

## *Curriculum vitae*

**Date Prepared:** January 24, 2024  
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### **Education**

Year	Degree	Field of Study	Institution
1988 - 1994	M.D.	Medicine	University of Tsukuba, Ibaraki, Japan
1999 - 2003	Ph.D.	Medical Sciences	University of Tokyo, Tokyo, Japan

### **Postgraduate/postdoctoral Training**

Year(s)	Titles	Specialty/Discipline	Institution
1994 - 1995	Resident	Internal Medicine	University of Tokyo Hospital, Tokyo, Japan
1995 - 1996	Resident	Internal Medicine, General Anesthesia	Japanese Red Cross Medical Center, Tokyo, Japan
1996 - 1997	Fellow	Gastroenterology	Tokyo Metropolitan Tama Geriatric Hospital, Tokyo, Japan
1997 - 1998	Fellow	Hepatology	Toranomon Hospital, Tokyo, Japan
2003 - 2004	Postdoc fellow	Genome Science	Research Center for Advanced Science and Technology, University of Tokyo, Tokyo, Japan
2004 - 2009	Postdoc fellow	Cancer Genomics	Cancer Program, Broad Institute of MIT and Harvard University, Cambridge, MA

### **Current Licensure and Certification**

#### Licensure

1994 Japanese medical license

#### Board and Other Certification

1997 Board Certification in Internal Medicine, Japanese Society of Internal Medicine

2002 Board Certification in Gastroenterology, Japanese Society of Gastroenterology

2002 Board Certification in Gastroenterological Endoscopy, Japan Gastroenterological Endoscopy Society

2002 Board Certification in Hepatology, Japan Society of Hepatology

### **Honors and Awards**

Year	Name of Honor/Award
2002	Travel fellowship, International Society for Computational Biology
2003 - 2004	Viral Hepatitis Research Foundation
2007 - 2009	Research Fellowship, Charles A. King Trust
2015-2020	Career Scientist Award, Irma T Hirschl Trust
2015	Dr. Harold and Golden Lamport Research Award
2018 -	Elected member, American Society for Clinical Investigation (ASCI)
2018 -	Cancer Prevention & Research Institute of Texas (CPRIT) Scholar in Cancer Research
2021 -	American Gastroenterological Association (AGA) Fellow (AGAF)
2022 -	American Association for the Study of Liver Disease (AASLD) Fellow (FAASLD)

### **Faculty Academic Appointments**

Year(s)	Academic Title	Department	Academic Institution
2012 - 2016	Assistant Professor of Medicine	Department of Medicine	Icahn School of Medicine at Mount Sinai
2016 - 2018	Associate Professor of Medicine	Department of Medicine	Icahn School of Medicine at Mount Sinai
2018 - 2020	Adjunct Associate Professor	Department of Medicine	Icahn School of Medicine at Mount Sinai
2018 - 2022	Associate Professor of Internal Medicine (tenured)	Department of Internal Medicine	UT Southwestern Medical Center
2018 -	Director, Liver Tumor Translational Research	Simmons Comprehensive Cancer Center, Department of Internal Medicine	UT Southwestern Medical Center
2022 -	Professor of Internal Medicine (tenured)	Department of Internal Medicine	UT Southwestern Medical Center
2023 -	H. Ray and Paula Calvert Chair in Gastroenterology Oncology	Department of Internal Medicine	UT Southwestern Medical Center

### **Appointments at Hospitals/Affiliated Institutions**

<u>Past</u>			
Year(s)	Position Title	Department/Division	Institution
1998 - 1999	Medical staff	Department of Hepatology	Toranomon Hospital, Tokyo, Japan
2009 - 2012	Research Scientist	Cancer Program	Broad Institute of MIT and Harvard University

### **Other Professional Positions**

Year(s)	Position Title	Institution
2019 -	Scientific Advisory Board	Helio Genomics, Inc.
2022 -	Scientific Advisory Board	Espervita Therapeutics, Inc.
2022 -	Scientific Advisory Board	Roche Diagnostics, Inc.

### **Professional Societies**

Dates	Society Name, member
2012 -	American Association for Cancer Research (AACR)
2012 -	American Association for the Study of Liver Disease (AASLD)
2012 -	American Gastroenterological Association (AGA)
2019 -	American Society of Clinical Oncology (ASCO)
	<b>Committees</b>
2017 - 2020	AASLD Journal Publication Committee, Elected member
2016 -	AASLD Abstract Review Committee, Member
2017 -	AGA Abstract Review Committee, Member, Chair (HCC clinical abstract)
2019 - 2021	International Liver Cancer Association (ILCA) Education Committee, Member
2019 – 2021	AASLD Hepatobiliary Neoplasia SIG, Global Outreach Sub-committee, Member
2019 - 2021	ILCA HCC Biomarker Guidelines expert panel, Member, Chair (risk biomarker sub-panel)
2020 - 2022	AASLD Fibrosis Special Interest Group (SIG), Steering Committee, Elected member
2020 -	The Texas Collaborative Center for Hepatocellular Cancer (TeCH), Scientific Committee, Member
2021 - 2023	AASLD Liver Cancer SIG, Steering Committee, Elected member
2021 -	AASLD Abstract Review Committee, Chair (hepatobiliary neoplasia abstracts)
2022 -	ILCA Abstract Review Committee
2022 - 2023	AGA, Nominating Committee, Elected member
2022 -	AGA Institute Council, Liver & Biliary (LB) section, Elected member
2023 -	AGA Institute Council, Gastrointestinal Oncology (GIONC) section, Elected member
2024 -	AASLD Global Outreach and Engagement Committee, Elected member

### **Grant Review Activities**

Year(s)	Name of Review Committee	Organization
2013	Non Thematic Programme 2013	French National Research Registry, France
2013	New Organ Prize, Review Panel	New Organ Foundation

