

# CURRICULUM VITAE



## Prof. Ruby HUANG, Yun Ju (黃韻如)

### Personal Information

**Date of birth:** 19 Feb 1974 (Taipei, Taiwan)      **Family status:** Married with one son  
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### Current Position

*Primary Appointment:* Professor, School of Medicine, College of Medicine, National Taiwan University (NTU)

*Joint Appointment:* Professor, Graduate Institute of Oncology, College of Medicine, NTU

Professor, Department of Medical Engineering, College of Engineering, NTU

*Adjunct Appointment:* Attending Physician, Department of Medical Research, National Taiwan University Hospital

*Visiting Appointment:* Visiting Professor, IRCMS, Kumamoto University, Japan

Visiting Professor, Department of Obstetric & Gynaecology, Yong Loo Lin School of Medicine,  
National University of Singapore (NUS)

### Education

#### Degrees Obtained

<b>Doctor of Philosophy (Ph.D.)</b>	Sep 2004 - June 2008	Graduate Institute of Anatomy and Cell Biology	National Taiwan University
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<b>Doctor of Medicine (M.D.)*</b>	Sep 1992 - June 1999	School of Medicine	National Taiwan University
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\*Valedictorian of Class 1999

#### Executive Courses

<b>Women's Leadership and Impact in Asia</b>	22 - 24 Feb 2017	Lee Kuan Yew School of Public Policy	National University of Singapore
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### Employment History

#### Academic Positions

<b>Professor</b>	8 Apr 2019 - present	School of Medicine, College of Medicine	National Taiwan University (NTU)
<b>Visiting Professor</b>	8 Apr 2019 - present	International Research Center for Medical Sciences	Kumamoto University, Japan
<b>Visiting Professor</b>	1 Aug 2019 - present	Yong Loo Lin School of Medicine	National University of Singapore (NUS)

<b>Visiting Professor Adjunct Professor</b>	<b>Associate Assistant</b>	1 Apr 2018 – 7 Apr 2018 1 Sep 2015 – 3 Apr 2019	International Research Center for Medical Sciences Department of Anatomy, Yong Loo Lin School of Medicine	Kumamoto University, Japan NUS
<b>Senior Research Fellow</b>		1 Jul 2009 – 31 Aug 2015	Cancer Science Institute (CSI) of Singapore	NUS
<b>Research Fellow</b>		3 Sep 2007 - 31 Aug 2009	Institute of Molecular and Cell Biology	A*STAR, Singapore
<b>Research Fellow / Visiting Scientist</b>		1 Aug 2006 - 30 Apr 2007	Department of Obstetrics & Gynecology	University of British Columbia, Canada

*Clinical Positions*

<b>Senior Resident Physician</b>		1 Jan 2016 – 3 Apr 2019	Department of O&G	National University Hospital (NUH), Singapore
<b>Resident Physician I</b>		1 Jan 2015 – 31 Dec 2015	Department of O&G	NUH
<b>Clinical Associate</b>		1 Jul 2014 – 31 Dec 2014	Department of O&G	NUH
<b>Medical Officer</b>		1 Sep 2009 – 30 Jun 2014	Department of O&G	NUH
<b>Clinical Fellow</b>		1 Jul 2003 - 30 Jun 2006	Department of Oncology	National Taiwan University Hospital (NTUH)
<b>Resident &amp; Chief Resident</b>		1 Jul 1999 - 30 Jun 2003	Department of Obstetrics and Gynecology	NTUH

*Research Positions*

<b>Principal Investigator</b>		1 Apr 2016 – 3 Apr 2019	CSI Singapore	NUS
<b>Principal Associate</b>		Apr 2013 – Mar 2016	CSI Singapore	NUS

*Administrative Positions*

<b>Director</b>		1 Apr 2017 – 3 Apr 2019	Translational Centre for Development and Research (Transcend)	National University Health System
<b>Chair, Safety Committee</b>		Apr 2015 – 20 May 2017	CSI Singapore	NUS

*Board Certificates*

<b>License of Medicine (#031164)</b>		20 Apr 2000
Department of Health, Executive Yuan, Republic of China (Taiwan)		
<b>Specialty of Obstetrics and Gynecology (#002579)</b>		28 Jan 2003
Department of Health, Executive Yuan, Republic of China (Taiwan)		
<b>Conditional Registration of Singapore Medical Council (MCR No: 15113J)</b>		Sep 2009 - Apr 2019
Singapore Medical Council, Republic of Singapore		

