

## **YU-CHING LAN**

Department of Health Risk Management, China Medical University  
No.91 Hsueh-Shih Road, North District,  
Taichung City 40402, Taiwan (R.O.C.)  
Office:886-4-22053366 ext 6509; Cell Phone:+886-932328803  
yclan@mail.cmu.edu.tw; yclan.cmu@gmail.com

### **PROFESSIONAL EXPERIENCE & TECHNICAL SKILLS**

#### **Specific expertise and interests about large database:**

- Experienced study design for disease modeling work from genotype to phenotypes and behavior measurement by using molecular biology, bioinformation, mobile health sensors, cost-benefit economic estimation and global health effect
- Statistics: ANOVA & MANOVA, GLM modeling, linear & non-linear models, time series analysis, multivariate statistical inference, decision tree, clustering analysis, spatial analysis.
- BIG DATA/Statistical software: SAS, SAS EG, SAS VA, Tableau, R, SPSS, STATA, SigmaPlot.
- Geographic information system: ArcGIS, QGIS
- Mining and handling the large databases: Taiwan National Insurance database; Taiwan National Health Interview Survey; 2015-2016 Taiwan government big data; Los Angeles county AIDS database
- Epidemiological, Clinical trial and data management: design of experiments, epidemiological & clinical trials, setup online tools/mobile app for behavior data collection, analysis the time-serial and repeated dataset, setup epidemical and clinical database

#### **Data Management and Analysis Experience:**

The algorithms that I am familiar with are Bayesian inference integration with Markov Chain Monte Carlo (MCMC), decision tree, clustering analysis, spatial analysis for predicting the gene variation, human behavior and disease transmission. These processes would use maximum likelihood function to create a posterior probability and to test the research hypothesis through uncertainty analysis. As one of the principle investigators in the health modeling and policy assessment research team with researchers from Chang Gung University and National Taiwan University, we built up the evolutionary computation model for Taiwan Centre of Disease Control to assist the decision making and disease control system in SARS, Influenza, HIV, dengue outbreak since 2006. Moreover, in HIV disease progression prediction for clinical treatment decision making, I also applied multivariable linear mixed model analysis and survival analysis to the time-series data. Since 2011, I build up the estimation of HIV transmission model for Los Angeles county health department and help to train their stuffs to use these algorithms. Most of these works

came from large database on different research question do the mining and statistical analysis works.

### **Certifications**

Johns Hopkins University Data Science @ Coursera

Exploratory Data Analysis / The Data Scientist's Toolbox / R Programming / Getting and Cleaning Data

SAS Enterprise Guide / SAS visual analysis / SAS Text Miner workshop for professors

### **EMPLOYMENT**

2013-Now Associate Professor

Department of Health Risk Management, School of Management  
&  
Department of Public Health, School of Public Health  
China Medical University, Taichung, Taiwan

2006-2012 Assistant Professor

Department of Health Risk Management, School of Public Health  
China Medical University, Taichung, Taiwan

2010-2011 Visiting Scholar

Department of Community Health Sciences, School of Public Health  
University of California Los Angeles (Sponsor: Dr. Donald E. Morisky)

2005-2006 Postdoctoral Fellow in AIDS Prevention and Research Center

National Yang-Ming University, Taipei, Taiwan

### **EDUCATION**

1999-2005 Doctor of Philosophy in Public Health

Division of Prevention Medicine, Institute of Public Health,  
National Yang-Ming University, Taipei, Taiwan

1993-1998 Bachelor of Science in Public Health

Department of Public Health,  
China Medical University, Taichung, Taiwan

**ADDITIONAL TRAINING** ( with full scholarship from China Medical University)

## 2007      Multilevel Models course

The 25<sup>th</sup> Annual Graduate Summer Institute of Epidemiology and Biostatistics  
 Departments of Epidemiology and Biostatistics  
 Johns Hopkins Bloomberg School of Public Health.

## 2007      Hierarchical Linear Models course

The 60<sup>th</sup> Annual Summer Institute in Survey Research Techniques  
 Institute for Social Research  
 University of Michigan

## 2006      Bioinformatics Methods Applied to Virology: Advanced course

12th International Bioinformatics Workshop on Virus Evolution and Molecular Epidemiology  
 Phylogeny workshop 2006  
 National Retrovirus Reference Center, Department of Hygiene and Epidemiology Medical School,  
 National and Kapodistrian University of Athens, Greece.

**GRANTS, ACTIVE**

2017-2017 Principal Investigator, Measure the HIV stigma among general population in Taiwan,  
 Taiwan CDC.

2016-2017 Principal Investigator, “Combining phylodynamic analysis and social-network  
 approaches for HCV transmission assessment among Injecting Drug Users”, China  
 Medical University Hospital : DMR-106-117

2015-2017 co-Principal Investigator, Health Risk Management for Central Taiwan Science Park -  
 Epidemiological study

**GRANTS, COMPLETED**

2015-2016 co-Principal Investigator, Evaluating the drug prevention policy by using government  
 Big Data.