2013 - 2017	Research Council Grant Review Board	Hong Kong Health and Medical Research Fund, Hong Kong
2014	SCH: EXP: Collaborative Research	National Science Foundation
2014	Cooperative Basic Research Grant, CBRG13nov	Singapore National Medical Research Council, Singapore
2014	GAP-CRG	Swiss Cancer League, Switzerland
2014	Research Grant Review Panel	Swiss National Research Foundation, Switzerland
2014	UAEU Grant Program 2014 Review Panel	UAE University Grant Program, UAE
2014	Individual Research Grants Review Panel	Israel Science Foundation, Israel
2015	Tumor Identity Card Program	French League Against Cancer, France
2015	Molecular & Cellular Medicine Board, Cancer	Medical Research Council, UK
2016	Individual Research Grants Review Panel	Israel Science Foundation, Israel
2016	Research Grant Review Panel	Kuwait Foundation for the Advancement of Sciences, Kuwait
2017	Canada Research Chairs Program, Review Panel	Government of Canada
2017	Chemo-Dietary Prevention (CDP) study section	NIH
2017	Hepatobiliary Pathophysiology (HBPP) study section	NIH
2017	ZCA1 SRB-2 (J2)	NIH
2018	VIB Grand Challenges Programme	VIB, Belgium
2018	Oncopole EMC <sup>2</sup> Review Panel	Fonds de Recherche du Québec
2018	ZCA1 RPRB-L (J1) P	NIH
2018	Liver Cancer Panel	PRCRP, DOD
2019	ZRG1 OBT-B (55) R	NIH
2019	Personal Research Grants	Israel Science Foundation
2019	Viral & Autoimmune Hepatitis Fellowship	Medical Research Council, UK
2020	ZCA1 RPRB-M (M1) (P20 SPORE)	NIH
2020	Cancer Prevention Study Section (CPSS)	NIH
2020	ZRG1 DKUS-R10 (R41, 43)	NIH
2020	ZCA1 RPRB-M (J1) S (P20 SPORE)	NIH
2020	Liver Cancer Panel 2	PRCRP, DOD
2020	California North State University, Mini-Grants	California North State University
2020	Ulysse Incentive Grant for Mobility in Scientific Research (MISU)	French National Research Registry, France
2021	ZCA1 RPRB-L (M1) S (P01)	NIH
2021	ZDK1 GRB-C (M1) 2 (RC2)	NIH
2021	Canada Research Chairs Program, Review Panel	Government of Canada

2021	GrantSuccess Program	Thomas Jefferson University
2022	Simmons Cancer Center - Touchstone Diabetes Center, Cancer & Obesity Translational Research Pilot Project	University of Texas Southwestern
2022	RC2 on the genetics of NAFLD	NIH
2022	Canada Research Chairs Program, Review Panel	Government of Canada
2022	KU Leuven BZAP program	University of Leuven, Belgium
2023	ZRG1 CDPT-B (02) F	NIH
2023	Cancer Prevention Study Section (CPSS)	NIH
2023	PRCRP Pre-Application Screening	PRCRP, DOD
2023	Principal Investigator Projects - PROFI	Austrian Science Fund
2024	ZCA1 RPRB - T (M1) (P01)	NIH
2024 -	CPSS, standing member	NIH

### **Editorial Activities**

Year(s)	Journal Name
<u>Associate Editor</u>	
2021 -	Hepatology (official journal of AASLD)
2022 -	Liver Cancer (official journal of Asia-Pacific Primary Liver Cancer Expert Association [APPLE])
<u>Editorial Board</u>	
2007 - 2019	Journal of Hepatology (an official journal of European Association for Study of Liver)
2010 - 2019	Clinical Cancer Research (an official journal of AACR)
2020 - 2023	Gastroenterology (an official journal of AGA)
2021 -	Seminars in Liver Disease
<u>Ad Hoc Reviewer</u>	
2007 -	Journal of Hepatology
2008 -	Nature Biotechnology
2008 -	Gastroenterology
2009 -	Cancer Research
2009 -	Cancer
2009 -	The Oncologist
2009 -	BMC Cancer
2009 -	BMC Medical Genomics
2010 -	Archives of Internal Medicine
2010 -	PLOS ONE
2010 -	Hepatology
2010 -	Clinical Cancer Research
2010 -	International Journal of Cancer

2010 -	Cancer Science
2010 -	Expert Review of Molecular Diagnostics
2011 -	Expert Review of Gastroenterology and Hepatology
2011 -	World Journal of Gastroenterology
2012 -	JAMA
2012 -	Alimentary Pharmacology & Therapeutics
2012 -	Carcinogenesis
2012 -	Bioinformatics
2012 -	HPB Surgery
2013 -	PLOS Computational Biology
2013 -	Database
2013 -	New England Journal of Medicine
2013 -	Liver International
2013 -	Nucleic Acid Research
2014 -	Nature Medicine
2014 -	Nature Genetics
2014 -	American Journal of Gastroenterology
2015 -	Nature Communications
2015 -	Gut
2015 -	Cell Systems
2015 -	Scientific Reports
2016 -	Oncotarget
2017 -	Advanced Drug Delivery Reviews
2017 -	Digestive Diseases and Sciences
2017 -	eLife
2017 -	Experimental and Molecular Medicine
2018 -	JAMA Oncology
2018 -	American Journal of Pathology
2018 -	Clinical Gastroenterology and Hepatology
2018 -	Cellular and Molecular Gastroenterology and Hepatology
2018 -	Expert Review of Anticancer Therapy
2018 -	Journal of Medical Virology
2019 -	Cell
2020 -	JAMA Oncology
2020 -	Hepatology Communications
2021 -	Nature Reviews Gastroenterology & Hepatology
2021 -	British Journal of Cancer
2022 -	Lancet Gastroenterology and Hepatology
2023 -	Liver Cancer

2023 -	Seminars in Liver Diseases
2024 -	Lancet Oncology

## **Grant Support**

### **Present**

NIH/NCI U01CA288375 Hoshida, Diehl, Moylan, Chung (MPI) 09/21/2023 - 08/31/2028  
*Therapeutic modulation of a proteomic HCC risk signature with statins in patients with liver cirrhosis*

Goals: The goal of this project is to evaluate modulation of a serum-based HCC risk biomarker with statins in the settings of cohort studies and clinical trials.

