996–01	Department of Defense Breast Cancer Center Support Group (Marc E. Lippman, PI)	Investigator; Director, Project
1998–01	Cancer and Leukemia Group B (CALGB) Georgetown Main Member Grant	PI
1998–01	Cancer and Leukemia Group B, (CALGB), Plasma Bank (Subcontract from Central Grant, Richard Schilsky, PI)	Investigator
1998–01	Chemoprevention Studies in Breast Cancer (NCI Contracts) NOI-CN-65001; NOI-CN-65003	PI
2000–02	Surrogate Markers as Endpoints: Novel Clinical Design for Combining Standard and Novel Therapies in Breast Cancer	Mentor

(Vered Stearns, PI)
 The Cancer Research Fund of the Damon Runyon-Walter Winchell
 Foundation

2003–07	Correlative Studies of erbB-2/HER2 and p53 in CALBG Pro NIH/NCI 5R01 CA092461	PI
2005–07	Tumor banking for the Southwest Oncology Group (SWOG) NIH/NCI 1 U24 CA114748 (Laurence Baker, PI)	Co-PI
2006–07	Does Adjuvant Breast Cancer Therapy Change Bone Mineral Density (BMD) in Post Menopausal Women? (Cathy Van Poznak, PI) POP0402593 Susan G. Komen Breast Cancer Fdn	Co-PI
2003–08	Michigan Center for Health Communications Research Project 3: A Tamoxifen Prophylaxis Decision Aid (Victor Strecher, PI)	Co-PI,
2004–09	Outcomes of triaged family care in advanced cancer (L. Northouse, PI) 1R01 CA107383 NIH/NCI	Co-I
2005–09	Clinical project involving evaluation of therapy of patients with a variety of malignant tumors. Southwest Oncology Group (SWOG) (Baker, PI) 2 U10 CA032102 NIH/NCI	Co-I
2005–10	Role of EZH2 in breast cancer progression (Kleer, PI) 5 RO1 CA107469 NIH/NCI	Co-I
2005–10	Pharmacogenomics Research Network and Knowledge Base (Flockhart, PI) 5 U01 GM061373 NIH/NIGMS	Co-I
2008–12	Altered brain function in chemotherapy for breast cancer (Cimprich, PI) R01 NR10939 NIH/NINR	Co-I
2009–12	Analysis of glycan structural modifications to identify improved biomarkers for breast cancer detection (Misek, PI) DOD	Co-I
2008 –13	A search for gene fusions/translocations in breast cancer (Chinnaiyan, PI) DOD: W81XWH-08-1-0110 (Chinnaiyan, PI)	Co-I
2009–14	Genetic risk for osteonecrosis of the jaw (ONJ) in patients with metastatic breast cancer. (Van Poznak, PI) NIH/NIDACR: 1 K23-DE-020197 (Van Poznak, PI)	Mentor
2009–14	Predictors of ovarian function in women treated with aromatase inhibitors (Henry, PI) NIH/NCI: 1 K07-CA-134747 (Henry, PI)	Mentor
2010–14	Correlative to UAB 1028: An open label, randomized, Phase II trial of abraxane with or without tigatuzumab in patients with metastatic, triple negative breast cancer. UAB 1028/TBCRC (Hayes, UM PI) University of Alabama/Susan G. Komen for the Cure® Foundation	
2010–15	Lilly Clinical Investigator Award, Damon Runyon Fdn Pain processing pathway analysis in aromatase inhibitor-associated musculoskeletal syndrome. (Henry, PI)	Co-Mentor
2013–15	Susan G. Komen Foundation	PI

Biomarker studies for personalized breast cancer care.

- 2012–15 Catalyst Research Award, Susan G. Komen for the Cure Career Mentor
Pharmacoeugenetics of noncoding RNAs in breast cancer chemotherapy (Yao S, PI)
- 2011–16 Genetic predictors of anti-estrogen clinical activity in breast cancer patients. Co-I
NIH/NCI: 1 R01CA151701-01A1 (Rae J, PI)
- 2014–16 SWOG Network Group Operations Center of the NCTN – subcontract site UM PI
Oregon Health and Science University
Health and Human Services, Department of National Institutes of Health-Subcontracts
- 2012-17 Modeling Therapy of Disseminated Cancer Cells in Bone Marrow (PQ 17)
NIH 5 R01 CA170198 (Luker, PI)
- 2013-18 NIH National Cancer Institute: T32CA009357 (Reddy, PI) Co-Investigator (0.36CM)
- 2017-18 Expedition Inspiration Fund for Breast Cancer Research PI
Changes in the mutational landscape of triple negative breast cancer following
neoadjuvant chemotherapy, 18-PAF02837
- 2014-19 SWOG Network Group Operations Center of the NCTN – subcontract site UM PI
Oregon Health and Science University NIH U01CA180888
- 2014-19 SWOG –Clinical Trials Initiative L.L.C./Hope Foundation PI
Performance of circulation tumor cell endocrine therapy index from whole blood
specimens collected from patients with estrogen receptor positive metastatic breast
cancer
- 2015-19 Susan G. Koman for the Cure SAC150015 PI
Noel Devices to Capture Circulating Tumor Cells
- 2015-19 CTA for 13Y-MC-JPBO – OHSU (direct) NIH PI
A Phase 2 Study of Abemaciclib in Patients with Brain Metastases Secondary to
Hormone Receptor Positive Breast Cancer
- 2015-19 CTA for 13Y-MC-JPBO – OHSU (direct) / NIH (prime) PI
A Phase 2 Study of Abemaciclib in Patients with Brain Metastases Secondary to
Hormone Receptor Positive Breast Cancer