2014-2015 co-Principal Investigator, Health Risk Management for KS Industrial Park-  
 Epidemiological study

2013-2014 Principal Investigator, “Real-Time Assessment of Triggers and Coping Responses  
 among Methadone Patients in Taiwan”, National Science Council:  
 102-2314-B-039-024

2013-2014 Principal Investigator, “Developing a Web-based Surveillance System for Drug Abuse”,  
 The Taiwan Food and Drug Administration (FDA): MOHW103-FDA-61303

2013-2013 Principal Investigator, “Conjunction the mobile health technology to improve the

- prevention works for drug abuse”, The Taiwan Food and Drug Administration (FDA): DOH102-FDA-61304
- 2010-2013 Principal Investigator, “The study of virus subtype-specific quasispecies diversity and host genetic factors influencing susceptibility to HIV infection and AIDS progression”, National Science Council: 99-2314-B-039-022-MY3
- 2007-2010 Principal Investigator, “The study of HIV-1 subtype-specific patterns in virus transmission and evolution dynamics”, National Science Council: 96-2314-B-039-013-MY3
- 2009-2010 Principal Investigator, “Monitoring and Evaluating HIV Prevention Program for Most at Risk Population”, China Medical University: CMU98-S-16
- 2009-2009 Principal Investigator, “Study the factors of harm reduction service provider continually providing the service”, Centers for Disease Control, Department of Health, Taiwan: DOH98-DC-1501.
- 2009-2009 Principal Investigator, “Building the education tools of drug abuse prevention by using risk assessment method”, National Bureau of Controlled Drugs, Department of Health, Taiwan: DOH98-NNB-1048.
- 2008-2009 Co-Principal Investigator, “Models, Simulations and Assessments for Public Health Prevention, Control, Vaccine, and Antivirus Strategies for Taiwan's Most Serious Epidemics,” National Science Council: 97-2221-E-182-046.
- 2007-2008 Principal Investigator, “Molecular Epidemiology of HIV-1 in the middle region of Taiwan,” National Science Council: 96-2314-B-039-003-MY2
- 2007-2008 Principal Investigator, “The study of HIV-1 transmission and evolution model,” China Medical University: CMU96-117
- 2006-2007 Investigator, “The incidence, risk factor survey and epidemic curve prediction of HIV-1 infection among drug abuse patient in Taiwan,” Department of Health, Taiwan: DOH95-DC-1016
- 2005-2006 Principal Investigator, “Molecular Epidemiology of HIV-1 among IDUs in Taiwan,” China Medical University: CMU95-209

## RESEARCH EXPERIENCE

- 2005-2006 Postdoctoral Scholarship, “A study of tumor susceptibility gene Glycine N-Methyltransferase (GNMT) and Liver Cancer,” using molecular epidemiology method to study the GNMT gene function in Liver cancer; Department of Health,

Taiwan; NSC-94-2811-B-010-016.

2004-2005 Graduate Student Research Assistant Scholarship, "HIV-1 Molecular Laboratory," using phylogenetic analysis to study the evolution and transmission pathway of HIV-1 and SARS coronavirus in Taiwan; Department of Health, Taiwan;.

2003-2004 Graduate Student Assistant, "The TREAT Asia HIV Observational Database (TAHOD) in Taiwan," to study the clinical and genotypical drug resistance information about HIV-1; The University of NEW South Wales..

2000-2004 Graduate Student Teaching Assistantship, "HIV-1 Molecular Epidemiology Study," the genotypical and epidemiological investigation about HIV-1 and SARS coronavirus in BL-2 Lab; Institute of Public Health, National Yang-Ming University, Taiwan.

1998-1999 Research assistant, "The study of Occupational Epidemiology", Occupational Disease Prevention Center, China Medical University, Taichuang, Taiwan

## TEACHING

### Competition For Map Data virtualization : Taiwan ArcGIS story map

2016 Taiwan air pollution warning and medical support map for sport safety by using ArcGis story map : Data virtualization of air pollution, health and medical support information

Top 10 group

Smarter sport for health

### Competition Funding For Sports Business Innovation

2015 All care IoT business model for elder Physical Therapy and Sports Medical Care  
3<sup>rd</sup> prize

All Care Team

### Graduate Student award

2007 CMU Outstanding Dissertation Award of China Medical University Research and Study Group : Excellence in Poster Competition

Yi-Jen Yang

### Undergraduate Student award

2010 Award for Undergraduate Student to Join the Research Project, Taiwan National Science Conceal

Ji-Rong Sin

Clinical molecular epidemiology of HIV-1 and co-infection in central Taiwan

2010 Award for Public Health student to join Research Project, Taiwan Department of Health

Ju-Pei Chang

The medical utilization usage change among Taiwan HIV patient before and after 2003 by using National insurance database for survey

- 2009 Award for Undergraduate Student to Join the Research Project, Taiwan National Science Council Ju-Pei Chang  
Prevalence of antimicrobial resistance in *Helicobacter pylori* isolates in Taiwan by using national health insurance database
- 2009 Award for Undergraduate Student to Join the Research Project, Taiwan National Science Council Szu-An Chen  
The subtype B, C and CRF07\_BC of HIV-1 circulating and evolution in central Taiwan HIV
- 2008 Award for Undergraduate Student to Join the Research Project, Taiwan National Science Council Kuan-Wei Huang  
Molecular epidemiology of Kaposi's sarcoma-associated herpesvirus / human herpesvirus 8 strains from Taiwan

## THESIS

2005. Molecular epidemiology of HIV-1 and SARS Coronavirus infections in Taiwan.  
PhD Thesis of National Yang-Ming University.

