Hepatocellular Carcinoma/Fatty liver

2024 TMU RCDM and Taipei Cancer Center Joint Conference

9/28 Sat.

13:00-17:40

Venue: Taipei Medical University Comprehensive Medical Building (Rear Building)
16th floor International Conference Hall

Time	Topic	Speaker	Moderator
13:00-13:10	**Opening**	President **Mai-Szu Wu**, TMU Superintendent **Chun-Ming Shih**, TMUH Superintendent **Hong-Nerng Ho**, TMU Taipei Cancer Center	
	Keynote Speech		
13:10-13:50 (Taipei Time)	Drug Discovery for MASH and Cancer Treatment.	Prof. Yu-Jui Yvonne Wan Department of Pathology and Laboratory Medicine UC Davis Medical Center, USA	Prof. Wei-Chiao Chang, PhD., TMU
13:50-14:30	Tumor Evolution and Treatment Response in HCC	Prof. Xin Wei Wang Center for Cancer Research, National Cancer institute, USA	Prof. Jaw-Ching Wu, M.D., NYCU
	Hepatocellular Carcinoma (HCC)		
14:30-14:50 (Taipei Time)	Intra-arterial therapy for HCC	Chih-Horng Wu, M.D., NTUH	Po-Chich Liang, M.D., NTUH
14:50-15:10	Evolving Role of Radiotherapy in Combination with Modern Systemic Therapy for Advanced HCC	Hsin-Lun Lee, M.D., TMUH	Prof. Jo-Ting Tsai, M.D., Suang-Ho Hospital
15:10-15:30	Risk scores to predict HCC and the benefits of antiviral therapy for CHB patients in gray zone of treatment guidelines	Wei Teng, M.D., CGMH	Prof. Chien-Wei Su. M.D,, NYCU
15:30-15:50	A genetic basis of mitochondrial DNAJA3 in nonalcoholic steatohepatitis-related HCC	Ching-Wen Chang, PhD., TMU	Prof. Chun-Yen Lin, M.D., Chang Guan University
15:50-16:10	**Break**		
	Fatty Liver Disease		
16:10-16:30	Development of novel microbial therapeutic strategies for NASH via the gut-liver axis	Suraphan Panyod, PhD., NTUMC	Prof. Chun-Chao Chang M.D., TMUH
16:30-16:50	NAFLD in Morbidly Obese Patients Undergoing Bariatric Surgery	Wei-Yu Kao, M.D., TMUH	Prof. Shih-Yi Huang, PhD., TMU
16:50-17:10	Functional food clinical trial for NAFLD	Ming-Shun Wu, M.D., WangFang Hospital	Prof. Suh-Ching Yang, PhD., TMU
17:10-17:30	Impact of HBV infection on clinical outcomes in patients with MAFLD	Prof. Chia-Chi Wang, M.D., Taipei Tzu Chi Hospital	Prof. Jia-Horng Kao, M.D. , NTUH
	Discussion		
17:30-17:40	**Closing & Remark**	**Vice Superintendent Chun-Chao Chang TMU RCDM**	

Register Here

Organized by TMU Research Center for Digestive Medicine (RCDM), TMU Taipei Cancer Center, TMUH Dep. of Medical Researc

CURRICULUM VITAE

Xin Wei Wang, PhD
Senior Investigator
Deputy Director, Center for Cancer Research
Co-Director, Liver Cancer Program
Acting Co-Chief, Laboratory of Human Carcinogenesis
Head, Liver Carcinogenesis Section
Center for Cancer Research, National Cancer Institutue
National Institutues of Health

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URL: https://ccr.cancer.gov/liver-cancer-program
URL: http://www.researcherid.com/rid/B-6162-2009
URL: *http://orcid.org/0000-0001-9735-606X*

Education:

1977 – 1982	B.S., Shanghai First Medical College, Fudan University, Shanghai, China
1982 – 1984	M.S., Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai, China
1986 – 1991	Ph.D., New York University, New York, New York
1991 – 1992	Postdoc Fellowship, Roche Institute of Molecular Biology, Nutley, New Jersey
1992 – 1995	Intramural Research Training Award Fellowship, National Cancer Institute, National Institutes of Health, Bethesda, Maryland
2009 – 2010	NCI SEED (Senior Executive Enrichment & Development) IV, National Cancer Institute, Bethesda, Maryland

Employment History:

1995 – 1998	Senior Staff Fellow, National Cancer Institute, NIH, Bethesda, Maryland
1998 – 2005	Investigator and Head of Liver Carcinogenesis Unit, Laboratory of Human Carcinogenesis, NCI, Bethesda, Maryland
2002 – 2010	Adjunct Associate Professor, University of Maryland Cancer Center, Baltimore, Maryland
2005 – present	Senior Investigator, National Cancer Institute, NIH, Bethesda, Maryland
2005 – present	Head, Liver Carcinogenesis Section, Laboratory of Human Carcinogenesis, Center for Cancer Research, National Cancer Institute, NIH, Bethesda, Maryland
2011 – 2017	Member of the Senior Biomedical Research Service, Public Health Service
2011 – 2024	Deputy Chief, Laboratory of Human Carcinogenesis, Center for Cancer Research, National Cancer Institute, NIH, Bethesda, Maryland
2018 – present	Co-Director, NCI CCR Liver Cancer Program
2023 – present	Deputy Director, Center for Cancer Research, NCI
2024 – present	Acting Co-Chief, Laboratory of Human Carcinogenesis, CCR, NCI

Professional Societies:

2004 – present	American Association for Cancer Research (member)
1998 – 2006	American Association for the Advancement of Science (member)
1998 – 2018	CCR-NCI Faculty and Center for Excellence: HIV and Cancer Virology Faculty

Cellular, Molecular and Developmental Biology Faculty
Genetics, Genomics, and Proteomics Faculty
Gene Expression Faculty
Bioinformatics, Biostatistics and Computational Biology Faculty
Molecular Targets Faculty
Gastrointestinal Malignancies Faculty (Steering Committee)
Metastasis Working Group
Center for Excellence for Cancer Biology and Genomics (Steering Committee)

2003 – 2009 International Society of Gastroenterological Carcinogenesis (Board of Directors)
1998 Society of Chinese Bioscientists in America (member; lifetime)
2010 – 2016 SCBA DC Chapter Treasuer
2017 – 2018 SCBA DC Chapter President
2007 International Liver Cancer Association (ILCA) (Founding member)
2009 – 2017 American Association for the Study of Liver Diseases (member)
2012 – 2017 Special Interest Group on Molecular classification and signalling pathways, ILCA (Chair)
2018 – 2022 SCBA Hepatology Division, Excecutive Council member
2020 – 2021 SCBA Hepatology Division, President
2020 – present American Association for the Advancement of Science (member)

Honors and Other Special Scientific Recognition

1980 Best Student Award, Shanghai First Medical College
1984 Best Thesis Award, Committee of Pharmaceutics Sinica, Shanghai
1988 Travel award from American Society of Toxicology
1991 Meritorious Research Award, American Society of Toxicology
1991 – 1992 Roche Institute of Molecular Biology Postdoctoral Fellowship Award
1992 – 1995 NCI Intramural Cancer Research Fellowship Award
1998 – 2020 Federal Technology Transfer Awards (award year: 1998, 2000, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2015, 2016, 2019, 2020)
2004 Visiting professor, Mount Sinai School of Medicine
2005 Distinguished lecturer, UMBC Greenebaum Cancer Center
2008 Natural Sciences Award (first place), The Ministry of Education of China
2008 Special lectureship (keynote speaker), Chinese Medical Association
2009 NIH Merit Award
2009 NCI Outstanding Mentor Award (Mentor of Merit)
2010 NIH APAO Outstanding Scientific Achievement Award
2011 Honorary Professor, Fudan University
2011 The SCBA Outstanding Leadership and Service Award
2012 Keynote Speaker, International Symposium on Clinical and Translational Cancer Research
2013 NIH Director's Award
2013 Keynote Speaker, the 22nd Asia Pacific Cancer Conference
2013 Keynote Speaker, International Symposium on Clinical and Translational Cancer Research
2013 NIH Merit Award
2014 Keynote Speaker, Mayo Clinic Hepatobiliary Cancer Retreat
2014 Blue Faery Award for Excellence in Liver Cancer Research
2015 Keynote Speaker, International Symposium on Infectious Disease and Signal Transduction
2015 NCI Director's Merit Award
2018 Keynote Speaker, Asan Cancer Institute Symposium
2018 NCI Director's Award for establishing the TIGER-LC consortium and outstanding accomplishments and leadership in team-driven liver cancer research
2021 Blue Faery Award for Excellence in Liver Cancer Research
2021 NCI Director's Award
2021 Keynote Speaker, HBV 2021

2022 Distinguished Service as the 2021 Division President, SCBA Hepatology Division
2023 Keynote Speaker, 2023 CALS Symposium
2023 Keynote Speaker, Inaugural annual symposium, Early Cancer Institute
2023 NIH Director's Award for establishing the NCI Liver Cancer Program
2023 NCI Annual Intramural Scientific Retreat Research Highlights Award
2024 NCI Director's Award for Emerging Leader – NCI Champions

Administrative and Scientific Services

Institutional Service:

2001 – 2006 NIH FARE Judge
2000 – Member, NCI-UMD Tissue Resource Review Panel
2002 – Chair, LHC Microarray Interest Group
2005 – 2010 Member, NIH-NCI HCC Clinical Steering Committee
2005 CCR-NCI Inflammation and Cancer Initiative Discussion
2006 Member, CCR-NCI Strategic Plan: focus group
2007 – Member of Steering committee, the Center of Excellence in Integrative Cancer Biology and Genomics (CEICBG), CCR, NCI
2008 CCR-NCI Staff Scientists Quadrennial Review
2008 – 2011 Member, NCI CCR Advisory Board (CAB)
2009 CCR Grand Rounds Planning Committee
2010 Earl Stadtman Investigator Search Committee
2010 – 2016 Steering Committee for the CCR Sequencing Facility
2011 Member of Search Committee, Director of NCI Division of Cancer Prevention
2010 – Member of Steering Committee, NCI GI Malignancies Faculty
2011 CCR-NCI Bioinformatics Staff Scientists Quadrennial Review
2012 – 2017 CCR Core Facilities Task Force
2014 Co-chair, Earl Stadtman Investigator Search Committee: Cancer Biology
2014 Co-chair, NCI Symposium on Current Advances in Pancreatic Cancer Research and Treatment
2014- Chair, CCR Genome Core Oversight committee
2014 Earl Stadtman Investigator Cancer Biology Committee (co-chair)
2015 Earl Stadtman Investigator Genomics and Systems Biology Committee
2016 Earl Stadtman Investigator Cancer Biology Committee
2017 Earl Stadtman Investigator Cancer Biology Committee
2018 Chair, The committee on the 2020 NCI Annual Plan and Budget Proposal: Risk Stratification and Precision Prevention
2019 Co-Organizer, 2019 NCI CCR LCP Scientific conference
2021 Member, The committee on the 2023 NCI Annual Plan and Budget Proposal: Precision Prevention
2021 Earl Stadtman Investigator Cancer Biology Committee
2021 – 2024 Member of the NIH Board of Scientific Directors
2021 – Council member, NIH Federation of AANHPI Network (FAN)

National and International Service:

2002 Organizer, International Workshop on Human Hepatocellular Carcinoma, Bethesda, Maryland
2003 – 2009 The International Society of Gastroenterological Carcinogenesis (Board of Directors)
2005 – 2010 National Research Council Research Advisors
2006 Co-organizer, NCI-cosponsored Symposium on liver cancer At the Shanghai-Hong Kong Liver Congress
2007 Co-organizer, Keystone Symposia, Beijing, China
2007 – 2008 Peer Review Committee Ad-hoc Member, ACS
2008 Co-organizer, US-Sino Symposia on Liver Cancer
2008 Member, Poster Review Committee, 2nd ILCA Conference

2009 – 2012 Peer Review Committee on Tumor Biology and Genomics, ACS
2009 – 2016 Treasuer, SCBA Baltimore-DC chapter
2009 – Co-PI, TIGER-LC consortium
2010 – 2017 Review panelist, Italian Association Cancer Research
2010 – 2012 US-China Biomedical Research Cooperation Working Group
2010 – 2014 AASLD Experimental Hepatobiliary Neoplasia Committee
2011 – 2016 ILCA Abstract Review Committee
2011 Provocative Question Initiative workshop
2011 NIH ZRG1 F09 Review Committee
2012 – 2013 International Scientific Advisory Committee, Asia-Pacific Primary Liver Cancer Expert (APPLE)
2012 – 2017 Chair, Molecular classification and signaling pathways Special Interest Group, ILCA
2013 – 2017 Governing Board Member, ILCA
2013 – 2017 Associate Chair, Membership Committee, ILCA
2014 Co-organizer, 2nd NCI-Pancreatic Cancer Symposium
2015 Co-organizer, 3rd NCI-Pancreatic Cancer Symposium
2016 Co-organizer, Pre-conference workshop: Pre-clinical models of HCC: from target identification to clinical trials. ILCA 10th Annual Conference
2016 – 2017 President, SCBA Baltimore-DC chapter
2016 – External Advisory Board, Mayo Clinic SPORE in hepatobiliary cancer (P50 PAR-14-353)
2017 – 2022 Excecutive Council, SCBA Hepatology Division
2018 Co-organizer, Molecular Biology in Single Cells Symposium
2018 – 2023 Co-PI, Liver Cancer Moonshot Initiative
2020 – 2021 President, SCBA Hepatology Division
2019 – 2021 Co-organizer, Keystone Sumposium on Cancer Stem Cells: Advances in Biology and Clinical Translation
2021 Chair, SCBA Hepatology Division Annual Symposium

Editorial board

2002 – 2005 *Carcinogenesis*
2008 – 2017 *Hepatology*
2010 – 2016 *PLoS ONE* (Academic Editor)
2010 – present *International Journal of Biological Sciences (*Executive Editor*)*
2011 – present *Cell & Bioscience* (Editor)
2011 – 2019 *Molecular Carcinogenesis* (Associate Editor)
2013 – *Hepatic Oncology*
2013 – 2014 *Frontiers in Cell and Develomental Biology* (Associate Editor)
2014 – 2023 *Journal of Hepatocellular Carcinoma (Associate Editor in Chief)*
2022 – 2024 *Hepatology*

Grant reviewer

1998 – 2000 *Cancer Research Campaign*
2003 – 2011 *Cancer Research UK*
2001 *Jeffress Memorial Trust*
2003 – 2017 *Italian Association for Cancer Research*
2004 – 2010 *Research Grants Proposal of Hong Kong*
2006 *NIAID, NIDDK, review panels*
2007 – 2013 *ACS Study Section on Tumor Biology and Genomics*
2009 *The Challenge Grant RFA*
2021 *The NIH Cancer Molecular Pathobiology Study Section*

Editorial services (Peer Reviewer, 1995 –)
(Listed major journals with impact factors >10 from over 30 journals)

Cancer Cell, Cancer Cell Report, Cell, Cell Stem Cell, Gastroenterology, Genes & Development, Gut, Immunity, Journal of Clinical Investigation, Journal of Clinical Oncology, Journal of Hepatology, Journal of National Cancer Institute, Hepatology, Nature Cancer, Nature Cell Biology, Nature, Nature Communications, Nature Medicine, Nature Methods, New England Journal of Medicine, Proc. Natl. Acad. Sci. USA, Science, Science Translational Medicine

Teaching Service

Preceptor, HHMI-NIH Research Scholars Program:

1994 – 1995 Heidi Yeh, MD, Surgical Director of thre Pediatric Transplant Program, Massachusetts General Hospital, Associate Professor of Surgery, Harvard Medical School
1995 – 1996 Michael K. Gibson, MD/PhD, Associate Professor, Director of Translational Research for Head and Neck Oncology, Vanderbilt-Ingram Cancer Center, Nashville, TN
1996 – 1997 Nissim Khabie, MD, ENT Otolaryngologist, Minneapolis, MN
1997 – 1998 Anne M. Manicone, MD, Associate Professor, University of Washington
2003 – 2004 Brian D. Zipser, MD, Diagnostic Radiologist, Lynwood, CA
2006 – 2008 Huong Giang H. Nguyen, MD/PhD, Dermatologist, Washington DC
2007 – 2008 Fei Dong, MD, Assistant Professor of Pathology, Brigham and Women's Hospital, Boston, MA

Biotechnology Program in M.S. at Georgetown University

2008 – 2009 Xiaoyu Liang, Research Associate, Columbia University
2010 Jie Ao, PhD student, Sate University of New York at Buffalo
2013 Satish Babu Agadkar, M.S., Graduate Student, Georgetown University

Guest lecturer, the Topics in Molecular Epidemiology course

2000-04 Georgetown University Medical School

Thesis Advisor:

1996 Jill Coursen, MS, Hood College
2002 Qinghai Ye, MD/PhD, Shanghai Medical University
2006 Huliang Jia, MD/PhD, Fudan University
2007 Guoling Lin, MD/PhD, Fudan University
2008 Jiong Shi, MD/PhD, Fudan University
2012 Lei Yu, MD/PhD, Fudan University
2014 Sonya Parpart, PhD, NIH-Georgetown University Graduate Partnership
2021 Subreen Khatib, PhD, NIH-Georgetown University Graduate Partnership
2023 Zeynep Kacar, PhD, NCI-UMD Graduate Partnership

Thesis Committee:

1999 Joo-Yeon Yoo, PhD, University of Maryland
2013 Giang Nguyen, PhD, Oxford University

Mentorship Committee:

2018 – Liqin Zhu, PhD, Assistant Professor, St. Jude Children's Research Hospital
2017 – 19 Carla Zeballos, MD; PhD thesis committee, University of Texas Health Science Center at San Antonio
2016 – Chun Zhang Yang, PhD, Tenure Track Investigator, NOB, CCR, NCI
2019 – Changqing Xie, MD, PhD, Physician-Scientist Early Investigator, TGIMB, CCR, NCI
2021 – Drew Pratt, MD, Physician-Scientist Early Investigator, LP, CCR, NCI
2022 – Lichun Ma, PhD, Earl Stadtman Tenure Track Investigator, CDSL, CCR, NCI

Current Lab members:

Marshonna Forgues, BA (1998 – present), Lab maneger
Man-Hsin (Cindy) Hung, MD, PhD (2017 – present), Research Fellow

Limin Wang, PhD (2019 – present), Staff Scientist
Farid Rashidi, PhD (2022 – present), Postdoctoral fellow
Yuto Shiode, MD, PhD (2022 – present), Postdoctoral fellow
Theressa Ewa, BS (2022 – present), NIH-OxCam PhD candidate
Vijay Putatunda, MD (2022 – present), Surgical Oncology Fellow
Atlas Mashayekhi Sardoo, PhD (2023 – present), Bioinformatician
Aryan Neupane, PhD (2023 – present), Postdoctoral fellow affiliated with LCP
Christine Ma, BA (2023 – present), Technician, Human VirScan Core
Qin Li, PhD (2024 – present), Postdoctoral fellow

Former Lab members and Current Status:

Postdoctoral Fellows:

Chuan-Ging Wu, MD/PhD (1998 – 2001), Staff Scientist, FDA
Teh-Ia Huo, MD (2000 – 01), Professor, Yang Ming University
Jin Woo Kim, PhD (2001 – 04), Principal Scientist, Panagene, Inc., Deajeon, Korea
Wei Wang, PhD (2003 – 05), Senior Staff Fellow, FDA/CBER
Siritida Rabibhadana, PhD (2005), Senior Scientist, Chulabhorn Research Institute, Thailand
Supornrat Pulleium, BA (2005), Research staff, Chulabhorn Research Institute, Thailand
Vivian Takafuji, PhD (2004 – 06), Director, Balanced Being Therapies, LLC
Mi Jung Lim, PhD (2005 – 06), Senior Scientist, Biology Laboratory, South Korea
Lei Zhao, MD/PhD (2007 – 08), Professor, Clinical Director, Shandong Provincial Tumor Hospital and Institute of Oncology
Taro Yamashita, MD/PhD (2005 – 08), Professor and Chair, Gastroenterology, Kanazawa University
Naoki Oishi, MD/PhD (2010 – 12), Associate Professor, Kanazawa University
Stephanie Roessler, PhD (2006 – 12), Professor, Experimental Hepatobiliary Carcinogenesis, Heidelberg University
Xuelian Zhao, PhD (2008 – 13), CEO, EliteImmune, Corp. Gaithersburg, MD
Junfang Ji, MD/PhD (2006 – 13), Professor, Life Sciences Institute, Zhejiang University, China
Atsushi Takai, MD/PhD (2011 – 15), Assistant Professor, Kyoto University Medical School, Kyoto, Japan
Takamitsu Sasaki, PhD (2013 – 15), Associate Professor, School of Parmaceutical Sciences, University of Shizuoka, Shizuoka, Japan
Juling Ji, MD/PhD (2012 – 14), Chair, Professor, Department of Pathology, Medical School of Nantong University, Nantong, China
Kosuke Kaji, MD, PhD (2014 – 15), Assistant Professor, Nara Medical University, Kashihara, Nara, Japan
Jittiporn Chaisaingmongkol, PhD (2013 – 15), Senior scientist, Chulabhorn Research Institute, Bangkok, Thailand
Hyun Goo Woo, MD, PhD (2015 – 16), Associate Professor, Ajou University School of Medicine, Suwon, South Korea
Dan Taksony Solyom Høgdall, MD (2016), Postdoctoral fellow, University of Copenhagen, Denmark
So Mee Kwon, PhD (2014 – 16), Ajou University School of Medicine, Suwon, South Korea
Yotsawat Pomyen, PhD (2015 – 18), Senior scientist, Chulabhorn Research Institute, Bangkok, Thailand
Hongping Zheng, PhD (2015 – 17), Chief Technology Officer, Macau Ahavagen Biotechnology Co., LTD. Guangzhou, China
Valerie Fako Miller, PhD (2014 – 17), Director of the Office of Postdoctoral Affairs, University of Illinois at Chicago
Enkhjargal Bayarsaikhan (2017 – 18), Director, General Laboratory Department, National Cancer Center of Mongolia
Maria Olga Hernandez, PhD (2015 – 18), Research Scientist, Single Cell Analysis Facility, Frederick National Laboratory for Cancer Research
Na Zhao, PhD (2017 – 18), Associate Professor, Tianjin Medical University Geberal Hospital
Hien Dang, PhD (2012 – 18), Assistant Professor, Sidney Kimmel Medical College, Thomas Jefferson University

Jinping Liu, PhD (2016 – 19), Professor, Sun Yat-sen University Cancer Center
Sean P. Martin, DO (2017 – 19), Asistant Professor, Department of Surgery, Penn State College of Medicine
Dana Dominguez, MD (2018 – 20), General Surgical Oncology Fellow, City of Hope
Sophia Franck, MD, PhD (2018 – 20), Clinical fellow, Department of Gastroenterology, University Medical Center Hannover
Eun Ju Cho, MD (2020 – 21), Associate Professor, Division of Gastroenterology, Department of Internal Medicine. Seoul National University College of Medicine
Julian Candia, PhD (2018 – 21), Staff Scientist, NIA, NIH
Lichun Ma, PhD (2018 – 22), NIH Stadtman Investigator, Cancer Data Science Laboratory, Center for Cancer Research, National Cancer Institute
Ching-Wen Chang, PhD (2018 – 23), Assistant Professor, Taipei Medical College
Amanda J Craig, PhD (2019 – 23), Senior Scientist, AstraZeneca
Shay Behrens, MD (2021 – 23), Surgeon, Oregon Health and Sciences University
Jeng-Fan Lo, PhD (2023), Professor, National Yang Ming Chiao Tung University
Wei Yan, PhD (2023), Associate Professor, the College of Animal Science and Technology of China Agricultural University and the Sanya Institute of China Agricultural University
Maruhen Silveira, PhD (2021 – 2023), Postdoctoral fellow, NCI
Rebecca Whitney Leet Do, PhD (2021 – 2024), Senior Consultant, Strategy and Analytics group, Government and Public Services at Deloitte
Anuradha Budhu, PhD (2002 – 2018), Senior Associate Scientist and Program Manager, Liver Cancer Program, Center for Cancer Research, National Cancer Institute

Lab Technicians:

Jill D. Coursen, MS (1997 – 98), Research Associate, Leidos Biomedical Research, Inc.
Zhipeng Yu, BA (2006 – 15), Retired

MD/PhD Students:

Qinghai Ye, MD/PhD (2002), Professor, Liver Cancer Institute, Shanghai
Huliang Jia, MD/PhD (2005 – 06), Professor, Huashan Hospital, Fudan University, Shanghai
Guoling Lin, MD (2007 – 08), Assistant Professor, Zejiang University
Fei Dong, MD (2007 – 08), Instructor in Pathology, Brigham and Women's Hospital
Jiong Shi, MD/PhD (2008 – 09), Assistant Professor, Nanjing University
Lei Yu, MD/PhD (2010 – 12), Attending physician, Liver Cancer Institute, Fudan University
Bahadir Ozdemir, PhD (2011 – 2012), Software Engineer, Google LLC, Video Ads
Sonya Parpart (2010 – 2014), PhD, Senior Director, GRAIL, Inc.
Becky Haiyang Wang, PhD (2017 – 18), Research Fellow, Stem Cell and Regenerative Medicine Lab, Institute of Health Service and Transfusion Medicine, Bejing
Mingda David Su, MD (2018), Private practice in General Surgery, Urbana, Illinois
Subreen Khatib, PhD (2017 – 21), Associate Strategy Consultant, Triangle Insights Group, Durham, NC.
Yue Dong, MS (2021 – 23), University of Maryland PhD candidate at Statistics
Zeynap Kecar, MS (2019 – 2023), Instructor, American University
Wing Yan (Becky) Yuen, BS, MPh (2022 – 2024), UMD-NCI GPP PhD candidate

Postbac Fellows:

Ann Tseng, MD (1998 – 99), Chief Medical Officer, Neighborhood Health Center, Portland, OR
Jessica Sime, PhD (2001 – 02), Northwestern University Medical School
Vinay Rao, DO (2008 – 09), Assistant Professor of Medicine, Yale School of Medicine, New Haven, CT
Mia R Kumar, MS (2009 – 20), Strategic Account Manager, Taconic Biosciences, San Francisco
Billie Bian, BA (2014 – 15), PhD student, Icahn School of Medicine at Mount Sinai
Edward Duqum, DO (2015 – 16), Internist, Creve Coeur and Mercy Hospital, MO
Evan Maestri, BS (2021 – 22), PhD student, Stanford University
Aleesha Jacob, BA (2021 – 22), Postbac
Mahler Revsine, BS (2021 – 23), PhD student, Johns Hopkins University

MS and Summer Students:

Haress Rahim, DDS (1999), Dentist, Bloo Dental, Ashburn, VA
Lily Wong (1999, 2000)
Michele Abbasi, MD (2000)
David M. Salvay, MD (2000), Ophthalmologist, Hoag Hospital, Newport Berach, CA
Alice Uy (2000, 2001)
Shabina Siddique Ahmed, MD (2000, 2001), Endocrinologist, Suburban Hospital, Bethesda, MD
Lavanya Viswanathan, MD (2002), Assitant Professor, Uniformed Services University of the Healthy Sciences, Bethesda, MD
Nicholas Younes (2005)
Mindy Wei (2006), Undergraduate student, University of Maryland
Andy Chen (2006), Undergraduate student
Bhumi Patel (2006, 2007, 2008), Premed student,
Louie Zhou (2007), Premed student, University of Pennsylvania
Xiaoyu Liang (2009), PhD student, Columbia University
Jie Ao, BA (2010), PhD student, State University of New York at Buffalo
Ricklie Davis, MD (2009, 2010), Resident Physician, George Washington University
Luhe Mian (2010), Undergraduate student, University of Virginia
Shota Yasukura (2012), MD student, Kyoto University Medical School
Satish Babu Agadkar, M.S. (2012), Graduate Student, Georgetown University
Jayne Liu (2013), Undergraduate student, University of Michigan
Keiry Rodriguez (2013), Undergraduate student,
Bowranigan Tharmalingam (2014), Undergraduate student, Cornell University
Heelah Gholian (2015, 2016), Summer Intern, Bnos Yisroel of Baltimore
Bret Robinson (2015), Summer Intern, the University of North Carolina at Chapel Hill
Lucy Knight (2015 – 16), Intern, University of Oxford
Santiago Sanchez (2016), Summer Intern, University of Texas at Austin
Benjamin Davies (2016), Summer Intern, University of Cincinnati
Aparna Konde (2017), Summer Intern
Ravinder Parhar (2017 – 18), Undergraduate student, University of Oxford
Shiqi Shen, MD (2018 – 19), Visiting fellow
Kathy Wang (2022, 2023), Graduate student, Georgetwon University
Andrew Lee (2024), Medical student, University of Cambridge

Grant Support:

1998 – 2000	Mechanism of liver carcinogenesis; DBS Budget Allocation, NCI, NIH (PI)
2000 – 2008	Mechanism of liver carcinogenesis; CCR Budget Allocation, NCI, NIH (PI)
2008 – 2013	Molecular signatures for liver cancer diagnosis and treatment stratification; Z01 C 010313, NCI, NIH (PI)
2008 – 2013	The identification of human hepatocellular carcinoma metastasis genes; Z01 BC 010877, NCI, NIH (PI)
2008 – 2013	The role of cancer stem cells in liver cancer heterogeneity and suptypes; Z01 BC 010876, NCI, NIH (PI)
2008 – 2013	Mechanism of viral hepatitis-mediated hepatocarcinogenesis; Z01 BC 005793, NCI, NIH (PI)
2010	Comprehensive metabolomic and integrative profiling of hepatocellular carcinoma. NCI Director's Innovation Award (co-PI); $10,000
2013 – 2017	Molecular signatures for liver cancer diagnosis and treatment stratification; Z01 C 010313, NCI, NIH (PI)
2013 – 2017	The identification of human hepatocellular carcinoma metastasis genes; Z01 BC 010877, NCI, NIH (PI)
2013 – 2017	The role of cancer stem cells in liver cancer heterogeneity and suptypes; Z01 BC 010876, NCI, NIH (PI)

2016 Oncogenic activation of nonsense-mediated decay in hepatocellular carcinoma. NCI Director's Innovation Award (co-PI); $10,000

2017 Identification of unique viral-host interaction signatures linked to early onset of hepatocarcinoma by VirScan. NCI Director's Innovation Award (co-PI); $10,000

2017 – 2021 Roles of hepatic stellate cells, extracellular vesicles, and tumor microenvironment in viral hepatitis-related hepatocellular carcinoma. 1 R01 CA214145-01, NCI, NIH (PI); $375,000

2017 The Genomic Landscape of Hepatitis D-related Hepatocellular Carcinoma Among Mongolian Patients. CRDF Global on U.S.-Mongolia Pilot Collaborative Award Program, sponsored by NCI and NIAID; (co-PI); $49,800

2017 Liver cancer: biomarker discovery, pathogenesis and animal models. NIH DDIR Innovation Award Program (co-PI); $77,815 (direct cost)

2017 – 2021 Molecular signatures for liver cancer diagnosis and treatment stratification; Z01 C 010313, NCI, NIH (PI)

2017 – 2021 The identification of human hepatocellular carcinoma metastasis genes; Z01 BC 010877, NCI, NIH (PI)

2017 – 2021 The role of cancer stem cells in liver cancer heterogeneity and suptypes; Z01 BC 010876, NCI, NIH (PI)

2018 – 2023 Pathway Specific Functional Biomarkers for the Early Detection of Liver Cancer; 1U01CA230690-01, NCI, NIH (co-PI)

2020 – 2024 Synergy Award for Liver tumor-associated microbiome and its role in cancer progression and therapy; CCR FLEX Program (co-PI)

2021 – 2025 Molecular signatures for liver cancer diagnosis and treatment stratification; Z01 C 010313, NCI, NIH (PI)

2021 – 2025 The identification of human hepatocellular carcinoma metastasis genes; Z01 BC 010877, NCI, NIH (PI)

2021 – 2025 The role of cancer stem cells in liver cancer heterogeneity and suptypes; Z01 BC 010876, NCI, NIH (PI)

2024 Exploring viral exposure history and adaptive immune profiles in the pathogenesis and prognosis of autoimmune hepatitis; the NIH OADR-ORWH award (PI), OD ORWH-24-110; $154,860 (direct cost)

Patents Issued:

U.S. Patent No. 5,985,829. Screening assays for compounds that cause apoptosis. Inventors: Curtis C Harris, Xin Wei Wang, and J.H.J. Hoeijmakers

U.S. Patent No. 6,602,979. Screening assays for compounds that cause apoptosis. Inventors: Curtis C Harris, Xin Wei Wang, and J.H.J. Hoeijmakers

U.S. Patent No. 6,613,883. Screening assays for compounds that cause apoptosis and related compounds. Inventors: Curtis C Harris, Xin Wei Wang, and J.H.J. Hoeijmakers

U.S. Patent No. 6,613,318. Methods for identifying inhibitors of GADD45 polypeptide activity, and inhibitors of such activity. Inventors: Wang; Xin Wei, Harris; Curtis C., Fornace, Jr.; Albert J., Coursen; Jill D., Zhan; Qimin

U.S. Patent No. 7,125,850. Methods for identifying inhibitors of GADD45 polypeptide activity, and inhibitors of such activity. Inventors: Wang; Xin Wei, Harris; Curtis C., Fornace, Jr.; Albert J., Coursen; Jill D., Zhan; Qimin

U.S. Patent No. 7,338,807. Screening assays for compounds that cause apoptosis. Inventors: Curtis C Harris, Xin Wei Wang, and J.H.J. Hoeijmakers

U.S. Patent No. 7,005,419. Methods for identifying inhibitors of GADD45 polypeptide activity and inhibitors of such activity. Inventors: Wang; Xin Wei, Harris; Curtis C., Fornace, Jr.; Albert J., Coursen; Jill D., Zhan; Qimin

U.S. Patent No. 7,438,892. Methods for identifying inhibitors of GADD45 polypeptide activity and inhibitors of such activity. Inventors: Wang; Xin Wei, Harris; Curtis C., Fornace, Jr.; Albert J., Coursen; Jill D., Zhan; Qimin

U.S. Patent No. 7,803,380. Compositions and methods for diagnosis and treatment of tumors. Inventors: Vivian Takafuji, Xin Wei Wang

U.S. Patent No. 8,247,183. Compositions and methods for diagnosis and treatment of tumors. Inventors: Vivian Takafuji, Xin Wei Wang, Paul K. Goldsmith

US Patent No. 8,252,538. MicroRNA expression signature for predicting survival and metastasis in hepatocellular carcinoma: Xin Wei Wang, Anuradha Budhu, Zhao-You Tang, Carlo Croce.