Honors and Awards

- 1974 E.J. Stahr Distinguished Senior Award, Indiana University
- 1978–1979 Internal Medicine Senior Honors Program, Indiana University School of Medicine
- 2006– America’s Top Doctors
- 2007 American Society of Clinical Oncology Gianni Bonadonna Breast Cancer Award (Inaugural Recipient)
- 2008 Teacher of the Year Award, University of Michigan Health System, Division of Hematology/Oncology
- 2009– Association of American Physicians (AAP), elected member
- 2009 Shelbyville High School Hall of Fame, Shelbyville, Indiana
- 2013– Fellow, American Society of Clinical Oncology (FASCO)
- 2013– American Clinical and Climatological Association (ACCA), elected member
- 2015–2016 President-Elect, American Society of Clinical Oncology (FASCO)
- 2016–2017 President, American Society of Clinical Oncology (FASCO)
- 2017–2018 Past-President, American Society of Clinical Oncology (FASCO)
- 2016– Fellow, American College of Physicians (FACP)
- 2016 Outstanding Clinician Award, University of Michigan School of Medicine Dean’s Awards
- 2017 Stephen Weiss Research Award, University of Michigan Health System, Division of Hematology/Oncology

Memberships, Offices and Committee Assignments in Professional Societies:

- 1981–Present *American College of Physicians (ACP)*
- 1999–2000 Medical Knowledge Self Assessment Program 12
Hematology/Oncology Writing Committee
- 2001–2002 Medical Knowledge Self Assessment Program 13
Hematology/Oncology Committee
- 2004–2005 Medical Knowledge Self Assessment Program 14
Hematology/Oncology Committee
- 1986–Present *Massachusetts Medical Society*
- 1986–2001 *Cancer and Adult Leukemia Group B (CALGB)*
- 1993–2001 Breast Cancer Core Committee, Cadre Member
- 1995–1996 Vice-Chairperson
- 1993–2001 Solid Tumor Correlative Sciences Committee
- 1993–1995 Vice Chairperson
- 1996–2001 Chairperson
- 1997–2001 Board of Directors

1997–2001 Foundation, Board of Trustees

1986–Present *American Society of Clinical Oncology (ASCO)*

1994 Program Committee, Annual Meeting

1994– Tumor Marker Expert Panel

2004– Co-Chair

1996–2001 Breast Cancer Working Group, Chair

2000 Program Committee, Annual Meeting

Chair, Breast Cancer Sub-Committee

2001, 2006 Program Committee, Annual Meeting

2007 Program Committee, Annual Meeting

Chair, Breast Cancer Sub-Committee

2008–2009 Chair-Elect, Scientific Program Committee, Annual Meeting

2009–2010 Chair, Scientific Program Committee, Annual Meeting

2010–2011 Immediate Past Chair, Scientific Program Committee, Annual Meeting

2011–2014 Member, Board of Directors (BOD)

2013–2014 Member, Executive Committee, BOD

2012–2016 Member, Expert Panel, Guidelines development in the use of tumor biomarkers in *early* stage breast cancer.

2012–2016 Member, Expert Panel, Guidelines development in the use of tumor biomarkers to guide decisions on systemic therapy for women with *advanced* stage or recurrent breast cancer.

