



## Xuefeng Bruce Ling

Assistant Professor (Research) of Surgery (Pediatric Surgery)

Surgery - Pediatric Surgery

 Curriculum Vitae available Online

### CONTACT INFORMATION

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### Bio

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#### BIO

##### Clinical Focus

- Big data analytics for quality improvement and clinical effectiveness
- Disease biomarker discovery through multi-omics based analyses

##### Academic Appointments

- Assistant Professor Surgery

##### Professional Education

- B.S., Biochemistry, Fudan University, China (1990)
- M.A., Molecular and Developmental Biology, UCLA, US (1994)
- Ph.D., Biological Chemistry, UCLA, US (1996)
- Postdoctoral training, medicine/oncology/Computer science, Stanford University, US (1996-1998)
- Business administration, Leavey School of Business, Santa Clara University, US (2000-2001)

#### ACADEMIC APPOINTMENTS

- Assistant Professor (Research), Surgery - Pediatric Surgery
- Member, Bio-X
- Member, Child Health Research Institute

#### LINKS

- My lab site: <http://translationalmedicine.stanford.edu>

## Publications

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### PUBLICATIONS

- **Prediction of Incident Hypertension Within the Next Year: Prospective Study Using Statewide Electronic Health Records and Machine Learning.** *Journal of medical Internet research*  
Ye, C., Fu, T., Hao, S., Zhang, Y., Wang, O., Jin, B., Xia, M., Liu, M., Zhou, X., Wu, Q., Guo, Y., Zhu, C., Li, et al  
2018; 20 (1): e22
- **Unique Molecular Patterns Uncovered in Kawasaki Disease Patients with Elevated Serum Gamma Glutamyl Transferase Levels: Implications for Intravenous Immunoglobulin Responsiveness** *PLOS ONE*  
Wang, Y., Li, Z., Hu, G., Hao, S., Deng, X., Huang, M., Ren, M., Jiang, X., Kanegaye, J. T., Ha, K., Lee, J., Li, X., Jiang, et al  
2016; 11 (12)
- **Web-based Real-Time Case Finding for the Population Health Management of Patients With Diabetes Mellitus: A Prospective Validation of the Natural Language Processing-Based Algorithm With Statewide Electronic Medical Records.** *JMIR medical informatics*  
Zheng, L., Wang, Y., Hao, S., Shin, A. Y., Jin, B., Ngo, A. D., Jackson-Browne, M. S., Feller, D. J., Fu, T., Zhang, K., Zhou, X., Zhu, C., Dai, et al  
2016; 4 (4)
- **A Classification Tool for Differentiation of Kawasaki Disease from Other Febrile Illnesses.** *journal of pediatrics*  
Hao, S., Jin, B., Tan, Z., Li, Z., Ji, J., Hu, G., Wang, Y., Deng, X., Kanegaye, J. T., Tremoulet, A. H., Burns, J. C., Cohen, H. J., Ling, et al  
