

# CURRICULUM VITAE

The Johns Hopkins University School of Medicine

Ie-Ming Shih

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Dr. Ie-Ming Shih is the *Richard W. TeLinde* Distinguished Professor (Endowed Chair) in the Department of Gynecology and Obstetrics (1), and is the director of this inter-departmental gynecologic disease research program at the Johns Hopkins Medical Institutions (2, 3). Dr. Shih also co-directs the *Women's Malignancy Program* at the *Sidney Kimmel Comprehensive Cancer Center* at Johns Hopkins. Born in Taiwan, Dr. Shih came to the US for his PhD study at the University of Pennsylvania before his clinical training at the Johns Hopkins Hospital. After completing residency, clinical fellowship and research fellowship at Hopkins, Dr. Shih became a faculty member there in 2000; his research focuses on exploring molecular landscapes and pathogenesis in different types of ovarian cancers, most notably their precursor lesions. Dr. Shih's work together with findings from other research groups has established that ovarian high-grade cancer originates from the fallopian tubes rather than the long-thought ovaries. These findings are transformative, and are leading to substantive changes in clinical practice including adopting opportunistic salpingectomy during hysterectomy. Dr. Shih has pioneered the genome-wide molecular genetic studies in endometriosis and show that the seemingly benign or "normal-appearing" endometriosis, which precedes many ovarian low-grade cancers, harbors cancer gene mutations and the epithelial but not stromal component within an endometriosis is clonal in origin. His recent data led him to propose a new hypothesis in the development of endometriosis that can explain its unique genotypes and phenotypes that have puzzled scientists and physicians for a long time better than any previously known theory. Dr. Shih's new theory of endometriosis origin may create a new future research direction. Moreover, Dr. Shih (together with Dr. Robert Kurman) proposed a "dualistic" model for classifying ovarian cancer, which has become widely used (with more than 6,000 citations from his 5 main articles on this subject). Dr. Shih has also contributed to understanding the pathobiology of placental pathology and biology including the etiology of gestational trophoblastic neoplasms and his research serves as the foundation in assisting pathological diagnosis of this rare and unique group of trophoblastic diseases and placental pathology.

He is a sought after seminar speaker and lecturer around the world. He is also a devoted teacher, and has helped advance the career development of many young scientists and physicians in their pursuit of an academic career. He has served on several advisory boards including the NCI Ovarian Task Force of Gynecologic Cancer Steering Committee and the Ovarian Cancer Research Foundation, etc. He is a current or former editorial board member for numerous journals including *Cancer Research*, *Journal of Pathology*, *American Journal of Pathology*, and several others. He serves as an editorial/scientific board member for the *World Health Organization (WHO) Classification of Female Genital Tumors*. In the past two decades, his research has been continuously supported by the NIH/NCI, DoD, and several private foundation awards. He is one of the most highly funded principal investigators by the NIH in the fields of Pathology and Gynecology. Dr. Shih has published extensively in the leading top-tier journals, including *NEJM*, *Cancer Cell*, *PNAS*, *Science*, *Lancet Oncology*, *Nature*, and *Nature Medicine*. He has an H-index of 110 and his research articles have been cited for more than 45,000 times. Dr. Shih is one of the top pathologists with most research citations in the field of gynecologic pathology in the world. He was the recipient of the *Rosalind Franklin Prize for Excellence in Ovarian Cancer* in 2020.

1. <https://professorships.jhu.edu/professorship/richard-w-telinde-distinguished-professorship-in-gynecological-pathology/>
2. [www.hopkinsmedicine.org/gynecology\\_obstetrics/research/areas/telinde\\_lab.html](http://www.hopkinsmedicine.org/gynecology_obstetrics/research/areas/telinde_lab.html)
3. [www.gynecologycancer.org](http://www.gynecologycancer.org)

## DEMOGRAPHIC AND PERSONAL INFORMATION

### Current Appointments

**Richard W. TeLinde Distinguished Professor**, Department of Gynecology and Obstetrics with secondary appointment in the Departments of Oncology and Pathology, Johns Hopkins Medical Institutions

**Co-Director, the Women's Malignancy Program**, Sidney Kimmel Comprehensive Cancer Center, Johns Hopkins Medical Institutions

**Director, TeLinde Research Program for Gynecologic Diseases**, Johns Hopkins Medical Institutions

### Personal Data

Country of birth place: Dai-Chia Township, Tai-Chuan City, Taiwan

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## EDUCATION AND TRAINING

<u>Year</u>	<u>Degree</u>	<u>Institution</u>	<u>Discipline</u>
1981-1988	M.D.	Taipei Medical University	Medicine
1989- 1993	Ph.D.	University of Pennsylvania	Biomedical Science (pathology)
1993-1994	Postdoctoral Fellow	The Wistar Institute	Cancer Biology
1994-1997	Resident	Johns Hopkins Hospital	Pathology
1997-1998	Clinical Fellow	Johns Hopkins Hospital	Gynecologic Pathology
1998-2000	Research Fellow	Johns Hopkins Oncology Ctr.	Cancer Genetics
		<u>(w/ Dr. Bert Vogelstein)</u>	

## PROFESSIONAL EXPERIENCE

2000-2001	<b>Instructor</b> , Department of Pathology Johns Hopkins Medical Institutions, Baltimore, MD
2001-2003	<b>Assistant Professor</b> , Department of Pathology Johns Hopkins Medical Institutions, Baltimore, MD

- 2003-2008      **Associate Professor**, Departments of Gynecology and Obstetrics  
Pathology, Oncology  
Johns Hopkins Medical Institutions, Baltimore, MD
- 2008-      **Professor**, Departments of Gynecology/Obstetrics, Pathology, Oncology  
Johns Hopkins Medical Institutions, Baltimore, MD
- 2014-      **Richard W. TeLinde Distinguished Professor (endowed Chair)**  
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## **RESEARCH ACTIVITIES**

research website: [www.gynecologycancer.org](http://www.gynecologycancer.org)

## **Peer-Reviewed Research Articles**

Dr. Shih's publications can be found in NCBI *My Bibliography* at:

<https://www.ncbi.nlm.nih.gov/myncbi/collections/bibliography/47955017/>

1. Shih IM, Chiang HS, Yang LL, Wang TL. Antimotility effects of Chinese herbal medicines on human sperm. J Formos Med Assoc, 89:466-9, 1990. PMID: 1977862
2. Valyi-Nagy I, Shih IM, Gyorfi T, Greenstein D, Elder DE, Herlyn M. Spontaneous and induced differentiation of cultured human melanoma cells. Int J Cancer, 54:159-165, 1993. PMID: 8478142
3. Valyi-Nagy I, Hirka G, Jensen PJ, Shih IM, Juhasz I, Herlyn M. Undifferentiated keratinocytes control growth, morphology, and antigen expression of normal melanocytes through cell-cell contact. Lab Invest, 69:152-159, 1993. PMID: 8350597
4. Juhasz I, Lazaurs GS, Murphy GF, Shih IM, Herlyn M. Development of pemphigus vulgaris-like lesions in severe combined immunodeficient (SCID) mice reconstituted with lymphocytes from patients. J Clin Invest, 92:2401-2407, 1993. PMID: 8227357
5. Mancianti ML, Gyorfi T, Shih IM, Valyi-Nagy I, Levensgood G, Menssen HD, Halpern A, Elder DE, Herlyn M. Growth regulation of cultured human nevus cells. J Invest Dermatol, 100:281S-287S, 1993. PMID: 8440904

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8. Herlyn M, Shih IM. Interactions of melanocytes and melanoma cells with the microenvironment. *Pigment Cell Res*, 7:81-88, 1994. PMID: 8066024
9. Shih IM, Elder DE, Speicher D, Johnson JP, Herlyn M. Isolation and functional characterization of the A32 melanoma-associated antigens. *Cancer Res*, 54:2514-2520, 1994. PMID: 8162602
10. Shih IM, Elder DE, Herlyn M. Regulation of Mel-CAM/MUC18 expression on melanocytes of different stages of tumor progression by normal keratinocytes. *Am J Pathol*, 145:837-845, 1994. PMID: 7943174
11. Shih IM, Wang TL, Westra WH. Diagnostic and biologic implications of Mel-CAM expression in spindle cell neoplasms. *Clin Cancer Res*, 2:569-575, 1996. PMID: 9816205
12. Shih IM, Kurman RJ. Expression of melanoma cell adhesion molecule in intermediate trophoblast. *Lab Invest*, 75: 377-388, 1996. (with cover illustration) PMID: 8804361
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14. Shih IM, Hsu MY, Palazzo JP, Herlyn M. The cell-cell adhesion receptor Mel-CAM acts as a tumor suppressor in breast carcinoma. *Am J Pathol*, 151:745-751, 1997. PMID: 9284823
15. Shih IM, Kurman RJ. New concepts in trophoblastic growth and differentiation with practical application for the diagnosis of gestational trophoblastic disease. *Verh Dtsch Ges Path*, 81: 266-272, 1997. PMID: 9474880
16. Shih IM, Schnarr RL, Gearhart JD, Kurman RJ. Distribution of cells bearing the HNK-1 epitope in the human placenta. *Placenta*, 18:667-674, 1997. PMID: 9364602
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### Others

1. **Shih IM**. Placental site trophoblastic tumor. In Encyclopedia of Cancer, 3rd edition, Springer-Verlag, Editor: Manfred Schwab, Berlin and Heidelberg, GmbH & Co, 2016.  
[http://www.springerreference.com/docs/featured/978-3-540-47648-1\\_5715.html](http://www.springerreference.com/docs/featured/978-3-540-47648-1_5715.html)

2. Chen L, Xuan J, Gu J, Wang Y, Zhang Z, Wang TL, **Shih IM**. Integrative network analysis to identify aberrant pathway networks in ovarian cancer. Pac Symp Biocomput, 31-42, 2012.