## AWARDS

- 2010-Award of National Science Council (NSC) Outstanding Researcher in the university, Taiwan.
- 2009-Excellence in Mentoring Award, School of Public Health, China Medical University, Taiwan, ROC.
- 2007- Outstanding Research Award, Taiwan Public Health Association
- 2005- The Epidemic Control Dissertation Award of Taiwan Urbani Foundation
- 2005- Outstanding Dissertation Award of National Yang-Ming University
- 2005-Conference Traveling Funds for PhD student, Ministry of Education
- 2004- Full Scholarship to attend the AIDS 2004 - XV International AIDS Conference in Bangkok  
11 – 16 July, 2004

## SOCIETIES

- 2007-President, Taiwan AIDS Quilt Association
- 2007-Member, American Association for the Advancement of Science
- 2007-Member, Taiwan Harm Reduction Association
- 2006-Member, International AIDS Society

2002-Taiwan Epidemiology Association

2000-Member, Taiwan Society of Preventive Medicine

1999-Taiwan Public Health Association

## PUBLICATIONS

1. Ming-Hua Sung, Tsung-Ming Chen, Yi-Chen Yang, Yuan-Ting Lu, Man-Yu Hsu, Michelle Liang, Kuan-Hua Chen, Day-Yu Chao, **Yu-Ching Lan\***. Molecular epidemiology of canine parvovirus type 2a and 2b among shelter dogs-The new recombination virus. Taiwan Veterinary Journal. 43, 47 (2017). DOI: <http://dx.doi.org/10.1142/S1682648515500341>
2. Yung-Feng Yen, Marcelo Chen, IAn Jen, Lan, **Yu-Ching Lan**, Pei-Hung Chuang, Yen-Ling Liu, Yun Lee, Yi-Ming Arthur Chen. Association of HIV and Opportunistic Infections with Incident Stroke: A Nationwide Population-based Cohort Study in Taiwan. J Acquir Immune Defic Syndr. 2016 Oct 24.
3. Yung-Feng Yen, Pei-Hung Chuang, I-An Jen, Marcelo Chen, **Yu-Ching Lan**, Yen-Ling Liu, Yun Lee, Yen-Hsu Chen, Yi-Ming Arthur Chen. Incidence of autoimmune diseases in a nationwide HIV/AIDS patient cohort in Taiwan, 2000-2012. Ann Rheum Dis. 2016 Sep 2. pii: annrheumdis-2016-209815.
4. Hsieh Ying-Hen\*, Hsiang-Min Huang, **Yu-Ching Lan** On Temporal Patterns and Circulation of Influenza Virus Strains in Taiwan, 2008-2014: Implications of 2009 pH1N1 Pandemic. PLoS One. 2016 May;11(5) : e0154695
5. Yih-Ing Hser \*, Di Liang, **Yu-Ching Lan**, Balasingam Kasinather Vicknasing, Amit Chakrabarti. Drug Abuse, HIV, and HCV in Asian Countries. Journal of Neuroimmune Pharmacology. 2016 Mar; 11(3) : 383-393
6. Marya Schulte, Di Liang, Fei Wu, **Yu-Ching Lan**, Wening Tsay, Jiang Du, Min Zhao, Xu Li, Yih-Ing Hser. A Smartphone Application Supporting Recovery from Heroin Addiction: Perspectives of Patients and Providers in China, Taiwan, and the USA. Journal of Neuroimmune Pharmacology, 1-12, 2016.
7. Ming-Hua Sung, Ming-Chung Deng, Yi-Hsuan Chung, Yu-Liang Huang, Chia-Yi Chang, **Yu-Ching Lan**, Hsin-Lin Chou, Day-Yu Chao. Evolutionary characterization of the emerging porcine epidemic diarrhea virus worldwide and 2014 epidemic in Taiwan. Infection, Genetics and Evolution, 2015, 36, 108-115.
8. Su-Hua Huang, Mei-Chi Su, Ni Tien, Chien-Jhen Huang, **Yu-Ching Lan**, Chen-Sheng Lin, Chao-Hsien Chen, Cheng-Wen Lin. Epidemiology of human coronavirus NL63 infection among hospitalized patients with pneumonia in Taiwan. J Microbiol Immunol Infect. 2015 Nov 19. pii: S1684-1182(15)00905-6.
9. JJ Keller, CH Muo, **Yu-Ching Lan**, FC Sung, FE Lo, KY Chiang, SY Lyu, ST Tsai, A nation-wide population-based study of inguinal hernia repair incidence and age-stratified



recurrence in an Asian population. *Hernia* 19 (5), 735-740, 2015.