Role: Contact PI

NIH/NCI R01CA282178 Hoshida, Singal (MPI) 09/06/2023 - 08/31/2028

*Epigallocatechin gallate for prevention of lethal cirrhosis complications*

Goals: The goal of this project is to evaluate epigallocatechin gallate for hepatocellular carcinoma chemoprevention in a phase II placebo-controlled clinical trial in patients with cirrhosis.

Role: Contact PI

NIH/NCI U01CA283935 Singal, Hoshida (MPI) 09/19/2023 - 08/31/2028

*Precision HCC risk stratification in patients with cirrhosis*

Goals: The goal of this project is to develop biomarkers and imaging modality for precision HCC screening.

Role: MPI

European Research Council, ERC-AdG-2020-101021417 FIBCAN Baumert (PI) 08/01/2021 - 07/31/2026

*Targeted strategies for prevention and treatment of fibrosis-associated liver cancer*

Goals: The goal of this study is to identify and develop novel treatment and preventive strategies for liver fibrosis and cancer.

Role: Subcontract PI

NIH/NCI R01CA255621 Chung, Hoshida (MPI) 09/01/2021 - 08/31/2026

*Trial of Statins for Chemoprevention in Hepatocellular Carcinoma*

Goals: The goal of this project is to test atorvastatin as hepatocellular carcinoma chemoprevention in phase II clinical trial.

Role: MPI

NIH/NIGMS R01GM140012 Xiao (PI) 01/01/2021 - 12/31/2024

*Developing computational algorithms for histopathological image analysis*

Goals: The goal of this project is to develop deep-learning computational algorithm to analyze histological images.

Role: Co-I

CPRIT RP200554 Singal, Hoshida (MPI) 08/31/2020 – 08/30/2025

*A Novel Risk Stratification and Early Detection Strategy to Reduce Liver Cancer Mortality*

Goals: The goal of this project is to develop strategy of personalized HCC screening to reduce HCC mortality in Texas.

Role: MPI

NIH/NCI R01CA233794-S1 Hoshida (PI) 09/01/2022 - 08/31/2024

*Non-invasive monitoring of metabolic liver cancer risk*

Goals: The goal of this project is to validate liver cancer risk biomarkers in patients with metabolic liver diseases.

Role: PI

NIH/NCI R01 CA233794 Hoshida (PI) 09/23/2019 - 08/31/2024

*Reverse-engineering precision liver cancer chemoprevention*

Goals: The goal of this project is to identify targets, drugs, and biomarkers for liver cancer chemoprevention.

Role: PI

NIH/NCI U01CA226052 Mehta, Singal, Hoshida, Drake (MPI) 03/14/2019 - 02/29/2024

Glycopathology of HCC: identification of the source cells of serum fucosylation

Goals: The goal of this project is to identify glycomic biomarkers in HCC

Role: MPI

CPRIT RR180016 Hoshida (PI) 06/01/2018 - 05/31/2024

*Recruitment of Rising Stars*

Goals: The goal of this project is to develop and establish a comprehensive translational research program in liver cancer.

Role: PI

### Past

NIH/NCI U01CA230694 Singal (PI) 09/14/2018 - 07/31/2023

*Precision risk stratification and screening for HCC among patients with cirrhosis in the United States*

Goals: To develop and evaluate a precision screening strategy for early-stage HCC in patients with cirrhosis that matches the best screening tests to individual risk and screening test performance.

Role: subcontract PI

University of Texas System Hoshida (PI) 08/01/2018 – 12/31/2023

*Translational STARS award*

Goals: To establish translational research laboratory in liver cancer.

Role: PI

NIH/NIMHD R01MD012565 Singal (PI) 03/01/2018 - 02/28/2023

*Multilevel factors for racial/ethnic and socioeconomic disparities in prognosis of hepatocellular carcinoma*

Goals: The goal of this project is to determine factors associated with racial/ethnic disparities in hepatocellular carcinoma prognosis.

Role: subcontract PI

AASLD PINNACLE Liang (PI) 07/31/2021 - 07/30/2022

*Role of macrophage mitochondrial DNA in obesity-induced hepatocellular carcinoma*

Goals: The goal of this project is to study the role of macrophage mitochondrial DNA in obesity-induced hepatocellular carcinoma.



Role: Co-I

NIH/NCI R01 CA212008 Singal (PI) 09/01/2017 - 08/31/2022

*Precision screening for hepatocellular carcinoma in patients with cirrhosis*

Goals: The goal of this study is to examine and establish personalized HCC screening strategies incorporating new biomarkers

Role: Subcontract PI

European Research Council, 671231 HEPCIR Baumert (PI) 01/01/2016 - 07/31/2022

*Cell circuits as targets and biomarkers for liver disease and cancer prevention*

Goals: The goal of this study is to establish cell-based models of hepatocarcinogenesis and identify liver cancer chemoprevention therapies.

Role: Subcontract PI

NIH/NCI 261201200042I-P00004-26100007-1 Limburg (PI) 09/04/2014 – 06/28/2021

*Pilot study of EGFR inhibition with erlotinib in cirrhosis to inhibit fibrogenesis and prevent hepatocellular carcinoma*

Goals: To evaluate safety and on-target effect of erlotinib for HCC chemoprevention.