3. Kurman RJ, **Shih IM**. Ovarian cancer- silent and deadly. In Atlas of Science.  
<http://atlasofscience.org/ovarian-cancer-silent-and-deadly/#more-13913>

### Inventions, Patents, Copyrights

- US patent #6419896: Non-invasive approach for assessing tumor in living animals. Inventors: Vogelstein B, Kinzler WK and Shih I-M
- US patent #20110171741: DNA integrity assay (DIA) for cancer diagnostics, using confocal fluorescence spectroscopy. Inventors: Tza-Hui Wang, Kelvin J. Liu, le-Ming Shih
- US patent in process (11/604,183): Application of Rsf-1 expression to predict clinical outcome in cancer patients. Inventors: Shih I-M and Wang T-L
- International patent in progress (PCT/US2008/011948): Detection of cancer by measuring genomic DNA copy number and strand length in cell-free DNA. Inventors: Shih I-M

### Extramural Funding

#### Current awarded Grants

04/01/2017 - 03/30/2022	Experimental Therapeutics by targeting Spleen Tyrosine Kinase RO1 CA215483 NCI/NIH Role: PI Purpose: The goal is to elucidate the molecular mechanism how SYK enhances paclitaxel resistance through modulating microtubule dynamics and identify the potential biomarker for outcome prediction
04/01/2019 – 3/31/2024	Role of Cancer-Associated Mutations in Endometriosis RO1 HD096147 NIH/NICHD Role: mPI

- Purpose: To elucidate the biological and clinical significance of cancer-associated gene mutations including KRAS and ARID1A in deep infiltrating endometriosis using molecular genetic, cell biology and animal model approaches.
- 06/15/2021 – 05/31/2026      Development of a low-cost epigenetic screening assay for Pap specimen-based detection of early stage ovarian cancer in high-risk women  
RO1 CA260628  
NIH/NCI  
Role: mPI  
Purpose: We intend to develop a new micro-fluidic technology to analyze hypermethylation DNA loci in Pap specimens for early detection of low-volume ovarian high-grade serous carcinoma.
- 04/01/2016 – 03/31/2022      Early Detection Research Network (EDRN)  
UO1 CA200469  
NCI/NIH  
Role: mPI  
Development of in vitro diagnostic multivariate index assay using liquid-based cervical cytology specimen and/or serum/plasma biomarkers for the detection of early stage or low-volume ovarian cancer  
Purpose: To identify protein biomarkers and develop immunoassays for ovarian cancer detection in liquid-based cervical cytologic samples and blood.
- 07/01/2018 - 06/30/2023      SPORE (Specialized Programs of Research Excellence) in Ovarian Cancer  
P50 CA228991-01  
NIH/NCI  
Role: PI (overall)  
Purpose: The program consists of four research projects, three cores and two programs to promote translational research including early phase clinical trials in ovarian cancer.
- 01/01/2017-12/31/2022      Development of Targeted Therapies for Recurrent Ovarian Cancer  
Collaborative Research Development Grant # 458972  
Ovarian Cancer Research Foundation Alliance (OCRFA)  
Role: PI  
Purpose: Development of a research program which focuses on identifying and characterizing promising new anti-tumor molecules and develop/apply inhibitors for targeted therapy in ovarian cancer
- 01/01/2018 - 12/31/2023      Integration of advanced genomic and bioengineering approaches for early detection and prevention of ovarian cancer.  
Tina Brozman Foundation Consortium Grant  
Role: co-PI  
Purpose: Identify and characterize molecular biomarkers of fallopian tube lesions which are the precursors of high-grade ovarian serous carcinoma

02/01/2022 – 01/31/2024      Intercepting minimum original disease of ovarian cancer  
Breakthrough Cancer Foundation  
Role: Project leader

### **Recent Completed Research Grants**

01/15/2017 – 01/14/2020      Development of early detection molecular platform for ovarian cancer in high-risk women  
Grant contract (PIs: I-M Shih and A Fader)  
Gray Foundation  
Role: co-PI  
Purpose: This study focuses on applying sequencing technology to detect ovarian cancer associated mutations in liquid-based cytology specimens in women with increased risk of ovarian cancer.

11/01/2016- 10/31/2020      PapDREAMing for early detection of ovarian cancer.  
Tina Brozman Foundation Consortium Grant  
Role: PI  
Purpose: Identify a panel of methylation biomarkers and develop a methylation-based assay to detect ovarian cancer using liquid cervical cytology specimens

01/03/2017 – 07/31/2020      Molecular study on endometriosis  
Endometriosis Foundation of America  
Role: PI  
Purpose: Applying next-generation sequencing to elucidate the somatic mutations in deeply infiltrative endometriosis

10/01/2011 – 06/30/2018      Prevention of Ovarian High-Grade Serous Carcinoma by Elucidating Its Early Changes, W81XWH-11-2-0230  
OC100517 (Director: RJ Kurman; co-Director: I-M Shih)  
Consortium Award, US Department of Defense (USAMRMC), Directed Medical Research Programs (CDMRP)  
Role: Co-director and co-investigator; 3.0 calendar months  
Purpose: To determine the origin and pathogenesis in the development of ovarian high-grade serous carcinomas by employing cancer genetics, cell biology, animal models and epidemiologic studies through multi-institutional research effort. The consortium includes five research projects and three cores.

09/01/2011 - 08/30/2016      Proteome characterization center: a genoproteomics pipeline for cancer biomarker. Clinical Proteomic Technologies for Cancer Initiative.  
U24CA160036 (PI: D Chan)  
NCI/NIH  
Role: co-investigator; 1.0 calendar months  
Purpose: To identify, verify and characterize biomarkers for ovarian cancer by combining genomics and proteomic approaches. To establish the clinical proteomic technology center and to validate, verify

and characterized of ovarian cancer biomarkers using genoproteomic approaches.

04/01/2011 – 03/31/2017	<p>Notch3 signaling in ovarian cancer            RO1 CA148826 (PI: TL Wang)            NCI/NIH            Role: co-investigator; 0.5 calendar months            Purpose: To investigate the molecular mechanism of Notch3 signaling in the pathogenesis of ovarian high-grade serous carcinoma.</p>
07/01/2011 - 06/30/2016	<p>Multiplexed Detection of Cell Free DNA Biomarkers for Cancer            RO1 CA155305 (PI: TZ Wang)            NCI/NIH            Role: co-investigator; 1.0 calendar months            Purpose: To analyze the potential application of multiplexed detection of cell free DNA as biomarkers for cancer detection.</p>
09/30/2014 - 09/29/2016	<p>Targeting the Mevalonate Pathway to Reduce Mortality from Ovarian Cancer            DoD W81XWH-14-10021            DoD, OCRP            Role: co-investigator            Purpose: To determine if targeting the mevalonate pathway in ovarian cancer has biological and pre-clinical utility in delaying tumor progression in ovarian high-grade serous carcinoma. Several cell biology and molecular biologic approaches together with animal ovarian tumor models will be applied.</p>
12/01/2011 - 11/30/2014	<p>Tumor suppressor role of ARID1A            R21 CA165807 (PI: IM Shih)            NCI/NIH            Role: principal investigator; 1.0 calendar months            Purpose: To determine the tumor suppressor roles of ARID1A and its molecular mechanisms in developing gynecological cancer.</p>
04/01/2008 - 01/31/2013	<p>The Roles of HBXAP Gene in Ovarian Cancer            1R01 CA129080 (PI: I-M Shih)            NCI/NIH            Role: principal investigator; 1.0 calendar months            Purpose: To study the molecular mechanism of HBXAP gene product in the progression of ovarian carcinoma.</p>
12/01/2004 - 11/30/2012	<p>Molecular Diagnostics for Malignant Effusion            2R01 CA103937 (PI: I-M Shih)            NCI/NIH            Role: principal investigator; 1.0 calendar months            Purpose: To study the functional role of NAC-1 in the development of ovarian carcinoma.</p>
04/01/2007 - 01/31/2012	<p>Pathogenesis of Ovarian Serous Borderline Tumors            RO1 CA116184 (PI: R.J. Kurman)</p>

	<p>NCI/NIH            Role: co-Director, project 1 leader; 0.5 calendar months            Purpose: To study the molecular genetic profiles of implants that is associated with ovarian serous borderline tumors. To develop biomarkers to better diagnose the implant and correlate the molecular genetic profiles and biomarker expression with clinical behavior in patients.</p>
07/01/2002- 06/30/2007	<p>Development of a New Technology in Analyzing Allelic Imbalance in Plasma DNA as a Tool for Early Cancer Detection            R21/R33 CA97527 (PI: Shih)            NCI/NIH            Role: principal investigator; 4.0 calendar months            Purpose: To develop an innovative molecular method to better diagnose human cancer using cell-free circulating DNA in patients.</p>
07/01/2008 - 06/30/2012	<p>Notch3 Signaling Pathway in the Ovarian Carcinoma            GMC-113937 (PI: TL Wang)            American Cancer Society            Role: co-investigator; 1.0 calendar month            Purpose: This project is to characterize the role of Notch3 signaling pathway in ovarian tumorigenesis and identify Notch3 down-stream target genes in ovarian cancer.</p>
06/01/2009 – 05/31/2012	<p>High-throughput intracellular microrheology: a new tool for cancer research            1R21CA137686 (PI: D Wirtz/IM Shih)            NCI/NIH            Role: Co-PI            Purpose: To apply a high-throughput intracellular microrheology in studying ovarian cancer</p>
07/01/2002- 06/30/2006	<p>Diverse Pathways in the Development of Ovarian Serous Tumors            OC010017 (PI: RJ Kurman)            US Department of Defense (USAMRMC), Directed Medical Research Programs (CDMRP)            Role: Project #1 leader; 3.0 calendar months            Purpose: To study the molecular pathways that is involved in the development of different types of ovarian serous carcinoma by using several new technologies including SAGE.</p>
09/01/2003- 08/30/2004	<p>Molecular genetic changes in the development of cervical cancer            P50CA098252- SPORE (PI: TC Wu)            NIH/NCI            Role: co-investigator; 1.0 calendar month            Purpose: The development project/pilot study in this SPORE of cervical cancer is to investigate the DNA copy number changes involved in the development of cervical cancer.</p>