10. S Chen, **Yu-Ching Lan**, YR Zheng, H Huang, WD Chang, SC Yeh, MC Huang. Usability of a Low-Cost Wearable Health Device for Physical Activity and Sleep Duration in Healthy Adults. *Proceedings of the 2015 Workshop on Pervasive Wireless Healthcare*, 35-38, 2015.
11. N Tien, YJ Sung, YC Chang, BJ You, M Liang, YP Lim, WY Ho, HS Lin, **Yu-Ching Lan**,. The medical diagnostic approaches with phylogenetic analysis for rare *Brucella* spp. diagnosis in Taiwan. *BioMedicine* 5 (2), 2015.
12. **Yu-Ching Lan**, YC Yang, TW Chi, KH Chen, RY Wang, YC Chiang, CL Huang, HCV genotype distribution among injection drug users in Taiwan. *Drug & Alcohol Dependence* 146, e166, 2015.
13. **Yu-Ching Lan**, Mei-Chi Su, Chao-Hsien Chen, Su-Hua Huang, Wan-Li Chen, Tien Ni, Lin Cheng Wen. Epidemiology of pandemic influenza A/H1N1 virus during 2009-2010 in Taiwan , *VIRUS RESEARCH* , 2013; 177(1):46-54.
14. K Sey, Y Ma, **Yu-Ching Lan**, N Song, YW Hu, Y Ou, D Frye. Prevalence and circulation patterns of Variant, Atypical and Resistant HIV in Los Angeles County (2007–2009). *Journal of medical virology* 86 (10), 1639-16471, 2014.
15. W Tsay, J Hsu, J Kang, **Yu-Ching Lan**, Y Hser, I Ho. The substance and illicit drug abuser migration from urban to rural area in Taiwan population between 2005 and 2009. *Drug & Alcohol Dependence* 140, e228,2014.
16. **Yu-Ching Lan**, Y Hser, Y Ho, W Tsai, J Hsu, J Kang . Patterns of adolescent chewing betel nut and later drug use in adults. *Drug & Alcohol Dependence* 140, e114, 2014 .
17. Ying-Ju Lin, **Yu-Ching Lan**, Chien-Hui Hung, Ting-Hsu Lin, Shao-Mei Huang, Chiu-Chu Liao, Lin Cheng Wen, Chih-Ho Lai, Tien Ni, Xiang Liu, Mao-Wang Ho, Wen-Kuei Chien, Chen Jin-Hua, Jen-Hsien Wang, Fuu-Jen Tsai. Variants in ZNRD1 Gene Predict HIV-1/AIDS Disease Progression in a Han Chinese Population in Taiwan , *PLoS One* , 2013 ; 8(7):1-8.
18. Ying-Ju Lin, **Yu-Ching Lan**, Yu-Chuen Huang, Ting-Hsu Lin, Shao-Mei Huang, Chien-Chen Lai, Chiu-Shong Liu, Lin Cheng Wen, Shih-Yin Chen, Fuu-Jen Tsai. Effects of cytokine and cytokine receptor gene variation on high anti-HB titers:Following up on Taiwan's neonatal hepatitis B immunization program , *CLINICA CHIMICA ACTA* , 2012 ; 413(15-16):1194-1198.
19. Shih-Yin, Chen, Lei Wan, Chung-Ming Huang, Yu-Chuen Huang, Jinn-Chyuan Sheu, Ying-Ju Lin, Shih-Ping Liu, **Yu-Ching Lan**, Chih-Ho Lai, Cheng-Wen Lin, Chang-Hai Tsai, Fuu-Jen Tsai. Association of the C-285T and A5954G Polymorphisms in the DNA repair gene OGG1 with the Susceptibility of Rheumatoid Arthritis , *RHEUMATOLOGY INTERNATIONAL* , 2012; 32(5):1165-1169.
20. Eugene Yu-Chang Peng, Ching-Ying Yeh, Shu-Hsing Cheng, Donald E. Morisky, **Yu-Ching Lan**, Yi-Ming Arthur Chen, Shu-Yu Lyu, Robert M. Malow. A Case-control Study of HIV Infection Among Incarcerated Female Drug Users: Impact of Sharing Needles and Having Drug-using Sexual Partners , *JOURNAL OF THE FORMOSAN MEDICAL ASSOCIATION* ,



2011 Jul , 110(7):446-453.

21. Ying-Ju Lin, **Yu-Ching Lan**, Lei Wan, Ting-Hsu Lin, Da-Yuan Chen, Tsai CH, Liu CS, Hsueh KC, Fuu-Jen Tsai. Serological surveillance and IL-10 genetic variants on anti-HBs titers: hepatitis B vaccination 20 years after neonatal immunization in Taiwan. Clin Chim Acta. 2011 Apr 11;412(9-10):766-73.
22. **Yu-Ching Lan**, Tsai-Hsiu Lin, Jeng-Dau Tsai, Yi-Chen Yang, Ching-Tien Peng, Mu-Chin Shih, Ying-Ju Lin, Cheng-Wen Lin. Molecular Epidemiology of 2005 Enterovirus 71 Outbreak in Central Taiwan. Scand J Infectious Diseases. 2011 Jan; 43(5):354-359
23. Ying-Ju Lin, **Yu-Ching Lan**, Lei Wan, Chung-Ming Huang, Cheng-Wen Lin, Kai-Chung Hsueh, Da-Yuan Chen, Ting-Hsu Lin and Fuu-Jen Tsai. The NBS1 Genetic Polymorphisms and the Risk of the Systemic Lupus Erythematosus in Taiwanese Patients. J Clin Immunol. 2010 Jun 23. 2010 Sep;30(5):643-8
24. Yen-Ju Chen, Yu-Huei Huang, Shao-Yuan Chuang, Diana Yu-Ting Kao, **Yu-Ching Lan**, Jyh-Yuan Yang, Yi-Ming Arthur Chen. Molecular Epidemiology of HIV-1 Subtype B, CRF01\_AE, and CRF07\_BC Infection Among Injection Drug Users in Taiwan. JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES. 2010 Apr, 53(4):425-439.
25. Eugene Yu-Chang Peng, Ming-Been Lee, Donald Edward Morisky, Ching-Ying Yeh, David Farabee, **Yu-Ching Lan**, Yi-Ming Arthur Chen, Shu-Yu Lyu. Psychiatric Morbidity in HIV-infected Male Prisoners. JOURNAL OF THE FORMOSAN MEDICAL ASSOCIATION. 2010 Mar, 109(3):177-184.
26. Nai-Wan Hsiao, Jiun-Wei Chen, Tsuey-Ching Yang, Gregg M. Orloff, Yi-Ying Wu, Chih-Ho Lai, **Yu-Ching Lan**, Cheng-Wen Lin. ISG15 over-expression inhibits replication of the Japanese encephalitis virus in human medulloblastoma cells. ANTIVIRAL RESEARCH, 2010 Feb, 85(3):504-511.
27. Ying-Ju Lin, Rong-Hsing Chen, Lei Wan, Jinn-Chyuan Sheu, Chung-Ming Huang, Lin Cheng Wen, Shih-Yin, Chen , Chih-Ho Lai, **Yu-Ching Lan**, Kai-Chung Hsueh, Chang-Hai Tsai, Ting-Hsu Lin, Y-M Huang, K Chao, Chen DY, Fuu-Jen Tsai. Association of TNF- $\alpha$  gene polymorphisms with systemic lupus erythematosus in Taiwanese patients. Lupus. 2009 Oct;18(11):974-9.
28. Tsuey-Ching Yang , Chun-Pin Chang , **Yu-Ching Lan**, Chao-Li Liu, Mu-Chin Shih , Fang-Yang Wu , Cheng-Wen Lin. Recombinant ORF66 and ORFK12 antigens for the detection of human herpesvirus 8 antibodies in HIV-positive and -negative patients. Biotechnol Lett. 2009 May;31(5):629-37.
29. Ying-Ju Lin, Lei Wan, Jer-Yuarn Wu, Jinn-Chyuan Sheu, Lin Cheng Wen, **Yu-Ching Lan**, Chih-Ho Lai, CH Hung, Yuhsin Tsai, Chang-Hai Tsai, Ting-Hsu Lin, Jaung-Geng Lin, Kai-Chung Hsueh, Yu-Min Huang, Jeng-Sheng Chang, Fuu-Jen Tsa. HLA-E Gene Polymorphism Associated with Kawasaki Disease Susceptibility and Formation of Coronary Artery Aneurysms. Arthritis Rheum. 2009 Feb;60(2):604-10.