**Honors & Awards**

2018	<b>Yushan Young Scholar</b>	Ministry of Education, ROC (Taiwan)
2015	<b>Best Oral Presentation Award (Translational Science)</b>	2 <sup>nd</sup> NCIS Annual Meeting (NCAM) 2015
2014	<b>Best Poster Award (Translational Science)</b>	1 <sup>st</sup> NCIS Annual Meeting (NCAM) 2014
2012	<b>NUHS Clinician Scientist Program Award</b>	National University Health System
2012	<b>2012 Aflac-AACR Scholar in Training Award</b>	101 <sup>st</sup> AACR Annual Meeting 2012
2011	<b>Best Oral Presentation Award</b>	Pitch for Funds Round, National University Hospital of Singapore
2007	<b>Poster Award</b>	Auersperg Symposium on the Etiology of Ovarian Cancers
2006	<b>FIGO / BSP Postdoctoral Research Fellowship</b>	

- Federation of International Gynecology and Obstetrics & Bayer Schering Pharma
- 2006 **Taiwan Merit Scholarships (TMS) Program**  
Ministry of Education of Taiwan and National Taiwan University
- 2000 **Best Resident Award** Department of Obstetrics & Gynecology, National Taiwan University Hospital
- 1998 **Ching-Hsing Medical Foundation Exchange Clerkship Scholarship**  
Ching-Hsing Medical Foundation

### Selected Invited Presentations in International Conferences

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#### 2020

- (1) Asia Pacific Spatial Genomics Summit by NanoString and Illumina, Virtual
- (2) Taiwanese Society of Developmental Biology, Taichung, Taiwan
- (3) 1<sup>st</sup> International Conference of the Asian Oncology Society (AOS), Virtual

#### 2019

- (1) 9th International EMT Meeting, Kumamoto, Japan
- (2) 14th Asia Epigenome Meeting (AEM)/3rd Taipei Epigenetics and Chromatin Meeting (TECM), Taipei, Taiwan
- (3) iBRCA Annual Meeting, Singapore
- (4) 25th Annual Meeting of the Japanese Society for Familial Tumors (JSFT2019), Tokyo, Japan
- (5) Asian Society of Gynecologic Oncology (ASGO): The 6th Biennial Meeting 2019, Incheon, South Korea

#### 2018

- (1) ASGO 5th International Workshop on Gynecologic Oncology, Seoul, Korea
- (2) CSI NUS-CMU Joint Symposium, Taichung, Taiwan
- (3) Ovarian Cancer Association Consortium/Ovarian Tumour Tissue Analysis Consortium Meeting, Sydney
- (4) 57th Annual Congress of Taiwan Association of Obstetrics and Gynecology, 2018, Taipei, Taiwan
- (5) 1st NUS Industry Round Table: Current Advancements in Cancer Therapeutics, Singapore

#### 2017

- (1) 8th International EMT Meeting, Houston, USA
- (2) Asian Society of Gynecologic Oncology (ASGO): The 5th Biennial Meeting 2017, Tokyo, Japan

#### 2016

- (1) European Society for Medical Oncology (ESMO): Asia Congress 2016
- (2) Asia Pacific preceptorship in advanced ovarian cancer and cervical cancer
- (3) 16th Metastasis Research Society (MRS) Biannual Meeting
- (4) Asia Pacific International Congress of Anatomist (APICA)
- (5) Singapore Bayer Oncology Forum 2016

#### 2015

- (1) European Society for Medical Oncology (ESMO): Asia Congress 2015  
Special Symposium: Precision medicine and developmental therapeutics in gynaecologic oncology, Singapore
- (2) Asian Society of Gynecologic Oncology (ASGO): The 4<sup>th</sup> Biennial Meeting 2015, Seoul, Korea
- (3) 7th International EMT Meeting, Melbourne, Australia
- (4) Asia Pacific Endometriosis Consensus and Treatment of uterine disorders (ASPECT) meeting, Singapore

#### 2014

- (1) Victorian Comprehensive Cancer Centre Gynaecologic Oncology Research Collaborative Mini-Symposium: "Sub-setting epithelial ovarian cancer: clues for treatment direction", Melbourne, Australia
- (2) 10<sup>th</sup> Biennial Ovarian Cancer Research Symposium, Seattle, USA
- (3) BIO-FORUM 2014 (The 16th Shanghai International Forum on Biotechnology & Pharmaceutical Industry, Shanghai, PRC)