12/28/2005- 12/27/2006	<p>Marker Discovery for Ovarian Cancer  Research agreement  Developmental Center of Biotechnology, Taiwan  (PI: Shih)  Role: principal investigator; 1.0 calendar month  Purpose: To identify biomarkers for potential use in ovarian cancer diagnosis and therapy.</p>
10/01/2006 - 09/30/2007	<p>Characterization of Rsf-1 in human cancer  China Medical University, Taiwan  Research agreement  (PI: Shih)  Role: principal investigator; no salary requested  Purpose: To study the molecular etiology of Rsf-1 expression in oral cancer in Taiwanese patients.</p>
01/01/2008 - 12/31/2009	<p>Notch3 signaling in the pathogenesis of ovarian cancer  Ovarian Cancer Research Foundation (OCRF, New York)  Individual Investigator Award (PI: T.L. Wang)  Role: co-investigator; 0.6 calendar month  Purpose: To characterize the Notch3 signaling pathway in the tumor progression of ovarian cancer. Specifically, the proposal is to determine how the Notch3 pathway goes awry in normal ovaries and the molecular mechanisms in which Notch3 pathway aberration contributes to ovarian cancer.</p>
01/01/2009 – 12/31/2010	<p>Screening of Chinese herbal medicine extracts in cancer therapy  Research Agreement (PI: IM Shih)  China Medical University, Taichung city, Taiwan  Role: Principal; investigator  Purpose: To screen candidate Chinese herbal extracts to inhibit specific cancer-associated targets for potential molecularly targeted therapy.</p>
12/11/2006 - 12/31/2007	<p>Molecular Markers for Clinical Outcome Prediction  Oncotech, Inc.  Research Agreement (PI: Shih)  Role: principal investigator; 0.60 calendar month  Purpose: To assess the clinical potential of Rsf-1 and NAC-1 immunohistochemistry in predicting clinical outcome in ovarian cancer patients.</p>
04/01/2008 - 03/31/2010	<p>Nanobiosensing Method for Point Mutation Detection of Cancer  1R21CA120742 (PI: TZ Wang)  NCI/NIH  Role: co-investigator; 0.60 calendar month  Purpose: To develop a nanobiosensing technical platform to detect point sequence mutation of Kras and Braf genes using a relatively small amount of DNA samples without PCR.</p>



07/01/2007 - 06/31/2009	Characterization of Chromatin Remodeling Gene, Rsf-1, in Pathogenesis of Ovarian Cancer Johns Hopkins-Weizmann Inst. (PI: Shih) Role: principal investigator; 0.60 calendar month Purpose: To study the biological function of Rsf-1 gene in the development of ovarian cancer.
01/01/2005 -12/31/2008	Identification and Characterization of Genomic Amplifications in Ovarian Serous Carcinoma OC04-0060 (PI: T.L. Wang) US Department of Defense (USAMRMC), Directed Medical Research Programs (CDMRP), New Investigator Research award Role: co-investigator; 1.0 calendar month Purpose: To identify and characterize ovarian cancer genome using digital karyotyping and SNP array.
07/01/2009 – 06/30/2011	Elucidation of molecular alterations in precursor lesions of ovarian serous carcinoma OC080469 (Director: RJ Kurman; Co-director: IM Shih) Role: Co-director Purpose: To establish ovarian cancer research consortiums to facilitate identify and characterize early lesions of ovarian cancer through multiple institution collaborations

## **EDUCATIONAL ACTIVITIES**

### **Classroom Instruction** (Johns Hopkins University School of Medicine)

- Gynecological Pathology and laboratory/small group, Pathology course for medical students, 1994-
- Graduate course in Pathobiology and Disease Mechanisms, Section of Ovarian Tumors, 2002-
- Graduate course in Functional Anatomy ("Female Reproductive Organ"), for graduate students, Johns Hopkins University, 2006-
- Graduate course in Pathobiology ("Gynecological Pathology") for graduate students, Johns Hopkins University, 2005-

### **Clinical Instruction** (the Johns Hopkins Hospital)

- Microscopic and gross teachings for medical students, residents and fellows rotating to gynecologic pathology, 1999-
- Didactic course on Gynecologic Pathology for residents and fellows, 2002-

### **CME course speaker**

- "Molecular pathways of ovarian cancer". At the Current Concepts in the Multidisciplinary Management of Ovarian Cancer, the Sidney Kimmel Cancer Center and the office of Continuing Medical Education, Johns Hopkins University, Baltimore, September, 2004.

- “Molecular genetics and target-based therapy for low-grade serous cancers of the ovary”. At the Current Concepts in the Multidisciplinary Management of Ovarian Cancer, the office of Continuing Medical Education, Johns Hopkins University, Baltimore, September, 2005.
- “Gynecologic neoplasms- trophoblastic tumors and ovarian epithelial neoplasms”. Symposium of the Taiwanese Association of Pathology, August 2006.
- “Update in gestational trophoblastic disease”. Surgical Pathology Update, Leipzig, Germany, June, 2007.

## Mentoring

### Research Fellows

- 2000-2002, Hsueh-Wei Chang, PhD, currently Chairman and Professor of the Department of Biological Science and Environmental Biology, Kaohsiung Medical University, Taiwan
- 2001-2003, Gad Singer, M.D., Professor at the Institute of Pathology, Baden, Switzerland
- 2002-2004, Brant G. Wang, MD, PhD, research fellow; currently an attending pathologist at the Washington Medical Center, Washington DC
- 2003-2004, Gudrun Pohl, MD, assistant professor at the University of Vienna, Austria
- 2003-2004, Chung-Liang Ho, MD, PhD, Associate Professor, National Chenug-Kung University School of Medicine, Tainan, Taiwan
- 2003, Ariane Aigelsreiter, MD, visiting research fellow, Austria
- 2003-2004, Reiko Dehari, MD, Visiting research fellow, Japan
- 2003-2004, Chih-Yi Hsu, MD, Visiting research fellow, currently a faculty t the National Yang-Ming University School of Medicine/VGH -Taipei, Taiwan
- 2004-2005, Tsung-Hsuan Lai, MD, Director of Reproductive Endocrinology and Infertility division, Department of Ob and Gyn, Taipei Cathay General Hospital, Taipei, Taiwan
- 2004-2006, Kentaro Nakayma, MD, PhD, Associate Professor, Shimane National University School of Medicine, Japan
- 2005-2007, Jim Sheu, PhD, Professor at the Institute of Biomedical Sciences, National Sun Yat-Sen University, Taiwan
- 2005-2006, Ritu Salani, MD, Assoicate Professor and attending physician at the Ohio State University Health System, division of Gynecologic Oncology
- 2007 – current (visiting scholar), Ayse Ayhan, MD, PhD, attending/consulting pathologist at the Seirei Mikatahara General Hospital, Hamamatsu, Japan
- 2005-2007, Tsui-Lien Mao, MD, research fellow, currently an Associate Professor at the National Taiwan University College of Medicine, Taipei, Taiwan
- 2007, Artit Jinawath, MD, PhD, research fellow/visiting resident, Thailand
- 2006-2008, Natini, Jinawath, MD, PhD, research fellow, currently an Assistant Professor at Mahidol University, Thailand
- 2006-2008, Jung Hye Choi, PhD, Associate Professor at Life and Nanopharmaceutical Science, College of Pharmacy, Kyung Hee University, Seoul, South Korea
- 2005, Fiona Furlong, Lecturer, School of Pharmacy, Queen’s University at Belfast, UK
- 2006-2008, Kuan-Ting Kuo, MD, Associate Professor at the National Taiwan University Hospital, Taipei, Taiwan
- 2007-2008, Stefanie Ueda, MD, Assistant Profession, Department of Obstetrics and Gynecology, University of California at San Francisco, CA
- 2008-2010, Michelle Thiaville, PhD, Assistant Professor, Department of Biological Science, Nicholls State University, Louisiana
- 2008-2010, Pradeep K. panuganti, MD, currently a resident in Texas Tech University of Health Sciences

- 2010, Daichi Maeda, MD, PhD, Assistant Professor, Department of Pathology, University of Tokyo, Japan
- 2010-2012, Stephanie Gaillard, Assistant Professor, Johns Hopkins University School of Medicine
- 2009-2012, Alex Stoeck, PhD, Research Scientist Leader, Merck Co.
- 2011-2012, Chen-Hsuan Wu, MD, Assistant Professor, Kaohsiung Chang Gung Memorial Hospital, and Chang Gung University college of medicine, Kaohsiung, Taiwan
- 2012-2013, Laura Ardighieri, MD, a fellow at the Anatomia Patologicaat Spedali Civili Brescia, Italy
- 2009-2013, Elisabetta Kuhn, MD, staff scientist, International Agency for Research on Cancer (IARC), Lyon, France
- 2007-2013, Bin Guan, PhD, NIDDK, NIH
- 2012-2014, Tae Mogami, MD, PhD, Department of Gynecology, Yokohama City University Medical Center, Japan
- 2015-2017, Tsutomu Miyamoto, MD, PhD, Associate Professor, Shinshu University, Japan
- 2014-2016, Hiroyasu Kashima, MD, PhD, Associate Professor, Shinshu University, Japan
- 2013-2017, Yu Yu, PhD, Assistant Professor, University of Perth, Australia
- 2017-2018, Shiou-Fu Lin, MD, Attending pathologist, Taipei Medical University, Taipei Taiwan
- 2016-2019, Ting-Tai Yen, MD, Gyn/Ob resident, Korney Island Hospital, New York
- 2016-2019, Yao-An Shen, Assistant Professor, Department of Pathology, Taipei Medical University, Taipei, Taiwan
- 2017-2019, Herman Chiu, Assistant Professor and Pathologist attending, Memorial Sloan Kettering Cancer Center, New York City, New York
- 2018-2019, Hong Qu, Associate Professor, Chao-Yang Hospital and Beijing Medical University, Beijing, China
- To be updated...