2013–2015 BOD Liaison, Audit Committee

2013–2015 BOD Liaison, Cancer Survivorship Committee

2013–2015 Reviewer, Conquer Cancer Foundation of ASCO Long-Term International Fellowship (LIFe) Committee

2015–2018 Member, Board of Directors (BOD)

2015–2016 President-Elect

2016–2017 President

2017–2018 Past President

2016-2017 Conquer Cancer Foundation Board of Directors (*ex officio* member)

1988–Present *American Association of Cancer Research (AACR)*

– Member, Cancer Biomarkers Collaborative

– Member, Scientific Program Committee, 2018 Annual Meeting

- 1988–2001 *International Society of Biological Markers, Working Group on Tumor Marker Criteria*
- 1989–2001 *American Association for the Advancement of Science*
- 1992–2015 *The Breast Cancer Intergroup of North America/North American Breast Cancer Group/Breast Cancer Steering Committee/NIH, NCI*
- 2003–2015 Chair, Correlative Sciences Committee
- 1993–Present *American Society of Breast Disease (ASBD)*
- 1998–2001 *College of American Pathologists (CAP), Breast Cancer Prognostic Factor Committee*
- 2013–2014 *College of American Pathologists (CAP), Cancer Committee, ASCO inbound liaison member*
- 1999, 2010 *Institute of Medicine (IOM) Review Committees*
- 1999–2001 - Committee to Review *Mammography and Beyond: Developing Technologies for the Early Detection of Breast Cancer* (published 2001)
- 2010–2012 - Committee to Review *Omics-based Tests for Predicting Patient Outcomes in Clinical Trials* (published 2012)
- 2000–2001 *National Cancer Institute (NCI): Breast Cancer Pathology Committee for Common Data Elements*
- 2000–2010 *American Joint Committee on Cancer (AJCC)/TNM Committee*
- 2000 Breast Cancer Subcommittee, Member
- 2006 Breast Cancer Subcommittee, Chair
- 2001–Present *Southwest Oncology Group (SWOG)*
- 2001– Cadre member, Breast Committee
- 2002–2018 Chair, Breast Cancer Correlative Sciences (Translational Medicine) Committee
- 2003–2006 Co-Chair, Correlative Sciences Committee
- 2002–Present *Union Internationale Contra Cancer (UICC) TNM Expert Advisory Panel on Breast Tumours*
- 2002–Present *National Academy of Clinical Biochemistry (USA) Tumor Marker Guidelines Committee*
- 2003–2015 *National Comprehensive Cancer Network Guidelines Breast Cancer Committee*
- 2005–Present *The Translational Breast Cancer Research Consortium (TBCRC)*, <http://pub.emmes.com/study/bcrc/index.html>
- 2000–Present *Early Breast Cancer Trialists' Collaborative Group (EBCTCG)*, <https://www.ctsu.ox.ac.uk/research/meta-trials/ebctcg/ebctcg-page>
- 2006– Member, Steering Committee
- 2008-- Co-chair, transOx Committee

- 2008 *Friends of Cancer Research (Bethesda, MD)*
– Member, FDA Oncology Program Advisory Working Group
- 2008–2015 *Center for Medical Technology Policy (CMTP) (Baltimore, MD)*
– Member, Advisory Group
- 2008–2010 *U.S. Department of Health & Human Services, Centers for Medicare & Medicaid Services*
– Member, Medicare Evidence Development Coverage Advisory Committee (MedCAC)
- 2009 *Peer Review College of the Danish Council for Strategic Research, Danish Ministry for Science, Technology and Innovation (Copenhagen, Denmark)*
- 2010–2019 *Susan G. Komen for the Cure™*
– Member, Scientific Advisory Council (SAC)/Komen Scholar
– Peer Review Committee, Komen Promise Grants
– Peer Review Committee, Career Catalyst Award (Chair, 2019)
- 2010–2012 *Worldwide Innovative Networking in Personalized Medicine (WIN)*
– Member, Scientific Advisory Board
- 2003–2015 *National Clinical Trials Network, National Cancer Institute*
2003-2014 Breast Cancer Steering Committee (Member)
2003-2014 Breast Cancer Correlative Sciences Committee (Chair)
2015- Correlative Sciences Core Committee

Editorial Boards

- 92–95; 97–01; 05–08 *Journal of Clinical Oncology (Editorial Board)*
- 1994–2004 *The Breast Journal (Associate Editor)*
- 1996– *The Breast (Editorial Board)*
- 1996– *Breast Diseases: A Year Book Quarterly (Contributing Editor)*
- 1997–1999 *Cancer Therapeutics (Editorial Board)*
- 1998– *Breast Cancer Research and Treatment (Assoc. Editor '98-'10)*
- 1999–2007 *Clinical Breast Cancer (Editorial Board)*
- 2000–2014 *Clinical Cancer Research (Editorial Board)*
- 2000–2007 *Breast Cancer Research (Editorial Board)*
- 2001– *UpToDate Breast Cancer Section Editor*
- 2007– *Breast Cancer: Basic and Clinical Research (Editorial Board)*
- 2007– *Molecular Oncology*

2008– Current Breast Cancer Reports (Editor-in-Chief)
2008– Translational Oncology

Reviewer (in addition to Editorial Boards above)