U.S. Patent No. 8,465,917. Methods for determining hepatocellular carcinoma subtype and detecting hepatic cancer stem cells. Xin Wei Wang, Junfang Ji, Taro Yamashita, Carlo Croce

U.S. Patent No. 8,568,977. Compositions and methods for diagnosis and treatment of tumors. Inventors: Vivian Takafuji, Xin Wei Wang, Paul K. Goldsmith

European Patent No. EP 2152900 A4. Methods for determining hepatocellular carcinoma subtype and detecting hepatic cancer stem cells. Xin Wei Wang, Junfang Ji, Taro Yamashita, Carlo Croce

U.S. Patent No. 8,735,082 and 9,394,358. Gene signature for predicting prognosis of patients with solid tumors. Xin Wei Wang and Stephanie Roessler

European Patent No. 09752261.9. Gene signature for predicting prognosis of patients with solid tumors. Xin Wei Wang and Stephanie Roessler

Japanese Patent No. 5,745,401. Use of mir-26 family as a predictive marker of hepatocellular carcinoma and responsiveness to therapy. Xin Wei Wang, Carlo Croce, Zhao-You Tang, and Hui-Chuan Sun

U.S. Patient No. 11,306,362 (2022); Gene signature predictive of hepatocellular carcinoma response to transcatheter arterial chemoembolization (TACE)

Patents Pending:

U.S. Patent application, 60/732,332 (2005); Method of Screening for hepatocellular carcinoma

U.S. Patent application (2006); Methods of determining the prognosis of an adenocarcinoma

Provisional Patent application, 60/884,052 (2006); Methods of determining the prognosis of hepatocellular carcinoma

Provisional Patent application, 61/131,800 (2008); Use of microRNA-26 as a predictive marker for hepatocellular carcinoma clinical outcome and response to interferon therapy

Provisional Patient application 62/292,789 (2016); Gene signature predictive of hepatocellular carcinoma response to transcatheter arterial chemoembolization (TACE)

Provisional Patient application; 62/914,138 (2019); NIH Ref. E-174-2019-0-US-01; A viral exposure signature for detection of early-stage hepatocellular carcinoma

PCT application, No. PCT/US2020/055077 (2020). A viral exposure signature for detection of early-stage hepatocellular carcinoma.

U.S. Patent Application No. 17/766,015 (2022). A viral exposure signature for detection of early-stage hepatocellular carcinoma.

PHS Empployee Inventions:

U.S. Patent application No.: 60/370,895 (2002); International No.: PCT/US2003/010783; Methods of diagnosing potential for metastasis or developing hepatocellular carcinoma or identifying therapeutic targets.

U.S. Patent application (2005); Compositions and Methods for Diagnosis and Treatment of Metastatic Disease

U.S. PHS Employee Invention. The Establishment of telomerase-immortalized human liver epithelial cell lines.

Provisional Patent application 61/323,420 (2010); Diagnostic and prognostic HCC-related metabolites

U.S. PHS Employee Invention (2022). A potential protective effect of shared antigens of rhinoviruses and enteroviruses against hepatocellular carcinoma.

Major Invited Talks

1992-2000

1. "Role of TGFβ1 in cell growth regulation". NCI, Bethesda, MD, May 1992

2. "HBV and liver cancer". Life Sciences Symposium on Human Genetics, Society of Chinese Bioscientists in America, the Great Washington Chapter, April 1993

3. "Functional interaction between p53 and TFIIH". INSERM Unit, University of Strasbourg, Strasbourg, France, May 1994

4. "Role of p53 in DNA repair and apoptosis". Department of Cell Biology and Genetics, Medical Genetics Center, Erasmus University, Rotterdam, Netherlands, August 1994

5. "Functional interaction between p53 and TFIIH". Symposium on DNA Repair and Human Syndrome, NIH Research Festivals, September 1994

6. "Functional interaction between p53 and TFIIH". DNA repair interest group, NIH, Bethesda, MD, March 1995

7. "Functional interaction between p53 and TFIIH". Genetic Susceptibility and Molecular Carcinogenesis, AACR, Keystone, January 1996

8. "Functional interaction between p53 and HBx". 1996 Shanghai International Symposium on Liver Cancer & Hepatitis, Shanghai, China, May 1996

9. "Functional interaction between p53 and TFIIH". Department of Pathology & Oncology, University of Maryland Cancer Center, Baltimore, MD, May 1996

10. "Functional interaction between p53 and TFIIH". IASLC Workshop, Nancy, France, July 1996

11. "p53 and TFIIH". Symposium on apoptosis, Scanning Microscopy International, Chicago, IL, May 1997

12. "Role of Gadd45 in G2/M cell cycle checkpoint control". Cancer genetics and tumor suppressor genes conference, Frederick, MD, July 1997

13. "p53 and genomic instability". National Cancer Institute, Bethesda, MD, September 1997

14. "p53, DNA helicases and genomic instability". XVIII International Congress of Genetics, Beijing, China, August 1998

15. "p53, DNA helicases and genomic instability". The 5th International Symposium on Dendritic Cells in Fundamental Clinical Immunology, Pittsburgh, PA, November 1998

16. "p53, DNA helicases and genomic instability". The National Capital Area Branch of the Society for In Vitro Biology, Beltsville, MD, December 1998

17. "Nuclear-cytoplasm trafficking and oncogenesis". The 14th Aspen Cancer Conference, Aspen, CO, July 1999

18. "p53 and Bloom syndrome". Symposium on DNA Repair and Apoptosis, NIH Research Festivals, Bethesda, MD, September 1999

19. "Role of Gadd45 in G2/M cell cycle checkpoint control". Department of Biochemistry and Molecular Biology, University of Maryland, Baltimore, MD, March 2000

20. "Nuclear-cytoplasm trafficking and oncogenesis". Graduate Class for Topics in Molecular Epidemiology, Lombardi Cancer Center, Georgetown University Medical Center, Washington, DC, May 2000

21. "Nuclear-cytoplasm trafficking and oncogenesis". Department of Pathology, Virginia Commonwealth University, Richmond, VA, September 2000

2000 – 2005

22. “Molecular profiling of human hepatocellular carcinoma”. Graduate Class for Topics in Molecular Epidemiology, Lombardi Cancer Center, Georgetown University Medical Center, Washington, DC, April 2001

23. “Molecular pathogenesis of liver cancer”. The 9th International Congress of Toxicology, Brisbane, Australia, September 2001

24. “Nucleocytoplasmic transport, spindle assembly and chromosomal stability”. The 16th Aspen Cancer Conference, Aspen, CO, July 2001

25. “Molecular profiling of human hepatocellular carcinoma”. Multicenter Hemophilia Cohort Study-II, Washington, DC, January 2002

26. “Molecular profiling of human hepatocellular carcinoma”. Molecular Genomics 2002: profiling of gene expression, Galveston, TX, 2002

27. “Molecular profiling of human hepatocellular carcinoma”. Graduate Class for Topics in Molecular Epidemiology, Lombardi Cancer Center, Georgetown University Medical Center, Washington, DC, March 2002

28. “Molecular profiling of human hepatocellular carcinoma”. Clinical Center, NIH, Bethesda, MD, May 2002

29. “Molecular profiling of human hepatocellular carcinoma”. FASEB Summer Research Conference on "Mechanisms of Liver Growth, Differentiation and Molecular Pathogenesis of Hepatic Diseases, Snow Mass, CO, July 2002

30. “Molecular profiling of human hepatocellular carcinoma”. International Workshop on Human Hepatocellular Carcinoma, Bethesda, MD, September 2002

31. “Molecular pathogenesis of human hepatocellular carcinoma”. Liver Cancer Institute and Zhongshan Hospital, Fudan University, Shanghai, China, October 2002

32. “Molecular pathogenesis of human hepatocellular carcinoma”. Cancer Institute/Hospital, Chinese Academy of Medical Sciences, Beijing, China October 2002

33. “Molecular profiling of human hepatocellular carcinoma”. Thomas Jefferson University, Jefferson Center for Biomedical Research, Doylestown, PA, January 2003

34. “Molecular pathogenesis of human hepatocellular carcinoma”. Bernie Carter Center for Immunology Research, University of Virginia Health Sciences Center, Charlottesville, VA. March 2003

35. “Lesson learned from molecular profiling of human hepatocellular carcinoma”. Graduate Class for Topics in Molecular Epidemiology, Lombardi Cancer Center, Georgetown University Medical Center, Washington, DC, May 2003

36. “Lesson learned from molecular profiling of human hepatocellular carcinoma”. The Thirteenth International Symposium of Hiroshima Cancer Seminar, Hiroshima, Japan, October 2003.

37. “Lesson from molecular profiling of human hepatocellular cancer”. Symposium on molecular diagnosis of human cancer sponsored by Shanghai Medical Association, Shanghai, China, November 2003.

38. “Lesson learned from molecular profiling of human hepatocellular cancer”. The GW Cancer Institute, the George Washington University Medical Center, Washington DC, January 2004.

39. "Lesson learned from molecular profiling of human hepatocellular carcinoma". Hong Kong-Shanghai International Liver Congress 2004, Hong Kong, China, February 2004.

40. "Metastatic signature of hepatocellular cancer". The 19th Aspen Cancer Conference, Aspen, Colorado, August 2004.

41. "Molecular signature of liver cancer metastasis". The 3rd International Conference on Gastroenterological Carcinogenesis, Sapporo, Japan, August 2004.

42. "Molecular profiling of chronic liver diseases and hepatocellular cancer". The 35th Environmental Mutagen Society Annual Meeting, Pittsburgh, Pennsylvania, October 2004.

43. "Molecular profiling of chronic liver diseases and hepatocellular cancer". Guest speaker, Division of Gastroenterology and Liver Diseases, Mount Sinai School of Medicine; New York, New York, October 2004.

44. Keystone Symposia Program Committee Meeting (as an ad hoc member), Keystone, Colorado, January 2005.

45. Frontiers in Oncology Seminar Series: "Progress on molecular diagnosis and molecular targets for human hepatocellular carcinoma". Distinguished lecturer, University of Maryland Greenebaum Cancer Center, Baltimore, MD, March 2005.

46. "Molecular signatures of metastatic hepatocellular carcinoma". Invited speaker, The National Cancer Institute Liver Cancer Symposium, Bethesda, MD, April 2005

47. "Metastatic signature of hepatocellular carcinoma" in New Concepts in Organ-Site Research. Invited speaker, The 96th Annual Meeting of the American Association for Cancer Research, Anaheim, CA, April 2005

48. "Cytokines in human hepatocellular carcinoma". Invited speaker, The NCI inflammation and liver cancer conference, Bethesda, MD, December 2005

2006 – 2010

49. "Hepatocellular Carcinoma: State-of-the-Art on molecular diagnosis and therapeutic opportunity". Speaker and co-organizer, NCI Symposium, Shanghai-Hong Kong International Liver Congress 2006, Shanghai, China, March 2006

50. "Role of liver microenvironment in metastasis". Invited speaker, CNIO Cancer Conference, Madrid, Spain, May 2006

51. "Liver microenvironment and hepatocarcinogenesis". Invited speaker, the 4th International Society of Gastroenterological Carcinogenesis Conference, Hawaii, August 2006

52. "Inflammation, cytokines and hepatocellular carcinoma". Invited speaker, The GTCbio 5th annual conference on Cytokines and Inflammation, Breckenridge, CO, January 2007

53. "The art of liver cancer prognosis: from the viewpoint of biology" in New Concepts in Organ-Site Research. Invited speaker, The 96th Annual Meeting of the American Association for Cancer Research, Los Angeles, CA, April 2007

54. "Hepatocellular Carcinoma: A Genomic Perspective". Invited speaker, Center for Human Genomics Seminar Series, Wake Forest University School of Medicine, May, 2007

55. “Interrogating the genome in hepatocellular carcinoma”. Invited speaker, Cancer Genetics and Epidemiology Program Monthly Seminar Series, the Lombardi Cancer Center at Georgetown University, Washington, DC, June 2007

56. “Interrogating the genome in hepatocellular carcinoma”. Invited speaker, National Institute for Occupational Safety and Health Seminar, CDC, Morgantown, WV; August 22, 2007

57. “Inflammatory architects of metastatic hepatocellular carcinoma”. Invited speaker, Annual symposium of the NCI Center of Excellence in Immunology, Bethesda, MD, October, 2007

58. “Diagnostic and prognostic signatures of liver cancer”. Co-organizer and speaker, Keystone Symposia on GI cancer, Beijing, China, October 2007

59. “Hepatocellular carcinoma: a genomic perspective”. Invited speaker, UMMS Immunobiology and Transplantation Biology Research Conference, November, 2007

60. “Liver cancer heterogeneity, cellular origin and cancer stem cells”. Invited speaker, NIAAA, DICBR, Rockville, MD, March 2008

61. “What makes liver cancer so deadly” in New Concepts in Organ-Site Research. Invited speaker, The 97th Annual Meeting of the American Association for Cancer Research, San Diego, CA, April 2008

62. “Genomic perspectives of liver cancer”. NCI CCR Grand Rounds speaker, May 2009

63. “Liver Cancer: biology and clinical practice”. Invited speaker, Chulabhorn Research Institute, Thailand, June 2008

64. “Regulation of hepatic cancer stem cells”. Invited speaker, Sino-US Joint Symposium, International Liver Congress, June 2008

65. “Inflammation and liver cancer”. Invited speaker, 2008 International Liver Congress, June 2008.

66. “Genomic perspectives of liver cancer”. Keynote speaker, Chinese Medical Association Annual Meeting, Taipei, June 2008.

67. “Liver cancer heterogeneity and cancer stem cells”. Invited speaker, Institute of Clinical Medicine, National Yang-Ming University School of Medicine Taipei, Taiwan, June 2008.

68. Department of GI Medical Oncology, University of Texas M.D. Anderson Cancer Center, Houston, July 2008.

69. “The origin of liver cancer”. Invited speaker, 5th ISGC Conference, Oxford, England, Sept 2008.

70. “The role of microRNAs in human hepatocellular carcinoma”. Invited speaker, The NIH Research Festival, October, 2008.

71. “Chronic inflammation and hepatocellular carcinoma”. Invited speaker, Liver and colorectal cancer: molecular biology and clinical research CIBERebd, Barcelona, February 2008

72. “Genome-based molecular predictors of human hepatocellular carcinoma”. Invited speaker, Symposium on Frontiers in Liver Cancer Prevention, Diagnosis, Prognosis and Treatment, Bangkok, Thailand, February 2009

73. “Molecular profiling-insights into the pathogenesis of HCC” in New Concepts in Organ-Site Research. Invited speaker, The 98th Annual Meeting of the American Association for Cancer Research, Denver, CO, April 2009

74. "Role of microRNA in hepatocellular cancer". ILCA/AACR joint symposium, AACR annual meeting. Denver, CO, April, 2009.

75. "microRNAs in hepatocellular cancer". Invited speaker, The NCI Cancer and Inflammation Program Retreat. Gettysburg, PA, May 2009

76. "Molecular Diagnosis and Prognosis of Hepatocellular Carcinoma". Speaker and Organizer; The Second International Workshop on Primary Liver Cancer, Potomac, MD, October, 2009

77. "The art of diagnosis, prognosis and therapeutics in hepatocellular carcinoma". Invited speaker, The Fifth Annual Symposium on Translational Research: Advances and Challenges in Personalized Healthcare. University of Maryland, Baltimore, MD, October 2009

78. "A genomic interrogation of liver cancer: what genomics can teach us about biology". Invited speaker, Greehey Children's Cancer Research Institute Seminar Series, UTHSCSA, San Antonio, TX, November 2009

79. "Hepatocellular carcinoma early detection and its therapeutic implication". Invited speaker, Workshop on HCC Biomarkers sponsored by CBRG/DCP, Rockville, MD, November 2009

80. "Clinical and molecular stratification of liver cancer". Invited speaker; Symposium on rare cancers with high mortality: challenges for cancer prevention and treatment, Bethesda, MD, December 2009

81. "Exploration of liver cancer biological space via genome-phenotype-coupled knowledgebase". Invited speaker; The 40th anniversary celebration of Fudan University Liver Cancer Institute, Shanghai, December 2009.