Role: Site PI

Morphic Therapeutic Hoshida (PI) 09/30/2019 – 09/30/2020

*Evaluation of integrin inhibitors as anti-fibrotic agents.*

Goals: The goal of this project is to assess anti-fibrotic effect of integrin inhibitors in organotypic ex vivo culture of human liver tissues.

Role: PI

DOD CA150178 Lujambio (PI) 9/30/2016 - 07/27/2018

*Functional genomics screen for combination therapy discovery in liver cancer.*

Goals: The goal of this project is to identify novel combination therapies for liver cancer using RNA interference technology.

Role: co-I

NIH R01 CA207311 Domingo-Domenech (PI) 07/01/2016 – 07/27/2018

*Role of GATA2 signaling network in lethal prostate cancer*

Goals: To study GATA2-related signaling pathways essential for driving cancer cell aggressiveness.

Role: co-I

NIH/NCATS Dudley (PI) 07/18/2017-07/27/2018

*Pre-clinical testing of a novel therapeutic for nonalcoholic steatohepatitis*

Goals: The goal of this project is to identify novel therapeutics in nonalcoholic steatohepatitis by using informatics screen and experimental validation.

Role: co-I

DOD Galsky (PI) 9/30/2017-7/27/2018

*Circulating tumor cell-based patient-derived xenograft models of metastatic bladder cancer as a platform for development of novel therapeutic approaches*

Goals: The goal of this project is to identify candidate therapies for metastatic bladder cancer.

Role: co-I

Irma T. Hirschl/Monique Weill-Caulier Scholar Award Hoshida (PI) 01/01/2015-12/31/2018  
*Molecular prognostic prediction and classification of liver cancer.*  
Goals: The goal of this project is to identify novel prognostic indicators and subtyping biomarkers in liver cancer.  
Role: PI

Kyowa Hakko Kirin Hoshida (PI) 02/01/2017-12/31/2018  
*Exploration and evaluation of liver disease and cancer chemoprevention agents.*  
Goals: The goal of this project is to identify and evaluate liver cirrhosis/cancer chemoprevention agents from compound libraries at Kyowa Hakko Kirin.  
Role: PI

DOD CA150281 Hoshida (PI) 09/15/16-07/27/18  
*Gene regulatory networks as targets and biomarkers for liver cancer chemoprevention after clearance of oncogenic hepatitis C virus*  
Goals: To identify HCC chemoprevention biomarkers and targets post-hepatitis C virus eradication.  
Role: PI

Allergan Hoshida (PI) 05/01/2017-04/30/2018  
*Transcriptome analysis of liver biopsy tissues from CENTAUR study.*  
Goals: To evaluate the effect of cenicriviroc (CVC) on molecular pathways in liver tissues from patients enrolled in CENTAUR trial.  
Role: PI

NIH/NCI U19 CA148065 Hunter (PI) 07/15/10-06/30/11  
*Discovery, biology and risk of inherited variants in breast cancer*  
Goals: Determine genetic variants and relevant molecular aberrations associated with breast cancer.  
Role: co-PI

European Commission Framework Programme 7, #259744 Llovet (PI) 01/11/10-04/30/14  
*Genomic predictors and oncogenic drivers in hepatocellular carcinoma (Heptromic)*  
Goals: Determine genomic predictors and oncogenic drivers in hepatocellular carcinoma.  
Role: co-I

NIH/NIDDK R01 DK080789 Sadler-Edepli (PI) 04/01/14-12/31/15  
*Epigenetic regulation of development and liver regeneration by UHRF1*  
Goals: Determine mechanism of epigenomic regulation by UHRF1 in liver regeneration using model organisms including zebrafish.  
Role: co-I

H3 Biomedicine Hoshida (PI) 04/01/2014-03/31/2015  
*Evaluation of FGF19/FGFR4 inhibitor in HCC*  
Goals: The goals of the project are to evaluate i) the viability effect and pathway modulation of selective FGFR4 inhibitors on FGF19 amplified ex vivo slices from HCC ii) the FGF19 RNA and protein levels and correlate with the FGF19 amplification using ex vivo liver slices from HCC.  
Role: PI

Enanta Hoshida (PI) 06/01/2017-12/31/2017  
*Transcriptomic Analysis (RNA sequencing) and Bioinformatics Analysis for Samples Generated in the In Vivo Antifibrotic Efficacy Study of Enanta compounds EPS-2305 and EPS-2191.*  
 Goals: To evaluate the effect of Enanta compounds on molecular pathways in liver tissues from rat model of liver fibrosis.  
 Role: PI

Gilead Sciences Hoshida (PI) 09/01/2017-08/31/2018  
*Assessment of Gilead therapeutics in human precision cut liver samples.*  
 Goals: The goal of this project is to evaluate anti-fibrotic effect of Gilead's compounds in ex vivo culture of human fibrotic liver tissues.  
 Role: PI

AbbVie Friedman, Hoshida (PI) 04/01/2016-12/31/2017  
*Evaluate anti-fibrotic mechanisms of highest interest in (I) human normal vs fibrotic Precision Cut Liver Slices and (II) TAA model.*  
 Goals: The goal of this project is to evaluate potential antifibrotic effect of experimental compounds in human liver slice culture and TAA model.  
 Role: co-PI

Astra Zeneca Friedman, Hoshida (PI) 09/01/2017-8/31/2018  
*Antifibrotic efficacy study of drug AZD3355.*  
 Goals: The goal of this project is to evaluate anti-fibrotic effect of Astra Zeneca's compounds in ex vivo culture of human fibrotic liver tissues.  
 Role: co-PI

NIH/NIDDK R01 DK099558 Hoshida (PI) 07/01/13 -06/30/18  
*Molecular prognostic indicators in liver cirrhosis and cancer*  
 The goal of this study is to generate transcriptome profiles of clinical cohorts and determine molecular prognostic indicators for liver cirrhosis and cancer.  
 Role: PI