2006– Journal of the National Cancer Institute
2006– Lancet
2006– New England Journal of Medicine
2006– Molecular Oncology
2009– Journal of Clinical Oncology

Data Safety Monitoring Boards

1995– International Breast Cancer Study Group (all studies)
Chairperson
1995–1999 Droloxifene vs. tamoxifen in advanced breast cancer (Pfizer)
Chairperson
2002–2010 HERA: A Randomized study of 1 year vs. 2 years vs. no Herceptin
in women with HER-2 positive Breast Cancer
Chairperson
2013– NeoPHOEBE (conducted by the Breast International Group)
Chairperson
2018– EXPERT (conducted by Breast Cancer Trials Australia/New
Zealand)

Teaching Activities

Dana-Farber Cancer Institute:

1984–1994 Chairperson, Journal Club/Cancer Biology Seminars for First-Year
Clinical Fellows
1985–1996 Preceptor, Brigham and Women’s Hospital Primary Care Residents’
Rotation in Breast Evaluation Center
1985–1986 Attending Physician, Medical Oncology Service
1988–1996 Lecturer, Introduction to Medical Oncology
1992–1996 Chairperson, Breast Evaluation Center Weekly Clinical Conferences
Brigham and Women’s Hospital:
1991–1996 Attending Physician, Internal Medicine Service
1992–1996 Lecturer, “Breast Cancer”, Department of Medicine/Division of Primary
Care Medicine

Harvard Medical School:

- 1984–1991 Lecturer, “Intensive Review of Internal Medicine” BWH postgraduate course
- 1987–1999 Preceptor, “Introduction to Clinical Medicine” ad hoc Review Committee, M.D. Honors Thesis
- 1988 Andrew Tager, candidate
- 1989–1996 Faculty, “Cancer Medicine” DFCI postgraduate course
- 1991–1996 Faculty, “Office Practice of Primary Care Medicine” BWH postgraduate course
- 1992 Miriam Scheizer, candidate
- 1992–1995 Faculty, “Advances and Controversies in Surgery” BWH postgraduate course
- 1993 Faculty, “Critical Issues in Breast Cancer Management” JCRT postgraduate course
- 1993 Lecturer, “Biology of the Cancer Cell,” Harvard Medical School graduate course
- 1995 Faculty, “Modern Surgical Oncology for the General Surgeon,” NEDH postgraduate course

Georgetown University Medical Center

- 1996–2001 Faculty, Introductory Lectures to Oncology Fellows, “Adjuvant Therapy of Breast Cancer”
- 1996–2001 Coordinator, Breast Cancer Tumor Board/Didactic Lectures
- 1997–2001 Faculty, House staff Luncheon Lectures, “Introduction to Breast Cancer”
- 1997–2001 Faculty, Medical Students and House staff, “Translational Science in Breast Cancer at Lombardi/GUMC”
- 1996–2001 Presenter, Surgical Grand Rounds, “Adjuvant Therapy of Breast Cancer”
- 2001 Presenter, Gynecologic Grand Rounds, “Prevention of Breast Cancer”

University of Michigan Health System:

- 2001– HemOnc 2nd Year Fellow’s Introduction to Clinical Research (Co-Director)
- 2001– Ad hoc Internal Medicine Morning Report (Ambulatory, Inpatient)
- 2001– UMCCC Breast Cancer Translational Medicine didactic lectures (Director)
- 2014, 2015 Cancer Biology 554, Dept Pathology, UM Medical School, Breast Cancer lecture for Dr. Christine Canman’s class.

2016, 2017 Translational Pharmacology 621, Dept Pharmacology, UM Medical School, “Integration of basic science in breast cancer treatment” lecture for Dr. Donna Shewach’s class.

Graduate Students, Post Doctoral Fellows, Clinical Fellows Mentored

	<u>INDIVIDUAL</u>	<u>Current Positions</u>
1991– 1993	Lucien Perey, MD	Medicine-Associate Centre Pluridisciplinaire d'Oncologie Switzerland, Lausanne
1991– 1993	Deborah L. Toppmeyer, MD	Director, NJ Breast Care Center ; Director, The LIFE Center The Cancer Institute of New Jersey, New Brunswick
1993– 1994	Christine Legler, MD	Medical Oncology Montreal General Hospital
1995– 1997	Hideko Yamauchi, MD	Surgical Oncologist; Chief, Breast Surgery, St. Luke's Hospital, Tokyo, Japan
1995– 1997	Teruo Yamauchi, MD	The Oncology and Breast Centers, St. Luke's International Hospital, Tokyo 104-8560, Japan
1995– 1998	Michiaki Watanabe, MD	Assistant Professor in Surgery Department of Surgery Jikei University School of Medicine
1996	Francisco J. Esteva, MD, PhD	Nellie B. Connally Breast Center M.D. Anderson Cancer Center, Houston
1996– 1999	Vered Stearns, MD	Professor of Oncology Co-Director, Breast Cancer Program The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins
1997– 1999	Charuwan Akewanlop, MD	Instructor of Medicine Division of Medical Oncology Siriraj Hospital, Mahidol University, Thailand
2000– 2002	Minetta Liu, MD	Associate Professor Mayo Clinic Rochester, MN
2001– 2002	James M. Rae, PhD	Associate Professor, Internal Medicine and Pharmacology, Michigan Medicine
2002– 2004	Jeffrey Smerage, MD, PhD	Clinical Assoc Professor; University of Michigan Comprehensive Cancer Center (UM CCC)
2005– 2014	N. Lynn Henry, MD, PhD	Director of Breast Medical Oncology, Huntsman Cancer Institute (HCI); Associate Professor, Division of Oncology, Department of Medicine, University of Utah Health Care