82. "Exploring liver cancer biological space via genome-phenotype-coupled knowledgebase". Invited speaker; Molecular medicine Tri-Conference 2010, San Francisco, CA, Feb 2010.

83. "Exploring Liver Cancer Biological Space Via Genome-Phenotype-Coupled Knowledgebase". Invited speaker, The 1st National Liver Cancer Forum for Middle-aged and Young Experts, Shanghai, March 2010

84. "MicroRNA: Targets For Therapies And Markers For HCC Outcome Prediction". Invited speaker, The International Liver Congress 2010, Vienna, Austria, April, 2010

85. "Cancer stem cells and liver cancer". Invited speaker, SCBA-CBA Joint symposium, 15th Annual Conference of CBA, Rockville, MD, June, 2010

86. "microRNA and hepatocellular carcinoma: biology and prognostic significance". Invited speaker to deliver a special lecture, Fourth ILCA Annual Conference, Montreal, Canada, September, 2010

87. "Cancer stem cells and liver cancer". Invited speaker, The first JSGE International Topic conference, Kamakura City, Japan, September, 2010

88. "Molecular Profiling - Insights into the Pathogenesis of Liver Cancer". Invited speaker, the Laboratory of Cell Biology Seminar, CCR, NCI, Bethesda, October, 2010

89. "Integrative Genomics- Insights into the Molecular Pathogenesis of Liver Cancer". Invited speaker; The Third Thailand-US Workshop on TIGER-LC, Bangkok, November, 2010

2011 – 2015

90. "Building a Personalized Liver Cancer Care and Research Center, (PLCCRC): Rationale & Strategy". Invited Speaker; The PLCCRC planning meeting. Shanghai, January 2011

91. "MicroRNA and Hepatocellular Carcinoma: Biology and Prognostic Significance". Invited speaker; Keystone Symposia on microRNAs, non-coding RNAs and cancer. Banff, Alberta, February 2011.

92. "Integrative Analysis of Liver Cancer Omic Data: Linking Genomics and Phenomics to Identify Novel Molecular Targets". Invited speaker; The 3rd JCA-AACR Special Joint Conference: The Latest Advances in Liver Cancer Research: From Basic Sciences to Therapeutics. Tokyo, Japan, March 2011

93. "Integrative genomics-insights into the molecular pathogenesis of liver cancer". Invited lecture; The Laboratory of Molecular Biology Seminar, CCR, NCI, Bethesda, March 2011

94. "Liver cancer heterogeneity, tumor subtypes and cancer stem cells". Invited speaker; AASLD Basic Research Single Topic Conference: Stem Cells in Liver Diseases and Cancer: Discovery & Promise. Atlanta, Georgia, March 2011

95. "Defining Liver Cancer Heterogeneity, Tumor Subtypes and Stem-like HCC". Invited speaker; Twenty-Sixth Aspen Cancer Conference, Aspen, Colorado, July, 2011

96. "General Session 1: Pathways and Gene Expression Profiles". Co-Chair; the ILCA 2011 Annual Conference, Hong Kong, September 2011

97. "Defining Liver Cancer Heterogeneity, Tumor Subtypes and Stem-like HCC". Invited lecture; the 2011 RGC General Research Fund Workshop, Centre for Cancer Research, Li Ka Shing Faculty of Medicine, University of Hong Kong, September 2011

98. "Genome-based predictors of outcome in hepatocellular carcinoma". Invited lecture; The Liver Meeting 2011, San Francisco, November 2011

99. "Integrative genomics – insights into the molecular pathogenesis of liver cancer". Invited speaker and co-organizer; The SCBA-NIAAA Joint Symposium on Bioscience, Bethesda, November 2011

100. "Inflammation and liver cancer". Invited speaker; The Cancer Redox Biology Faculty Symposia, Bethesda, March 2012

101. "microRNA and HCC: Pathogenesis and Prognostic Implications". Invited speaker; EASL & ILCA Joint Workshop, The International Liver Congress 2012, Barcelona, April, 2012

102. "Targeting Liver Cancer Stem Cells". Invited speaker; The International Liver Congress 2012, Barcelona, April, 2012

103. "Integrative genomics – insights into tumor heterogeneity and molecular pathogenesis of liver cancer". Grand Rounds Speaker; Chang Gung Memorial Hospital, Taoyuan, Taiwan, May 2012

104. "Integrative genomics – insights into tumor heterogeneity and molecular pathogenesis of liver cancer". Keynote Speaker; The 2012 International Symposium on Clinical and Translational Cancer Research, Kaohsiung, Taiwan, May 2012

105. "Biological and clinical implications of the cancer stem cell model in primary liver cancer". Invited speaker; Cold Spring Harbor Asia Conference on Liver Metabolism, Disorders and Cancer, Suzhou, China, May 2012

106. “Genetic alterations and stem cell progenitors in cholangiocarcinoma”. Invited speaker; CanLiv The Hepatobiliary Cancers Foundation 2nd Annual Symposium, Alexandria, VA, June 2012

107. “Molecular definition of HCC metastasation”. Plenary speaker; International HCC conference Heidelberg, June 2012

108. “Integrative Genomics - Insights into Tumor Heterogeneity and Molecular Pathogenesis of Liver Cancer”. Plenary speaker; The 3rd Asia-Pacific Primary Liver Cancer Expert Meeting, Shanghai, China, July 2012

109. “Integrated genomics to identify molecular drivers in liver cancer”. Plenary speaker; ILCA 6th Annual Conference, Berlin, Germany, September 2012

110. “Genomics of liver cancer”. Plenary speaker; AASLD Annual Conference, Boston, November 2012

111. “Deciphering Liver Cancer Heterogeneity: Biological Challenges and Clinical Perspectives”. Hou Pao-Chang Memorial Lecturer; Hong Kong Pathology Forum 2013, Hong Kong, January 2013

112. "Translating Molecular Genetics to Clinical Care of HCC". Invited speaker; APASL Liver Week: Clinical Track-HCC, Singapore, June 2013

113. "HCC Management in the Era of Molecular Medicine". Invited speaker; APASL Liver Week, State-of-the-Art Lecture, Singapore, June 2013

114. "Cancer Stem Cells in the Development of Liver Cancer". Invited speaker; APASL Liver Week: Multi-disciplinary Track, Singapore, June 2013

115. "Integrative Genomics - Insights into Tumor Heterogeneity and Molecular Pathogenesis of Liver Cancer". Invited speaker; Cancer Science Institute Distinguished Speakers’ Series, Singapore, June 2013

116. "Integrative Genomics - Insights into Tumor Heterogeneity and Molecular Pathogenesis of Liver Cancer". Invited speaker; Mid-Atlantic Directors and Staff of Scientific Cores Conference; Frederick, June 2013

117. “Inflammatory Gene and miRNA Expression in Liver Cancer Diagnosis, Prognosis and Therapy”. Invited speaker; The CCR Immunology COE Symposium 2013; Bethesda, September 2013

118. “Mechanistic Insights from Functional Genomics Studies of Liver Cancer Metastasis”. Keynote speaker; The 2013 International Symposium on Clinical and Translational Cancer Research; Taipei, September 2013

119. “HCC Management in the Era of Molecular Medicine”. Keynote speaker; The 22nd Asia Pacific Cancer Conference, Tianjin, China, November 2013

120. “Integrative Functional Genomics: Insights into Tumor Heterogeneity and Molecular Pathogenesis of Liver Cancer”. Invited speaker; Chinese Academy of Medical Sciences, Beijing, China, November 2013

121. “Translating Molecular Genetics to Clinical Care of Liver Cancer”. Invited speaker; The Georgetown University Ruesch Center Cancer Symposium, Washington DC, December 2013

122. "Integrated Omics Studies to Delineate Tumor Heterogeneity in Liver Cancer". Plenary speaker; EASL HCC Summit, Geneva, Switzerland, February 2014

123. “Application of functional genomics to explore liver cancer biological space”. Invited lecture; Carnegie Institute, Baltimore, MD, Februry 2014

124. “Molecular profiling of human hepatocarcinogenesis”. Invited speaker; EMBO Workshop on Translational Genomics in Biomedicine, Barcelona, March 2014

125. “Integrative Genomics - Insights into Tumor Heterogeneity and Molecular Pathogenesis of Liver Cancer”. Plenary speaker; NCI Third Symposium on Translational Genomics, Bethesda, Maryland, March 2014

126. “Integrative Genomics - Insights into Tumor Heterogeneity and Molecular Pathogenesis of Liver Cancer”. Invited lecture; University of Southern Maine, Portland, Maine, April 2014

127. “Integrative Genomics - Insights into the Molecular Pathogenesis of Liver Cancer”. Invited speaker; Experimental Biology 2014. San Diego, California, April 2014

128. “Translating Molecular Genetics to Clinical Care of Liver Cancer”. Sino-U.S. Forum on Infectious Diseases and Liver Diseases, the 302 Hospital, Beijing, China; June, 2014

129. “Translating Molecular Genetics to Clinical Care of Liver Cancer”. Invited speaker; The 19th CBA Annual Conference. Rockville, MD, June 2014

130. “Integrative Genomics - Insights into Tumor Heterogeneity and Molecular Pathogenesis of Liver Cancer”. Invited speaker; The Mayo Clinic Genomics Interest Group Seminar. Rochester, MN, July, 2014

131. “Biomarker Translational Research in Hepatobiliary Malignancies: The Next 10 Years”. Keynote speaker; The Mayo Clinic Hepatobiliary Cancer Retreat. Rochester, MN, July 2014

132. “Gene Expression Profiles Associated with Progression of HCC”. Plenary speaker; World Transplant Congress. San Francisco, July 2014

133. “Resolving Liver Tumor Heterogeneity through Integrated Systems Biology”. Plenary speaker; the 8th ILCA Annual Conference. Kyoto, Japan, September 2014

134. "Integrated omics studies to delineate tumor heterogeneity in liver cancer". Plenary speaker; International Symposium on Tumor Biology. Kanazawa, Japan, November 2014

135. "Integrative genomics - insights into tumor heterogeneity and molecular pathogenesis of liver cancer". Invited lecture; The Cancer Biology Program Seminar, University of Hawaii Cancer Center, Honolulu, Hawaii, November 2014

136. "The biological and clinical challenges of liver cancer heterogeneity". Invited lecture; UC San Diego Seminar, San Diego, CA, December 2014

137. “The biological and clinical challenges of liver cancer heterogeneity”. Invited speaker; Global Liver Cancer Conference, Honolulu, HI, May 2015

138. “The biological and clinical challenge of liver cancer heterogeneity”. Invited lecture; Medical School of Nantong University, Nantong, China, June 2015

139. “Integrated Omics Investigation of Tumor Heterogeneity and Drivers in Liver Cancer”. Invited lecture; Beijing Proteome Research Center, Beijing, China, June 2015

140. “Immune phenotype of hepatocellular carcinoma and clinical outcome”. Plenary speaker; ILCA Pre-Conference Workshop on Immunopathogenesis and immunotherapy in HCC. Paris, France, September 2015

141. “Precision models clinically relevant to human liver cancer”. Plenary speaker; ILCA Annual Conference,

Paris, France, September 2015

142. "Biological and clinical challenges of liver cancer heterogeneity". Invited speaker; US-Mongolia Workshop on chronic viral hepatitis and primary liver cancer, Ulaanbaatar, Mongolia, September 2015

143. "The Biological and Clinical Challenge of Liver Cancer Heterogeneity". Invited lecture; University of Florida Department of Pathology Grand Rounds, Gainesville, FL, October 2015

144. "Integrative Genomics – Insights into Tumor Heterogeneity and Molecular Pathogenesis of Liver Cancer". Keynote speaker; The 5th International Symposium on Infectious Disease and Signal Transduction. Tainan-Taiwan, November 2015

145. "The Biological and Clinical Challenge of Liver Cancer Heterogeneity". Invited lecture; Department of Microbiology and Immunology, Drexel University of Medicine, Philadelpha, PA, December 2015

2016 – 2020

146. "Biological and clinical challenges of liver cancer heterogeneity". Invited lecture; Division of Liver Diseases, Icahn School of Medicine at Mount Sinai, New York, February 2016

147. "Hepatocarcinogenesis and cancer genomic heterogeneity". Invited speaker; Fourth Symposium on Translational Genomics. NIH, March 2016

148. "The biological and clinical challenge of liver cancer heterogeneity". Invited lecture; Huashan Hospital, Shanghai, China, April 2016

149. "Hepatocarcinogenesis and cancer genomic heterogeneity". Invited lecture; Life Sciences Institute, Zhejiang University, Hangzhou, China, April 2016

150. "Integrated Omics Investigation of Tumor Heterogeneity and Drivers in Liver Cancer". Invited speaker; Cold Spring Harbor Asia conference on Liver Diseases and Tumorigenesis, Suzhou, China, April 2016

151. "Liver cancer genomics and biology". Invited speaker; NIH CSSA Symposium, NIH, June 2016

152. "Viral hepatitis and hepatocarcinogenesis". Plenary speaker; The Asian Pacific Association for the Study of the Liver (APASL) Single Topic Conference on Hepatitis C. Kaohsiung, Taiwan, June 2016

153. "Orchestrating HCC development by diverse liver cancer stem cells". Invited speaker; The 7th Asia-Pacific Primary Liver Cancer Expert Meeting. Hong Kong, July 2016

154. "Cancer heterogeneity and hepatocarcinogenesis". Invited lecture; Faculty of Health Sciences, University of Macau. Macau, China, July 2016

155. "The importance and relevance of pre-clinical models for human HCC". Invited speaker; 10th Annual Conference of International Liver Cancer Association. Vancouver, Canada, September 2016

156. "Single cell genome in liver cancer". Invited speaker; SIG Workshop, 10th Annual Conference of International Liver Cancer Association. Vancouver, Canada, September 2016

157. "Molecular classification of HCC". Plenary speaker; The 12th Japan Society of Hepatology Single Topic Conference. Kanazawa, Japan, September 2016

158. "Cancer heterogeneity and hepatocarcinogenesis". Invited speaker; CCR RGC GRF Brainstorming

Workshop. Hong Kong, September 2016

159. "Cancer genomic heterogeneity and hepatocarcinogenesis". Plenary speaker; The 8th Princess Chulabhorn International Science Congress (PC VIII). Bangkok, Thailand, November 2016

160. "The microenvironment and its contribution to outcome in HCC". Plenary speaker; EASL HCC Summit. Geneva, Switzerland, Feburary, 2017

161. "The liver cancer puzzle – challenges and opportunies". Invited speaker; CSSA sponsored lecture series on cancer and treatment. Rockville, Maryland, Feburary, 2017

162. "Cancer genomic heterogeneity and hepatocarcinogenesis". Invited speaker; The 26th conference of Asian Pacific Association for the Study of the Liver. Shanghai, China, February 2017

163. "Oncogenic drivers and signaling pathways in HCC". Invited speaker; The 26th conference of Asian Pacific Association for the Study of the Liver. Shanghai, China, February 2017

164. "Liver cancer research and management in the era of precision medicine". Invited lecture; Shandong Cancer Hospital. Jinan, China, February 2017

165. "Liver cancer genomics and biology". Invited lecture; Physical Science in Oncology Center Seminar. University of Pennsylvania, Philadelpha, March 2017

166. "Liver cancer genomics and biology". Invited speaker; the 16th International Symposium of the Society of Chinse Bioscientists in America, Hangzhou, China, June 2017

167. "Cancer genomic heterogeneity and hepatocarcinogenesis". Invited lecture; Ajou University School of Medicine, Seoul, South Korea, September 2017

168. "Molecular classification and key drivers of intrahepatic cholangiocarcinoma". Invited speaker; SIG Workshop, 11th Annual Conference of International Liver Cancer Association, Seoul South Korea, September 2017

169. "Cancer genomic heterogeneity and hepatocarcinogenesis". Invited lecture; Functional RNomics Research Center, Catholic University of Korea, Seoul, South Korea, September 2017

170. "Integrated genomics to uncover clinically relevant HCC driver genes". Invited speaker; 2017 Seoul Liver Symposium, Seoul National University Hospital, September 2017

171. "The liver cancer puzzle: challenges and opportunities". Invited lecture; University of Texas Health San Antonio Cell Systems & Anatomy, San Antonio, TX, October 2017

172. "The liver cancer puzzle: challenges and opportunities". Invited lecture; Tianjin Medical University Cancer Institute and Hospital, November 2017

173. "Biologial and clinical impacts of intertumor and intratumor heterogeneity in liver cancer". Invited speaker; Cold Spring Harbor Asia conference on liver biology, diseases & cancer, Suzhou, China, December 2017