Allergan Hoshida (PI) 02/01/2017-01/31/2018  
*Evaluation of cenicriviroc as a potential liver cancer chemoprevention and anti-fibrotic agent.*  
 Goals: To evaluate the effect of cenicriviroc (CVC) on the HCC risk gene signatures, fibrogenic gene expression, and modulation of target molecules (CCR2/CCR5) in organotypic ex vivo culture of patient-derived fibrotic liver tissues.  
 Role: PI

**Clinical Trials Activities**

	Sponsor: Cancer Prevention Network, National Cancer Institute, NIH
Title	Pilot Study of EGFR Inhibition with Erlotinib in Cirrhosis to Inhibit Fibrogenesis and Prevent Hepatocellular Carcinoma (MAY2013-02-02)
Role	Site PI

	Sponsor: National Cancer Institute, NIH
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Title	Phase II clinical trial of liver cancer chemoprevention with low-dose erlotinib
Role	Contact PI

	Sponsor: National Cancer Institute, NIH
Title	A national translational science network of precision-based immunotherapy for primary liver cancer (PLC).
Role	Site PI

	Sponsor: National Cancer Institute, NIH
Title	Trial of statins for chemoprevention in hepatocellular carcinoma (TORCH)
Role	Co-PI

	Sponsor: National Cancer Institute, NIH
Title	Epigallocatechin gallate for prevention of lethal cirrhosis complications (CATCH-B)
Role	Contact PI

#### **Invited lectures, session chair/moderator**

1. “High-throughput profiling of informative genes on paraffin-embedded tissue using universal bead array” in **Gene Expression and Tumors: Discovery and Diagnostics**, Boston, MA. Dec.5, 2006.
2. “Gene expression profiles from paraffin-embedded HCC tissues” in **2nd Mount Sinai Liver Cancer Program Meeting**, Mount Sinai School of Medicine, NY, June 23, 2007.
3. “Molecular classification of HCC: Meta-analysis” in **3rd Mount Sinai Liver Cancer Program Meeting, Towards Personalized Medicine in Hepatocellular Carcinoma**, Mount Sinai School of Medicine, NY, Oct. 3, 2008.
4. “Oligonucleotide microarray analysis” in **3rd Mount Sinai Liver Cancer Program Meeting, Towards Personalized Medicine in Hepatocellular Carcinoma: Post-meeting workshops**, Mount Sinai School of Medicine, NY, Oct. 4, 2008.
5. “Gene Expression Profiling of FFPE Tissues for Outcome Research” in **Interdisciplinary Workshop: Incorporating novel tumor tissue biomarker analyses into population based studies of human cancer**, Dana-Farber/Harvard Cancer Center, Boston, MA. Oct.24, 2008.
6. "Application of genomics technologies to HCC" in **Post graduate course MGT 5747 - HCC from the Disciplina de Gastroenterologia Clinica - FMUSP at the Cancer Institute of Sao Paulo (ICESP)**, in Sao Paulo, Brazil. Mar.10, 2009.
7. “Gene profiling to identify patients at-risk for HCC development” in **4th Mount Sinai Liver Cancer Program Meeting, Novel Targets and Drugs in Hepatocellular Carcinoma**, Mount Sinai School of Medicine, NY, Oct. 5, 2009.
8. “Update in biotechnologies for genomic studies” in **4th Mount Sinai Liver Cancer Program Meeting, Novel Targets and Drugs in Hepatocellular Carcinoma: Post-meeting workshops**, Mount Sinai School of Medicine, in NY, Oct. 5, 2009.
9. “Linking fibrosis with cancer risk: molecular perspective” in **European Association for Study of Liver (EASL) special conference, Hepatocellular carcinoma: from genomics to treatment**, in Dubrovnik, Croatia, June 25-26, 2010
10. “Molecular signatures and prognosis”, Luncheon workshop, **4th annual meeting of International Liver Cancer Association**, in Montreal, Canada, Sept. 10-12, 2010