- 
30. Shih-Yin Chen, Lei Wan, Yu-Chuen Huang, Jim Jinn-Chyuan Sheu, **Yu-Ching Lan**, Chih-Ho Lai, Cheng-Wen Lin, Jeng-Sheng Chang, Yuhsin Tsai, Shih-Ping Liu, Ying-Ju Lin, Fuu-Jen Tsai. Interleukin-18 gene 105A/C genetic polymorphism contributes to the susceptibility of Kawasaki disease. *J Clin Lab Anal.* 2009;23(2):71-6.
  31. Ying-Ju Lin, Lei Wan, Jim Jinn-Chyuan Sheu, Chung-Ming Huang, Cheng-Wen Lin, **Yu-Ching Lan**, Chih-Ho Lai, Chien-Hui Hung, Yuhsin Tsai, Chang-Hai Tsai, Wei-Yong Lin, Hsin-Ping Liu, Ting-Hsu Lin, Yu-Min Huang, Fuu-Jen Tsai. G/T polymorphism in the interleukin-2 exon 1 region among Han Chinese systemic lupus erythematosus patients in Taiwan. *Clin Immunol.* 2008 Oct;129(1):36-9.
  32. Hsin-Pai Chen, Jui-Chu Lin, Su-Pen Yang, **Yu-Ching Lan**, Wen-SungWeng, Cheng-Hsien Tsai, Donald Ming-Tak Hod, Cheng-Yi Liu, Wen-Long Cho, Yu-Jiun Chan. The type-2 variant of human cytomegalovirus glycoprotein N (gN-2) is not the rarest in the Chinese population of Taiwan: influence of primer design. *J Virol Methods.* 2008 Jul;151(1):161-4.
  33. **Yu-Ching Lan**, Tarek Elbeik, JoAnn Dileanis, Valerie Ng, Yen-Ju Chen, Hsieh-Shong Leu, Shu-Hsing Cheng, Jen-Chien Wong, Wing-Wai Wong, Yi-Ming.A. Chen. Molecular epidemiology of HIV-1 subtypes and drug resistant strains in Taiwan. *Journal of Medical Virology.* 2008 Feb;80(2):183-191. **Yu-Ching Lan and Elbeik T made equal contributions on this study.**
  34. Ying-Ju Lin, Lei Wan, Jinn-Chyuan Sheu, Chung-Ming Huang, Lin Cheng Wen, **Yu-Ching Lan**, Chih-Ho Lai, Chien-Hui Hung, Tsai Y, Chang-Hai Tsai , Ting-Hsu Lin, Fuu-Jen Tsai. A/C polymorphism in the interleukin-18 coding region among Taiwanese systemic lupus erythematosus patients. *LUPUS.* 2008 Feb. 17 (2):124-127.
  35. Yu-Ting Lin, **Yu-Ching Lan**, Yen-Ju Chen, Yu-Hui Huang, Cheng-Ming Lee, Tze-Tze Liu, Wing-Wai Wong, Jyh-Yuan Yang, Chin-Tien Wang, Yi-Ming Arthur Chen. Molecular Epidemiology of HIV-1 Infection and Full-Length Genomic Analysis of Circulating Recombinant Form 07\_BC Strains from Injection Drug Users in Taiwan. *Journal of Infectious Disease.* May, 2007; 195:1283–93. **Yu-Ting Lin and Yu-Ching Lan made equal contributions on this study.**
  36. Yi-Ming Arthur Chen, **Yu-Ching Lan**, Shu-Fen Lai, Jyh-Yuan Yang, Su-Fen Tsai, Steve Hsu-Sung Kuo. HIV-1 CRF07\_BC Infections, Injecting Drug Users, Taiwan. *Emergi Infect Dis.* (serial on the internet). 2006 Apr;12(4):703-5.
  37. **Yu-Ching Lan**, Tze-Tze Liu, Jyh-Yuan Yang, Cheng-Ming Lee, Yen-Ju Chen, Yu-Jiun Chan, Jang-Jih Lu, Hsin-Fu Liu, Chao A. Hsiung, Mei-Shang Ho, Kwang-Jen Hsiao, Hour-Young Chen, Yi-Ming Arthur Chen. Molecular epidemiology of severe acute respiratory syndrome-associated coronavirus infections in Taiwan.. *Journal of Infectious Disease.* 2005 May 1;191(9):1478-89.
  38. **Yu-Ching Lan**, Hsin-Fu Liu, Yi-Ping Shih, Jyh-Yuan Yang, Hour-Young Chen, Yi-Ming Arthur Chen. Phylogenetic analysis and sequence comparisons of structural and non-structural SARS coronavirus proteins in Taiwan. *Infect Genet Evol.* 2005 Apr;5(3):261-9.
  39. Yi-Ming A. Chen, Wei-Yu Reya, **Yu-Ching Lan**, Shu-Fen Lai, Yu-Chuan Huang, Shiow-Ing
-

Wu, Tze-Tze Liu, Kwang-Jen Hsiao. Antibody reactivity to HIV-1 Vpu in HIV-1/AIDS patients on highly active antiretroviral therapy. J Biomed Sci. 2003; 10: 266-27.