174. "Biologial and clinical impacts of intertumor and intratumor heterogeneity in liver cancer". Invited speaker; Conference on hepatobiliary cancers: pathobiology and translational advances, Glen Allen, Virginia, December 2017

175. "Integrated genomics to identify drivers of human liver cancers". Plenary speaker; USJCMSP 20th

International Conference on Emerging Infectious Diseases in the Pacific Rim, Shenzhen, China, January 2018

176. "Common molecular subtypes among Asian hepatocellular carcinoma and cholangiocarcinoma. Invited speaker; USJCMSP 20th International Conference on Emerging Infectious Diseases in the Pacific Rim: Cancer Panel Meeting, Shenzhen, China, January 2018

177. "Biologial and clinical impacts of intertumor and intratumor heterogeneity in liver cancer". Invited lecture; Eastern Hepatobiliary Surgery Hospital, Shanghai, China, January 2018

178. "Biologial and clinical impacts of intertumor and intratumor heterogeneity in liver cancer". Invited speaker; NCI Single Cell Symposium, Bethesda, April 2018

179. "Genomic and biological characterization of primary liver cancer". Invited speaker; Cancer Signaling Symposium, Loyala University Chicago, April 2018

180. "Genomic and biological characterization of primary liver cancer". Invited speaker; Ellis Fischel Cancer Center Grand Rounds, University of Missouri School of Medicine, May 2018

181. "Biological and clinical impacts of molecular heterogeneity in liver cancer. Invited lecture; CCR Thoracic and Oncologic Surgery Branch Seminar, July 2018

182. "The dilemmas of cancer genomic heterogeneity". Keynote speaker; Asan Cancer Institute Symposium, Seoul, Korea, September 2018

183. "Genomic and biological characterization of liver cancer". Invited speaker; Asan Cancer Institute Symposium, Seoul, Korea, September 2018

184. "Integrated genomics to uncover clinically relevant liver cancer drivers". Invited speaker; International Sumposium on Clinical and Translational Medicine. Shanghai, China, September 2018

185. "Biological and clinical impacts of molecular heterogeneity of liver cancer". Invited lecture; Indiana University School of Medicine Seminar. September 2018

186. "The dilemmas of liver cancer genomic heterogeneity". Invited speaker; Commemorative conference of 60th anniversary of cancer hospital, CAMS, the 6th academic conference of national cancer center. Beijing, China, October 2018

187. "Precision oncology in liver cancer". Plenary speaker; Beijing Liver Cancer International Conference. Beijing, China, November 2018

188. "A TIGER-LC report to Professor Dr. HRH Princess Chulabhorn Mahidol". Invited speaker; CRI Cancer Symposium 2019; Bangkok, Thailand, January 2019

189. "Precision oncology in liver cancer". Plenary speaker; CRI Cancer Symposium 2019; Bangkok, Thailand, January 2019

190. "The dilemmas of liver cancer genomic heterogeneity". Invited lecture; National Yang-Ming University, Taipei, Taiwan, January 2019

191. "Novel approaches to precision medicine in liver cancer". Plenary speaker; EASL HCC Summit, Lisbon, Portugal, February 2019

192. "Integrated Omics to Define Molecular Heterogeneity in Liver Cancer". Invited speaker; 24th CBA Annual

Conference, Guangzhou, China, June 2019

193. "Integrated Omics to Define Molecular Heterogeneity in Liver Cancer". Invited speaker; Sun Yat-Sen University School of Life Sciences Symposium, Guangzhou, China, June 2019

194. "Liver cancer genomics". Plenary speaker; the 8th International Oda Memorial Symposium, Tokyo, Japan, August 2019

195. "Are we winning the war on cancer? Landscape of tumor cell communities and their impact on immunotherapy in liver cancer". Plenary speaker; The 10th Asia-Pacific Primary Liver Cancer Expert Meeting, Sapporo, Japan, August 2019

196. "Race-related liver tumor subtypes are associated with gut microbiome-mediated metabolism". Plenary speaker; The 12th AACR Conference on The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved. San Francisco, CA, September 2019

197. "Landscape of tumor cell communities and their impact on immunotherapy in liver cancer". Invited speaker; DBSTP seminar, St Jude Children's Research Hospital, Memphis, TN, November 2019

198. "Molecular landscape of tumor ecosystem in liver cancer". Keynote speaker; 17th National Liver Cancer Conference. Shanghai, China, December 2019

199. "The landscape of tumor cell communities and its impact on therapy in liver cancer". Plenary speaker; TASL 2019 Annual Meeting and the st TASL-AASLD Joint Symposium Theme: Trends in the Management of Liver Diseases in the 2020s. Taipei, Taiwan, December 2019

200. "The landscape of tumor molecular heterogeneity in liver cancer". Invited lecture; Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan, December 2019

201. "Precision medicine – from liquid biopsy to artificial intelligence". Plenary speaker; Workshop on primary liver cancer – emerging concepts and novel treatments, the 2020 GASL, Mainz, Germany, February 2020

202. "Are we winning the war on cancer? Reflections on years of research in liver cancer genomics". Invited speaker; CALS monthly virtual seminar series, July 2, 2020

203. "Are we winning the war on cancer? Reflections on years of research in liver cancer genomics". Invited speaker; ACACR monthly virtual seminar series, August 14, 2020

204. "Are we winning the war on cancer? Reflections on years of research in liver cancer genomics". Invited speaker; NIH-CSSA Virtual Seminar series, October 3, 2020

205. "Challenges in liver cancer diagnosis". The Virtual NCI Cancer Diagnostics Innovation Workshop, October 8-9, 2020

206. "Are we winning the war on cancer? Challenges and opportunities". Plenary speaker; The 4th Beijing International Conference on Hepatobiliary Carcinoma and Infectious Diseases. Beijing, China; November 2020

207. "Is there anything in common among liver cancer and COVID-19?" Plenary speaker; The Virtual SCBA DC-Baltimore Chapter Annual Scietific Symposium, December 2020

2021 – 2025

208. “Defining liver cancer heterogeneity – new challenges and opportunities”. NCI CCR Grand Rounds; February 2021

209. “Causes and functional intricacies of intertumor and intratumor heterogeneity in hepatobiliary cancers”. Keystone eSymposia on hepatobiliary cancers; March 2021

210. “Understanding tumor cell functional clonality and its evolution by single-cell transcriptome in liver cancer”. AACR 2021; April & May

211. “Single-cell atlas of tumor cell evolutioin in response to therapy in hepatocellular carcinoma and intrahepatic cholangiocarcinoma”. The 107th Japanese Society of Gastroenterology Annual Conference; April 2021

212. “Immunological characterization of liver cancer”. Invited lecture; NCI CCR Laboratory of Cancer Immunometabolism; April 2021

213. “Cancer stemness and its clinical impact in hepatobiliary cancers”. Co-organizer and speaker; Keystone eSymposia on cancer stem cells: advances in biology and clinical translation; May 2021

214. “Single-cell genomics and response to therapies in liver cancer”. Plenary speaker; the 2021 ILCA Annual Conference; September 2021

215. “Causes and functional intricacies of molecular heterogeneity in liver cancer”. Keynote speaker; the 2021 International HBV Meeting; Toronto, Canada, September 2021

216. “Molecular pathogenesis of liver cancer”. Invited speaker; the CCR-LCBG Seminar; September 2021

217. “Causes and functional intricacies of intertumor and intratumor heterogeneity in liver cancer”. Plenary speaker; San Antonio Liver Cancer Symposium, October 2021

218. “Defining liver cancer molecular heterogeneity – new challenges and opportunities”. Invited speaker; the University of Hong Kong SKLLR virtual Seminar, October 2021

219. “Challenges and opportunities of precision oncology in liver cancer”. Plenary speaker; The 5th International Conference on Hepatobilary Carcinoma and Infectious Diseases, Virtual attendance, November 2021

220. “State of the art in liver cancer research: prevention and early detection”. Plenary speaker; the 13th AORTIC International Conference on Cancer in Africa, Virtual conference, November 2021

221. “Molecular information from single cell-sequencing”. Meet-the-Expert session speaker; The Liver Meeting 2021, the AASLD Annual Virtual Symposium, November 2021

222. “Spatial single-cell dissection of tumor-immune landscape in liver cancer”. Invited speaker; The CSH-Asia Hybrid meeting on Liver Development, Metabolism, Disease & Cancer. December 2021

223. “Functional Genomics of liver cancer: dissecting molecular heterogeneity to improve early detection, mechanistic understanding of hepatocarcinogenesis and therapeutic efficacy”. Invited lecture, University of Southern California Spring Lecture. February 2022

224. “Microenvironment reprograming in HCC”. Invited speaker; Experimental Biology 2022. Philadephia, PA, April 2022.

225. “Molecular ladscapes of hepatocellular carcinoma and cholangiocarcinoma”. Plenary speaker; the AACR Special Conference on Advances in the Pathogenesis and Molecular Therapies of Liver Cancer. Boston, MA,

May 2022.

226. “A genetic basis of nonalcoholic steatohepatitis (NASH)-related HCC”. Invited speaker; FASEB Liver Biology Conference: Fundamental Mechanisms and Translational Applications, New Orleans, LA, June 2022

227. “Pan-viral serological repertories linked to liver cancer risk”. Invited speaker; EASL International Liver Congress, London, UK, June 2022

228. “Molecular landscapes of liver cancer”. Invited lecture; MoE Frontiers Science Center for Precision Oncology Seminar Series, University of Macau, Faculty of Health Science, July 12, 2022.

229. “Risk prediction and early detection of liver cancer”. Invited speaker; Africa HepatoPancreatoBiliary Cancer Consortium 2022: transforming HepatoPancreatoBiliary cancer research and care in the omics era. Cairo, Egypt, August 2022.

230. “Molecular landscapes of liver cancer”. Invited speaker; Houston Methodist Neal Cancer Center Seminar, January 2023.

231. “Molecular landscapes of liver cancer”. Invited speaker; TIGER-LC consortium symposium, a report to Her Royal Highness Princess Dr. Chulaborn. Bangkok, January 2023

232. “Development and validation of cancer biomarker”. Young Investigators Workshop at the APASL-AASLD joint symposium. Taipei, Taiwan, February 2023

233. “Evolution of cell composition during hepatocellular carcinoma progression and treatment”. Invited speaker; APASL Annual Meeting 2023. Taipei, Taiwan, February 2023

234. “The potential of spatial transcriptomics in liver cancer”. Invited speaker, the 10th Cholangiocarcinoma Foundation Annual Conference. Salt Lake City, April 2023

235. “Molecular landscapes of liver cancer”. Invited speaker; Feinstein Institutes for Medical Research, Northwell Heal/CSHL Cancer Seminar Series. New York, May 2023

236. “Molecular landscape of liver cancer and its clinical implications”. Invited speaker, Frontiers in Oncology Seminar, University of Maryland, School of Medicine, Baltimore, June 2023

237. “Molecular landscape of liver cancer and its clinical implications”. Invited speaker, Laboratory of Cancer Biology and Genetics seminar series, CCR, NCI, June 2023

238. “Molecular landscape of liver cancer and its implications for precision medicine”. Invited speaker, Ajou University School of Medicine lecture series, Suwon, Korea, July 2023

239. “Molecular landscape of liver cancer and its implications for precision medicine”. Invited speaker, The 13th Asia-Pacific Primary Liver Cancer Expert Meeting, Seoul, Korea, July 2023

240. “Molecular landscape of liver cancer and its implications for precision medicine”. Keynote speaker, 2023 CALS Symposium, Banff, Alberta, August 2023

241. “The complexity of inter- and intratumoral heterogeneity: insights from single cell technology”. Invited speaker, 2023 FASEB Cholangiocarcinoma conference, Palm Springs, CA, August 2023

242. “Spatial proteomics of liver cancer”. Plenary speaker; the 2023 ILCA Annual Conference, Amsterdam, Netherlands, September 2023

243. “Exploring challenges and opportunities in early detection and risk prediction of liver cancer”. Keynote speaker, Early Cancer Institute Annual Symposium, University of Cambridge, September 2023

244. “Why is it so difficult to study/understand liver cancer? – challenges and solutions in overcoming cancer heterogeneity”. Invited speaker, NCI CCR Laboratory of Cell Biology Seminar Series, Bethesda, Maryland, September 2023

245. “Molecular landscape of liver cancer and its clinical implications”. NCI Research Highlights Presentations. Frederick, Maryland, October 2023

246. “A genetic basis of NASH (MASH)-related HCC”. Plenary speaker, San Antionio Liver Cancer Symposium. San Antonio, TX, October 2023

247. “Dissecting molecular heterogeneity to improve early detection, mechanistic understanding of hepatocarcinogenesis and therapeutic efficacy”. Invited speaker, NCI CCR Laboratory of Molecular Biology Seminar Series, Bethesda, Maryland, October 2023

248. “A global view of early detection of liver cancer”. Invited speaker, UICC-World Hepatitis Alliance session, AORTIC 2023, Dakar, Senegal, Nov 2023

249. “Multidisciplinary research network to improve early detection, diagnosis, prognosis and treatment of liver cancer: opportunities for personalized therapy”. Invited speaker, AORTIC 2023, Dakar, Senegal, Nov 2023

250. “Cracking the code: molecular features of liver cancer”. Invited speaker, the 2023 NIH AANHPI Distinguished Scholar Lecture, December 2023

251. “A global view of early detection of liver cancer”. Gastrointestinal & Hepatobiliary Cancer Symposium, Shanghai, China, February 2024

252. “Molecular landscape of liver cancer and its clinical implicatioins”. USJCMSP Hepatitis Panel Symposium, Seoul, South Korea, March 2024

253. “Molecular landscape of liver cancer and its clinical implications”. Pittsburgh Liver Research Center Seminar series. Pittsburgh, PA, March 2024

254. “Molecular landscape of liver cancer and its clinical implications”. Scientific Seminar at the Hormel Institute, University of Minnesoda. Austin, MN, June 2024

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ORCID: http://orcid.org/0000-0001-9735-606X.
Scopus; Web of Science ResearcherID (Thomson Reuters): B-6162-2009.
280 articles with citation data, 27,322 citations, H-Index: 88 (6/2024)

Articles in Peer-Reviewed Journals (in reverse chronological order)

1. Hsu CL, Wang L, Maestri E, Jacob AR, Do WL, Mayo S, Bosques-Padilla F, Verna EC, Abraldes JG, Brown Jr RS, Vargas V, Altamirano J, Caballeria J, Shawcross DL, Louvet A, Lucey MR, Mathurin P, Garcia-Tsao G, Starkel P, Bataller R, AlcHepNet Investigators, **Wang XW**, Schnabl B. Viral antibody response predicts morbidity and mortality in alcohol-associated hepatitis. ***Hepatology*** 2024. PMID:

2. Keggenhoff FL, Castven D, Becker D, Stojkovic S, Castven J, Zimpel C, Straub BK, Gerber T, Langer H, Hahnel P, Kindler T, Fahrer J, O'Rouke C, Ehmer U, Saborowski A, Ma L, **Wang XW**, Gaiser T, Mather MS, Sina C, Derer S, Lee, JS, Roessler S, Kaina B, Andersen JB, Galle PR, Marquardt JU. PARP-1 selectively impairs KRAS-driver phenotypic and molecular features in intrahepatic cholangiocarcinoma. ***Gut*** 2024. PMID: 38857989

3. Pupacdi B, Loffredo CA, Budhu A, Rabibhadana S, Bhudhisawasdi V, Pairojkul C, Sukeepaisalkul W, Pugkhem A, Luvira V, Lertprasertsuke N, Chitirosniramit A, Auewarakul CU, Ungtrakul T, Sricharunrat T, Sangrajrang S, Phornphutkul K, Albert P, Kim SD, Harris CC, Mahidol C, **Wang XW**, Ruchirawat M. The landscape of etiological patterns of hepatocellular carcinoma and intrahepatic chongiocarcinoma in Thailand. ***Int J Cancer*** 2024. PMID: 38761410

4. Robinson W, Stone JK, Schischlik F, Gasmi B, Kelly MC, Seibert C, Dadkhah K, Gertz EM, Lee JS, Zhu K, Ma L, **Wang XW**, Sahinalp SC, Patro R, Leiserson MDM, Harris CC, Schaffer AA, Ruppin E. Identification of intracellular bacteria from multiple single-cell RNA-seq platforms using CSI-Microbes. ***Sci Adv*** 10: eadj7402, 2024. PMID: 38959321

5. Ma L, Li CC, **Wang XW**. Roles of cellular neighborhoods in HCC pathogenesis. ***Annu Rev Pathol – Mech*** 2024. (Review) PMID:

6. Fu Y, Maccioni L, **Wang XW**, Greten TF, Gao B. Alcohol-associated liver cancer. ***Hepatology*** 2024. (Review) PMID: 38607725