2016; 176: 114-120 e8
- **Prehypertension During Normotensive Pregnancy and Postpartum Clustering of Cardiometabolic Risk Factors: A Prospective Cohort Study.** *Hypertension*  
Lei, Q., Zhou, X., Zhou, Y., Mai, C., Hou, M., Lv, L., Duan, D., Wen, J., Lin, X., Wang, P. P., Ling, X. B., Li, Y., Niu, et al  
2016; 68 (2): 455-463
- **A Novel Truncated Form of Serum Amyloid A in Kawasaki Disease** *PLOS ONE*  
Whitin, J. C., Yu, T. T., Ling, X. B., Kanegaye, J. T., Burns, J. C., Cohen, H. J.  
2016; 11 (6)
- **Exploring the Role of Polycythemia in Patients With Cyanosis After Palliative Congenital Heart Surgery.** *Pediatric critical care medicine*  
Siehr, S. L., Shi, S., Hao, S., Hu, Z., Jin, B., Hanley, F., Reddy, V. M., McElhinney, D. B., Ling, X. B., Shin, A. Y.  
2016; 17 (3): 216-222
- **Urinary Colorimetric Sensor Array and Algorithm to Distinguish Kawasaki Disease from Other Febrile Illnesses** *PLOS ONE*  
Li, Z., Tan, Z., Hao, S., Jin, B., Deng, X., Hu, G., Liu, X., Zhang, J., Jin, H., Huang, M., Kanegaye, J. T., Tremoulet, A. H., Burns, et al  
2016; 11 (2)
- **Precision test for precision medicine: opportunities, challenges and perspectives regarding pre-eclampsia as an intervention window for future cardiovascular disease.** *American journal of translational research*  
Zhou, X., Niu, J. M., Ji, W. J., Zhang, Z., Wang, P. P., Ling, X. B., Li, Y. M.  
2016; 8 (5): 1920-34
- **Prospective stratification of patients at risk for emergency department revisit: resource utilization and population management strategy implications.** *BMC emergency medicine*  
Jin, B., Zhao, Y., Hao, S., Shin, A. Y., Wang, Y., Zhu, C., Hu, Z., Fu, C., Ji, J., Wang, Y., Zhao, Y., Jiang, Y., Dai, et al  
2016; 16 (1): 10-?
- **NLP based congestive heart failure case finding: A prospective analysis on statewide electronic medical records.** *International journal of medical informatics*  
Wang, Y., Luo, J., Hao, S., Xu, H., Shin, A. Y., Jin, B., Liu, R., Deng, X., Wang, L., Zheng, L., Zhao, Y., Zhu, C., Hu, et al  
2015; 84 (12): 1039-1047
- **Exploring Value in Congenital Heart Disease: An Evaluation of Inpatient Admissions.** *Congenital heart disease*  
Shin, A. Y., Hu, Z., Jin, B., Lal, S., Rosenthal, D. N., Efron, B., Sharek, P. J., Sutherland, S. M., Cohen, H. J., McElhinney, D. B., Roth, S. J., Ling, X. B.  
2015; 10 (6): E278-87
- **Novel data-mining approach identifies biomarkers for diagnosis of Kawasaki disease** *PEDIATRIC RESEARCH*  
Tremoulet, A. H., Dutkowski, J., Sato, Y., Kanegaye, J. T., Ling, X. B., Burns, J. C.