40. Yi-Ming A. Chen, Kui-Li Huang, Ian Jen, Shou-Chien Chen, Yuan-Chin Liu, Yin-Chin Chuang, Jen-Chien Wong, Jih-Jin Tsai, Yu-Chin Lan. Temporal trends and molecular epidemiology of HIV-1 Subtypes in Taiwan from 1988 to 1998. J Acquir Immun Defic Syndr Hum Retrovirol 2001; 26: 274-282.

## CONFERENCE PRESENTATION

1. Yu-Ching Lan. Patterns of adolescent chewing betel nut and later drug use in adults , 75th Annual Meeting - College on Problems of Drug Dependence , San Diego, CA / USA , 2013.6.15 ~ 2013.6.20 ,
2. Yu-Ching Lan and Yi-Chen Yang. Outbreak of influenza A H3N2 and influenza B virus mixed infection post-mass vaccination during 2009-2010 in central Taiwan , APHA 140th Annual Meeting & Exposition , San Fransico, CA, United States , 2012.10.27 ~ 2012.10.31 ,
3. Yu-Ching Lan. Evolution of Bartonella across different host , APHA 140th Annual Meeting & Exposition , San Fransico, CA, United States , 2012.10.27 ~ 2012.10.31 ,
4. Yu-Ching Lan and Yi-Chen Yang. HIV-1 Molecular Epidemiological profile differences among Taiwan drug abusers , 74th Annual Meeting - College on Problems of Drug Dependence , Palm Springs, California, United States , 2012.6.9 ~ 2012.6.14 ,
5. Yu-Ching Lan and Yi-Chen Yang. Distinction of clinical disease progression between different HIV-1 subtype in a molecular epidemiology study , APHA139th Annual Meeting & Exposition , Washington, DC, United States , 2011.10.29 ~ 2011.11.2 ,
6. Yu-Ching Lan and Yi-Chen Yang. A Predictive Model for Male IDUs at Risk of HIV-1 Infection , APHA 139th Annual Meeting & Exposition , Washington, DC, United States , 2011.10.29 ~ 2011.11.2 ,
7. Yu-Ching Lan, Donald E. Morisky. Effect of HIV-1 subtype on clinical disease progression in Taiwan molecular epidemiology study. UC Global Health Day 2010 in University of California, Irvine. November 30, 2010. Abstract ID# :192
8. Shu-Yu Lyu, Eugene Yu-Chang Peng, Donald E. Morisky, Yu-Ching Lan, Yi-Ming Arthur Chen, Robert M. Malow. Gender differences in HIV risk among juvenile inmates in Taiwan. The 138th APHA Annual Meeting in Denver, CO., November 6-10, 2010. Abstract ID# 218939.
9. Yu-Ching Lan, Yi-Chen Yang, Shu-Yu Lyu, Donald E. Morisky, Yi-Ming Arthur Chen. Comparison the effect of HIV harm-reduction program among female IDUs in Taiwan. The 138th APHA Annual Meeting in Denver, CO., November 6-10, 2010. Abstract ID# 228623.
10. Yu-Ching Lan\*, Yi-Chen Yang, Szu-An Chen, Ji-Rong Sin, Ju-Pei Chang, Yu-Jiun Luo. Transmission origin of HIV-1 CRF01\_AE and B subtype among injecting drug user in Taiwan.

The 138th APHA Annual Meeting in Denver, CO., November 6-10, 2010. Abstract ID# 229933.