11. "Pathways and gene expression profiles" (session chair), General session 1, **4th annual meeting of International Liver Cancer Association**, in Montreal, Canada, Sept. 10-12, 2010
12. "Molecular identification of patients at risk of HCC" in **5th Mount Sinai Liver Cancer Program Meeting, From Genomics to Treatment of Hepatocellular Carcinoma**, Mount Sinai School of Medicine, NY, Dec. 9, 2010.
13. "Molecular classification of HCC: importance of translational research" in **Enhancing Clinical Outcomes in Hepatocellular Carcinoma: A Multidisciplinary Expert Practice Meeting**, in San Francisco, California, Nov. 3, 2011.
14. "Molecular profiles of hepatocellular carcinoma: implications in prognostic prediction and targeted therapy" in **Cancer Genomics: a way to personalized medicine**, at Chang Gung Memorial Hospital, in Taoyuan, Taiwan, Feb. 15, 2012.
15. "HCC and other liver tumors" (session chair) in **22nd Congress of the Asian Pacific Association for the Study of the Liver**, in Taipei, Taiwan, Feb. 16, 2012.
16. "Molecular profiles of hepatocellular carcinoma: implications in prognostic prediction and targeted therapy" in **22nd Congress of the Asian Pacific Association for the Study of the Liver**, in Taipei, Taiwan, Feb. 16, 2012.
17. "Linking animal model to human in liver diseases using genomic signatures" in **International HCC Workshop**, in Graz, Austria, Oct. 24, 2012.
18. "Omics in assessing prognosis in cirrhosis" in **American Association for Study of Liver Diseases (AASLD)/EASL Clinical Research Single Topic Conference, Portal Hypertension and Variceal Hemorrhage**, in Atlanta, June 8, 2013
19. "Molecular prognostic indicators of liver cirrhosis and cancer" in **Research Seminar Series at University Hospital Basel**, in Basel, Switzerland, June 24, 2013.
20. "Non-tumoral tissue signatures in the molecular classification" in **ILCA-NCI-AASLD Consensus symposium on Molecular classification of HCC**, in Washington DC, Sept. 12, 2013.
21. "Molecular signature for management of hepatocellular carcinoma" in **Internal Medicine Grand Round, Loyola University Medical Center**, in Chicago, Oct. 29, 2013.
22. "Integration with a molecular classification of cirrhosis" in **EASL Molecular Pathogenesis and Translational Research in Liver Cancer (HCC Summit)**, in Geneva, Switzerland, Feb. 15, 2014.
23. "Molecular classification and prognostic prediction of hepatocellular carcinoma" in annual meeting of **American Association for Cancer Research**, in San Francisco, Apr. 8, 2014.
24. "Molecular classification and prognostic prediction of hepatocellular carcinoma" in **Laennec Liver Pathology Conference**, in New York, May 9, 2014.
25. "Molecular signatures for management of hepatocellular carcinoma" in **Translational Research Lecture Series, Pennsylvania Biotechnology Center/Drexel University**, in Doylestown, Sep. 25, 2014.
26. "Molecular classification of HCC" in **The 11th Japan Society of Hepatology, Single Topic Conference, Hepatitis B –Recent progress in basic and clinical research-**, in Hiroshima, Japan, Nov. 21, 2014.
27. "Molecular classification of HCC" in **International Liver Cancer Association (ILCA), School of Liver Cancer 2014**, in New York, Dec. 12, 2014.
28. "New approach: how to fill the gaps in screening and surveillance" in **16th Princeton HBV Workshop 2015**, in Princeton, Mar. 18-19, 2015.
29. "Biomarkers for risk stratification emerging from genomic studies in HCC" in **The International Liver Congress (annual meeting of EASL) 2015**, in Vienna, Austria, Apr. 22, 2015.
30. "Molecular signature-based risk stratification in HCC" in **2015 Seoul Liver Symposium**, Seoul, South Korea, Oct. 30, 2015.
31. "Molecular signature-based liver cancer chemoprevention" in the annual **TheraHCC program**

- meeting, in Strasbourg, France, Dec. 8-10, 2015.
32. “Molecular information-guided HCC drug development” in **The 13th Japan Association of Molecular Targeted Therapy for HCC (annual meeting of JAMTT-HCC)**, in Tokyo, Japan, Jan. 16, 2016.
  33. “Molecular information-based development of therapeutics, preventatives, and biomarkers in HCC” in the 3rd annual meeting of **International Research Center for Cancer and Metabolism (Kumamoto University, Advanced Research Project A)**, in Kumamoto, Japan, Mar. 10, 2016.
  34. “Molecular classification of HCC” in **The 4th Symposium on Translational Genomics with Special Focus on Liver Cancer**, National Cancer Institute, in Bethesda, Mar. 18, 2016.
  35. “Potential approach to identify the NAFLD patient who will develop HCC” in **The 1st International Workshop on NASH Biomarkers**, in Washington DC, Apr. 29, 2016.
  36. “NAFLD and cancer prediction: mechanistic and clinical implication” in **The 2nd Paris NASH Symposium**, in Paris, France, June 30, 2016.
  37. “Systems Biology Approaches (session co-chair)” at **ISMMS-RPI Joint Symposium and Workshop, New Connections in Cancer Research: Bridging Basic Science, Clinical Science, and New Technologies**, in New York, Sep. 20, 2016.
  38. “Pathogenesis of HCV-induced HCC” at **EASL-AASLD special conference, New perspectives in hepatitis C virus infection**, in Paris, France, Sep. 23, 2016.
  39. “Chemoprevention in HCC” at **Mount Sinai Liver Cancer Program, annual retreat**, in New York, Dec. 16, 2016.
  40. “Big data-driven liver cancer chemoprevention discovery” at **2nd Stony Brook Cancer Center – Tisch Cancer Institute joint conference on metabolism and cancer**, in New York, Jan. 17, 2017.
  41. “Genetic and genomic features of fatty liver disease, fibrosis and cancer” at **Keystone Symposia, Bile Acid Receptors as Signal Integrators in Liver and Metabolism**, in Monterey, Mar. 3-7, 2017.
  42. “Precision liver cancer prevention” at **UT Southwestern, Digestive & Liver Conference**, in Dallas, Mar. 15, 2017.
  43. “Transcriptomic dissection of liver cancer risks in cirrhosis” at **Hepatobiliary Cancers: Pathobiology and Translational Advances** (co-sponsored by NCI, AASLD, and Cholangiocarcinoma Foundation), in Glen Allen, Virginia, Dec. 7-10, 2017.
  44. “Risk score-stratified hepatocellular carcinoma screening in patients with cirrhosis” at **NCI, US-Japan 20th International Conference on Emerging Infectious Diseases (EID) in the Pacific Rim**, Shenzhen, China, Jan. 11, 2018.
  45. “Molecular targeted prevention and treatment of hepatocellular carcinoma” at **University of Pennsylvania PSOC Seminar Series**, Pennsylvania, Jan. 22, 2018.
  46. “Molecular signature-based prevention and treatment of hepatocellular carcinoma” at **University of Strasbourg/Inserm, HEPCIR Program, Seminar Series**, Strasbourg, France, Feb. 6, 2018.
  47. “Molecular subtype and molecular targeted therapies in HCC” at **American Association for Cancer Research (AACR) Annual Meeting**, Major Symposium, Chicago, Apr. 15, 2018.
  48. “Mechanisms of carcinogenesis in the cirrhotic liver” at **Global Hepatitis Summit**, Toronto, Canada, Jun. 16, 2018.
  49. “Transcriptome-based precision medicine approach for liver cancer risk prediction and chemoprevention” at **Population Health and Prevention in the Omics and Big Data Era**, Stanford University, San Francisco, Oct. 17, 2018.
  50. “Molecular prognostic indicators in liver cirrhosis and cancer” at **NCI-AACR-AASLD Working Group Workshop on Hepatocellular Cancer: New Indications and Directions**, at National Cancer Institute, Bethesda, Nov. 7, 2018.
  51. “Precision medicine in HCC research” at **AASLD Annual Meeting, Clinical Research Workshop**, San Francisco, Nov. 9, 2018.
  52. “Exploring Mechanisms of HCC in NASH” at **AASLD Annual Meeting, Early Morning Workshop**,

Nov. 12, 2018.