#### 2013

- (1) 6th International EMT Meeting, Alicante, Spain
- (2) International Symposium of Advances in Ovarian Cancer, Taipei, Taiwan

#### 2012

- (1) The 14<sup>th</sup> Shanghai International Forum on Biotechnology & Pharmaceutical Industry

(2) 101th AACR Annual Meeting 2012, Chicago, USA

**2011**

(1) 5th International EMT Meeting, Singapore

### Membership of Professional Societies

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Member, Taipei Medical Association

Member, Taiwanese Association of Obstetrics and Gynecology (TAOG)

Member, Chinese Oncology Society

Member, American Association of Cancer Research (AACR)

Member, The EMT International Association (TEMTIA)

Member, Society of Gynecologic Oncology (SGO)

Member, American Society of Clinical Oncology (ASCO)

Editorial Board Member, Communications Biology

Ex-Member, Editorial Board of the AACR official journal "Cancer Research"

### Professional Service

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**Professional Journal Peer Reviewer:** ex-Editorial member for: Cancer Research; Ad hoc manuscript reviewer for: Cancers, Cell Death & Disease, Cell Reports, Clinical Experimental Metastasis, Dove Medical Press, Food & Chemical, Toxicology, GENE, International Journal of Nanomedicine, Molecular Cancer, Oncogene, Oncotarget, PLoS One, Scientific Reports, Tumor Biology, Science Signaling.

**Competitive Grant Peer Reviewer:** UK MRC Research Grant; UK Target Ovarian Cancer Grant; United States-Israel Binational Science Foundation, Israeli Science Foundation; National Health Innovation Centre Singapore I2D Grant; NUHS Basic Research Grant; NCIS YSY Tier 1 Grant, NUHS CSU Pitch For Fund Round; NCIS Centre Grant Pilot Program; MOST Individual Research Grant; NTUH intramural grants.

### List of Publications

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*Papers (H-index: 33; i-10 index: 54 by Google Scholar) (Total citation on Google Scholar by 3 Mar 2021: 14,870)*

- (1) Chandrika M, Chua PJ, Muniasamy U, **Huang RY**, Thike AA, Ng CT, Tan PH, Yip GW, Bay BH. Prognostic significance of phosphoglycerate dehydrogenase in breast cancer. **Breast Cancer Res Treat.** 2021 Feb 24.
- (2) Wang M, Nai MH, **Huang RY**, Leo HL, Lim CT, Chen CH. High-throughput functional profiling of single adherent cells via hydrogel drop-screen. **Lab Chip.** 2021 Feb 23;21(4):764-774.
- (3) Putting the BRK on breast cancer: From molecular target to therapeutics. Ang HL, Yuan Y, Lai X, Tan TZ, Wang L, Huang BB, Pandey V, **Huang RY**, Lobie PE, Goh BC, Sethi G, Yap CT, Chan CW, Lee SC, Kumar AP. **Theranostics.** 2021 Jan 1;11(3):1115-1128.
- (4) Sundararajan V, Tan M, Tan TZ, Pang QY, Ye J, Chung VY, **Huang RY**. Correction: Sundararajan, V., et al. SNAI1-Driven Sequential EMT Changes Attributed by Selective Chromatin Enrichment of RAD21 and GRHL2. *Cancers* 2020, 12, 1140. **Cancers (Basel).** 2020 Dec 15;12(12):3777.
- (5) Arora A, Niño JLG, Myaing MZ, Chia S, Arasi B, Ravasio A, **Huang RY**, Dasgupta R, Biro M, Viasnoff V. Two high-yield complementary methods to sort cell populations by their 2D or 3D migration speed. **Mol Biol Cell.** 2020 Dec 1;31(25):2779-2790.
- (6) Ravasio A, Myaing MZ, Chia S, Arora A, Sathe A, Cao EY, Bertocchi C, Sharma A, Arasi B, Chung VY, Greene AC, Tan TZ, Chen Z, Ong HT, Iyer NG, **Huang RY**, DasGupta R, Groves JT, Viasnoff V. Author Correction: Single-cell analysis of EphA clustering phenotypes to probe cancer cell heterogeneity. **Commun Biol.** 2020 Nov 6;3(1):655.
- (7) Yabuno A, Matsushita H, Hamano T, Tan TZ, Shintani D, Fujieda N, Tan DSP, **Huang RY**, Fujiwara K, Kakimi K, Hasegawa K. Identification of serum cytokine clusters associated with outcomes in ovarian clear cell carcinoma. **Sci Rep.** 2020 Oct 28;10(1):18503.
- (8) Wang Y, Chiou YS, Chong QY, Zhang M, Rangappa KS, Ma L, Zhu T, Kumar AP, **Huang RY**, Pandey V, Basappa, Lobie PE. Pharmacological Inhibition of BAD Ser99 Phosphorylation Enhances the Efficacy of Cisplatin in Ovarian Cancer by Inhibition of Cancer Stem Cell-like Behavior. **ACS Pharmacol Transl Sci.** 2020 Oct 9;3(6):1083-1099.
- (9) V Sundararajan, QY Pang, M Choolani, **RY Huang**. Spotlight on the Granules (Grainyhead-Like Proteins)–From an

