# Liang-Bo Wang

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## EDUCATION

**Washington University in St. Louis**, United States
**Ph.D. candidate** in Computational and Systems Biology — Aug 2016 – (present)

**National Taiwan University**, Taipei, Taiwan
**M.S.** in Biomedical Electronics and Bioinformatics — Jan 2014 – Jul 2016

**B.S.** in Electrical Engineering — Sep 2009 – Jan 2014
Minor in Economics

## AWARDS & SCHOLARSHIPS

**McDonnell International Scholars Academy** — 2016 – Present
Washington University in St. Louis

**Outstanding Summer Research Award** — 2012
Center of Genomic Medicine, National Taiwan University

## RESEARCH EXPERIENCE

**PhD Thesis**, Washington University in St. Louis — May 2017 – (present)

- Advisor: Dr. Li Ding
- Topic: Proteogenomic and Spatial Characterization of Glioblastoma Tumors at Bulk and Single Cell Level

**Microsoft Research Asia**, Beijing, China — Jul 2014 – Feb 2015
Internship

- Advisor: Dr. Eric Chang
- Topic: Cancer Image and Pathway Analysis
- Applied convolutional neural network to histopathology image analysis

**Biomedical Engineering and Bioinformatics**, National Taiwan University
Graduate Research — Jan 2014 – Jun 2016

- Advisor: Professor Eric Y. Chuang
- Topic: Integrative analysis of copy number variation, gene expression, and miRNA regulation on cancer; drug treatment prediction on lung cancer cell line

Undergraduate Research — Sep 2012 – Jan 2014

- Advisor: Professor Eric Y. Chuang
- Topic: DNA-seq, RNA-seq and small RNA-seq data processing
- Project: Nextbiopy, a web-based NGS pipeline report generator

Undergraduate Research — Sep 2011 – Nov 2012

- Advisor: Associate Professor Wei-Cheng Tian
- Project: CMOS-based tactile sensor system for blood pressure measurement

## WORK EXPERIENCE

**Pinkoi**, Taipei, Taiwan — Jun 2015 – Sep 2015
Internship

- Pinkoi is an online marketplace for unique and original design goods in Asia
- Topic: Product search improvement
- Improved Chinese text segmentation on ElasticSearch and added preliminary semantic search built on Word2Vec

**PUBLICATIONS** **JOURNALS**


[1] **LB Wang***, A Karpova*, MA Gritsenko*, JE Kyle*, S Cao*, Y Li*, *et al.* "Proteogenomic and Metabolomic Characterization of Human Glioblastoma." *Cancer Cell* 39 (4). Feb 2021

[2] F Petralia, *et al.* "Integrated Proteogenomic Characterization across Major Histological Types of Pediatric Brain Cancer." *Cell* 183 (7), 1962-1985. Dec 2020

[3] MH Bailey, *et al.* "Retrospective evaluation of whole exome and genome mutation calls in 746 cancer samples." *Nature Communications* 11 (1), 1-27. Sep 2020

[4] MA Gillette, *et al.* "Proteogenomic characterization reveals therapeutic vulnerabilities in lung adenocarcinoma." *Cell* 182 (1), 200-225. Jul 2020

[5] O Rozenblatt-Rosen, *et al.* "The Human Tumor Atlas Network: charting tumor transitions across space and time at single-cell resolution." *Cell* 181 (2), 236-249. Apr 2020

[6] JE McDermott, *et al.* "Proteogenomic Characterization of Ovarian HGSC Implicates Mitotic Kinases, Replication Stress in Observed Chromosomal Instability." *Cell Reports Medicine*, 1 (1) 100004. Apr 2020

[7] DJ Clark, *et al.* "Integrated proteogenomic characterization of clear cell renal cell carcinoma." *Cell* 179 (4), 964-983. Oct 2019

[8] GF Gao*, JS Parker*, SM Reynolds*, TC Silva*, **LB Wang***, W Zhou*, *et al.* "Before and After: Comparison of Legacy and Harmonized TCGA Genomic Data Commons' Data." *Cell Systems* 9 (1), 24-34. Jul 2019

[9] SQ Sun, RJ Mashl, S Sengupta, AD Scott, W Wang, P Batra, **LB Wang**, M A Wyczalkowski, L Ding. "Database of evidence for precision oncology portal." *Bioinformatics* 34 (24), 4315-4317. Jul 2018.

[10] KL Huang, *et al.* "Pathogenic germline variants in 10,389 adult cancers." *Cell*, 173 (2), 355-370. e14. Apr 2018.

[11] Y Xu, Z Jia, **LB Wang**, Y Ai, F Zhang, M Lai, I Eric, C Chang. "Large scale tissue histopathology image classification, segmentation, and visualization via deep convolutional activation features." *BMC Bioinformatics*, 18 (1), 281. Dec 2017.

[12] YP La*, **LB Wang***, WA Wang*, LC Lai, MH Tsai, TP Lu, E Y Chuang. "iGC—an Integrated Analysis Package of Gene Expression and Copy Number Alteration." *BMC Bioinformatics*, 18 (1), 35. Jan 2017.

[13] **LB Wang**, E Y Chuang, TP Lu. "Identification of predictive biomarkers for ZD-6474 in lung cancer." *Translational Cancer Research*, 4 (4), 324-331. Aug 2015.

[14] CY Lee*, YC Chiu*, **LB Wang***, YL Kuo*, EY Chuang, LC Lai, MH Tsai. "Common applications of next-generation sequencing technologies in genomic research." *Translational Cancer Research*, 2 (1), 33-45. Feb 2013.

**CONFERENCE PAPERS**

[1] **LB Wang**, SY Dai, TP Lu, LC Lai, MH Tsai, E Y Chuang. "Nextbiopy: Utilities for next-generation sequencing data processing", *9th Asian Pacific Conference on Medical and Biological Engineering (APCMBE)*, Tainan, Taiwan, Oct 2014.

[2] CY Lee*, **LB Wang***, MH Tsai, LC Lai, E Y Chuang. "Identification of novel miRNAs in breast data of the next generation sequencing using miRDeep2 and Galaxy", *AACR 104th Annual Meeting*, Washington, DC, U.S.A., Apr 2013.

[3] YC Lin, CJ Hsieh, **LB Wang** (presenter), JC Liou, WC Tian. "CMOS MEMS metal-based tactile sensors development", *AVS 59th International Symposium & Exhibition*, Florida, U.S.A., Oct 2012.

[4] CT Sun, YC Lin, CJ Hsieh, JC Liou, **LB Wang**, WC Tian. "A linear-response CMOS-MEMS capacitive tactile sensor", *IEEE Sensors 2012*, Taipei, Taiwan, Oct 2012.

**PROGRAMMING SKILLS**

**LANGUAGES**

Python (both scientific and web stack), R, Web frontend (HTML/CSS/Javascript), SQL, C

**COMMUNITY ENGAGEMENT**

**PyCon Taiwan** Organizing Committee, Taipei, Taiwan — Jul 2015 – Jul 2016
Program Committee Chair

**PyCon APAC** Organizing Committee, Taipei, Taiwan — 2014, 2015
Public Relations Manager

**Open Source Communities**, Taipei, Taiwan — 2013 – 2016
Regular Speaker

- Including Taiwan PyCon, Taipei.py, Taiwan R User Group, and PyCon China
- Gave over 10 talks, topics included convolutional neural network, text search, HDF5, parallel computing, and R ggplot2 plotting.

[*Last updated: 2021-02-16*]