53. “Personalized and precision care for HCC” at **3rd Annual Current Perspectives in Hepatology (CPH): A single theme symposium on Hepatocellular Carcinoma**, University of Tennessee Health Sciences Center, Memphis, Apr. 27, 2019.
54. “Molecular drivers of HCC” at **Digestive Disease Week (DDW), Clinical Symposium**, San Diego, May 21, 2019.
55. “Precision medicine in hepatocellular carcinoma research” at **UCSD Division of Gastroenterology 13th Annual Research Symposium “Precision Medicine in Gastroenterology and Hepatology”**, UC San Diego, San Diego, June 7, 2019.
56. “Molecular predictors of progressive liver damages: a non-transplant perspective” at **ASHI/Banff Joint Scientific Meeting**, Pittsburgh, Sept 25, 2019.
57. “Molecular HCC risk prediction and chemoprevention” at **NCI CCR Liver Cancer Program Seminar Series**, Bethesda, Nov 14, 2019.
58. “Molecular Subtypes: translating genomics into drug therapy” at **HCC-TAG 2020 Conference**, Salt Lake City, Feb 28, 2020.
59. “Classification and prognosis of hepatocellular carcinoma” at **The 9th International Forum of the Japanese Society of Gastroenterology**, Hiroshima, Apr 23, 2020.
60. “Risk stratification biomarkers – are we close?” at **International Liver Cancer Association (ILCA) Single Topic Workshop on HCC Risk Stratification and Surveillance**, Paris, June 11, 2020.
61. “HCV-related hepatocarcinogenesis: Host factors as clues to chemoprevention” at **USC Tumor Microenvironment (TME) Program Meeting**, Los Angeles, Aug. 14, 2020.
62. “Risk stratification for HCC” at **Texas Collaborative Center for Hepatocellular Cancer (TeCH) Annual Symposium**, Houston, Oct. 17, 2020.
63. “Molecular risk prediction for HBV HCC” at **Annual meeting of Liver Foundation West Bengal - Emerging Therapy Landscape- HBV cure -HCC control**, Kolkata, India, Dec. 11, 2020.
64. “Molecular prognostic prediction in liver cancer” at **Keystone Symposia Hepatobiliary Cancers: Pathobiology and Translational Advances**, Vancouver, Canada, March 22, 2021.
65. “Using big data in drug development for precision medicine” at **Copenhagen Bioscience Conference, Precision medicine – from patient to lab and back again**, Copenhagen, Denmark, May 3, 2021.
66. “Molecular drivers and targets in hepatocellular carcinoma” at **Japan Society of Hepatology (JSH) annual meeting**, Sapporo, Japan, June 18, 2021.
67. “Microenvironment writes the outcomes of cirrhosis and hepatoma” at **Global Hepatitis Summit 2020, 17th International Symposium on Virus Hepatitis and Liver Disease (ISVHLD)**, Taipei, June 19, 2021.
68. “The influence of micro-environment on HCC progression” at **Global Hepatitis Summit 2020, 17th ISVHLD**, Taipei, June 19, 2021.
69. “Evidence-based strategies to leverage immunogenicity in hepatocellular carcinoma” at **American Society of Clinical Oncology (ASCO) Virtual Satellite Symposium**, June 9, 2021.
70. “HCC risk stratification using gene signatures” at **EASL/AASLD HCC Endpoint Conference**, virtual, October 28, 2021.
71. “Round Table: Prevention and follow-up endpoints” (Program Chair) at **EASL/AASLD HCC Endpoint Conference**, virtual, October 28, 2021.
72. “Molecular signatures of NASH induced HCC and how the epidemiology of HCC is changing in the U.S.” at **AASLD/Japan Society of Hepatology Joint Symposium**, Anaheim, November 8, 2021.
73. “Liver Fibrosis SIG: Multidisciplinary Perspectives in Developing New Treatments for NASH Fibrosis” (Program Chair) at **AASLD annual meeting**, Anaheim, November 12, 2021.
74. “Treatment and prevention of hepatocellular carcinoma” at **UT Southwestern, Department of Internal Medicine, Grand Round**, December 10, 2021.