- Evolutionary Conserved Controller of Epithelial Trait to Pioneering the Chromatin Landscape. **Front Mol Biosci.** **2020 Aug 21;7:213.**
- (10) Dinh ND, Kukumberg M, Nguyen AT, Keramati H, Guo S, Phan DT, Ja'afar NB, Birgersson E, Leo HL, **Huang RY**, Kofidis T, Rufaihah AJ, Chen CH. Functional reservoir microcapsules generated via microfluidic fabrication for long-term cardiovascular therapeutics. **Lab Chip.** **2020 Aug 7;20(15):2756-2764.**
- (11) Ravasio A, Myaing MZ, Chia S, Arora A, Sathe A, Cao EY, Bertocchi C, Sharma A, Arasi B, Chung VY, Greene AC, Tan TZ, Chen Z, Ong HT, Iyer NG, **Huang RY**, DasGupta R, Groves JT, Viasnoff V. Single-cell analysis of EphA clustering phenotypes to probe cancer cell heterogeneity. **Commun Biol.** **2020 Aug 6;3(1):429.**
- (12) Talhouk A, George J, Wang C, Budden T, Tan TZ, Chiu DS, Kommos S, Leong HS, Chen S, Intermaggio MP, Gilks B, Nazeran TM, Volchek M, Elatre W, Bentley RC, Senz J, Lum A, Chow V, Sudderuddin H, Mackenzie R, Leung S, Liu G, Johnson D, Chen B, Ovarian Cancer Study A, Alsop J, Banerjee S, Behrens S, Bodelon C, Brand AH, Brinton LA, Carney ME, Chiew YE, Cushing-Haugen KL, Cybulski C, Ennis D, Fereday S, Fortner RT, García-Donás J, Gentry-Maharaj A, Glasspool R, Goranova T, Greene CS, Haluska P, Harris HR, Hendley J, Hernandez BY, Herpel E, Jimenez-Linan M, Karpinskyj C, Kaufmann SH, Keeney G, Kennedy CJ, Köbel M, Koziak J, Larson MC, Lester J, Lewsley LA, Lissowska J, Lubiński J, Luk H, Macintyre G, Mahner S, McNeish IA, Menkiszak J, Nevins N, Osorio A, Oszurek O, Palacios J, Hinsley S, Pearce CL, Pike MC, Piskorz A, Ray-Coquard I, Rhenius V, Rodríguez-Antona C, Sharma R, Sherman ME, Silva D, Singh N, Sinn HP, Slamon DJ, Song H, Steed H, Stronach EA, Thompson PJ, Tołoczko-Grabarek A, Trabert B, Traficante N, Tseng CC, Widschwendter M, Wilkens LR, Winham SJ, Winterhoff BJ, Beeghly-Fadiel A, Benitez J, Berchuck A, Brenton JD, Brown R, Chang-Claude J, Chenevix-Trench G, DeFazio A, Fasching PA, Garcia MJ, Gayther SA, Goodman MT, Gronwald J, Henderson MJ, Karlan BY, Kelemen LE, Menon U, Orsulic S, Pharoah PDP, Wentzensen N, Wu AH, Shildkraut J, Rossing MA, Konecny GE, Huntsman DG, **Huang RY**, Goode EL, Ramus SJ, Doherty JA, Bowtell DDL, Anglesio MS. Development and validation of the gene-expression Predictor of high-grade-serous Ovarian carcinoma molecular subTYPE (PrOTYPE). **Clin Cancer Res.** **2020 Oct 15;26(20):5411-5423.**