7. Kacar Z, Slud E, Levy D, Candia J, Budhu A, Forgues M, Wu X, Raziuddin A, Tran B, Shetty J, Pomyen Y, Chaisaingmongkol J, Rabibhadana S, Pupacdi B, Bhudhisawasdi V, Lertprasertsuke N, Auewarakul C, Sangrajrang S, Mahidol C, Ruchirawat M, **Wang XW**. Characterization of tumor evolution by functional clonality and phylogenetics in hepatocellular carcinoma. ***Commun Biol*** 7: 383, 2024. PMID: 38553628

8. Wang L, Revsine M, **Wang XW**, Ma L. Single-cell characterization of the tumor ecosystem in liver cancer. ***Methods Mol Biol***. 2769: 153-66, 2024. PMID: 38315396

9. Chen L, Zhang C, Xue R, Liu M, Bai J, Bao J, Wang Y, Jiang N, Li Z, Wang W, Wang R, Zheng B, Yang An, Hu J, Liu K, Shen S, Zhang Y, Bai M, Wang Y, Zhu Y, Yang S, Gao Q, Gu J, Gao D, **Wang XW**, Nakagawa H, Zhang N, Wu L, Rozen SG, Bai F and Wang HY. Deep whole-genome analysis of 494 hepatocellular carcinoma. ***Nature*** 627: 586-93, 2024. PMID: 38355797

10. Chang CW, Chen YS, Huang CH, Lin CH, Ng WV, Chu LJ, Trepo E, Zucman-Rossi J, Siao K, Maher JJ, Chiew MY, Chou CH, Huang HD, Teo WH, Lee IS, Lo JF, **Wang XW**. A genetic basis of mitochondrial DNAJA3 in nonalcoholic steatohepatitis-related hepatocellular carcinoma. ***Hepatology*** 2024. PMID: 37870291

11. Revsine M, Wang L, Forgues M, Behrens S, Craig AJ, Liu M, Tran B, Kelly M, Budhu A, Monge C, Xie C, Hernandez JM, Greten TF, **Wang XW**, Ma L. Lineage and ecology define liver tumor evolution in response to treatment. ***Cell Rep Med*** 5: 101394, 2024. PMID: 38280378

12. Green BL, Myojin Y, Ma C, Ruf B, Ma L, Zhang Q, Rosato U, Qi J, Revsine M, Wabitsch S, Bauer K, Benmebarek MR, McCallen J, Nur A, Wang X, Sehra V, Gupta R, Claassen M, **Wang XW**, Korangy F, Greten TF. Immunosuppressive $CD29^{+}$ Treg accumulation in the liver in mice on checkpoint inhibitor therapy. ***Gut*** 73: 509-20, 2024. PMID: 37770128

13. Maestri E, Kedei N, Khatib S, Forgues M, Ylaya K, Hewitt SM, Wang L, Chaisaingmongkol J, Ruchirawat M, Ma L, **Wang XW**. Spatial proximity of tumor-immune interactions predicts patient outcome in hepatocellular carcinoma. ***Hepatology*** 79: 768-79, 2024. PMID: 37725716

14. Monge C, Xie C, Myojin Y, Coffman K, Mabry-Hrones D, Wang S, Budhu A, Figg WD, Cam M, Fennely R, Levy EB, Kleiner DE, Steinberg SM, **Wang XW**, Redd B, Wood BJ, Greten TF. Combined immune checkpoint inhibition with durvalumab and tremelimumab with and without radiofrequency ablation in patients with advanced biliary track carcinoma. ***Cancer Med*** 13: e6912, 2024. PMID: 38205877

15. Do WL, Wang L, Forgues M, Liu J, Rabibhadana S, Pupacdi B, Zhao Y, Gholian H, Bhudhisawasdi V, Pairojkul C, Sukeepaisalkul W, Pugkhem A, Luvira V, Lertprasertsuke N, Chotirosniramit A, Auewarakul CU, Ungtrakul T, Sricharunrat T, Sangrajrang S, Phornphutkul K, Budhu A, Harris CC, Mahidol C, Ruchirawat M, **Wang XW**. Pan-viral serology uncovers distinct virome patterns among hepatocellular carcinoma and intrahepatic cholangiocarcinoma. ***Cell Rep Med*** 4: 101328, 2023. PMID: 38118412

16. Huth T, Dreher EC, Lemke S, Fritzsche S, Sugiyanto RN, Castven D, Ibberson D, Sticht C, Eiteneuer E, Jauch A, Pusch S, Albrecht T, Goeppert B, Candia J, **Wang XW**, Ji J, Marquardt JU, Nahnsen S, Schirmacher P, Roessler S. Chromosome 8p-engineering reveals increased metastatic potential targetable by patient-specific synthetic lethality in liver cancer. ***Science Adv*** 9: eadh1442, 2023. PMID: 38134284

17. Craig AJ, Silveira MAD, Ma L, Revsine M, Wang L, Heinrich S, Rae Z, Ruchinskas A, Dadkhah K, Do W, Behrens S, Mehrabadi FR, Dominguez DA, Forgues M, Budhu A, Chaisaingmongkol J, Hernandez JM, Davis JL, Tran B, Marquardt JU, Ruchirawat M, Kelly M, Greten TF, **Wang XW**. Genome-wide profiling of transcription factor activity in primary liver cancer using single cell ATAC sequencing. ***Cell Rep*** 42: 113446, 2023. PMID: 37980571

18. Panigrahi G, Candia J, Dorsey TH, Tang W, Ohara Y, Byun JS, Minas TZ, Zhang AL, Ajao A, Cellini A, Cellini A, Yfantis HG, Mann D, Loffe O, **Wang XW**, Liu H, Loffredo CA, Napoles A, Ambs S. Diabetes-associated breast cancer is molecularly distinct and shows a DNA damage repair deficiency. ***JCI Insight*** e170105, 2023. PMID: 37906280

19. Hung MH and **Wang XW**. Targeting WNT/β-catenin via modulating EZH2 function – a new chapter in the treatment of β-catenin mutant hepatocellular carcinoma? ***Cancer Res*** 83: 3498-500, 2023. (review) PMID: 37747420

20. Greten TF, Villanueva A, Korangy F, Ruf B, Yarchoan M, Ma L, Ruppin E, **Wang XW**. Biomarkers for immunotherapy of hepatocellular carcinoma. ***Nat Rev Clin Oncol*** 20: 780-98, 2023. (review) PMID: 37726418

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22. Feng D, Xiang X, Guan Y, Guillot A, Lu HJ, Chang C, He Y, Wang H, Pan H, Ju C, Colgan S, Tacke F, **Wang XW**, Kunos G, Gao B. Monocyte-derived macrophages orchestrate multiple cell-type interactions to repair necrotic liver lesions in disease models. ***J Clin Invst*** 133: e166954, 2023. PMID: 37338984

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The molecular landscape of liver cancer: defining challenges and clinical relevance

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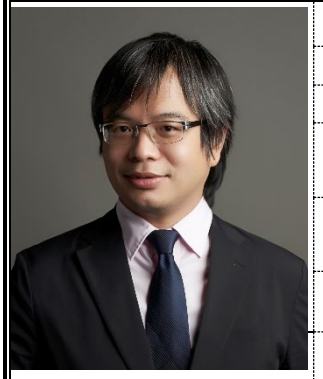
Liver cancer ranks among the top five deadliest cancers worldwide, especially in Southeast Asia and Sub-Saharan Africa. Its incidence rates have been rising in recent decades. Liver cancer primarily comprises two clinical types: hepatocellular carcinoma (HCC) and cholangiocarcinoma (CCA), each of which can be further divided into various clinical and molecular subtypes. Chronic liver diseases, resulting from viral hepatitis, alcohol consumption, chemical carcinogens, or metabolic dysfunction-associated fatty liver disease/metabolic dysfunction-associated steatohepatitis, are significant global health burdens that elevate the risk of HCC. In contrast, parasitic infections are more closely associated with CCA. The complexity of etiological factors and their influence on tumor subtypes, along with potential commonalities between HCC and CCA, remain unclear. Given the multitude of clinical and molecular variables, it is essential to develop well-defined cohorts that encompass diverse etiologies, race/ethnicities, sexes and ages. This approach minimizes confounding factors and provides an unbiased platform for studying liver cancer types. Accordingly, we have initiated several national and international collaborative projects, including the NCI-CLARITY study, the NCI-UMD cohort study, the NCI-Mongolian cohort study, and the TIGER-LC (Thailand) consortium. We employ molecular-based technologies such as genomics, transcriptomics, metabolomics and microbiomics, including single-cell omics, to comprehensively analyze biopsies from diverse populations. This enables us to better characterize heterogeneity among and within patients, further define tumor molecular subtypes with unique tumor biology and understand tumor evolution in response to treatment. Recently, we have developed a paradigm-shift approach by determining individuals' virome as an early onset of HCC, thereby improving risk prediction and early diagnosis of liver cancer. Our past and future efforts to translate our research findings into patient management, through the identification of molecular-based insights into liver cancer pathophysiology and the application of early detection and treatment strategies, hold significant potential for impacting clinical practice and public health.

CV Form

PERSONAL INFORMATION



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Publications in recent five years	1. Computed Tomography–Defined Sarcopenia in Outcomes of Patients with Unresectable Hepatocellular Carcinoma Undergoing Radioembolisation: Assessment with Total Abdominal, Psoas, and Paraspinal Muscles. **Wu CH**, Ho MC, Chen CH, Liang JD, Huang KW, Cheng MF, Chang CK, Chang CH, Liang PC. Liver Cancr. doi.org/10.1159/000529676. **(First author)** 2. Effects of transjugular intrahepatic portosystemic shunt on abdominal muscle mass in patients with decompensated cirrhosis. **Wu CH**, Ho MC, Kao JH, Ho CM, Su TH, Hsu SJ, Huang HY, Lin CY, Liang PC. J Formos Med Assoc. 2023 Mar 1;S0929-6646(23)00061-X. doi: 10.1016/j.jfma.2023.02.007. **(First author)** 3. Ultrasound single-phase CBE imaging for monitoring radiofrequency ablation of the liver tumor: A preliminary clinical validation. Wang CY, Zhou Z, Chang YH, Ho MC, Lu CM, **Wu CH**, Tsui PH. Front Oncol. 2022 Jul 22;12:894246. doi: 10.3389/fonc.2022.894246. eCollection 2022. PMID: 35936752 Free PMC article. **(Corresponding author)** 4. Iodized oil computed tomography versus ultrasound-guided radiofrequency ablation for early hepatocellular carcinoma. **Wu CH**, Liang PC, Su TH, Lin MC, Chang YH, Shih TT, Kao JH. Hepatol Int. 2021 Oct;15(5):1247-1257. doi: 10.1007/s12072-021-10236-0. Epub 2021 Aug 2. PMID: 34338971. **(First author)** 5. Total skeletal, psoas and rectus abdominis muscle mass as prognostic factors for patients with advanced hepatocellular carcinoma. **Wu CH**, Liang PC, Hsu CH, Chang FT, Shao YY, Ting-Fang Shih T. J Formos Med Assoc. 2021 Jan;120(1 Pt 2):559-566. doi: 10.1016/j.jfma.2020.07.005. Epub 2020 Jul 8. PMID: 32651043 Free article. **(First author)**

Intra-arterial therapy for HCCs

Treatment option in advanced HCC: Comparison between systemic and local regional therapies

The locoregional therapy for hepatocellular carcinoma (HCC) includes percutaneous ablation and intra-arterial therapy. The percutaneous ablation is a curative intent suitable for Barcelona Clinic Liver Cancer (BCLC) stage 0~A HCC. We can use radiofrequency ablation for small HCCs and microwave ablation for medium to large HCCs. Intra-arterial therapy is considered palliative therapy and suitable for stage B~C HCCs. Conventional transarterial chemoembolization (cTACE) is the most common intra-arterial therapy with unsolved problems, including HCCs with large tumor burdens, impaired liver function, and cTACE refractory. To solve these problems, we may shift to systemic therapy, drug-eluting beads (DEB)-TACE, Yttrium-90 radioembolization (Y90), and hepatic artery infusion chemotherapy (HAIC).

This speech will compare the outcomes among target therapy, cTACE, Y-90, and HAIC.

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16	Therapeutic Targeting of Glutaminolysis as a Novel Strategy to Combat Cancer Stem Cells. Kao TW, Chuang YC, Lee HL, Kuo CC, Shen YA. Int J Mol Sci. 2022 Dec 4;23(23):15296. doi: 10.3390/ijms232315296. PMID: 36499623 Review.
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18	Outcomes of intracranial non-germinomatous germ cell tumors: a retrospective Asian multinational study on treatment strategies and prognostic factors. Hong KT, Han JW, Fuji H, Byun HK, Koh KN, Wong RX, Lee HL, Yoon HI, Lee JH, Phi JH, Kim SK, Kim DS, Lyu CJ, Choi JY, Kang HJ, Chen YW, Lee YY, Im HJ, Ra YS, Do Ahn S, Low SYY, Looi WS, Park HJ, Suh YG,

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19	Very-Low-Dose Radiation and Clinical Molecular Nuclear Medicine. Tsai CJ, Chang KW, Yang BH, Wu PH, Lin KH, Wong CYO, Lee HL, Huang WS. Life (Basel). 2022 Jun 17;12(6):912. doi: 10.3390/life12060912. PMID: 35743943 Review.
20	Microtube Array Membrane Hollow Fiber Assay (MTAM-HFA)-An Accurate and Rapid Potential Companion Diagnostic and Pharmacological Interrogation Solution for Cancer Immunotherapy (PD-1/PD-L1). Huang WT, Yun T, Chew CH, Chen A, Wei PL, Lee KY, Lee HL, Feng PH, Chiou JF, Chen CM, Chen CC. Biomolecules. 2022 Mar 22;12(4):480. doi: 10.3390/biom12040480. PMID: 35454072
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22	A Few-Shot Learning Approach Assists in the Prognosis Prediction of Magnetic Resonance-Guided Focused Ultrasound for the Local Control of Bone Metastatic Lesions. Hsu FC, Lee HL, Chen YJ, Shen YA, Tsai YC, Wu MH, Kuo CC, Lu LS, Yeh SD, Huang WS, Shen CN, Chiou JF. Cancers (Basel). 2022 Jan 17;14(2):445. doi: 10.3390/cancers14020445. PMID: 35053608
23	Outcomes of intracranial germinoma-A retrospective multinational Asian study on effect of clinical presentation and differential treatment strategies. Koh KN, Wong RX, Lee DE, Han JW, Byun HK, Yoon HI, Kim DS, Lyu CJ, Kang HJ, Hong KT, Lee JH, Kim IH, Phi JH, Kim SK, Wong TT, Lee HL, Lai IC, Kang YM, Ra YS, Ahn SD, Im HJ, Looi WS, Low SYY, Tan EEK, Park HJ, Shin SH, Fuji H, Suh CO, Chen YW, Kim JY. Neuro Oncol. 2022 Aug 1;24(8):1389-1399. doi: 10.1093/neuonc/noab295. PMID: 34935949
24	Ex Vivo Expanded Circulating Tumor Cells for Clinical Anti-Cancer Drug Prediction in Patients with Head and Neck Cancer. Lin KC, Ting LL, Chang CL, Lu LS, Lee HL, Hsu FC, Chiou JF, Wang PY, Burnouf T, Ho DC, Yang KC, Chen CY, Chen CH, Wu CZ, Chen YJ. Cancers (Basel). 2021 Dec 2;13(23):6076. doi: 10.3390/cancers13236076. PMID: 34885184
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27	Molecular Mechanisms of Chemotherapy Resistance in Head and Neck Cancers. Kanno Y, Chen CY, Lee HL, Chiou JF, Chen YJ. Front Oncol. 2021 May 7;11:640392. doi: 10.3389/fonc.2021.640392. eCollection 2021. PMID: 34026617 Review.
28	Real-Time Magnetic Resonance Guided Focused Ultrasound for Painful Bone Metastases. Wang WJ, Lee HL, Jeng SC, Chiou JF, Huang Y. J Vis Exp. 2021 Mar 5;(169). doi: 10.3791/60615. PMID: 33749680
29	A Combined Systemic Strategy for Overcoming Cisplatin Resistance in Head and Neck Cancer: From Target Identification to Drug Discovery. Chen YJ, You GR, Lai MY, Lu LS, Chen CY, Ting LL, Lee HL, Kanno Y, Chiou JF, Cheng AJ. Cancers (Basel). 2020 Nov 23;12(11):3482. doi: 10.3390/cancers12113482. PMID: 33238517
30	Ex Vivo Expansion and Drug Sensitivity Profiling of Circulating Tumor Cells from Patients with Small Cell Lung Cancer. Lee HL, Chiou JF, Wang PY, Lu LS, Shen CN, Hsu HL, Burnouf T, Ting LL, Chou PC, Chung CL, Lee KL, Shiah HS, Liu YL, Chen YJ. Cancers (Basel). 2020 Nov 16;12(11):3394. doi: 10.3390/cancers12113394. PMID: 33207745
31	Pretreatment Neutrophil-to-Lymphocyte Ratio Predicts Survival and Liver Toxicity in Patients With Hepatocellular Carcinoma Treated With Stereotactic Ablative Radiation Therapy. Lo CH, Lee HL, Hsiang CW, Chiou JF, Lee MS, Chen SW, Shen PC, Lin CS, Chang WC, Yang JF, Dai YH, Chen CY, Chia-Hsien Cheng J, Huang WY. Int J Radiat Oncol Biol Phys. 2021 Feb 1;109(2):474-484. doi: 10.1016/j.ijrobp.2020.09.001. Epub 2020 Sep 6. PMID: 32898609
32	Upregulation of Protein Synthesis and Proteasome Degradation Confers Sensitivity to Proteasome Inhibitor Bortezomib in Myc-Atypical Teratoid/Rhabdoid Tumors. Tran HM, Wu KS, Sung SY, Changou CA, Hsieh TH, Liu YR, Liu YL, Tsai ML, Lee HL, Hsieh KL, Huang WC, Liang ML, Chen HH, Lee YY, Lin SC, Ho DM, Chang FC, Chao ME, Chen W, Chu SS, Yu AL, Yen Y, Chang CC, Wong TT. Cancers (Basel). 2020 Mar 22;12(3):752. doi: 10.3390/cancers12030752. PMID: 32235770
33	Molecular-Clinical Correlation in Pediatric Medulloblastoma: A Cohort Series Study of 52 Cases in Taiwan. Wu KS, Ho DM, Jou ST, Yu AL, Tran HM, Liang ML, Chen HH, Lee YY, Chen YW, Lin SC, Chang FC, Tsai ML, Liu YL, Lee HL, Hsieh KL, Huang WC, Sung SY, Chang CC, Changou CA, Liang KH, Hsieh TH, Liu YR, Chao ME, Chen W, Chu SS, Cho EC, Wong TT. Cancers (Basel). 2020 Mar 11;12(3):653. doi: 10.3390/cancers12030653. PMID: 32168907
34	Effectiveness of stereotactic ablative radiotherapy in patients with advanced hepatocellular carcinoma unsuitable for transarterial chemoembolization. Lee HL, Tsai JT, Chen CY, Lin YC, Ho CB, Ting LL, Kuo CC, Lai IC, Lin CY, Tang JH, Huang YM, Kao WY, Cheng SW, Shen CN, Chen SW, Chiou JF. Ther Adv Med Oncol. 2019 Dec 4;11:1758835919889002. doi: 10.1177/1758835919889002.