2015; 78 (5): 547-553

- **Serological Targeted Analysis of an ITIH4 Peptide Isoform: A Preterm Birth Biomarker and Its Associated SNP Implications** *JOURNAL OF GENETICS AND GENOMICS*  
Tan, Z., Hu, Z., Cai, E. Y., Alev, C., Yang, T., Li, Z., Sung, J., El-Sayed, Y. Y., Shaw, G. M., Stevenson, D. K., Butte, A. J., Sheng, G., Sylvester, et al  
2015; 42 (9): 507-510
- **Online Prediction of Health Care Utilization in the Next Six Months Based on Electronic Health Record Information: A Cohort and Validation Study** *JOURNAL OF MEDICAL INTERNET RESEARCH*  
Hu, Z., Hao, S., Jin, B., Shin, A. Y., Zhu, C., Huang, M., Wang, Y., Zheng, L., Dai, D., Culver, D. S., Alfreds, S. T., Rogow, T., Stearns, et al  
2015; 17 (9)
- **Cerebrospinal fluid protein dynamic driver network: At the crossroads of brain tumorigenesis** *METHODS*  
Tan, Z., Liu, R., Zheng, L., Hao, S., Fu, C., Li, Z., Deng, X., Jang, T., Merchant, M., Whitin, J. C., Guo, M., Cohen, H. J., Recht, et al  
2015; 83: 36-43
- **Utility of Clinical Biomarkers to Predict Central Line-associated Bloodstream Infections After Congenital Heart Surgery.** *Pediatric infectious disease journal*  
Shin, A. Y., Jin, B., Hao, S., Hu, Z., Sutherland, S., McCammond, A., Axelrod, D., Sharek, P., Roth, S. J., Ling, X. B.  
2015; 34 (3): 251-254
- **Real-time web-based assessment of total population risk of future emergency department utilization: statewide prospective active case finding study.** *Interactive journal of medical research*  
Hu, Z., Jin, B., Shin, A. Y., Zhu, C., Zhao, Y., Hao, S., Zheng, L., Fu, C., Wen, Q., Ji, J., Li, Z., Wang, Y., Zheng, et al  
2015; 4 (1)
- **Pilot Application of Magnetic Nanoparticle-Based Biosensor for Necrotizing Enterocolitis.** *Journal of proteomics & bioinformatics*  
Kim, D., Fu, C., Ling, X. B., Hu, Z., Tao, G., Zhao, Y., Kastenber, Z. J., Sylvester, K. G., Wang, S. X.  
2015
- **Virtual Pharmacist: A Platform for Pharmacogenomics.** *PloS one*  
Cheng, R., Leung, R. K., Chen, Y., Pan, Y., Tong, Y., Li, Z., Ning, L., Ling, X. B., He, J.  
2015; 10 (10)
- **Development, Validation and Deployment of a Real Time 30 Day Hospital Readmission Risk Assessment Tool in the Maine Healthcare Information Exchange.** *PloS one*  
Hao, S., Wang, Y., Jin, B., Shin, A. Y., Zhu, C., Huang, M., Zheng, L., Luo, J., Hu, Z., Fu, C., Dai, D., Wang, Y., Culver, et al  
2015; 10 (10)
- **A novel urine peptide biomarker-based algorithm for the prognosis of necrotizing enterocolitis in human infants.** *Gut*  
Sylvester, K. G., Ling, X. B., Liu, G. Y., Kastenber, Z. J., Ji, J., Hu, Z., Peng, S., Lau, K., Abdullah, F., Brandt, M. L., Ehrenkranz, R. A., Harris, M. C., Lee, et al  
2014; 63 (8): 1284-1292
- **Investigation of maternal environmental exposures in association with self-reported preterm birth.** *Reproductive toxicology*  
Patel, C. J., Yang, T., Hu, Z., Wen, Q., Sung, J., El-Sayed, Y. Y., Cohen, H., Gould, J., Stevenson, D. K., Shaw, G. M., Ling, X. B., Butte, A. J.  
2014; 45: 1-7
- **Urine protein biomarkers for the diagnosis and prognosis of necrotizing enterocolitis in infants.** *journal of pediatrics*  
Sylvester, K. G., Ling, X. B., Liu, G. Y., Kastenber, Z. J., Ji, J., Hu, Z., Wu, S., Peng, S., Abdullah, F., Brandt, M. L., Ehrenkranz, R. A., Harris, M. C., Lee, et al  
2014; 164 (3): 607-12 e1 7
- **Risk prediction of emergency department revisit 30 days post discharge: a prospective study.** *PloS one*  
Hao, S., Jin, B., Shin, A. Y., Zhao, Y., Zhu, C., Li, Z., Hu, Z., Fu, C., Ji, J., Wang, Y., Zhao, Y., Dai, D., Culver, et al  
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- **A data-driven algorithm integrating clinical and laboratory features for the diagnosis and prognosis of necrotizing enterocolitis.** *PloS one*  
Ji, J., Ling, X. B., Zhao, Y., Hu, Z., Zheng, X., Xu, Z., Wen, Q., Kastenber, Z. J., Li, P., Abdullah, F., Brandt, M. L., Ehrenkranz, R. A., Harris, et al  
2014; 9 (2)
- **AKI in Hospitalized Children: Epidemiology and Clinical Associations in a National Cohort.** *Clinical journal of the American Society of Nephrology*  
Sutherland, S. M., Ji, J., Sheikhi, F. H., Widen, E., Tian, L., Alexander, S. R., Ling, X. B.