- (13) Mahyuddin AP, Kanneganti A, Wong J, Dimri PS, Su LL, Biswas A, Illanes SE, Mattar C, **Huang RJ**, Choolani M. Mechanisms and evidence of vertical transmission of infections in pregnancy including SARS-CoV-2. **Prenat Diagn.** **2020 Dec;40(13):1655-1670.**
- (14) Yang J, Antin P, Berx G, Blanpain C, Brabletz T, Bronner M, Campbell K, Cano A, Casanova J, Christofori G, Dedhar S, Derynck R, Ford HL, Fuxe J, García de Herreros A, Goodall GJ, Hadjantonakis AK, **Huang RY**, Kalcheim C, Kalluri R, Kang Y, Khew-Goodall Y, Levine H, Liu J, Longmore GD, Mani SA, Massagué J, Mayor R, McClay D, Mostov KE, Newgreen DF, Nieto MA, Puisieux A, Runyan R, Savagner P, Stanger B, Stemmler MP, Takahashi Y, Takeichi M, Theveneau E, Thiery JP, Thompson EW, Weinberg RA, Williams ED, Xing J, Zhou BP, Sheng G; EMT International Association (TEMtia). Guidelines and definitions for research on epithelial-mesenchymal transition. **Nat Rev Mol Cell Biol.** **2020 Jun;21(6):341-352.**
- (15) Sundararajan V, Tan M, Zea Tan T, Pang QY, Ye J, Chung VY, **Huang RY**. SNAI1-Driven Sequential EMT Changes Attributed by Selective Chromatin Enrichment of RAD21 and GRHL2. **Cancers (Basel).** **2020 May 2;12(5):E1140.**
- (16) Novera W, Lee ZW, Nin DS, Dai MZ, Binte Idres S, Wu H, Damen MA, Tan TZ, Sim AYL, Long YC, Wu W, **Huang RY**, Deng LW. Cysteine Deprivation Targets Ovarian Clear Cell Carcinoma Via Oxidative Stress and Iron-Sulfur Cluster Biogenesis Deficit. **Antioxid Redox Signal.** **2020 May 19.**
- (17) Lim KS, Yong ZWE, Wang H, Tan TZ, **Huang RY**, Yamamoto D, Inaki N, Hazawa M, Wong RW, Oshima H, Oshima M, Ito Y, Voon DC. Inflammatory and mitogenic signals drive interleukin 23 subunit alpha (IL23A) secretion independent of IL12B in intestinal epithelial cells. **J Biol Chem.** **2020 May 8;295(19):6387-6400.**
- (18) Ong MS, Deng S, Halim CE, Cai W, Tan TZ, **Huang RY**, Sethi G, Hooi SC, Kumar AP, Yap CT. Cytoskeletal Proteins in Cancer and Intracellular Stress: A Therapeutic Perspective. **Cancers (Basel).** **2020 Jan 18;12(1):238.**
- (19) Wu CJ, Sundararajan V, Sheu BC, **Huang RY**, Wei LH. Activation of STAT3 and STAT5 Signaling in Epithelial Ovarian Cancer Progression: Mechanism and Therapeutic Opportunity. **Cancers (Basel).** **2019 Dec 19;12(1):24.**
- (20) Tan TZ, Ye J, Yee CV, Lim D, Ngoi NYL, Tan DSP, **Huang RY**. Analysis of gene expression signatures identifies prognostic and functionally distinct ovarian clear cell carcinoma subtypes. **EBioMedicine.** **2019 Dec;50:203-210.**