	eCollection 2019. PMID: 31839809
35	Epigenetic Modification and Differentiation Induction of Malignant Glioma Cells by Oligo-Fucoidan. Liao CH, Lai IC, Kuo HC, Chuang SE, Lee HL, Whang-Peng J, Yao CJ, Lai GM. Mar Drugs. 2019 Sep 8;17(9):525. doi: 10.3390/md17090525. PMID: 31500384

Title: Evolving Role of Radiotherapy in Combination with Modern Systemic Therapy for Advanced HCC

In advanced hepatocellular carcinoma (HCC), the integration of radiotherapy (RT) with modern systemic therapies, such as targeted agents and immunotherapies, has shown promising potential in enhancing treatment outcomes. Recent studies demonstrate improved overall survival and disease control rates, highlighting the evolving role of radiotherapy in the multidisciplinary management of advanced HCC. This review explores the latest advancements of radiotherapy, underlying mechanisms, and clinical results of combining RT with systemic therapies, emphasizing its potential to transform therapeutic strategies for advanced HCC patients.

Curriculum Vitae

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Education：

2001.9-2008.6, M.D. degree, College of Medicine, Taipei Medical University, Taipei, Taiwan (台北醫學大學醫學士)

Post-Graduate Education：

2015.9-2022.7, Ph.D. degree, Graduate School of Institute of Clinical Medicine, National Yang-Ming Chiao-Tung University, Taipei, Taiwan (陽明交通大學臨床醫學研究所博士)

Academic Appointment (Including Teaching Experience)：(As Above)

Employment Record：

1. 2009.8-2012.6, Resident, Department of Internal Medicine, Chang-Gung Memorial Hospital, Linkou branch, Taiwan
2. 2012.7-2014.7, Fellowship, Division of Gastroenterology & Hepatology, Chang-Gung Memorial Hospital, Linkou branch, Taiwan
3. 2014.8-2016.6, Attending Physician, Division of Gastroenterology & Hepatology, Department of Internal Medicine, Chang-Gung Memorial Hospital, Linkou branch, Taiwan
4. 2016.7-2018.6, Lecturer, Division of Hepatology, Department of Internal Medicine, Chang-Gung Memorial Hospital, Linkou branch, Taiwan
5. 2018.7-2022.6, Assistant professor, Division of Hepatology, Department of Internal Medicine, Chang-Gung Memorial Hospital, Linkou branch, Taiwan
6. 2022.7-, Associate professor, Division of Hepatology, Department of Internal Medicine, Chang-Gung Memorial Hospital, Linkou branch, Taiwan

7.2022.7-, Assistant professor, Department of Medicine, Chang Gung University

Board Certification：(Date, Name of the Board ,Certification NO.)

1. 2008, Member of The Taiwan Medical Association, No.043443
2. 2012, Member of The Taiwan Society of Internal Medicine, No.009567
3. 2014, Member of The Gastroenterological Society of Taiwan, No.2156
4. 2015, Member of The Taiwan Liver Cancer Association, No.A361
5. 2015, Member of The Taiwan Society of Ultrasound in Medicine, No.10348
6. 2015, Member of The Digestive Endoscopy Society of Taiwan, No.1783
7. 2015, Member of The Taiwan Association for the Study of Small Intestinal Diseases, No. SI078
8. 2016, Member of The Taiwan Academy of Tumor Ablation, No.158
9. 2018, Member of The Taiwan Association for the Study of Liver, No.204

10. 2018, Member of The American Association for the Study of Liver Diseases, No.173441
11. 2018, Member of The European Association for the Study of Liver, No.46581

Professional Affiliations：

Member of The Taiwan Medical Association
Member of The Society of Internal Medicine of Taiwan
Member of The Society of Ultrasound in Medicine of the Republic of China
Member of The Gastroenterology Society of Taiwan
Member of The Taiwan Liver Cancer Association
Member of The Digestive Endoscopy Society of Taiwan
Member of The Taiwan Association for the Study of Small Intestinal Diseases
Member of The Taiwan Academy of Tumor Ablation
Member of The Taiwan Association for the Study of Liver
Member of The American Association for the Study of Liver Diseases
Member of The European Association for the Study of Liver

Research Interest：

The immunology of viral hepatitis, liver cirrhosis and hepatocellular carcinoma

Chronic hepatitis B (CHB) is highly prevalent leading to a high incidence of hepatocellular carcinoma (HCC) in Taiwan. Antiviral therapy could reduce the incidence of HCC and current treatment guidelines focus on patients with high viral loads as well as high alanine aminotransferase (ALT) levels. However, normal or minimally elevated ALT levels in CHB patients with high viral loads do not imply the absence of necroinflammatory activity in liver and these patients in the grey zone (ALT < 80 U/L or HBV DNA < 2000 IU/mL) still have a high rate of developing cirrhosis and HCC. In our previous study, preS/S deletions were significantly associated with HCC development because of intracellular accumulation of mutated HBsAg induced or promoted endoplasmic reticulum (ER) stress, calcium overload, mitochondrial dysfunction, impaired energy metabolism and liver fibrosis through HCC cell line and the hu-FRG mouse model. Besides, some single-nucleotide variants (SNVs) in the preS/S region are associated with development of HCC and antiviral therapy could decrease HCC development in these patients. We also develop a simple scoring system to predict development of HCC and evaluate the benefit of antiviral therapy in the patients of grey zone.

CURRICULUM VITAE

NAME: Ching-Wen Chang, Ph.D.	Assistant Professor (Graduate Institute of Metabolism and Obesity Sciences (GIMOS), College of Nutrition, Taipei Medical University
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Research Interests：

-Identification and Characterization of Nonalcoholic Steatohepatitis
-Underlying Mechanisms of Metabolic Reprogramming in Liver Disease
-Big Data Analytics
-Understanding the Intersections between Metabolism and Cancer Biology
-Establishing Animal Models for Hepatocellular Carcinoma

EDUCATION

Degree Received	Institution	Date
Ph.D. Oral biology	National Yang-Ming University	2015
M.S. Oral biology	National Yang-Ming University (Direct Ph.D. Track)	2012
B.S. Food Science	National Ilan University	2009

A. Positions, Honors, Other Experience and Professional Memberships

PROFESSIONAL EXPERIENCE

Position	Department	Institution	Period
Assistant Professor	Graduate Institute of Metabolism and Obesity Sciences (GIMOS)	Taipei Medical University	Feb. 2023- present
Postdoctoral Fellow (CRTA)	National Cancer Institute (NCI)	National Institutes of Health (NIH)	Jan. 2019- Jan. 2023
Postdoctoral Fellow (Dragon Gate Program)	National Cancer Institute (NCI)	National Institutes of Health (NIH)	Jan. 2018- Jan. 2019
Postdoctoral Research Fellow	Institute of Oral Biology	National Yang-Ming University	Nov. 2015- Dec. 2017

AWARDS AND HONORS

1. Best Poster Award at Taiwan Association for the Study of the Liver (TASL) 2023 ANNUAL MEETING 2023

2. Best Poster Award at Association for the Study of the Liver (APASL) 2023 ANNUAL MEETING 2023

3. Excellent Poster Award at 16th Society of Chinese Bioscientists in America (SCBA) International Symposium (Awarded by The Society of Chinese Bioscientists in America (SCBA)) 2022

4. Woman Scientist Advisors (WSA) Scholar Award, National Institutes of Health	2021
5. Travel award for Fellows Award for Research Excellence (FARE) competition, National Institutes of Health	2021
6. Travel award for Fellows Award for Research Excellence (FARE) competition, National Institutes of Health	2018
7. Grants from Ministry of Science and Technology Partnership Program for the Connection to the Top Labs in the World – Dragon Gate Program	2017
8. Excellent Poster Award at 16th Society of Chinese Bioscientists in America (SCBA) International Symposium (Awarded by The Society of Chinese Bioscientists in America (SCBA))	2017
9. The Joseph K. K. Li Travel Award at 16th Society of Chinese Bioscientists in America (SCBA) International Symposium (Awarded by The Society of Chinese Bioscientists in America (SCBA))	2015
10. Excellent Poster Award at National Yang-Ming University 2015 Academic Seminar, Taipei, Taiwan	2015
11. (Oral) Finalist award at National Yang-Ming University Annual Thesis Competition, Taipei, Taiwan	2015
12. Travel Award for 2015 American Association Cancer Research Annual meeting (Awarded by Ministry of Science and Technology, R.O.C.)	2015
13. Travel Award for 2015 American Association Cancer Research Annual meeting (Awarded by the Chinese society of cell and molecular biology)	2015
14. Travel Award for 2015 American Association Cancer Research Annual meeting (Awarded by National Yang-Ming University)	2014
15. Excellent Poster Award at 2014 International Symposium and Workshop on Medical Mushroom: Antrodia cinnamomea, Taipei, Taiwan.	2014
16. Outstanding Student Paper Award at National Yang-Ming University (Awarded by National Yang-Ming University)	2014
17. Travel Award for 2015 American Association Cancer Research Annual meeting (Awarded by Ministry of Science and Technology, R.O.C.)	2014
18. Travel Award for 2015 American Association Cancer Research Annual meeting (Awarded by National Yang-Ming University)	2013
19. Outstanding Student Paper Award at National Yang-Ming University (Awarded by National Yang-Ming University)	2011

20. Excellent Poster Award at the 28th Joint Annual Conference of Biomedical Science, Taipei, Taiwan	2011
21. Excellent Poster Award at National Yang-Ming University 2011 Academic Seminar, Taipei, Taiwan.	2011
22. Travel Award for 2011 American Association Cancer Research Annual meeting (Awarded by Ministry of Science and Technology, R.O.C.)	2011
23. Excellent Poster Award at the 19th Symposium on Recent Advances in Cellular and Molecular Biology, Pingtung, Taiwan	2010

B. Publications

PUBLICATIONS

1. Chang CW, et al. Pyruvate Kinase Differentially Alters Metabolic Signatures during Head and Neck Carcinogenesis (*International Journal of Molecular Sciences 2023*, Second author)
1. Chang CW, et al. A genetic basis of mitochondrial Hsp40 in nonalcoholic steatohepatitis-related hepatocellular carcinoma (*Hepatology 2023*, First author)
2. Chang CW, et al. Monocyte-derived macrophages orchestrate multiple cell-type interactions to repair necrotic liver lesions in disease models. *The Journal of Clinical Investigation* 2023 (Co-author)
3. Chang CW, et al. Potential Hepatic Lipid Markers Associated with Nonalcoholic Steatohepatitis and Fibrosis in Morbid Obesity Patients. *Journal of Clinical Medicine 2023* (Co-author)
4. Chang CW, et al. Purine anabolism creates therapeutic vulnerability in hepatocellular carcinoma via m6A-mediated epitranscriptomic regulation. *Hepatology 2023* (Second author)
5. Chang CW, et al. A compendium of co-regulated mitoribosomal proteins in pan-cancer uncovers collateral defective events in tumor malignancy *Iscience* 2022 *(*First author)
6. Chang CW, et al. MicroRNA-15a/16-1 Prevents hepatocellular carcinoma by disrupting the communication between Kupffer cells and Tregs. *Gastroenterology* 2021 (Second author)
7. Chang CW, et al. Single-cell atlas of tumor cell evolution in response to therapy in hepatocellular carcinoma and intrahepatic cholangiocarcinoma. *Journal of hepatology* 2021 (Co-author)
8. Chang CW, et al. Tumor methionine metabolism drives T-cell exhaustion in hepatocellular carcinoma. *Nature communications* 2021 (Co-author)
9. Chang CW, et al. Loss of Tid1/DNAJA3 Co-Chaperone Promotes Progression and Recurrence of Hepatocellular Carcinoma after Surgical Resection: A Novel Model to Stratify Risk of Recurrence. *Cancers* 2021 (Co-author)
10. Chang CW, et al. Determination of pyruvate metabolic fates modulates head and neck tumorigenesis. *Neoplasia* 2019 (Co-author)
11. Chang CW, et al. Roles of mitochondria in liver cancer stem cells. *Differentiation 2019 (Review article,* First author)
12. Chang CW, et al. The HSP40 Co-Chaperone Protein, Tid1 suppresses metastasis of head and neck cancer cells through the inhibition of Galectin-7-TCF3-MMP9 Axis . *Theranostics 2018 (co-*First author)
13. Chang CW, et al. ROS-Independent ER Stress-Mediated Nrf2 Activation Promotes Warburg Effect to Maintain Stemness-Associated Properties of Cancer-Initiating Cells. *Cell Death and Disease* 2018 (First author)
14. Chang CW, et al. Targeting cancer-initiating cells by promoting cell differentiation and restoring

chemosensitivity via dual inactivation of STAT3 and src activity using an active component of *antrodia cinnamomea* mycelia. *Oncotarget*. 2016 (First author).

15. Chang CW, et al. Distinct subpopulations of head and neck cancer cells with different levels of intracellular reactive oxygen species exhibit diverse stemness, proliferation, and chemosensitivity. *Cancer Research* 2014 (First author).
16. Chang CW, et al. Lyophilized particles and ethanolic extracts of *Antrodia cinnamomea* mycelia suppress the tumorigenicity of head and neck cancer cells in vivo. *Biomedicine* 2014 (First author).
17. Chang CW, et al. Active Component of Antrodia Cinnamomea Mycelia Targeting Head and Neck Cancer Initiating Cells through Exaggerated Autophagic Cell Death. *Evidence-Based Complementary and Alternative Medicine* 2013 (First-author).

TMURCDM_TCC Liver Cancer and Fatty Liver Joint International Symposium

Ching-Wen Chang [1,2]

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Nonalcoholic fatty liver disease (NAFLD) is the most common liver disease globally, affecting 25% of the world's population. It can progress to nonalcoholic steatohepatitis (NASH), which is a significant risk factor for hepatocellular carcinoma (HCC). The prevalence of NAFLD in the US is around 30%, with 6% progressing to NASH. Our research identified the rs3747579-TT variant associated with reduced DNAJA3 expression, leading to mitochondrial dysfunction, lipid accumulation, and inflammation. Mice with hepatocyte-specific Dnaja3 deletions developed spontaneous NASH and HCC, mirroring human disease progression. Our findings suggest DNAJA3 as a potential therapeutic target for NASH-related HCC.