2013; 8 (10): 1661-1669

- **Integrating multiple 'omics' analyses identifies serological protein biomarkers for preeclampsia.** *BMC medicine*  
Liu, L. Y., Yang, T., Ji, J., Wen, Q., Morgan, A. A., Jin, B., Chen, G., Lyell, D. J., Stevenson, D. K., Ling, X. B., Butte, A. J.  
2013; 11: 236-?
- **Cloud-based solution to identify statistically significant MS peaks differentiating sample categories.** *BMC research notes*  
Ji, J., Ling, J., Jiang, H., Wen, Q., Whitin, J. C., Tian, L., Cohen, H. J., Ling, X. B.  
2013; 6: 109-?
- **Point-of-Care Differentiation of Kawasaki Disease from Other Febrile Illnesses** *JOURNAL OF PEDIATRICS*  
Ling, X. B., Kanegaye, J. T., Ji, J., Peng, S., Sato, Y., Tremoulet, A., Burns, J. C., Cohen, H. J.  
2013; 162 (1): 183-U219
- **Peptidomic Identification of Serum Peptides Diagnosing Preeclampsia.** *PloS one*  
2013; 8 (6): e65571
- **Correlation analyses of clinical and molecular findings identify candidate biological pathways in systemic juvenile idiopathic arthritis** *BMC MEDICINE*  
Ling, X. B., Macaubas, C., Alexander, H. C., Wen, Q., Chen, E., Peng, S., Sun, Y., Deshpande, C., Pan, K., Lin, R., Lih, C., Chang, S. P., Lee, et al  
2012; 10
- **Proteomic studies in breast cancer (Review).** *Oncology letters*  
2012; 3 (4): 735-43
- **A diagnostic algorithm combining clinical and molecular data distinguishes Kawasaki disease from other febrile illnesses** *BMC MEDICINE*  
Ling, X. B., Lau, K., Kanegaye, J. T., Pan, Z., Peng, S., Ji, J., Liu, G., Sato, Y., Yu, T. T., Whitin, J. C., Schilling, J., Burns, J. C., Cohen, et al  
2011; 9
- **Proteomics and Biomarkers in Neonatology** *NeoReviews*  
Ling, X. B., Sylvester, K. G.  
2011; 12: 585-91
- **Plasma profiles in active systemic juvenile idiopathic arthritis: Biomarkers and biological implications** *PROTEOMICS*  
Ling, X. B., Park, J. L., Carroll, T., Nguyen, K. D., Lau, K., Macaubas, C., Chen, E., Lee, T., Sandborg, C., Milojevic, D., Kanegaye, J. T., Gao, S., Burns, et al  
2010; 10 (24): 4415-4430
- **Integrative Urinary Peptidomics in Renal Transplantation Identifies Biomarkers for Acute Rejection** *JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY*  
Ling, X. B., Sigdel, T. K., Lau, K., Ying, L., Lau, I., Schilling, J., Sarwal, M. M.  
2010; 21 (4): 646-653
- **Urine peptidomics for clinical biomarker discovery.** *Advances in clinical chemistry.*  
Ling, X. B., Mellins, E. D., Karl, K. G., Cohen, H. J.  
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- **Urine Peptidomic and Targeted Plasma Protein Analyses in the Diagnosis and Monitoring of Systemic Juvenile Idiopathic Arthritis.** *Clinical proteomics*  
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- **Effects of moderate versus deep hypothermic circulatory arrest and selective cerebral perfusion on cerebrospinal fluid proteomic profiles in a piglet model of cardiopulmonary bypass** *JOURNAL OF THORACIC AND CARDIOVASCULAR SURGERY*  
Allibhai, T., DiGeronimo, R., Whitin, J., Salazar, J., Yu, T. T., Ling, X. B., Cohen, H., Dixon, P., Madan, A.  
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- **Plasma Biomarkers in a Mouse Model of Preterm Labor** *PEDIATRIC RESEARCH*  
Yang, Q., Whitin, J. C., Ling, X. B., Nayak, N. R., Cohen, H. J., Jin, J., Schilling, J., Yu, T. T., Madan, A.  
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- **FDR made easy in differential feature discovery and correlation analyses** *BIOINFORMATICS*  
Ling, X. B., Cohen, H., Jin, J., Lau, I., Schilling, J.  
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- **Cancer Biomarker Discovery via Targeted Profiling of Multiclass Tumor Tissue-Derived Proteomes** *Clinical Proteomics*. Zhou, L., Cai, M., Ling, X. B., Wang, Q., Lau, K., Zhao, J., Schilling, J., Chen, L. 2009; 5 (3-4): 163-9.