- (21) Yang B, Wolfenson H, Chung VY, Nakazawa N, Liu S, Hu J, **Huang RY**, Sheetz MP. Stopping transformed cancer cell growth by rigidity sensing. **Nat Mater.** 2020 Feb;**19(2):239-250**.
- (22) Loh XY, Sun QY, Ding LW, Mayakonda A, Venkatachalam N, Yeo MS, Silva TC, Xiao JF, Doan NB, Said JW, Ran XB, Zhou SQ, Dakle P, Shyamsunder P, Koh AP, **Huang RY**, Berman BP, Tan SY, Yang H, Lin DC, Koeffler HP. RNA-Binding Protein ZFP36L1 Suppresses Hypoxia and Cell-Cycle Signaling. **Cancer Res.** 2020 Jan **15;80(2):219-233**.
- (23) Chung VY, Tan TZ, Ye J, Huang RL, Lai HC, Kappei D, Wollmann H, Guccione E, **Huang RY**. The role of GRHL2 and epigenetic remodeling in epithelial-mesenchymal plasticity in ovarian cancer cells. **Commun Biol.** 2019 Jul **24;2:272**.
- (24) Sundararajan V, Tan M, Tan TZ, Ye J, Thiery JP, **Huang RY**. SNAI1 recruits HDAC1 to suppress SNAI2 transcription during epithelial to mesenchymal transition. **Sci Rep.** 2019 Jun **5;9(1):8295**.
- (25) Antony J, Thiery JP, **Huang RY**. Redefining EMT in the context of deciphering targetable conduits in ovarian cancer. **Phys Biol.** 2019 May **7;16(4):041004**.
- (26) Jalal S, Shi S, Acharya V, **Huang RY**, Viasnoff V, Bershadsky AD, Tee YH. Actin cytoskeleton self-organization in single epithelial cells and fibroblasts under isotropic confinement. **J Cell Sci.** 2019 Mar **7;132(5):jcs220780**.
- (27) Kong TW, Ryu HS, Kim SC, Enomoto T, Li J, Kim KH, Shim SH, Wang PH, Therasakvichya S, Kobayashi Y, Lee M, Shi T, Lee SW, Mikami M, Nagase S, Lim MC, Wang J, Wilailak S, Kim SW, Hong SH, Tan DS, Mandai M, Chang SJ, **Huang RY**, Ushijima K, Lee JY, Chen X, Ochiai K, Lee TS, Yang B, Kalam F, Lv Q, Ahmad MF, Yaznil MR, Modi KB, Manopunya M, Jeong DH, Lertkhachonsuk AA, Chung HH, Watari H, Jeon S. Asian Society of Gynecologic Oncology International Workshop 2018. **J Gynecol Oncol.** 2019 Mar;**30(2):e39**.
- (28) Ravasio A, Myaing M, Chia S, Arora A, As the A, Cao Y, Bertocchi C, Sharma A, Arasi B, Chung VY, Green A, Tan TZ, Chen Z, Ong HT, **Huang RY**, Dasgupta R, Groves J, and Viasnoff V. Single cell phenotypic assay to probe the heterogeneity of cancer cell states based on Eph receptor spatial organization. Cancer Research (In revision).
- (29) Tan M\*, Asad M\*, Heong V\*, Wong MK, Tan TZ, Ye J, Kuay KT, Thiery JP, Scott C, **Huang RY**. The FZD7-TWIST1 axis driven anoikis resistance and tumorigenesis is a therapeutic target for Wnt pathway in ovarian cancer. **Mol Oncol.** 2019 Apr;**13(4):757-780**.
- (30) Shanmugam MK, KS Ahn, Hsu A, Woo CC, Yuan Y, Tan KH, Chinnathambi A, Alahmadi TA, Alharbi SA, Koh AP, Arfuso F, **Huang RY**, Lim L, Sethi G, Kumar AP. Thymoquinone inhibits bone metastasis of breast cancer cells through abrogation of the CXCR4 signaling axis. **Frontiers in Pharmacology** 2018 **9, 1294**
- (31) Tan TZ\*, Heong V\*, Ye J, Lim D, Low J, Choolani M, Scott C, Tan DS and, **Huang RY**. Deciphering intra-tumoral heterogeneity using Molecular Assessment of Subtype Heterogeneity to guide personalized medicine in ovarian cancer. **J Pathol.** 2019 Mar;**247(3):305-319**.
- (32) Tan TZ, Rouanne M, Tan KT, **Huang RY\***, Thiery JP\*. Comprehensive Analysis of a Meta-Cohort of 2159 Urothelial Bladder Cancers: Toward a Consensus for Molecular Subtyping. **Eur Urol.** 2019 Mar;**75(3):423-432**. \* **Co-senior author**
- (33) Antony J, Zanini E, Kelly Z, Tan TZ, Karali E, Alomary M, Jung Y, Nixon K, Cunnea P, Fotopoulou C, Paterson A, Roy-Nawathe S, Mills G, **Huang RY**, Thiery JP, Gabra H, and Recchi C. The tumour suppressor OPCML promotes AXL inactivation by the phosphatase PTPRG in ovarian cancer. **EMBO Rep.** 2018 Aug;**19(8):e45670**.
- (34) Ong MS, Cai W, Tan TZ, Huang RY, Hooi SC, Yap CY, Kumar AP. Long Non-coding RNA Landscape in Colorectal Cancer. **RNA & DISEASE** 2018; **5: e1628**.
- (35) Singh SS, Vats S, Chia AY, Tan TZ, Deng S, Ong MS, Arfuso F, Yap CT, Goh BC, Sethi G, **Huang RY**, Shen HM, Manjithaya R, Kumar AP. Dual Role of Autophagy in Hallmarks of Cancer. **Oncogene** 2018;**37(9):1142-1158**.
- (36) Kitajima S, Lee KL, **Huang RY**, Yang H, Araki M, Kato H and Poellinger L. Hypoxia-inducible factor-1 $\alpha$  promotes cell survival during ammonia stress response in ovarian cancer stem-like cells **Oncotarget** 2017, **8 (70), 114481**
- (37) Lee ZW, Novera W, Song ZJ, Teo XY, Nin DS, Choo BA, Dymock BW, Moore P, **Huang RY**, Deng LH. Intracellular hyper-acidification potentiated by hydrogen sulfide kills invasive and therapy resistant cancers. **Frontiers in Pharmacology** 2017 **8, 763**
- (38) Chung VY, Tan TZ, Huang RL, Lai HC, **Huang RY**. Loss of Discoidin Domain Receptor 1 (DDR1) via CpG methylation during EMT in Epithelial Ovarian Cancer. **GENE.** 2017 **635, 9-15**
- (39) Ong M; Cai W; Yuan Y; Leong H, Tan Z; Mohammad A; You M; Arfuso F; Goh B; Warriar S; Sethi G; Tolwinski N;