2006– 2008	Jennifer J. Griggs, MD, MPH	Professor, Internal Medicine, Professor of Health Management and Policy, Michigan Medicine
2006– 2014	Catherine H. Van Poznak, MD	Associate Professor, Internal Medicine, University of Michigan; Breast Oncologist, UM CCC
2017–	Ronald Buckanovich, MD, PhD	Professor of Medicine, Director of the Ovarian Cancer Center of Excellence, Magee-Women’s Research Institute, Co-Director of the Womens Cancer Research Center
2008– 2010	Vera Maranci, MD	Private practice at Michigan Cancer Specialists, Roseville, MI
2011– 2015	Nahomi Tokudome, MD	Assistant Professor, 3 rd Dept Int Med, Wakayama Medical University, Wakayama, Japan ntokudom@wakayama-med.ac.jp
2010–	Costanza Paoletti, MD	Research Assistant Professor, Division of Hematology/Oncology, Department of Internal Medicine, Michigan Medicine, UM CCC
2012–	Monika L. Burness, MD	Assistant Professor, Division of Hematology/Oncology, Department of Internal Medicine, Michigan Medicine, UM CCC
2013–	Erin Cobain, MD	Clinical Lecturer, Division of Hematology/Oncology, Department of Internal Medicine, Michigan Medicine, UM CCC
2014–	Aki Morikawa, MD, PhD	Clinical Lecturer, Division of Hematology/Oncology, Department of Internal Medicine, Michigan Medicine, UM CCC

Consulting

Scientific Advisory Boards

1988	Farmos/Schering: Clinical trials of toremifene
1992	Genentech: Clinical trials of monoclonal antibody 4D5
1988	Oncogene Sciences: Correlative studies of her-2/neu oncogene
1996	Cancer Research Network, Inc (PI: Charles L. Vogel, M.D.)
1995	Breast Cancer Program, Roswell Park Cancer Institute (PI: Stephen Edge, M.D.)
2004	Breast Cancer Program, Winship Cancer Institute, Emory University (PI: Ruth O'Regan, M.D.)
2007–2010	New York University Cancer Institute, NY, NY
2009–2010	University Klinische Eppendorf Cancer Center, Hamburg, Germany
2009–	Tisch Cancer Institute, Mt. Sinai School of Medicine, NY, NY
2009–	Oncimmune LLC, De Soto, KS, USA
2009–2010	Halcyon Diagnostics, Inc., Rowley, MA, USA
2011–	Tisch Cancer Institute External Advisory Board (EAB), NY, NY
2012	Seattle Breast SPORE External Advisor, Fred Hutchinson Cancer Research Center, Seattle, WA
2012–	Hold'Em for Life Translating Discoveries into Breast Cancer Cures, Marvella Koffler Breast Centre, Mount Sinai Hospital, Toronto, ON, Canada
2013	Transformative Pathology Review Panel, Ontario Institute for Cancer Research (OICR), Toronto, ON, Canada
2014–	Scientific Advisory Board, Ontario Institute for Cancer Research (OICR), Toronto, ON, Canada

Study Sections

1989	Immunotherapy of Breast Cancer (NIH PO1, RL Ceriani, PI) ad hoc
1992	American Joint Commission on Cancer ad hoc (Chair) (NIH UO1, D Winchester, PI)
1998	National Cooperative Breast Cancer Tissue Resource NIH ad hoc
1998–2002	Sub-Committee H (NIH Clinical Trials) Sitting member
2003–2007	Cancer Biomarkers (NIH ZRG1CBSS) Sitting member
2008	Komen Promise Grants for Breast Cancer Research
2009–2010	Cancer Prevention and Research Institute of Texas (CPRIT), Translational and Clinical Peer Review Committee-1, Dallas, TX
2010–	Susan G. Komen for the Cure™; various study sections (chair) as a member of the Komen Scientific Advisory Council