- **Urinary peptidomic analysis identifies potential biomarkers for acute rejection of renal transplantation.** *Clinical Proteomics*. Sigdel, T. K., Ling, X. B., Lau, K., Schilling, J., Sarwal, M. M. 2009; 5: 103-13.
- **Optimizing protein recovery for urinary proteomics, a tool to monitor renal transplantation** *CLINICAL TRANSPLANTATION* Sigdel, T. K., Lau, K., Schilling, J., Sarwal, M. 2008; 22 (5): 617-623
- **Novel urinary peptidomic analysis for acute rejection monitoring** *8th American Transplant Congress* Sigdel, T., Ling, X., Lau, K., Schilling, J., Sarwal, M. WILEY-BLACKWELL.2008: 636-637
- **High throughput screening informatics** *COMBINATORIAL CHEMISTRY & HIGH THROUGHPUT SCREENING* Ling, X. B. 2008; 11 (3): 249-257
- **Significance analysis and multiple pharmacophore models for differentiating P-glycoprotein substrates** *JOURNAL OF CHEMICAL INFORMATION AND MODELING* Li, W., Li, L., Eksterowicz, J., Ling, X. B., Cardozo, M. 2007; 47 (6): 2429-2438
- **GO-Diff: Mining functional differentiation between EST-based transcriptomes** *BMC BIOINFORMATICS* Chen, Z. Z., Wang, W. L., Ling, X. F., Liu, J. J., Chen, L. B. 2006; 7
- **Multiclass cancer classification and biomarker discovery using GA-based algorithms** *BIOINFORMATICS* Liu, J. J., Cutler, G., Li, W. X., Pan, Z., Peng, S. H., Hoey, T., Chen, L. B., Ling, X. F. 2005; 21 (11): 2691-2697
- **A machine to make a future - Biotech chronicles.** *J Clin Invest.* Ling, X. B. 2005; 115: 2303-4.
- **Genomic resources for cancer biology researchers.** *Oncogenomics Handbook* Ling, X. B., Cutler, G., Hoey, T. Humana Press. .2004
- **A comparative analysis of HGSC and Celera human genome assemblies and gene sets** *BIOINFORMATICS* Li, S. Y., Cutler, G., Liu, J. J., Hoey, T., Chen, L. B., Schultz, P. G., Liao, J. Y., Ling, X. F. 2003; 19 (13): 1597-1605
- **PRC17, a novel oncogene encoding a Rab GTPase-activating protein, is amplified in prostate cancer** *CANCER RESEARCH* Pei, L., PENG, Y., Yang, Y., Ling, X. F., van Eynhoven, W. G., Nguyen, K. C., Rubin, M., Hoey, T., Powers, S., Li, J. 2002; 62 (19): 5420-5424
- **Comparative analysis of human genome assemblies reveals genome-level differences** *GENOMICS* Li, S. Y., Liao, J. Y., Cutler, G., Hoey, T., Hogenesch, J. B., Cooke, M. P., Schultz, P. G., Ling, X. F. 2002; 80 (2): 138-139
- **DQ 65-79, a peptide derived from HLA class II, induces I kappa B expression** *JOURNAL OF IMMUNOLOGY* Jiang, Y., Chen, D., Lyu, S. C., Ling, X. F., KRENSKY, A. M., Clayberger, C. 2002; 168 (7): 3323-3328
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- **An immunosuppressive and anti-inflammatory HLA class I-derived peptide binds vascular cell adhesion molecule-1** *TRANSPLANTATION*  
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- **Proliferating cell nuclear antigen as the cell cycle sensor for an HLA-derived peptide blocking T cell proliferation** *JOURNAL OF IMMUNOLOGY*  
Ling, X. F., Kamangar, S., Boytim, M. L., Kelman, Z., Huie, P., Lyu, S. C., Sibley, R. K., Hurwitz, J., CLAYBERGER, C., KRENSKY, A. M.  
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- **All four core histone N-termini contain sequences required for the repression of basal transcription in yeast** *EMBO JOURNAL*  
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- **Yeast histone H3 and H4 amino termini are important for nucleosome assembly in vivo and in vitro: Redundant and position-independent functions in assembly but not in gene regulation** *GENES & DEVELOPMENT*  
Ling, X. F., Harkness, T. A., Schultz, M. C., FISHERADAMS, G., Grunstein, M.  
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- **HISTONE H3 AMINO-TERMINUS IS REQUIRED FOR TELOMERIC AND SILENT MATING LOCUS REPRESSION IN YEAST** *NATURE*  
Thompson, J. S., Ling, X. F., Grunstein, M.  
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