- Lobie, P; Yap C; Hooi S; **Huang R**; Kumar A “Lnc”-ing Wnt in Female Reproductive Cancers: Therapeutic Potential of Long Non-coding RNAs in Wnt Signaling. **Br. J. Pharmacol.** **2017 Dec;174(24):4684-4700.**
- (40) Voon DC, **Huang RY**, Jackson R and Thiery JP. The EMT spectrum and therapeutic opportunities. **Molecular Oncology.** **2017 Jul;11(7):878-891** (Invited Review)
- (41) Antony J, **Huang RY**. AXL-driven EMT state as a targetable conduit in cancer. **Cancer Research.** **2017 77 (14), 3725-3732** (Invited Review)
- (42) Chung VY, **Huang RY**. KDM4B under hypoxia: a new targetable pathway for epithelial ovarian cancer? **Translational Cancer Research.** **2017 6 (1), S93-S95** (Invited Commentary)
- (43) **Huang RY**, Antony J, Tan TZ, and TAN DS. Targeting the AXL signaling pathway in ovarian cancer. **Molecular & Cellular Oncology.** **2017 e1263716** (Invited Commentary)
- (44) **Huang RY**, Huang TY. A new dimension in drug discovery: reversing epithelial-mesenchymal transition (EMT). **Cell Death & Disease.** **2016 7, e2417.** (Invited Commentary)
- (45) Antony J, Tan TZ, Kelly Z, Gabra H, Recchi C, Thiery JP and **Huang RY**. Gas6/AXL Signaling Network as a Mesenchymal Subtype Specific Therapeutic Target for Ovarian Cancer. **Science Signaling.** **2016 9, ra97**
- (46) Jia D, Liu Z, Deng N, Tan TZ, **Huang RY**, Taylor-Harding B, Cheon DJ, Lawrenson K, Wiedemeyer WR, Walts AE, Karlan BY, Orsulic S. A COL11A1-correlated pan-cancer gene signature of activated fibroblasts for the prioritization of therapeutic targets. **Cancer Lett.** **2016 382(2):203-214.**
- (47) Leong HP, Sieow JL, Adriani G, Yeap WH, Ee PS, San Luis B, Lee B, Lee T, Mak SY, Ho YS, Ong CK, **Huang RY**, Ginhoux F, Rotzschke O, Kamm RD, Wong SC. Warburg metabolism in tumor-conditioned macrophages promotes metastasis in human pancreatic ductal adenocarcinoma. **Oncotarget** **2016 5 (8), e1191731.**
- (48) Nieto A\*, **Huang RY\***, Jackson R\*, Thiery JP\*. EMT: 2016. **Cell** **2016 166 (1), 21-45** \* Equal contribution
- (49) Tang HM\*, Kuay KT\*, Koh PF, Asad M, Tan TZ, Chung VY, Lee SC, Thiery JP, **Huang RY**. An Epithelial marker Promoter Induction (Epi) screen identifies histone deacetylase (HDAC) inhibitors to restore epithelial differentiation and abolishes anchorage dependence growth in cancers. **Cell Death Discov.** **2016; 2: 16041.**
- (50) Chung VY, Wong MK, Kuay KT, Tan TZ, Guccione E, Thiery JP\*, and **Huang RY\***. GRHL2-miR-200-ZEB1 maintains the epithelial status of ovarian cancer through transcriptional regulation and histone modification. **Scientific Reports** **2016; 6: 19943.** \* Co-senior author.
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## Research Accomplishment