**Graduate and Undergraduate Students (Johns Hopkins University except Ms. Mahle)**

- 2011-2015, Ren-Chin Wu, pathobiology graduate student (thesis student), currently an Associate Professor at the Chang-Gung University School of Medicine, Taiwan.
- 2008-2012, KaiLee Yap, pathobiology graduate student (thesis student), currently a postdoc fellow at the University of Chicago.
- 2010-2012, Min Gao, exchange/visiting graduate student from Shandong University/Zilu hospital, China.
- 2008-2010, Chen Xu, exchange/visiting graduate student from China Scholarship council, currently attending physician in the Department of Urology, the first affiliated hospital, Sun Yat Sen University, China
- 2005- 2009, Joon Park, pathobiology graduate student (thesis student), currently a Senior Scientist, Samsung Advanced Institution for Technology, Seoul, South Korea.
- 2009-2010, Elizabeth Chen, currently medical student in Uniformed Services University of Health Sciences, Bethesda, Maryland.
- 2007-2008, Vivek Murthy, currently a medical student at NYU.
- 2003-2005, Robert J. Oldt III, currently a medical student at UMDNJ, NY.
- 2005, Jim M. Yen, MD, currently a medical resident at the Medical Center of the University of South California, CA.
- 2005, Eric Cheng, currently a medical student at UMDNJ, NY.
- 2005, Ilena Neuberger, currently a medical student at UMDNJ, NY.

- 2007, Rebecca Bush, currently a medical student in Washington University School of Medicine, MO.
- 2007, David Chu, currently a medical student in University of Pittsburg, PA.
- 2007, Mandy Mahle, Queens University of Charlotte, NC, currently, a Gynecology Resident at the Johns Hopkins Hospital
- 2007-2009, Kevin Lee, currently a medical student in Albany Medical College, NY.
- 2007-2009, Paul Markowski, previously lab assistant, currently a medical student in Robert Wood Johnson Medical School, NJ.
- Marilina Mascaró, visiting PhD student, Facultad de Farmacia Bioquímica, Catedra de Immunología, Buenos Aires, Argentina
- 2010-2015, Ren-Chin Wu, PhD student, Pathobiology Graduate Program, Johns Hopkins University, Associate Professor, Chang-Gung University, Taiwan
- To be updated...

**Ph.D. Student Qualification Committee:**

- MD/PhD candidates in Cellular & Molecular Medicine Graduate Program: Saurubh Saha, Harith Rajagopalan, Chetan Bettogo, Jordan Cummins
- PhD candidates in Cellular & Molecular Medicine Graduate Program: Ian Cheong, Carlo Rago and Jihye Yun
- Pharmacology Graduate Program: Xin Huang, Meng Li, Kibem Kim
- Pathobiology Graduate Program: Yin Yeh, Shaaretha Pelly, Sophie Lin Zhirong; Kah Suan Lim; Byung-Hak Kang, Shu- Han Yu
- Graduate Board Exam, Department of Chemical and Molecular Engineering, Johns Hopkins University:  
Serving as the Chair of the Exam committee for Melissa Thompson, CK Wang.

**Ph.D. Student Thesis Committee:**

- Melissa Thompson, PhD candidate, Department of Chemical and Molecular Engineering, Johns Hopkins University (Homewood campus), 2007- current
- Melissa Landek, PhD candidate, Pathobiology Graduate Program, Johns Hopkins Medical Institutions, 2008
- Hsin Chih Yeh, PhD candidate, Department of Bioengineering, Johns Hopkins University, 2008
- Christopher Puleo, PhD candidate, Department of Bioengineering, Johns Hopkins University, 2009
- Vasudev Bailey, PhD candidate, Department of Bioengineering, Johns Hopkins University, 2010
- Kelvin Liu, PhD candidate, Department of Bioengineering, Johns Hopkins University, 2011
- Yi Zhang, PhD candidate, Department of Bioengineering, Johns Hopkins University, 2013
- Chong-Guiy Wang, PhD candidate, Department of Health Policy, School of Public Health and Hygiene, 2015
- Young Yang, PhD candidate, Department of Health Policy, School of Public Health and Hygiene, 2018
- Kelly Kyker-Snowman, PhD candidate, Cell and Molecular Medicine Graduate Program, Johns Hopkins University, 2018

**Participation in mentoring Gynecologic Pathology Fellows (*Johns Hopkins Hospital*):**

- 2003 – 2005, Monica Srodon, M.D.  
Staff pathologist  
Greensboro Pathology Associates  
Greensboro, NC
- 2004 – 2006, Saeid Movahedi-Lankarani, M.D.  
Staff pathologist  
Hospital Pathology Associates  
St. Paul, MN
- 2006 – 2007, Dengfeng Cao, M.D., Ph.D.  
Assistant Professor  
Department of Pathology & Immunology  
Washington University School of Medicine  
St. Louis, MO
- 2006 – 2007, Kara Judson, M.D.  
Attending pathologist  
Lenox Hill Hospital  
New York, NY
- 2005 – Current, Anna Yemelyanova, M.D.  
(Current Fellow)
- 2007 – Current, Thomas McConnell, M.D.  
(Current Fellow)
- 2007 – 2008, Emanuela Veras, M.D.  
Memorial Sloan-Kettering Cancer Center  
To be updated...

**Awards Received by Dr. Shih's Trainees**

- **JHU Pathology Young Investigator Day Research Award**, 2017, Yohan Suryo Rahmanto, PhD, research fellow
- **JHU Pathology Young Investigator Day Research Award**, 2017, Youngran Park, graduate student
- **1<sup>st</sup> place for basic science research for undergraduates**, 2016, University of Maryland at Baltimore County Dominique Munson, undergraduate student
- **Young Investigator Award in Basic Science, Department of Pathology, JHU**, 2016, Youngran Park, graduate student
- **HERA Research Award**, 2015, Yohan Suryo Rahmanto, PhD, research fellow
- **Collen's Dream Foundation for ovarian cancer research award**, 2014, Hiroyasu Kashima, MD, research fellow
- **Keio University School of Medicine Young Investigator Award, Japan**, 2014, Yusuke Kobayashi, research fellow
- **Young Investigator Award in Basic Science, Department of Pathology, JHU**, 2014, Fun Yuyu, postdoctoral fellow
- **Ovarian Cancer Research Foundation (OCRF) award**, 2013, Fun Yuyu, postdoctoral fellow
- **Oppo's Foundation for Ovarian Cancer Young Investigator Award**, 2013, Felix Zeppernick, research fellow
- **Scholar-in-Training Award, American Association for Cancer Research**, 2013, Ren-Chin Wu, graduate student
- **HERA Research Award**, 2013, Fnu Yuyu, PhD, research fellow

- **Collen's Dream Foundation for ovarian cancer research award**, 2013, Felix Zeppernick, MD, research fellow
- **YW Loke Award**, 2012, Yusuke Kobayashi, MD, PhD, research fellow, award from International Federation of Placenta Associations
- **HERA Research Award**, 2012, Elizabeth Kuhn, MD, research fellow
- **Scholar-in-Training Award, American Association for Cancer Research**, 2011, Kai-Lee Yap, graduate student
- **Ovarian Cancer Research Foundation (OCRF) Award**, 2011, Bin Guan, PhD, postdoctoral fellow
- **American Society of Clinical Oncology Young Investigator Research Grant**, 2011, Stephanie Gaillard, MD, PhD, research fellow
- **Scholar-in-Training Award by Aflac, Inc.**, 2011, Kai-Lee Yap, PhD graduate student
- **HERA Research Award**, 2011, Alex Stoeck, PhD, research fellow
- **Pathology Young Investigator Award**, 2011, Kai-Lee Yap, PhD graduate student
- **Pathology Young Investigator Award**, 2011, Elisabetta Kuhn, MD research fellow
- **Pathology Young Investigator Award**, 2011, Alex Stoeck, PhD research fellow
- **International Society of Gynecologic Pathology Fellowship Award**, 2011, Laura Ardigheri, research fellow, 2011
- **HERA Research Award**, 2010, Bin Guan, PhD, research fellow
- **UICC, ICRET award**. 2010, Marilina Mascaró, visiting PhD student, Argentina
- **Pathology Young Investigator Award**, 2010, Kai-Lee Yap, PhD graduate student
- **HERA Research Award**, 2008, Stefanie Ueda, MD, research fellow
- **Pathology Department Young Investigator First Price Award in Basic Science**, 2008, Joon Park, Johns Hopkins Medical Institutions
- **HERA Research Award**, 2007, Natini Jinawath, MD, PhD, research fellow
- **Provost's undergraduate research award**, 2007, Chanont Vasoontara, Johns Hopkins University
- **Ovarian Cancer Research Fund (OCRF)**, 2006, Ritu Salani, MD, research fellow
- **Best Abstract Award**, 2006, Ritu Salani, MD, research fellow, International Gynecologic Cancer Society biannual meeting, Santa Monica
- **Provost's undergraduate research award**, 2006, Rebecca Busch, JHU undergraduate student
- **HERA Research Award**, 2005, Kentaro Nakayama, MD, PhD, research fellow
- **First Place Award for Research Fellow in Basic Research, Johns Hopkins Oncology**, 2005, Jim Sheu, PhD, research fellow
- **International Union Against Cancer Technology Transfer Fellowship**, 2004, Gudrum Pohl, MD, research fellow
- **HERA Research Award**, 2003, Brant Wang, MD, PhD, research fellow
- **Yong Investigator Award of the International Society of Gynecologic Pathologists**, 2004, Gad Singer, MD, research fellow
- **Howard Hughes Undergraduate Research Award**, 2003, Robert J. Oldt III, JHU undergraduate student
- **Provost's undergraduate research award**, 2002, Robert J. Oldt III, JHU undergraduate student