11. **Yu-Ching Lan**, Yi-Chen Yang, Hsin-Fu Liu, Shu-Yu Lyu, Yi-Ming Arthur Chen. Different evolution pattern of HIV-1 CRF07\_BC and CRF01\_AE among injecting drug users in Taiwan. AIDS 2010 XVIII International AIDS Conference, Vienna, Austria, July 18-23, 2010.
12. Yi-Chen Yang, Chia-Li Lu, Kuan-Hua Chen, **Yu-Ching Lan**\*. Knowledge, Attitude and Practices study of HIV-infection among male injecting drug users in Taiwan 2007. AIDS 2010 XVIII International AIDS Conference, Vienna, Austria, July 18-23, 2010.
13. Ji-Rong Sin, Yi-Chen Yang, Yu-Ching Chen, Wei-Shaou Lai, Chia-Li Lu, Kuan-Hua Chen, **Yu-Ching Lan**\*, Yi-Ming Arthur Chen\*. Clinical molecular epidemiology of HIV-1 and co-infection in central Taiwan. AIDS 2010 XVIII International AIDS Conference, Vienna, Austria, July 18-23, 2010.
14. Szu-An Chen, Yi-Chen Yang, Wei-Shaou Lai, Hsin-Fu Liu, **Yu-Ching Lan**\*, Yi-Ming Arthur Chen\*. The evolution study of HIV-1 CRF01\_AE and B subtype among injecting drug user in Taiwan. AIDS 2010 XVIII International AIDS Conference, Vienna, Austria, July 18-23, 2010.
15. **Yu-Ching Lan**\*, Yi-Chen Yang. Molecular epidemiology of HIV-1 in central Taiwan during 2007-2008. The 137th APHA Annual Meeting in Philadelphia, November 7-11, 2009. Oral presentation at section 3038.0, Critical Issues in HIV-Related Surveillance. Abstract ID# 209167.
16. Eugene Yu-Chang Peng, Shu-Yu Lyu, Donald E. Morisky, **Yu-Ching Lan**, Yi-Ming Arthur Chen, James Ching-Feng Lin. Comparison of drug-using experiences among female inmates by age groups in Taiwan. The 137th APHA Annual Meeting in Philadelphia, November 7-11, 2009. Abstract ID# 207697.
17. **Yu-Ching Lan**\*, Wei-Shaou Lai, Yi-Jen Yang, Cheng-Chun Lee, Ruey-Yun Wang, Cheng-Wen Lin, Hsin-Fu Liu, Ying-Ju Lin. Molecular epidemiology and evolution of the HIV-1 epidemic among IDUs in the middle region of Taiwan during 2007 to 2008, The 5th IAS Conference in Cape Town, July 19-22, 2009. Abstract ID: 1128.
18. Yi-Chen Yang, **Yu-Ching Lan**\*, Yi-Ming Chen, Chin-Ching Yeh, Ruey-Yun Wang, Min-Pei Ling, Fang-Yang Wu, Chia-Li Lu, Kuan-Hua Chen, Jim-Shoung Lai and Chow-Feng Chiang. The HIV-1 Infection Risk Prediction Model for Injecting drug users. Harm Reduction 2009, IHRA's 20th International Conference in Thailand, April 20-23. Abstract ID: 235.
19. **Yu-Ching Lan**, Yi-Ming Chen\*. Evaluation of the harm-reduction program in Taiwan. AIDS 2008 XVII International AIDS Conference, Mexico City, Aug 3-8, 2008.
20. Yi-Ming Chen\*, **Yu-Ching Lan**\*, Chia-Li Lu, Kuan-Hua Chen. Impact of A Harm Reduction Program on the Prevention of HIV-1 Infection among Injecting Drug Users in Taiwan. Harm Reduction 2008: IHRA's 19th International Conference in Barcelona, Spain, May 11-15, 2008.
21. **Yu-Ching Lan**, Chia-Li Lu, Kuan-Hua Chen, Chang YR, Yi-Ming Chen\*. Prevalence of HIV infection among injecting drug users in Taiwan in the beginning of harm reduction program. Harm Reduction 2008: IHRA's 19th International Conference in Barcelona, Spain, May 11-15,

2008.

22. **Yu-Ching Lan**, Yi-Ming Chen\*, Prevalence of HIV infection among injecting drug users in Taiwan in the beginning of harm reduction program. The 4<sup>th</sup> IAS Conference in Sydney, Australia, July 22-25, 2007.
23. Yi-Ming Chen, Yu-Ting Lin, **Yu-Ching Lan**, Yen-Ju Chen, Yu-Hui Huang, Cheng-Ming Lee, Tze-Tze Liu, Wing-Wai Wong, Jyh-Yuan Yang, Chin-Tien Wang. Molecular epidemiology of HIV-1 infection and full-length genomic analysis of circulating recombinant form 07\_BC strains from injecting drug users in Taiwan. The 4th IAS Conference in Sydney, Australia, July 22-25, 2007.
24. **Yu-Ching Lan**, Yu-Ting Lin, **Yen-Ju Chen**, Tze-Tze Liu, Yi-Ming Chen\*. Phylogenetic and genomic analyses of six full-length CRF07\_BC variants isolated from injecting drug users in Taiwan. The 12th International BioInformatics Workshop on Virus Evolution and Molecular Epidemiology in Athens, Greece. Sep. 11-15, 2006.
25. **Yu-Ching Lan**, Yu-Ting Lin, Yen-Ju Chen, Tze-Tze Liu, Yi-Ming Chen\*, Phylogenetic and genomic analyses of six full-length CRF07\_BC variants isolated from injecting drug users in Taiwan. The XVI International AIDS Conference, Toronto, Canada, Aug. 13-18, 2006.
26. Jang YR, Jiang YH, Chuang SY, Zhou J, **Yu-Ching Lan**, Wing-Wai Wong, Yi-Ming Chen\*. Taiwan HIV observational database: baseline and retrospective data. The XVI International AIDS Conference, Toronto, Canada, Aug. 13-18, 2006.
27. Yi-Ming Chen, Yu-Hui Huang, Yen-Ju Chen, Lai SF, **Yu-Ching Lan**, Jyh-Yuan Yang, Kuo HS. Molecular epidemiology of HIV-1 in Taiwan: emergence of CRF07\_BC among injecting drug users in Taiwan. The XVI International AIDS Conference, Toronto, Canada, Aug. 13-18, 2006.
28. **Yu-Ching Lan**, Tarek Elbeik, Shu-Fen Lai, Kuo-Dong Chen, Chen, Hsieh-Shong Leu, Shu-Hsing Cheng, Wing-Wai Wong, Jen-Chien Wong, Yi-Ming Chen\*. Molecular Epidemiology of HIV-1 Subtypes and Prevalence of HIV-1 Genotypic Drug Resistant Strains in Taiwan. The 7th ICAAP in Kobe, Japan, July.1-5, 2005.
29. Yi-Ming Chen\*, Shu-Fen Lai, **Yu-Ching Lan**, Chu-Yuan Lian, Kuan-Hsuan Chen, Yen-Ju Chen. Molecular Epidemiology of HIV-1 Infection among Injecting Drug Users in Taiwan-Report of an Emergent Situation. The 7th ICAAP in Kobe, Japan, July 1-5, 2005
30. Shu-Fen Lai, **Yu-Ching Lan**, Yu-Hui Lin, Kow-Tong Chen, Wing-Wai Wang, Yi-Ming Chen\*. Molecular Epidemiology of HIV-1 Infection in Men Who Have Sex with Men (MSM) from Gay Saunas in Taiwan from 2003 to 2004. The 7th ICAAP in Kobe, Japan, July 1-5, 2005
31. **Yu-Ching Lan**, Elbeik T, Shu-Fen Lai, Chen KT, Hsieh-Shong Leu, Shu-Hsing Cheng, Wing-Wai Wong, Jen-Chien Wong, Yi-Ming Chen\*. Molecular Epidemiology of HIV-1 Subtypes and Drug Resistant Strains in Taiwan. The 6th Guangdong, Hong Kong, Macau and Taiwan Conference on Preventive Medicine. Macau, Oct. 30, 2004.
32. Yi-Ming Chen\*, **Yu-Ching Lan**, Jyh-Yuan Yang et al., Molecular epidemiology of SARS coronavirus infections in Taiwan. 2004 International Symposium on the Prevention and Control of SARS and Avian Flu. Beijing, China, August 22-24, 2004.