Extramural Invited Presentations (Last 3 years)

- 05/07/14 Pre-IMPAKT 2014 Training Course, Brussels, Belgium
- *How to report translational research results*
- 05/08/14 IMPAKT 2014, Brussels, Belgium
- *Liquid biopsies for genotyping and monitoring breast cancer: Ready for Prime Time?*
- 05/10/14 BIG/NABCG meeting, Brussels, Belgium
- *Clinical trials in the Omics era*
- 08/08/14 Grand Rounds presentation, Josephine Ford Cancer Center, Henry Ford Hospital, Detroit, MI
- *Neoadjuvant chemotherapy for breast cancer: Facts and fiction.*
- 10/10/14 Visiting Professor, Bromberg Lecture, University of Texas Southwestern, Dallas, TX
- *Selection of Patients for Breast Cancer Adjuvant Chemotherapy: Can Biology Trump Anatomy?*
- 11/07/14 Eli Lilly Oncology, Indianapolis, IN
- *Incorporating and using tumor biomarkers in translational research and routine clinical care*
- 01/29/15 Yale University, New Haven, CT
- *Circulating Tumor Markers. Present Status and Future Directions: Liquid biopsies?*
- 01/30/15 Institute of Medicine (IOM) of the National Academies, Committee on Policy Issues in the Clinical Development and Use of Biomarkers for Molecularly Targeted Therapies, Wash, DC
- *Study context—Current landscape for biomarkers for molecularly targeted therapies.*
- 02/25/15 NIH Health Economics Common Fund Stakeholder Engagement Workshop, Bethesda, MD
- Panel 3: Perspectives on Formal Guidelines
- 03/18/15 St. Gallen International Oncology Conference, Vienna, Austria
- *Clinical utility of genetic signatures in selecting adjuvant treatment: risk stratification in early versus late recurrences*
- 04/17/15 Breast International Group (BIG) and North American Breast Cancer Group (NABCG), Philadelphia, PA
- Session III, Update on 2014 Projects I: *Circulating markers, CTC*
- 04/23-25/15 Global Breast Cancer Conference (GBCC 2015) & 4th International Breast Cancer Symposium (4th IBCS), Korean Breast Cancer Society, Jeju Island, Korea
- Plenary Speaker: *Genetic signature in selecting adjuvant treatment*
- Education Session 3, *Career Development as a junior researcher*
- 08/04/15 W. Montague Cobb, MD, Research Institute and the Internal Medicine Section National Medical Association (NMA), organized by prIME Oncology in Detroit, MI. Disparities and Opportunities in Cancer Care: The Role of Non-Oncologists – the Jane Cook Wright, MD, Inaugural Oncology Symposium.
- *Interactive case #1 – Endocrine-responsive breast cancer: What's new?*
- 09/16-20/15 2015 Annual Meeting of Chinese Society of Clinical Oncology (CSCO)
- CTC Session: Chair and Speaker, *Circulating Tumor Cells in Breast Cancer*

- Organisation for Oncology and Translational Research (OOTR) Session, *Circulating Tumor Cells and Heterogeneity*
- 09/27/15 Breast Cancer Symposium, American Society of Clinical Oncology
 - Session 7: Genomics and Personalized/Precision Medicine, *Everyday Clinical Omics*
- 10/27/15 Memorial Sloan-Kettering Cancer Institute, New York, New York
 - Heme/Oncology Grand Grounds, *Circulating tumor cells and cell free tumor DNA in breast cancer*
- 11/3-4/15 SPOT/Dx Oncology Summit, Wash, DC
 - *Criteria for adopting tumor biomarkers in the clinic*
- 11/6-7/15 FLASCO 2015 Fall Session (Florida American Society of Clinical Oncology)
 - Keynote Speaker, *ASCO's Strategic Plans*
 - *Should patients with ER positive breast cancer get adjuvant chemotherapy – biology vs. anatomy?*
- 11/09/15 University of Iowa CC Grand Rounds, Iowa City, IA
 - *Circulating tumor cells*
- 11/23/15 5th Seattle Symposium in Biostatistics, Seattle, WA
 - *Clinical trials for diagnosis, prognosis, and intervention*
- 12/08/15 San Antonio Breast Cancer Symposium (SABCS), San Antonio, TX
 - Education Session: *Predictive gene expression profiles in breast cancer, where are we?*
- 01/29/16 Grand Rounds, Georgetown University Lombardi Cancer Center, Wash, DC
 - *Circulating Tumor Cells and Cell Free DNA: Liquid Biopsies*
- 02/27/16 Platinum Jbilee of the Tata Memorial Centre (TMC), “A Conference of New Ideas in Cancer – Challenging Dogmas”, Mumbai, India
 Session: Cancer metastasis, tumour heterogeneity and thereapy resistance: new insights
 - *Clinical implications of apoptotic circulating tumor cells?*
- 03/19/16 10th ISMRC International Symposium on Minimal Residual Cancer: Liquid Biopsy in Cancer Diagnostics and Treatment, Hamburg, DE
 Session: CTCs as Liquid Biopsy
 - *Clinical applications of circulating tumor cells*
- 06/05-06/16 American Society of Clinical Oncology (ASCO) Annual Meeting, Chicago, IL
 Education Session: Molecular Diagnostics in Cancer
 - *Considerations for implementation into clinical care*
 Education Session: Biomarker tests for molecularly targeted therapies
 - *Implications and recommendations for practicing oncologists*
- 07/11/16 Cancer Thrivers Network/Jewish Family Services, West Bloomfield, MI
 - *What's new in Cancer? Progress and Challenges.*
- 07/28-30/16 Japanese Society of Medical Oncology (JSMO) Annual Meeting, Kobe, Japan
 Plenary Session: Multigene assays: adjuvant chemotherapy in breast cancer
 - *Can biology trump anatomy?*
 Plenary Session: International Symposium
 - *Clinical applications of liquid biopsies*