## **CLINICAL ACTIVITIES**

### **Certification**

- The American Board of Pathology --- Anatomic Pathology, 1997
- Medical Licensure: Maryland, 1997

**Clinical Service Responsibilities** (20% of total effort) at the Johns Hopkins Hospital

- **Attending Physician**- diagnostic pathology in routine gynecologic specimens
- **Consultant Pathologist**- gynecologic pathology, specifically gestational trophoblastic diseases (nationally and internationally)

**ADMINISTRATIVE AND ORGANIZATIONAL ACTIVITIES**

**Administrative Appointments**

- Co-director, the Breast and Ovarian Cancer Program, Sidney Kimmel Comprehensive Cancer Center, Johns Hopkins Medical Institutions, 2014- current. Mainly involved in program development, research planning and educational activities.
- Director, the Interdepartmental TeLinde Gynecologic Disease Research Program. Johns Hopkins University School of Medicine. 2013-
- Planning Committee, the 7<sup>th</sup> Biennial Meeting of Asia-Pacific International Academy of Pathology, 2009-2011
- Johns Hopkins Oncology Center Tissue Core oversight committee, 2013-
- Johns Hopkins Professor Promotion Committee, 2013-
- Symposium organizer, Johns Hopkins Annual Ovarian Cancer Symposium, 2009- current.
- President of International Association of Chinese Pathologists, 2006-2007; received the *Excellent Service Award*, March 2, 2008
- President of North American Taiwanese Medical Association-Baltimore chapter, 2006-2008
- Faculty promotion committee, Department of Pathology, Johns Hopkins Medical Institutions, 2004
- PhD student qualification/thesis committees, 2002-current
- Pathology residency advisory committee, 2009-current

**Editorial Board Appointments**

- The WHO Classification of Tumours (Female genital tumours) 5<sup>th</sup> Edition (2020)
- The American Journal of Pathology (2016-2019)
- Editor-in-Chief, Current Obstetrics and Gynecology Report (2012-2015)
- Cancer Research (2013-2015)
- The Journal of Pathology (2012-)
- Guest Editor, Journal of Oncology special issue in ovarian cancer targeted therapy, 2011
- International Journal of Gynecologic Pathology
- ISRN Pathology
- International Journal of Molecular Sciences (Molecular Pathology section)
- Journal of the Formosan Medical Association
- Frontiers in Women's Cancer

**Journal Peer Review Activities**

- Proceedings of National Academy of Science
- Cancer Research
- Clinical Cancer Research
- Oncogene
- Journal of Clinical Investigation

- Journal of Biological Chemistry
- International Journal of Cancer
- Gynecologic Oncology
- Cancer Letters
- Modern Pathology
- Placenta
- The American Journal of Pathology
- Laboratory Investigation
- Human Pathology
- The Journal of Obstetrics and Gynecology Research
- British Journal of Cancer
- International Journal of Gynecologic Pathology
- Gastroenterology
- Annals of Oncology
- American Journal of Obstetrics and Gynecology
- International Journal of Gynecologic Cancer

#### **Professional Societies Membership**

- American Association for Cancer Research, 2004-present
- American Society for Investigative Pathology, 2002-present
- International Association of Gynecologic Pathologists, 1998-present
- United States and Canadian Academy of Pathology, 1998-present
- International Society for the Study of Trophoblastic Disease, 2000-present
- Society for the Study of Reproduction, 2000-present
- American Medical Association, 1998
- International Federation of Placental Associations, 1996-present

#### **Panelist in Study Sections and Grant Review Committees**

- National Institute of Health, National Cancer Institute, member of Omnibus- Cancer Biology 1 study section, 2013
- National Institute of Health, National Cancer Institute, member of P50 SPORE study section, 2012-
- National Institute of Health, National Cancer Institute, , Ad Hoc member of Provocative Question study section, 2012
- National Institute of Health, National Cancer Institute, member of Cancer Molecular Pathobiology Study section (CAMP), 2006-2011 (\*Recipient of "Brain Award" and "Humanitarian Award")
- National Institute of Health, National Cancer Institute, Ad Hoc member of R15 Academic Research Enhancement Award Study Section, 2011.
- National Institute of Health, National Cancer Institute, site visit adviser, EDRN Early Detection Network, Cancer Biomarkers Research Group, July 15, 2008
- National Institute of Health, National Cancer Institute, member of ZRG1 Onc-L (12)B Cancer Diagnostic & Treatment Study Section, March 2005, October 2005, March 2006, June 2006, February 2007 (member)
- The Wellcome Trust, London, United Kingdom, Research proposal reviewer, 1998 (Ad Hoc)
- National Institute of Health, National Cancer Institute, study section of IMAT, R21: "new innovative technology in cancer", 2002 (Ad Hoc)
- Israel Science Foundation (ISF), Research proposal reviewer, 2004 (Ad Hoc)



- US Department of Defense (USAMRMC/CDMRP) ovarian cancer research program, member of the review committee, April, 2005 (Ad Hoc)
- Cancer Research UK, April 2005, July 2008 (Ad Hoc)
- Netherlands Organization for Health Research and Development (ZonMw), Netherland, grant proposal reviewer for 80-007029-98-07041, March 2006 (Ad Hoc)
- Research Grants Council of Hong Kong, panel member and external reviewer, March 2006, December 2007
- US Department of Defense ovarian cancer research program-concept awards, member of the review committee, April, 2006 (Ad Hoc)
- Cancer Research UK, requested by the Translational Research in Clinical Trials Committee, July 2006 (Ad Hoc)
- U.S. Civilian Research Development Foundation, Arlington, Virginia, October 2006 (Ad Hoc)
- Swiss Nationals Science Foundation, Berne, Switzerland, January, 2007 (Ad Hoc)
- Kansas Masonic Foundation, Kansas Masonic Cancer Research Institute, 2007 (Ad Hoc)
- Invited reviewer requested by the Ministry of Science & Technology, Life Sciences Division, Israel, for Taiwanese Israeli scientific and technological cooperation, 2007
- Invited reviewer requested by the Sheffield Hospital Charitable Trust Medical Research Committee, UK, 2008
- Maryland Industrial Partnerships (MIPS) Program, University of Maryland College Park, 2008
- US Department of Defense (USAMRMC/CDMRP) ovarian cancer research program, member of the review committee, April, 2009 (Ad Hoc)
- American Institute of Biological Sciences (AIBS), May, 2010 (Ad Hoc)
- Calgary Laboratory Services Health Services Research Funding Competition, June, 2010 (Ad Hoc)
- National Medical Research Council, Singapore, January 2011.

#### **Organizer, chair and moderator in conference organizations**

- *Chair Moderator*, Poster Section In 4th Conference of the International Federation of Placenta Associations. Tokyo, Japan, 1998.
- *Symposium section chair*, Gestational trophoblastic disease. In XXVI International Congress of the International Academy of Pathology, Montreal, Canada, September 2006.
- *Moderator*, Pathobiology platform section, annual (the 97<sup>th</sup>) meeting of the United States and Canadian Academy of Pathology (USCAP), Denver, Colorado, March 2008.
- *Symposium organizer*, Ovarian Cancer Symposium- Elucidating Early Ovarian Carcinogenesis: Implications for Early Detection and Treatment. Sponsored by Department of Defense. Baltimore, Maryland, May 28-29, 2009.
- *Moderator*, Gynecologic Pathology platform section, annual (the 99<sup>th</sup>) meeting of the United States and Canadian Academy of Pathology (USCAP), Washington DC, March 2010.
- *Moderator*, Gynecologic Pathology platform section, annual (the 100<sup>th</sup>) meeting of the United States and Canadian Academy of Pathology (USCAP), San Antonio, TX, March 2011.
- *Section convener*, gynecologic pathology section, in the (scheduled) 7th Asia-Pacific International Academy of Pathology, Taipei, Taiwan, May 20-24, 2011.
- Chair of the Plenary Session 5: Prevention and Early Detection. In AACR Special Conference: Addressing critical questions in ovarian cancer research and treatment. Pittsburgh, Pennsylvania, October 3, 2017.
- Editorial board, WHO classification of human cancer. May 2019
- Chair of the Endometriosis and endometriosis-related ovarian cancer study group, NCI/NICHD, April 2019