75. “Risk stratification biomarkers – are we close?” at **ILCA Single Topic Workshop on HCC Risk Stratification and Surveillance**, Paris, France, June 9, 2022.
76. “Hepatic and systemic drivers of lethal disease progression in fibrotic NASH” at **Keystone Symposia, Inter-organ crosstalk in non-alcoholic steatohepatitis**, Whistler, Canada, August 9, 2022.
77. “Reverse-engineering discovery of targets, involved cell types, and compounds for liver cancer chemoprevention” at **NIH/NCI Translational Advances in Cancer Prevention Agent Development (TACPAD)**, Rockville, September 7, 2022.
78. “Cancer risk predictive molecular biomarkers in biliary tract cancer” at **4th Annual Cholangiocarcinoma (CCA) Summit**, Denver, October 14, 2022.
79. “Precision liver cancer chemoprevention” at **Japan Digestive Disease Week 2022 (JDDW 2022)**, Fukuoka, Japan, October 27, 2022.
80. “Hepatology research in the U.S.” at **Chiba University Division of Gastroenterology Grand Round**, Chiba, Japan, November 1, 2022.
81. “Overview of HCC: risk factors, screening, and key role of multidisciplinary teams for optimal treatment and patient outcomes” at **Medical Crossfire: Multidisciplinary Strategies to Leverage Clinical Advances on Immune-Based Therapies for Patients with Hepatocellular Carcinoma**, Washington DC, November 5, 2022.
82. “AASLD Multidisciplinary Treatment of Liver Cancers, including HCC and Cholangiocarcinoma (Session chair)” at **DDW**, Chicago, May 8, 2023.
83. “**NCI Pre-Cancer Atlas, Think Tank (Panelist)**”, Rockville, May 1-2, 2023.
84. “Integrative molecular analysis of HCC and CCA: similarities and differences” at **FASEB Scientific Conference, Cholangiocarcinoma: Molecular Drivers, Microenvironment, and Precision Medicine**, August 15, 2023.
85. “Predicting future risk of developing HCC” at **1st Bermuda Global Summit on GI Malignancies**, October 5, 2023.
86. “Chemoprevention: avoiding development of cirrhosis into HCC” at **1st Bermuda Global Summit on GI Malignancies**, October 5, 2023.
87. “Emerging Translational Approaches Targeting Cellular-geospatial Heterogeneity in Cholangiocarcinoma (Program chair) at **AASLD annual meeting**, Boston, November 12, 2023.
88. “Hepatology, The Editors' Cut: Basic and Translational Studies” at **AASLD annual meeting**, Boston, November 12, 2023.

### **Technological and Other Scientific Innovations**

PCT/EP2016/059477: Clinical gene signature-based human cell culture model and uses thereof (licensed), Co-Inventor
PCT/IL2016/051002: Ectopic lymphoid structures as targets for cancer detection, risk prediction and therapy (pending), Co-Inventor
Provisional filing (BEX21P0131): Method for diagnosis and/or prognosis of liver disease progression and risk of hepatocellular carcinoma, Co-Inventor
Non-provisional filing (No.: 17/896,944): Methods for the assessment of risk and treatments for liver cancers and lethal liver disease complications, Inventor
Technology disclosure being filing (No. 63/383,441): Molecular signature assay for predicting long-term liver fibrosis progression, Inventor



Technology disclosure being filing (No. 63/509,362): Molecular signature assay for prognostic prediction in non-alcoholic fatty liver disease, Inventor

## **Bibliography**

### **Peer-Reviewed Publications**

#### **Original Research Articles**

1. Hoshida Y, Ikeda K, Kobayashi M, Suzuki Y, Tsubota A, Saitoh S, Arase Y, Kobayashi M, Murashima N, Chayama K, Kumada H. Chronic liver disease in the extremely elderly of 80 years or more: clinical characteristics, prognosis and patient survival analysis. **J Hepatol**. 1999;31(5):860-6.
2. Hoshida Y, Ikeda K, Saito S, Kobayashi M, Kobayashi M, Suzuki Y, Tsubota A, Koida I, Arase Y, Murashima N, Chayama K, Kumada H. [The efficacy and prognosis of transcatheter chemoembolization for hepatocellular carcinoma in the elderly]. **Nihon Shokakibyo Gakkai Zasshi**. 1999;96(2):142-6.
3. Hoshida Y, Saitoh S, Murashima N, Ogawa A, Arase Y, Kobayashi M, Suzuki Y, Tsubota A, Chayama K, Ikeda K, Kumada H. Vaginal variceal hemorrhage in a patient with primary biliary cirrhosis: a case successfully treated by balloon-occluded retrograde transvenous obliteration. **Am J Gastroenterol**. 1999;94(10):3081-3.
4. Hoshida Y, Yamakado S, Shinoki K, Takeuchi T, Nagai T, Hyakuna Y, Itoh Y. Aged Budd-Chiari syndrome attributed to chronic deep venous thrombosis with alcoholic liver cirrhosis. **J Gastroenterol**. 1999;34(5):634-9.
5. Hirano K, Kondo Y, Teratani T, Obi S, Fujishima T, Hoshida Y, Tateishi R, Sato S, Koike Y, Shiina S, Imai Y, Shiratori Y, Omata M. Hepatocellular carcinoma depicted as hypoattenuation on CT hepatic arteriography (CTA) and hyperattenuation on CT during arterial portography (CTAP). **J Gastroenterol**. 2001;36(5):346-9.
6. Hoshida Y, Moriyama M, Otsuka M, Kato N, Goto T, Taniguchi H, Shiratori Y, Seki N, Omata M. Identification of genes associated with sensitivity to 5-fluorouracil and cisplatin in hepatoma cells. **J Gastroenterol**. 2002;37 Suppl 14:92-5.
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8. Hoshida Y, Shiratori Y, Omata M. Cost-effectiveness of adjuvant interferon therapy after surgical resection of Hepatitis C-related hepatocellular carcinoma. **Liver**. 2002;22(6):479-85.
9. Moriyama M, Hoshida Y, Otsuka M, Nishimura S, Kato N, Goto T, Taniguchi H, Shiratori Y, Seki N, Omata M. Relevance network between chemosensitivity and transcriptome in human hepatoma cells. **Mol Cancer Ther**. 2003;2(2):199-205.
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11. Wang Y, Kato N, Hoshida Y, Yoshida H, Taniguchi H, Goto T, Moriyama M, Otsuka M, Shiina S, Shiratori Y, Ito Y, Omata M. Interleukin-1beta gene polymorphisms associated with hepatocellular carcinoma in hepatitis C virus infection. **Hepatology**. 2003;37(1):65-71.
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- human hepatocellular carcinoma cell chemosensitivity to 5-fluorouracil plus interferon-alpha combination chemotherapy. **Int J Oncol**. 2004;25(5):1279-87.
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