- ASCO Presidential Lecture:
 - *Working together to conquer cancer in the 21st century*
- 09/10/16 2nd Cancer Biomarker Conference (CBC2), Houston Methodist Hospital, Houston, TX
 Keynote Speaker:
 - *Perspectives on the future of cancer biomarkers.*
- 09/25/16 Association of Veterans Affairs Hematology/Oncology (AVAHO) Annual National Meeting, Dallas, TX
 Keynote Speaker:
 - *Challenges and opportunities in cancer care: Perspectives from ASCO*
- 09/29/16 Cancer Medicine and Hematology; DFCI Master Class for Oncologists, Harvard Club, Boston, MA
 - *ASCO – from 8 clinicians in a Chicago hotel room to the leading professional cancer organization in the world*
- 10/06/16 Karolinska Institute, Stockholm, Sweden
 - *Liquid biopsies in breast cancer*
- 04/03/17 AACR Annual Meeting, AACR/ASCO Joint Session on Tumor Heterogeneity and Clinical Implications, Wash, DC.
 - *Tumor heterogeneity: From Virchow to victory?*
- 04/12/17 Columbia University Medical Center Hematology/Oncology Grand Rounds, NY, NY
 - *Liquid biopsies in breast cancer.*
- 06/27/17 WIN 2017 Symposium - Expediting Global Innovation in Precision Cancer Medicine, Paris, France
 Session: Using new knowledge in clinical trials
 - *Incorporating liquid biopsies into clinical trials to select and monitor participants*
- 10/07/17 MSHO (Michigan Society of Hematology/Oncology) meeting, Crystal Mountain, MI
 - *Making a difference in cancer care.*
- 11/09/17 North Carolina KOMEN Affiliate Research Luncheon, Keynote Speaker, Raleigh, NC
 - *Risk of Late Distant Recurrence in ER Positive Breast Cancer: Predicting and Preventing, the Next Frontier*
- 01/16/18 UK Interdisciplinary Breast Cancer Symposium, Manchester, UK
 Session: Biomarkers and prognostic profiling
 - *Identifying who needs extended adjuvant ET*
- 02/9-10/18 Japanese Society of Medical Oncology (JSMO) Young Oncologist Workshop in Translational and Clinical Research, Tokyo, Japan
 - Session: Design and Conduct of Clinical Trials of Precision Medicine
Proper endpoints, response, time to progression or progress-free survival, overall survival, toxicity, and quality of life.
- 02/15-16/18 Late Recurrence in Hormone Receptor Positive Breast Cancer Workshop, Toronto, CA
 - Session 1: The Problem of Late Recurrence
Risk and prognostic factors for late recurrence.
- 04/03/18 Kansas University Medical Center, The University of Kansas, Kansas City, KS
 Cancer Biology Seminar Series
 - *Late Recurrence and death in ER Positive Early Stage Breast Cancer: The Next Frontier*

- 04/20/18 Perlmutter Cancer Center Grand Rounds, NYC Langone Medical Center, NY, NY
Late Recurrence and death in ER Positive Early Stage Breast Cancer: The Next Frontier
- 05/3-5/18 11th International Symposium on Minimal Residual Cancer (ISMRC), Montpellier, France
 - Session 7: CTCs as liquid biopsy in Clinical Studies
 - Breast Cancer Keynote lecture
Late Recurrence and death in ER Positive Early Stage Breast Cancer: The Next Frontier
- 05/17/18 Zaniboni Visiting Professor, Breast Cancer Research Program, Tufts Medical Center, Boston, MA
 - *Late Recurrence and death in ER Positive Early Stage Breast Cancer: The Next Frontier*

Patents

•Title: *Method for predicting progression free and overall survival at each follow-up time point during therapy of metastatic breast cancer patients using circulating tumor cells.*

Filed 14 Mar 2005 with the European Patent Office, Netherlands.