### **Advisory boards, committees and consultation groups**

- **Scientific Advisory Committee**, Ovarian Cancer Research Foundation (OCRF), New York, 2013-
- **Oncology Tumor Specimen Core Oversight Committee**, Johns Hopkins Sidney Kimmel Cancer Center, 2013-
- **NCI Ovarian Task Force of Gynecologic Cancer Steering Committee**, 2012-2015
- **International Society of Gynecologic Pathology/World Health Organization (WHO) Nomenclature Committee for gynecological neoplasm**, 2012
- **External advisory board**, Ovarian Cancer SPORE at Fox Chase Cancer Center, 2013
- **International Society of Gynecologic Pathology Nomenclature Committee: Gestational trophoblastic disease subcommittee**, 2011-
- **Panelist** of an NIH sponsored consensus meeting for ovarian borderline tumor, Bethesda, 2003
- **Committee member** in the *National Academy for Clinical Biochemistry*-ovarian cancer marker Laboratory Medicine Practice Guidelines (tumor markers). 2003
- **Editorial Board**, in WHO Classification of Tumours 5<sup>th</sup> edition: Tumors of Female Genital Organs, IARC Lyon 2019

### **Ad Hoc member in Award/Fellowship Committee**

- Wittgenstein Award, funded by the Austrian Science Fund (FWF), 2007
- Moldovan Young Scientist Scholarship Program, United States Civilian Research & Development Foundation, 2007

## **RECOGNITION**

### **Awards and Honors**

- *The Best Intern Award*, McKay Memorial Hospital, Taiwan, 1988
- *TeLinde Research Award*, Division of Gynecologic Pathology, Department of Pathology, the Johns Hopkins Hospital, 1996-1998
- *Young Investigator Award*, The 13th Rochester Trophoblast Conference, Banff, Canada, 1996
- *Junior Achievement Award*, NIH/FDA Chinese American Association and Washington DC Chapter of Society of Chinese Bioscientists in America, 1998
- *Young Investigator Award*, International Society of Gynecological Pathologists, 2000.
- *Clinician Scientist Award*, Johns Hopkins University School of Medicine, 2002.
- *Election to hold the Endowed Chair* position as the 2<sup>nd</sup> Richard W. TeLinde Distinguished Professor, Johns Hopkins University School of Medicine, 2014.
- *The Most Impactful Paper of 2017 Award* in *gynecologic disease*. By Columbia Hospital Research Foundation, 2018.
- *The Distinguished Alumni Award FY107*, Taipei Medical University, Taipei, Taiwan, 2019
- *Rosalind Franklin Prize for Excellence in Ovarian Cancer*, 2020

### **Invited Talks and Panels**

- *Invited Speaker*, "Pathology of benign and malignant lesions of intermediate trophoblast". In 4<sup>th</sup> Conference of the International Federation of Placental Associations. Tokyo, Japan, 1998.

- *Invited Speaker* “Molecular surrogates of tumor progression in body fluids”. Bowling Green State University, Ohio, 2001.
- *Invited Speaker*, “Molecular Landscape of Ovarian cancer and its implication for early diagnosis”. Chang-Gung Memorial Hospital, Taiwan, 2002.
- *Invited Speaker*, “Gestational trophoblastic diseases”, Taipei Medical University, Taiwan, 2002.
- *Invited Speaker*, “Molecular Landscape of Ovarian cancer”. National Cancer Institute/NIH, 2002.
- *Invited Lecturer*, “Gestational trophoblastic diseases”, Pathology Laboratory, National Cancer Institute/NIH, 2002.
- *Invited Speaker*, “Circulating tumor-released DNA as the marker for early detection of cancer”. Pathology Grand Round, MD Anderson Cancer Center, January 2003.
- *Invited Lecturer*, “Pathology of gestational trophoblastic diseases”, MD Anderson Cancer Center, January 2003.
- *Invited Speaker*, “Digital PCR and clinical applications”. At the 11<sup>th</sup> annual meeting of “Nuclei acid-based technologies” Baltimore, June 2003.
- *Invited Speaker*, “New technologies in exploring disorders of human implantation and trophoblast”. Perinatology research branch, NICHD, Detroit, May, 2003.
- *Invited Speaker*, “Pathology of intermediate trophoblastic lesions”. NICHD, Detroit, May, 2003.
- *Invited Speaker*, “Allelic imbalance in detecting ovarian and other types of cancer”. At the 4th Principal Investigator Meeting of “Innovative Molecular Analysis Technologies (IMAT) Program” sponsored by NIH. San Diego, June 2003.
- *Invited Speaker*, “Molecular Genetic Markers for Cancer Detection in Blood”. At the Cambridge Healthtech Institute’s 11<sup>th</sup> Annual Molecular Medicine Tri-Conference, San Francisco, March 2004.
- *Invited Speaker*, “Molecular pathways of ovarian cancer-translational cancer research by analyzing cancer genome”. Division of epidemiology and genetics, NCI/NIH, Rockville, Maryland, September 16, 2004.
- *Invited Speaker*, “DNA preparation for cancer genomic study-the pathologist’s views”. Lecture in the G.O.T. (Getting Optimal Targets) summit series, Genomic and Proteomic Sample Preparation, Boston, May 3-4, 2005.
- *Invited Speaker*, “Identification of novel genes for cancer therapy and diagnosis by exploring cancer genome”. 10th Annual Meeting of Chinese Biopharmaceutical Association, Rockville, Maryland, June 18, 2005.
- *Guest Speaker*, “Exploring ovarian cancer genome- new insights and old challenges”. Fox Chase Cancer Center, Philadelphia, Pennsylvania, August 9, 2005.
- *Invited Speaker*, “Relationship of serous borderline tumor and carcinoma”. The annual companion meeting of the International Association for Gynecologic Pathologists. Atlanta, Georgia, Feb. 12, 2006.
- *Invited Speaker*, “Identification of novel molecular targets for ovarian cancer therapy”. University of Oslo. Oslo, Norway, Feb. 27, 2006.
- *Invited Speaker*, “Translating Ovarian Cancer Genome- New Genes for Prognostic Prediction and Targeted Therapy”. Pathology Grand Round, University of British Columbia, Vancouver, Canada, March 13, 2006.
- *Invited Speaker*, “Trophoblastic tumors and tumor-like lesions”. Department of Pathology, Vancouver Hospital, Canada, March 13, 2006.
- *Invited Speaker*, “Gestational trophoblastic tumor-an intellectual Odyssey”. Second Investigative Pathology Conference, Cleveland Clinics, Cleveland, Ohio, June 3, 2006

- *Invited Speaker*, “Applications of HLA-G expression in the diagnosis of human neoplastic diseases”. Forth International conference on HLA-G, Paris, France, July 12, 2006.
- *Invited Speaker*, “Trophoblastic tumors- molecular classification and pathogenesis”. Biennial Meeting of International Gynecological Cancer Society, Santa Monica, October 17, 2006.
- *Invited Speaker*, “Analyzing ovarian cancer genome- from gene discovery to therapeutic targets”. Sloan Kettering Memorial Hospital, New York, December 11, 2006.
- *Distinguished Visiting Professor*, “Ovarian cancer- molecular pathways, diagnostic markers and therapeutic targets”. Pathology Grand Round, Emory University, March 9, 2007.
- *Distinguished Visiting Professor*, “New concept in ovarian cancer- the dualistic pathway and its implications”. Pathology Grand Round, Yale University School of Medicine, April 19, 2007.
- *Invited Speaker*, “Translational Research and New Diagnosis in Ovarian Cancer”. The 12<sup>th</sup> Taiwan Joint Cancer Conference (Gynecologic Oncology section), Taipei, Taiwan, May 5, 2007.
- *Invited Speaker*, “Genomic analysis of ovarian cancer from marker discovery to translational applications”. Taipei Medical University, Taipei, Taiwan, May 3, 2007.
- *Invited Speaker*, “Analyzing Ovarian Cancer Genome for Marker Discovery”. International Symposium on Biomarkers Discovery in Human Cancers, Tainan, Taiwan, May 7, 2007.
- *Invited Speaker*, “Analyzing ovarian cancer genome for therapeutic target discovery”. 12<sup>th</sup> annual meeting of SCBA, University of Maryland Shady Grove Conference Center, MD, June 2, 2007.
- *Invited Speaker*, “Update in gestational trophoblastic disease”. Surgical Pathology Update, Leipzig, Germany, June 15, 2007.
- *Invited Speaker*, “The roles of NAC-1 in chemoresistance in ovarian carcinoma”. The Montebello Conference, Norway, June 18, 2007.
- *Invited Speaker*, “Exploring ovarian cancer genome- from marker discovery to therapeutic targeting”. Symposium of Toronto Ovarian Cancer Research Network/University of Toronto Health Network, Toronto, Canada, November 2, 2007.
- *Invited Speaker*, “Biological and clinical significance of Rsf-1 gene amplification in ovarian cancer”. Grand Round at the Cancer Institute of New Jersey, April 2, 2008.
- *Invited Speaker*, “Analyzing cancer genome to identify new cancer-associated genes in ovarian cancer”. In the series of Molecular Pathology seminar, University of Maryland at Baltimore, Baltimore, April 11, 2008.
- *Invited Speaker*, “Molecular etiology of drug resistance in ovarian cancer”. Symposium on Ovarian Cancer Research, Medical University of South Carolina, Charleston, South Carolina, May 2, 2008.
- *Invited Speaker*, “Identifying new cancer genes through analyzing cancer genomics- Rsf-1 amplification in ovarian cancer”. National Health Research Institution, Taiwan, August 5, 2008.
- *Invited Speaker*, “Early detection and treatment of ovarian cancer: shifting from early stage to minimal volume of disease based on a new model of carcinogenesis”. 7<sup>th</sup> Biennial Ovarian Cancer Symposium, Marsha Rivkin Center for Ovarian Cancer Research, Charleston, Seattle, Washington, September 4-5, 2008
- *Invited Speaker*, “Functional genomic analysis of ovarian cancer”, in honor of Dr. Meenhard Herlyn’s achievement in cancer research, The Wistar Institute, Philadelphia, PA, August 10, 2009
- *Invited Speaker*, “Notch3 signaling in ovarian cancer”, Institute of Genomic Medicine, China Medical University, Taiwan, August 21, 2009
- *Invited Speaker*, “Targeted therapy in ovarian cancer”, Ovarian Cancer SPORE meeting, Fox Chase Cancer Center, Philadelphia, PA, September 26, 2009