33. Chen CY, Ping YH, Lee YM, **Yu-Ching Lan**, Chen HY, Lien TC, Kao LS, Lin CH and Yi-Ming Chen\*, Antibody Reactivity and Functional Study of SARS Coronavirus ORF-10', The 38th Annual Meeting of The Chinese Society of Microbiology, Taipei, Taiwan, 2004.
34. Shu-Fen Lai, Hong CP, **Yu-Ching Lan**, Chen KT, Wing-Wai Wong, Hu BS, Yi-Ming Chen\*. Molecular epidemiology of HIV-1 in men who have sex with men from gay saunas in Taiwan from 2000 to 2003. The XV International AIDS Conference, Bangkok Thailand, July 2004.
35. **Yu-Ching Lan**, Tarek Elbeik, Shu-Fen Lai, Chen KT, Hsieh-Shong Leu, Cheng S H, Wing-Wai Wong, Wong J C, Yi-Ming Chen\*. Molecular Epidemiology of HIV-1 Subtypes and Drug Resistant Strains in Taiwan: The resurgence of HIV-1 subtype B in Taiwan during 1999 to 2000 survey. The XV International AIDS Conference, Bangkok Thailand, July 2004.
36. Tarek Elbeik, **Yu-Ching Lan**, JoAnn Dileanis, Marlowe N, Valerie Ng, Yi-Ming Chen\*. Prevalence of HIV-1 genotypic mutations in the protease and reverse transcriptase genes from infected individuals in Taiwan: Treatment challenges. The XIV International AIDS Conference, Barcelona, Spain, July, 2002.
37. Yi-Ming Chen\*, Tarek Elbeik, **Yu-Ching Lan**. Molecular epidemiology of HIV-1 subtypes and drug-resistant strains in Taiwan. The Third Annual HDR meeting. Virginia, 2002.
38. Yi-Ming Chen, Chung CL, Jen I, **Yu-Ching Lan**, Wu SI, Hsu H. Surveys on the HIV-1, Syphilis and sexual behavior among men attending gay saunas in Taipei City. The 6th ICAAP in Melbourne, Australia, Oct.5-10, 2001.

## PERSONAL STATEMENT

As the faculty member of Department of Health Risk Management at China Medical University since 2006, I'm doing the molecular epidemiology of virus (HIV-1, HHV8, SARS coronavirus, Enterovirus 71) and bacterial (Salmonella) infection for identified the risk factors and virus (or bacteria) evolution/transmission in Taiwan. And, I also produce the surveillance of HIV infection by using field epidemiological method among injecting drug users in community and jail. Furthermore, I built up an observational database of HIV patient including clinical, behavior and genetic information in one of Taiwan medical center. My major research skills are including design and develop the epidemiological and molecular biological studies to understand the interactions of infectious agents and their hosts, based on analysis of quantitative information (including phylogenetic, evolution and genetically analysis). During present years, I am also very interested about how infectious disease such as HIV/HCV transmission after a health program (HIV Harm Reduction Program) changes the infection spreading situation. I have been join the study of "The study of pandemic risk management and preparedness plan" and experienced to analysis the Taiwan national insurance database for understand the prevalence and risk of the infectious disease by using GIS and risk analysis with mathematical modeling. After these studies experiences, I have a chance to become the statistic consulter for China Medical University Hospital. Help them do the National Health Insurance database analysis, which is a health big data. This opportunity gave me the chances to become SAS big data analysis seed teacher in our school and join some big data analysis

projects during these 2 years. In the innovation health study, I had been design a web-based interaction flash cartoon for the drug abuse education tools for Taiwan Food and Drug Administration. About the participating experience in US study since 2010, my major job as a UCLA CHS visiting scholar was analysis the national insurance database for understand the prevalence, incidence and medical utilization behavior of HIV-1 patient in Taiwan and the cost benefit analysis of HIV patient medical care under Prof. Donald Morisky's ([dmorisky@ucla.edu](mailto:dmorisky@ucla.edu)) guiding during 2010-2011. Furthermore, I also learned the advanced biostatistics and behavior measurement in UCLA School of Public Health. Through the recommendation from professor, I also help the LA county AIDS program establishing the analyzing ability of the phylogenetic relationship of HIV transmission around LA area. Now, I work with UCLA Integrated Substance Abuse Programs for investigating the infection situation and risk behavior among injecting drug users by using innovation methods such as web-based or mobile health system since 2013. In summary, I have a demonstrated record of accomplished and productive research projects in an area of high relevance for multiple dataset mining and analysis for infectious disease and drug abuse risk assessment. My expertise and experience have prepared me to participate in the any challenging project.