裴尤德 (Suraphan Panyod)

博士後研究員

信任

Postdoctoral researcher, Department of Internal Medicine, College of Medicine, National Taiwan University

學歷

2017 Ph.D. Institute of Food Science and Technology, National Taiwan University

2010 M.S. Department of Tropical Agriculture and International Cooperation (Food Biotechnology), National Pingtung University of Science and Technology, Taiwan

2008 B.S. (First-class honors) Food Science and Technology, Faculty of Engineering and Agro-Industry, Maejo University, Thailand

代表性特殊榮譽及得獎紀錄

2021 Taiwan Alien Permanent Resident Certificate (Plum blossom card) as foreigners who hold senior professionals

2016 Outstanding Academic Excellence Award conferred by the Taiwan Scholarship and the Huayu Enrichment Scholarship Office of the Ministry of Education in Taiwan

代表性研究成果

A total of 30 articles have been published by Dr. Panyod. His research predominantly centers on preclinical animal models and clinical studies, exploring the interplay between food, nutrition, and gut microbiota across diverse diseases, encompassing cardiovascular disease, fatty liver disease, and obesity. These research outcomes have been published in journals, including *npj Biofilms and Microbiomes, Communications Biology, Nutrition & Diabetes, npj Science of Food, Gut, Microbiome, Microbiology Spectrum, Journal of*

Agricultural and Food Chemistry, and Journal of Functional Foods.

Suraphan Panyod (裴尤德)

Dr. Suraphan Panyod (裴尤德) from Thailand is a postdoctoral researcher at the Department of Internal Medicine, College of Medicine, National Taiwan University, under the guidance of Prof. Ming-Shiang Wu (吳明賢) and Assistant Prof. Wei-Kai Wu (吳偉愷).

He completed a Ph.D. from the Institute of Food Science and Technology, National Taiwan University. He has worked as a research assistant and a postdoctoral researcher at the Department of Internal Medicine and Center for Food and Biomolecules, National Taiwan University, amassing approximately 7 years of experience.

Over the past 8 years, he has been dedicated to conducting research in the area of metabolic dysfunction-related diseases and gut microbiota, beginning with his Ph.D. research and continuing as a postdoctoral researcher. His research has primarily focused on preclinical animal models and clinical studies, investigating the interaction between food, nutrition, next-generation probiotics, and gut microbiota in various diseases, including fatty liver disease, obesity, and cardiovascular disease. Additionally, he has explored food safety-related issues regarding the impact of food additives on metabolic disease through the lens of gut microbiota. To date, he has published 30 articles in well-known journals, including npj Biofilms and Microbiomes, *npj Biofilms and Microbiomes, Communications Biology, Nutrition & Diabetes, npj Science of Food, Gut, Microbiome, Microbiology Spectrum, Journal of Agricultural and Food Chemistry, and Journal of Functional Foods*, among others.

Development of novel microbial therapeutic strategies for NASH via the gut-liver axis

Suraphan Panyod

Postdoctoral researcher, Department of Internal Medicine, College of Medicine, National Taiwan University

Non-alcoholic fatty liver disease (NAFLD) has become a significant global health issue, profoundly impacting human health and economic development. Within the NAFLD spectrum, non-alcoholic steatohepatitis (NASH) represents a progressive chronic inflammatory condition that increases the risk of liver fibrosis and carcinogenesis. The scarcity of FDA-approved treatments highlights the urgent need for novel therapeutic strategies for NASH. Various treatment approaches for NASH have been explored, with notable effectiveness observed in metabolic surgery and lifestyle modifications, including exercise and dietary adjustments. Our study indicates that metabolic surgery significantly improves metabolic syndrome parameters in NASH patients, including obesity, fatty liver, and insulin resistance. Additionally, we have observed changes in the gut microbiota composition, with specific bacterial species showing promising correlations with NASH-related phenotypes. This observation suggests a potential pathway for developing next-generation probiotics (NGP). We have isolated native strains of *Akkermansia muciniphila* and *Parabacteroides merdae* from healthy individuals in Taiwan, indicating their potential for developing novel microbial therapeutic strategies to prevent NASH, as evidenced by preclinical mouse models. Furthermore, our research demonstrates that the administration of specific NGPs in combination with exercise regimens effectively mitigates NASH progression in murine models. Additionally, functional foods with prebiotic properties, such as ginger essential oil, and postbiotic properties, such as fermented soy extract, have shown hepatoprotective effects through modulation of the gut-liver axis. Therefore, these functional foods and microbial therapeutic interventions present promising avenues for the treatment and prevention of NASH.

Wei-Yu Kao, M.D. &Ph.D.	
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Doctor Wei-Yu Kao's research interests are viral hepatitis (particularly HBV and HCV), nonalcoholic fatty liver disease, liver cirrhosis and hepatocellular carcinoma (particularly local ablation for small HCC). He has demonstrated compliance with the Taiwan Academy of Tumor Ablation accreditation criteria for professional operator on liver tumor ablation since 2016. He has completed Samsung Medical Center Image-guided Tumor Ablation Training Course in 2015 and Juntendo University International RFA Training Program in 2016. He is a reviewer of PLOS ONE, BMC Gastroenterology, International Journal of Oncology, Journal of Microbiology, Immunology and Infection, Journal of the Formosan Medical Association, Liver International, Journal of Gastroenterology and Hepatology, Digestive Diseases, Hepatology International, European Radiology, Cancers, Alimentary Pharmacology & Therapeutics, Canadian Medical Association Journal and Liver Cancer. He is an editorial board of BMC Gastroenterology. He has authored and co-authored 74 peer-review articles and presented 58 oral and poster presentations in conferences.

1999/9-2006/6	M.D., Faculty of Medicine, School of Medicine, Taipei Medical University, Taiwan
2006/8/1-2009/7/31	Residency of Internal Medicine, Taipei Veterans General Hospital, Taipei, Taiwan
2009/8/1-2012/6/30	Chief residency and fellowship of Gastroenterology, Taipei Veterans General Hospital, Taipei, Taiwan
2012/7/1-2013/6/30	Attending Physician, Division of Gastroenterology and Hepatology, Department of Internal Medicine, Taipei Veterans General Hospital, Taoyuan branch, Taiwan
2012/8/1-present	Instructor, Faculty of Medicine, School of Medicine, National Yang-Ming University, Taipei, Taiwan
2013/7/1-present	Attending Physician, Division of Gastroenterology and Hepatology, Department of Internal Medicine, Taipei Medical University Hospital, Taipei, Taiwan
2015/8/1-2019/7/31	Instructor, Division of Gastroenterology and Hepatology, Department of Internal Medicine, School of Medicine, College of Medicine, Taipei Medical University, Taipei, Taiwan
2019/8/1-2022/7/31	Assistant professor, Division of Gastroenterology and Hepatology, Department of Internal Medicine, School of Medicine, College of Medicine, Taipei Medical University, Taipei, Taiwan
2021/2/1-present	Convener, Taipei Cancer Center, Taipei Medical University, Taipei, Taiwan
2021/8/1-present	Director, Division of Gastroenterology and Hepatology, Department of Internal Medicine, Taipei Medical University Hospital, Taipei, Taiwan
2022/8/1-present	Associate professor, Division of Gastroenterology and Hepatology, Department of Internal Medicine, School of Medicine, College of Medicine, Taipei Medical University, Taipei, Taiwan
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Selected publications:

1. Kao WY†, Su CW†, Chiou YY*, Chiu NC, Liu CA, Fang KC, Huo TI, Huang YH, Chang CC, Hou MC, Lin HC, Wu JC. Nomograms Based on the Albumin-Bilirubin Grade to Assess the Outcomes of Radiofrequency Ablation for Hepatocellular Carcinoma. *Radiology* 2017;285(2):670-680 †contributed equally to this work.
2. Kao WY, Su CW*, Tan EC*, Lee PC, Chen PH, Tang JH, Huang YH, Huo TI, Chang CC, Hou MC, Line HC, Wu JC. Proton Pump Inhibitors and Risk of Hepatocellular Carcinoma in Patients with Chronic Hepatitis B or C. *Hepatology* 2019;69(3):1151-1164
3. Kao WY, Chang IW, Chen CL, Su CW, Fang SU, Tang JH, Chang CC, Chang YJ*, Wang W*. Fibroscan-based

score to predict significant liver fibrosis in morbidly obese patients with nonalcoholic fatty liver disease. *Obesity Surgery* 2020; 30:1249–1257

4. Kao WY, Tan EC*, Lee HL, Huang YH, Huo TI, Chang CC, Chiou JF, Hou MC, Wu JC, Su CW*. Entecavir versus Tenofovir on Prognosis of Hepatitis B Virus-Related Hepatocellular Carcinoma After Curative Hepatectomy. Alimentary Pharmacology & Therapeutics 2023;57:1299–1312.
5. Kao WY, Lin YF, Chang IW, Chen CL, Tang JH, Chang CC, Chang YJ*, Wang W*. Interleukin-2 receptor alpha as a Biomarker for Nonalcoholic Fatty Liver Disease Diagnosis. Journal of the Chinese Medical Association 2021 Mar 1; 84(3): 261-266
6. Wu HC, Hsieh YR, Wang W, Chang CW, Chang IW, Chen CL, Chang CC, Chang CH, Kao WY*, Huang SY*. Potential Hepatic Lipid Markers Associated with Nonalcoholic Steatohepatitis and Fibrosis in Morbid Obesity Patients. Journal of Clinical Medicine 2023; 12(11):3730.

Awards:

1. Young Investigator Award of the Asia Pacific Association for the Study of the Liver, 2016
2. Research Award of Taiwan Association for the Study of the Liver, 2018
3. The first place Research Award of Advances in Digestive Medicine, 2019
4. Research Award of Liver Disease Prevention & Treatment Research Foundation, 2021

NAFLD in Morbidly Obese Patients Undergoing Bariatric Surgery

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Nonalcoholic fatty liver disease (NAFLD) is the most common cause of abnormal liver biochemistry tests in the world. NAFLD is a spectrum of chronic liver disease, ranging from simple steatosis, non-alcoholic steatohepatitis (NASH) to cirrhosis and the hepatic manifestation of the metabolic syndrome, is associated with central obesity, insulin resistance, hypertension, and hypertriglyceridemia. The prevalence rate of NAFLD has been reported to up to 70% of people with type 2 diabetes mellitus and even surpassing 74% to 90% of morbidly obese patients with body mass index (BMI) higher than 35 kg/m2. The prevalence of NASH among morbidly obese patients undergoing metabolic surgery ranges from 2.6 % to 98 % in the literature, and presents at a rate of 50.8% to 71.3% in Taiwan.

Currently, biopsy is the gold standard for histological assessment of the liver. Nevertheless, biopsy is costly and carries the risk of complications. Hence, it is crucial to develop an inexpensive, reliable, and non-invasive method that may be easily translated to clinical practice. Several non-invasive serum markers, such as aspartate aminotransferase-platelet ratio index (APRI), NAFLD fibrosis score (NAFLD-FS); BARD score; FIB-4 (Fibrosis-4) score; FibroMeter™ NAFLD; and Hepascore, have been introduced to assess the degree of liver fibrosis in patients with NAFLD. Nevertheless, few studies have utilized such non-invasive serum markers to evaluate hepatic fibrosis among morbidly obese patients undergoing metabolic surgery. According to recent data, transient elastography (FibroScan®) appears to be a non-invasive, reproducible, and reliable method for predicting liver fibrosis, in patients with chronic liver disease. We developed a simple clinical scoring system incorporating Fibroscan and APRI to identify significant liver fibrosis in Taiwanese patients with morbidly obesity. This scoring system can help physicians identify high-risk, morbidly obesity patients with possible liver fibrosis most likely to benefit from metabolic surgery.

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RESEARCH INTEREST

- Immune profiles of radiofrequency ablation (RFA) with immunotherapy
- Anti-oxidant, phytochemicals and herbal medicine in liver diseases
- Functional food in Chronic viral hepatitis and NAFLD/MAFLD
- Acupuncture in neuroimmunology and functional gastrointestinal disorders
- Problem-based learning (PBL) and team-based learning (TBL) in medical education

PROFESSIONAL SUMMARY

Ming Shun Wu, MD, PhD is Director of Department of Medical Education at Wan Fang Hospital, Taipei Medical University. Since 2021, he was an Associate Professor in the Division of Gastroenterology and Hepatology at Taipei Medical University. In addition to translational research in radiofrequency ablation (RFA) of liver tumors, he also conducted clinical trials of fucoidan with fucoxanthin on nonalcoholic fatty liver disease (NAFLD) and arthrospira on chronic hepatitis B. His basic research characterized the impact of complementary and integrative medicine (CIM) on cellular stress response and immunologic response of gastroenterological cancers.

PROFESSIONAL EXPERIENCE

2021~

- Associate Professor, Division of Gastroenterology and Hepatology, Taipei Medical University

2021~2024

- Director, Division of Gastroenterology, Department of Internal Medicine, Wan Fang Hospital

2015-2021

- Assistant professor, Associate Professor in the Division of Gastroenterology and Hepatology at Taipei Medical University
- Director, Division of Gastroenterology, Department of Internal Medicine, Wan Fang Hospital

1999-2015

- Attending Physician, Division of Gastroenterology, Department of Internal Medicine, Wan Fang Hospital

1997-1999

- Fellow, Division of Gastroenterology, Department of Internal Medicine, Wan Fang Hospital

1993-1997

- Resident, Department of Internal Medicine, WanFang Hospital

EDUCATION

2014 Ph.D. Graduate Institute of Clinical Medicine, Taipei Medical University

1991 Doctor of Medicine, Department of Medicine, College of Medicine, Taipei Medical University

Functional Food Clinical trial for Non-Alcoholic Fatty Liver Disease (NAFLD)

Non-alcoholic fatty liver disease (NAFLD) is a highly heterogeneous disease that may accompany metabolic dysfunction. Compared to the diagnosis of NAFLD by exclusion, metabolic-associated fatty liver disease (MAFLD) has criteria with clinical implications. In recent years, we investigated the feasibility of using a brown algae extract containing low molecular weight fucoidan and high stability fucoxanthin (LMF-HSFx) as a therapeutic approach against NAFLD. Our double-blind randomized controlled trial showed that LMF-HSFx significantly reduces controlled attenuation parameter (CAP) scores, increases adiponectin and leptin expression, and reduces liver fibrosis. Additionally, interleukin (IL)-6 and interferon-γ levels were reduced in the LMF-HSFx group. LMF-HSFx ameliorates hepatic steatosis, inflammation, fibrosis, and insulin resistance.

We also investigated how Arthrospira, a cyanobacterium frequently used as a dietary supplement, affected hepatitis B surface antigen (HBsAg) in chronic hepatitis B (CHB) patients under continued nucleos(t)ide analogue (NA) therapy with undetectable HBV DNA. Sixty patients were randomized into three groups: control and oral Arthrospira at 3 or 6 g daily add-on therapy groups. After 6 months, mean quantitative HBsAg (qHBsAg) levels decreased in the Arthrospira add-on therapy groups. Interferon gamma (IFN-γ) increased, while TNF-α, interleukin 6 (IL-6), hepatic fibrosis, and steatosis decreased in the add-on groups. Arthrospira may modulate TNF-α/IFN-γ-mediated B and T cell activation to reduce HBsAg and hepatic steatosis.

In conclusion, seaweed extracts as functional foods, containing sulfated polysaccharides and carotenoids, have anti-inflammatory, anti-oxidative, and anti-fibrosis effects on the liver.

Key words: Non-alcoholic fatty liver disease (NAFLD), metabolic-associated fatty liver disease (MAFLD), low molecular weight fucoidan and high stability fucoxanthin (LMF-HSFx), hepatic steatosis, hepatic fibrosis, Arthrospira, chronic hepatitis B (CHB) virus infection, HBsAg seroclearance, TNF-α/IFN-γ profile.

Curriculum Vitae

Chia-Chi Wang, M.D.

Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation and School of Medicine, Tzu Chi University, Hualien, Taiwan

Present position:

Head; Medical Department

Professor; Tzu Chi University

Executive director, Taiwan Liver Cancer Association

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Previous:

Head; Department of Internal Medicine: 2016-2018

Chief; department of gastroenterology and hepatology: 2005-2016

Part-time attending physician: National Taiwan University Hospital

Resident and fellowship: National Taiwan University Hospital: 1993-1998

Education:

September 1984–June 1991: Doctor of Medicine (MD); Taipei Medical University, Taipei, Taiwan

September 2003–June 2005: Master's Degree; Graduate Institute of Clinical Medicine, National Taiwan University

Impact of HBV infection on clinical outcomes in patients with metabolic dysfunction-associated fatty liver disease

Professor Chia-Chi Wang

The study investigates the impact of chronic Hepatitis B virus (HBV) infection on clinical outcomes in patients with metabolic dysfunction-associated fatty liver disease (MAFLD). Using a Taiwan bio-bank cohort of 20,460 participants, the research categorizes subjects into four groups: dual etiology, MAFLD alone, HBV alone, and healthy controls. Results show that while chronic HBV infection increases the risk of advanced liver fibrosis in MAFLD patients, it offers protective effects against atherosclerosis, demonstrated by lower carotid plaque prevalence. These findings suggest the complex role of HBV in modifying MAFLD-related health outcomes, emphasizing the need for targeted clinical management strategies.