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Professor Ruby Yun-Ju Huang is a renowned clinician scientist in the international ovarian cancer research field. In the field of EMT, she is best known to define the early events of EMT (*Huang et al., J Cell Sci 2012*) and to propose the paradigm shift of the EMT concept from binary to a continuous spectrum (*Huang et al., Cell Death Dis 2013*). By using big data analysis of 13,000+ cancer gene expression profiles, her group pioneered in establishing EMT signatures and defining the EMT scoring (*Tan et al., EMBO Mol Med 2014*). She utilized ovarian cancer as the working model, by establishing the integrative genomic platforms and pre-clinical models for understanding the regulation of EMT in OC. She also co-discovered the presence of five gene expression molecular subtypes (GEMS) in OC that exhibit different epithelial and mesenchymal characteristics having different chemosensitivity to anti-microtubule agents (*Tan, Miow, & Huang et al., EMBO Mol Med 2013*). This work has been translated to a Phase II clinical trial (VIP, NCT03188159) to pre-select OC patients based on their GEMS as a biomarker to identify a subset of OC patients and to match with a therapeutic arm (vinorelbine) as a collaborative trial between Gynaecologic Cancer Group of SG (GCGS) and Australia New Zealand Gynaecological Oncology Group (ANZGOG). Driven by her strong belief in bench-to bedside translation, she has established the OC research program at NUH and CSI Singapore in NUS aiming to incorporate preclinical models and large-scale genomics data for novel target discovery for therapeutic options. Her group has focused on the understanding the underlying biology of OC GEMS driven by various mechanisms. Her group discovered the contribution of non-canonical *FZD7-Wnt* pathway in the OC subtype having a stem-cell property (*Asad et al., Cell Death Dis 2014; Tan, Asad, & Heong et al., Mol Oncol 2019*); the epithelial gatekeeper role of *GRHL2* (*Chung et al., Sci Rep, 2016; Chung et al., Commun Biol 2019*) in OC; the dependency of *AXL* signaling pathway in the mesenchymal subtype of OC (*Antony et al., Sci Signal 2016; Antony et al., EMBO Rep 2018*). Recently, her group further deciphered the intra-tumoral heterogeneity to guide personalized medicine in ovarian cancer by using the Molecular Assessment of Subtype Heterogeneity (MASH) scheme (*Tan & Heong, et al., J Path, 2019*). She is also the main contributor of the two seminal review articles in the field of EMT (*Thiery et al., Cell 2009; Nieto, Huang, Jackson, Thiery, Cell 2016*), which has accumulated citations up to 10,000+ times. These findings have posed important relevance in drug development and precision selection of patient populations in OC. She is thus considered to the international OC field in advocating precision medicine of OC from the perspectives of gene expression signatures and the unique biology of EMT. Since 2010, she has led the OC research team to execute projects with the accumulative grant worth of \$ 5.6 Million Singapore Dollars. As a key opinion leader, she has been invited to speak at several local and international meetings such as the Biennial Ovarian Cancer Research Symposium in the US, Asian Gynecologic Oncology Society Conference, ESMO Asia, and the International EMT Meeting. She has formed active local and international collaborations in Singapore, Taiwan, Japan, Australia, UK, and Canada.

Carrying the mission and vision to facilitate the translational research landscape to address healthcare needs, she served a one-year stint (2017-2018) as Director of the Translational Centre for Development and Research (TRANSCEND) in NUHS. Her goal is to bring her experience in OC translational research to a boarder community to facilitate the progress from discoveries to applications. She established the platform Models for Discovery & Guidance in Precision Cancer Therapeutics (MODIG Therapeutics) by applying the avian chorioallantoic membrane (CAM) system to broader utilization. The MODIG platform has successfully engaged users for various research needs.

Dr. Ruby Huang has obtained several awards including FIGO/BSP Postdoctoral Research Fellowship (2006), Taiwan Merit Scholarship (2006), the Aflac-AACR Scholar in Training Award (2012), and Transition Award from National Medical Research Council of Singapore (2012, not activated). Most recently in 2018, she was awarded Yushan Young Scholar from Ministry of Education, Republic of China (Taiwan), among the top talents in this global recruitment program.

Her current research interests include, diagnostics for molecular subtyping and EMT scoring in OC, functional genomics and drug screening for molecular subtype specific targets in OC, big onco-genomics data analysis, and tumor microenvironment in OC.