Application No./Patent No. 05725638.0-1223-US2005008602.

US #8,790,878 (patent issued).

United States Patent Application Publication No. US 2009/0061456 A1

Applicant/Proprietor: Immunicon Corporation. Inventors: William J. Allard, Harleysville, PA

(US); Gerald V. Doyle, Radnor, PA (US); **Daniel F. Hayes, Ann Arbor, MI (US)**; Michael

Craig Miller, Quakertown, PA (US); Leon W.M.M. Terstappen, Huntington Valley, PA (US).

Correspondence address: Philip S. Johnson, Johnson & Johnson, One Johnson & Johnson Plaza, New Brunswick, NJ 08933-7003 (US).

•Title: *Diagnosis and treatment of breast cancer.*

Technology title: *Monitoring CTC cells in women with EP positive metastatic breast cancer.*

Originally filed 07/09/2008; U.S. Provisional Patent Application.

Original Application No. 61/079,642; 7/7/2011 Patent Cooperation Treaty(PCT) application

#US2011/043189 - Nationalized.

Applicant/Proprietor: University of Michigan. **Daniel F. Hayes, MD** is designated as sole

inventor. UM contact: Ms. Robin Rasor, robinlr@umich.edu. (Update 12/07/2015 provided by

Laura Charlick, charlick@umich.edu and Robin Rasor, robinlr@umich.edu).

• Title: *Circulating Tumor Cell Capturing Techniques and Devices*

US Patent Issued 2/10/15, #8,951,484.

14/579,690 (a related pending application).

Original Application No. 61/593,092.

Patent Cooperation Treaty application#PCT/US2013/024150 – Nationalized.

Applicant Proprietor: University of Michigan. **Daniel F. Hayes, MD** is designated as inventor/co-inventor.

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Peer-Reviewed Journals and Publications:

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2. Wittebort RJ, **Hayes DF**, Rothgeb TM, and Gurd RS. The quantitation of carbamino adduct formation of angiotensin II and bradykinin. *Biophys J*. 1978; 24:765–778.
3. Kufe D, Inghirami G, Abe M, **Hayes D**, Justi-Wheeler H, and Schlom J. Differential reactivity of a novel monoclonal antibody (DF3) with human malignant versus benign breast tumors. *Hybridoma*. 1985; 3:223–232.
4. **Hayes DF**, Sekine H, Ohno T, Abe M, Keefe K, and Kufe DW. Use of a murine monoclonal antibody for detection of circulating plasma DF3 antigen levels in breast cancer patients. *J Clin Invest*. 1985; 75:1671–1678.
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6. **Hayes DF**, Lechan RM, Postner MR, Weichselbaum RR, Miller D, and Ervin TJ. The syndrome of inappropriate antidiuretic hormone secretion associated with induction chemotherapy for squamous cell carcinoma of the head and neck. *J Surg Oncol*. 1986; 32:150–152.
7. **Hayes DF**, Zalutsky M, Kaplan W, Noska M, Thor A, Colcher D, and Kufe D. Pharmacokinetics of radiolabeled monoclonal antibody B6.2 in patients with metastatic breast cancer. *Cancer Res*. 1986; 46:3157–3163.
8. **Hayes DF**, Zurawski Jr VR, and Kufe DW. Comparison of circulating CA15-3 and carcinoembryonic antigen levels in patients with breast cancer. *J Clin Oncol*. 1986; 4:1542–1550.
9. Friedman EL, **Hayes DF**, and Kufe DW. Reactivity of monoclonal antibody DF3 with a high molecular weight antigen expressed in human ovarian carcinomas. *Cancer Res*. 1986; 46:5189–5194.
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19. Maimonis P, **Hayes DF**, O’Hara C, and Kufe D. Detection and characterization of a high-molecular weight human lung carcinoma-associated glycoprotein. *Cancer Res.* 1990; 50:6738–6743.
20. **Hayes DF**, Mesa-Tejada R, Papsidero L, Croghan G, Korzun A, Norton L, Wood W, Strauchen J, Grimes M, Weiss R, Ree H, Thor A, Koerner F, Rice M, Barcos M, and Kufe DW. Prediction of prognosis in primary breast cancer by detection of a high molecular weight mucin-like antigen using monoclonal antibodies DF3, F36/22, and CU18: A Cancer and Leukemia Group B study. *J Clin Oncol.* 1991; 9:1113–1123.
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