- *Invited Speaker*, 7<sup>th</sup> International Seminar at Lake Hamana- Surgical and Molecular Pathology of the Endometrium, Placenta, and Ovary. “Pathology of gestational trophoblastic diseases”, and “Molecular pathogenesis of ovarian cancer”, Hamamatsu, Shizuoka, Japan, November 7, 8, 2009
- *Invited Speaker*, “Gestational trophoblastic diseases”, Grand Round in the Department of Pathology, Memorial Sloan-Kettering Cancer Center, New York, NY, December 7, 2009
- *Invited Speaker*, “The origin and pathogenesis of epithelial ovarian cancer- a proposed unifying theory”, Grand Round, Department of Gynecologic Oncology, MD Anderson Cancer Center, Houston, TX, February 1, 2010
- *Invited Speaker*, “Definition and characterization of low-grade and high-grade ovarian serous carcinomas”, 2<sup>nd</sup> Annual European Gynecologic Oncology Congress, Athens, Greece, February 12-13, 2010
- *Invited Speaker*, “Clear cell carcinoma of the ovary”, Gynecologic Pathology Specialty Conference, United States & Canadian Academy of Pathology, 99<sup>th</sup> annual meeting. Washington DC, March 20-26, 2010
- *Invited Speaker*, “Molecular pathology of ovarian clear cell carcinoma”, University of British Columbia, Vancouver, Canada, June 24, 2010
- *Invited Speaker*, “The origin and pathogenesis of epithelial ovarian cancer- a proposed unifying theory”, Fox Chase Cancer Center, Philadelphia, July 15, 2010
- *Invited Speaker*, “The origin and pathogenesis of epithelial ovarian cancer- a proposed unifying theory”, Department of Pathology, Chang-Gang Memorial Hospital at Kaohsiung, Taiwan, August 12, 2010
- *Invited Speaker*, “The biological roles of NAC1 in cancer pathogenesis”, Department of Developmental Biology and Regeneration Medicine, Mount Sinai School of Medicine, New York City, New York, September 2, 2010
- *Invited Speaker*, “Chromatin remodeling in ovarian cancer”, Department of Molecular and Cellular Biology, Rutgers University, New Jersey, January 11, 2011
- *Invited Speaker*, “Genomic analysis of gynecological cancer”, National Cancer Research Center, Tokyo, Japan, June 30, 2011
- *Invited Keynote Speaker*, “Ovarian cancer is an imported disease- fiction or fact”, The 10<sup>th</sup> annual meeting of targeted therapy in gynecologic oncology, Izumo, Shimane, Japan, July 2, 2011
- *Invited Keynote Speaker*, “Pathogenesis of ovarian clear cell carcinoma”, The 10<sup>th</sup> annual meeting of targeted therapy in gynecologic oncology, Izumo, Shimane, Japan, July 2, 2011
- *Invited Speaker*, “Diagnosis of biological implication of serous tubal intraepithelial carcinoma”, Chang-Kung Memorial Hospital, Kaohsiung, Taiwan, July 6, 2011
- *Invited Speaker*, “Ovarian cancer genetics- latest insight”, The Boehringer Ingelheim Conversations in Oncology, Vienna, Austria, October 28-29, 2011
- *Invited Speaker*, “Integrated molecular analysis of ovarian cancer”, Virginia Polytechnic Institute and State University, Arlington, Virginia, February 22, 2012.
- *Invited Speaker*, “Intertumoral heterogeneity- how many types of cancers do my patients have?” In the symposium of “Intratumoral and intertumoral heterogeneity in ovarian cancer”, American Association for Cancer Research (AACR) annual meeting, Chicago, April 2, 2012
- *Invited Speaker*, “Genomic landscape in gynecologic cancer and its biological and translation implications”, Department of Pathology and Laboratory Medicine, University of California at Irvine, April 16, 2012.
- *Lecture*, “Molecular analysis of serous tubal intraepithelial carcinoma”, the 3<sup>rd</sup> Johns Hopkins Ovarian Cancer Symposium, Baltimore, Maryland, May 18, 2012.

- *Invited Keynote Speaker*, “Endometriosis-related ovarian cancer”, The 16<sup>th</sup> Korea-Japan, the 2<sup>nd</sup> Korea-Taiwan-Japan Joint Conference for Gynecological Pathology, Kumamoto University, Kumamoto City, Japan, May 26, 2012.
- *Invited Speaker*, “Genomic landscape in gynecologic cancer- a road map to new therapeutics”, Bristol-Myers Squibb Lectureship, Kumamoto City, Japan, May 27, 2012.
- *Invited Speaker*, “Genomic landscape in gynecologic cancer- a road map to new therapeutics”, Kyoto University, Kyoto, Japan, May 29, 2012.
- *Invited Keynote Speaker*, “Genomic analysis of gynecological cancer and their clinical implications”, In annual meeting of Korean Division of International Association of Pathologists, Seoul, South Korea, October 18, 2012.
- *Invited Speaker*, “The tumor suppressor role of ARID1A in human cancer”, Kyung Hee University, Seoul, South Korea, October 18, 2012.
- *Invited Speaker*, “The tumor suppressor role of ARID1A in human cancer”, Korean National Cancer Center, Seoul, South Korea, October 19, 2012.
- *Invited Speaker*, “The origin of ovarian cancer- clear cell carcinoma”, International Society of Gynecologic Pathologists companion meeting of United States and Canadian Association of Pathology annual meeting, Baltimore, Maryland, March 3, 2013.
- *Invited Speaker*, “Genomic landscape of ovarian cancer and its translational implications”, The Wistar Institute, Philadelphia, April 15, 2013.
- *Invited Speaker*, “Molecular alterations in serous tubal intraepithelial carcinoma”, 4<sup>th</sup> Ovarian Cancer Symposium, the Memorial Sloan Kettering Cancer Center, New York, May 15, 2013.
- *Invited Speaker*, “Emerging therapeutics in gynecologic cancer”, China Medical University, Taichung, Taiwan, July 7, 2013
- *Invited Speaker*, “Bokhman’s dualistic model of endometrial carcinoma- revisited”, Chang-Kung Memorial Hospital, Kaohsiung, Taiwan, July 8, 2013
- *Invited Speaker*, “Genomic analysis and pathogenesis of uterine carcinoma”, Taipei Veterans General Hospital, Taipei, Taiwan, July 11, 2013.
- *Invited Speaker*, “The Genomic landscape and origin of ovarian cancer”, The 18<sup>th</sup> Taiwan Joint Cancer conference, Taipei, Taiwan, July 13, 2013.
- *Invited Lecturer*, “The origin and pathogenesis of ovarian cancer”, The 2013 International Diagnostic Pathology Course, Tokyo, Japan, July 14, 2013.
- *Invited Speaker*, “Ovarian cancer is an imported disease- fiction or fact?” Charite Hospital (Mitt campus), Berlin, Germany, September 11, 2013
- *Invited Lecturer*, “Various topics in gynecologic pathology and oncology”, Nederland Master Class in ovarian cancer. Berlin, Germany, September 12, 2013
- *Invited Lecturer*, “Understanding the molecular mechanisms in the development of chemoresistance in cancer”, Rush University Medical Center, Chicago, October 30, 2013
- *Invited Speaker*, “Ovarian cancer is an imported disease – translational implication and beyond”, Ovarian Cancer SPORE meeting, MD Anderson Cancer Center, Houston, TX, May 28, 2014
- *Invited Speaker*, “The cell of origin of ovarian high-grade serous carcinoma”. Tzu-Chi Hospital, Hui-Lien, Taiwan, June 20, 2014
- *Invited Speaker*, “Molecular pathogenesis of high-grade serous carcinoma”. Symposium of the semiannual National Gynecologic Oncology Group (GOG, now NGR) meeting. Symposium title: “New paradigms in the pathogenesis of high-grade serous carcinoma: translating biological advances into prevention”. Chicago, IL. July 9, 2014
- *Invited Speaker*: “ARID1A, a new tumor suppressor, in Type I ovarian cancer” In 2014 5<sup>th</sup> Ovarian Cancer Symposium, Toronto, Canada. September 22, 2014.

- *Invited Speaker*, “The origin and molecular biology of ovarian cancer: the role of fallopian tube”. In 2014 Gynecologic Cancer Survivors Course, Baltimore, MD, September 27, 2014.
- *Grand Round Speaker*, “Chromatin remodeling and tumor suppression- a cross talk of genetics and epigenetics” Pathology Grand Round, Johns Hopkins Medical Institutions, October 20, 2014.
- *Invited Special Lecturer*, “New paradigm in the origin of ovarian carcinoma- from molecular to clinical implications”. The 128th Meeting of the Kanto Society of Obstetrics and Gynecology, Matsumoto City, Nagano, Japan, October 25-26, 2014.
- *Invited Special Lecturer*, “The biology of ARID1A, a chromatin remodeling gene, in tumor suppression”. National Sun Yat Sen University, Kaohsiung City, Taiwan. October 28, 2014.
- *Invited Speaker*, Talk-1 “Molecular prognostic factors: Will it affect treatment decision?” Talk-2 “Genetic innovations in screening for ovarian cancer” Talk-3 “Pathology evaluation of gestational trophoblastic neoplasia”, Turkish GOG Congress, Antalya, Turkey. November 20-22, 2014.
- *Invited Speaker*, “Molecular etiology and pathogenesis of ovarian cancer”. In 2014 Ella T. Grasso Memorial Conference New Haven, CT, December 3, 2014.
- *Invited Speaker*, “Molecular innovations for early detection of gynecologic cancer using cervical cytology specimens”. 2015 Conference of Chinese Society of Colposcopy and Cervical Pathology. Beijing, China, May 22-24, 2015.
- *Invited Speaker*, “Molecular Classification of Ovarian Cancer”. Qilu Hospital of Shandong University. China, May 26, 2015.
- *Invited Speaker*, “Translational Implications of Genomic Analysis in Gynecologic Cancer”. CGMH-Kaoushiang, Taiwan, May 16, 2015.
- *Invited Speaker*, topic 1: “Intermediate trophoblastic tumors and tumor-like lesions” topic 2: “The dualistic model of ovarian carcinogenesis, revisited, revised and expanded” In Professor TY Chen Memorial Symposium, Taipei Medical University, Taipei, Taiwan, June 27, 2015.
- *Invited Seminar Speaker*, “Targeting SYK as a new strategy to sensitize paclitaxel in ovarian cancer”. Massachusetts General Hospital (Center for Cancer Research) and Harvard Medical School, Boston, Massachusetts. September 2, 2015.
- *Invited Speaker*, AACR special meeting- “Endometriosis-associated Ovarian Cancer”. Advances in Ovarian Cancer Research: Exploiting Vulnerabilities. Orland, Florida. October 19, 2015.
- *Grand Round Speaker*, “The cell of origin of ovarian cancer- a paradigm shift and clinical implications” Karmanos Cancer Institute, Detroit, MI, March 24, 2016
- *Invited Speaker*, “Personalized medicine in gynecologic cancer- the challenges and promise” In Taiwan Join Cancer Conference, May 15, 2016.
- *Invited Speaker*, “The promise of translational gynecologic research at the post-genomic era” Veteran General Hospital- Taipei, Taiwan, May 16, 2016
- *Invited Speaker*, “Molecular Genetic Landscape of Endometriosis- a time to re-define what is cancer?”, in Asia-Pacific Society of Molecular Immunohistology, December 11, 2016, Taipei, Taiwan.
- *Invited Speaker*, “Molecular Genetic Landscape of Endometriosis” First Congress of Taiwan Endometriosis Society, December 17, 2016.
- *Invited Distinguished Grand Round Speaker*, “Molecular Genetic Landscape of Endometriosis” Thomas Jefferson University, Philadelphia, January 4, 2017.
- *Invited Speaker*, “Early detection of ovarian cancer in BRCA1/2 carriers”, the annual Bassett Symposium for BRCA research. Philadelphia, May 4, 2017.
- *Invited Speaker and Visiting Lecturer*, “Various topics of Gynecologic Pathology”, Mongolian National University Medical School, Ulaanbaatar, Mongolia, June 19- 22, 2017.

- Invited Speaker, “The Pathology of Human Suffering”, in Professor Huang Memorial Lecture of Pathology, Taipei Medical University, Taipei, Taiwan, June 28, 2017.
- Invited Speaker, “Molecular etiology in ovarian clear cell and low-grade serous carcinomas”, NRG Oncology Semi-Annual Meeting, Philadelphia, Pennsylvania, July 13, 2017.
- Invited Speaker, “Molecular diagnostics of ovarian cancer using cervical-vaginal fluid”, in NIH/NCI EDNRN meeting. Seattle, Washington, September 12, 2017.
- Invited Speaker, “PapGene and PapDREAMing for early detection of ovarian cancer”, AACR Special Conference: Addressing critical questions in ovarian cancer research and treatment. Pittsburgh, Pennsylvania, October 3, 2017.
- Invited Speaker, “Somatic mutations in ovarian cancer precursors including STIC in the absence of carcinoma.” At 6<sup>th</sup> US Department of Defense Ovarian Cancer Research Program Ovarian Cancer Consortium Mini-symposium, New York University Medical Center, New York City, October 27, 2017.
- Invited Speaker, “Cancer Implications for Patients with Endometriosis”, in the symposium of “Breast, Ovary & Endometriosis: Investigating the role of sex hormones in the etiology and treatment”. New York City, October 28, 2017.
- SKCCC Translational Cancer Seminar, “Translational implications of analyzing mutation landscape in gynecologic cancer precursors”, Department of Oncology, Johns Hopkins Medical Institutions, November 9, 2017
- Grand Round Speaker, “Endometriosis- New Biology and Questions”, Department of Gynecology, Greater Baltimore Medical Center, Baltimore, Maryland, November 17, 2017
- Invited Speaker, “Cancer-driver mutations in endometriosis”. American Association of Gynecologic Laparoscopists (AAGL)-Beijing meeting, Beijing, China, December 9, 2017.
- Invited Speaker, “The Origin of Endometriosis- new insights into an old question”, Taiwan Endometriosis Society (TES) 2017 Annual Meeting, December 10, 2017.
- Grand Round Speaker, “Endometriosis-related ovarian neoplasms” Memorial Sloan Kettering Comprehensive Cancer Center Gynecologic Oncology, New York City, February 8, 2018.
- Emerging Frontiers in Biomedical Research Seminar Series, “Molecular landscape in endometriosis”. RWJMS Basic Science Departments, Rutgers University/Robert Wood Johnson Medical School, Piscataway, New Jersey, March 20, 2018.
- Translational Medicine Institute, “Translational medicine- the time is now”. Taipei Medical University, April 17, 2018.
- The Tina Brozman Ovarian Cancer Research Consortium Symposium, “Integration of advanced genomic and bioengineering approaches for early detection and prevention of ovarian cancer” and “Applying DREAMing to detect epigenetic markers in ovarian cancer”. New York City, May 7, 2018.
- AAGL International Conference. “Clonal origin of adenomyosis and endometriosis” Beijing, China, September 12-16, 2018.
- Invited Speaker, “The stem cell theory of endometriosis”, Taiwan Endometriosis Society (TES) 2018 Annual Meeting, Taipei, Taiwan, November 10, 2018.
- “The origin of ovarian cancer precursor species”, at Tzu Chi University, Hualien, Taiwan, January 24, 2019.
- Invited Speaker, “Pathology and pathogenesis of ovarian low-grade serous carcinoma” Low-grade ovarian cancer symposium, Miami, Jan 31, 2019
- Invited Speaker, “Inflammation in endometriosis- what we can learn from cancer biology?” Annual meeting of Endometriosis Foundation USA, New York City, New York, March 8, 2019.
- Invited Speaker, Mini-symposium on endometriosis of the Society of Reproductive Investigation (SRI) Annual meeting. “Somatic mutations and evolution of endometriosis species.” Paris, France. March 15, 2019.



- Invited Distinguished Lecture Series, “The origin of ovarian cancer precursor species”, Sylvester Comprehensive Cancer Center at the University of Miami, September 20, 2019.
- Keynote Speaker, “Big data, new technology and early detection of cancer”, at the Chinese-American Professionals Association (CAPA, 華府國建聯誼會), Gaithersburg, Maryland, September 28, 2019.
- Invited Speaker, “Chronic Inflammation in Endometriosis- Pathogenesis and Target-based Therapy”, Taiwan Endometriosis Society (TES) 2019 Annual Meeting, Taipei, Taiwan, November 24, 2019.
- Grand Round Speaker, “ARID1A mutation accelerates tumor progression in uterine endometrioid carcinoma”, MD Anderson Comprehensive Cancer Center, November 4, 2020.
- Invited Speaker, “The origin of ovarian cancer species and precancerous landscape.”, in Asian Society of Gynecologic Oncology (ASGO) workshop, December 20, 2020.
- Keynote Speaker, “The origins of endometriosis species and their immune landscape”. Asia Pacific Initiative of Reproduction (ASPIRE), Manila, Philippines, April 16, 2021.
- “Bring Contemporary Technology Into Endometriosis Research and Beyond”. Pre-congress course in the Asia Pacific Initiative of Reproduction (ASPIRE), Manila, Philippines, April 16, 2021.
- Invited Speaker, “Origins of ovarian precancer species”, Ovarian Cancer Midwest Focus Conference, Austin, Minnesota, November 11-12, 2021.
- Invited Speaker, “Ovarian clear cell carcinoma and ARID1A mutations” . Society of Gynecologic Oncology Annual Meeting, Master class, Phoenix, Arizona, March 18-21, 2022.

#### **OTHER NONPROFESSIONAL ACTIVITIES**

Photography website: <http://www.shih-photography.com>

Author on “*Life is Beautiful- Stay away from the evolutionary trap*” (in Chinese, The Third Nature Publisher, Taipei, Taiwan 2019, the English version is coming soon)