

Baozhu cai

Contact

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Education

Hainan University, Hainan, China

B.S. in Agriculture with three-year Agriculture Scholarships (2010 - 2013)

GPA:3.51/4.0 (last 60 credits)

Rank 12 from top in the major

Research Experience

Feng Zhang Lab of the State Key Laboratory of Genetic Engineering of School of Life Science of Fudan University, China (2015/4-2019/2)

- Bioinformatics
 - Called, analyzed and annotated single nucleotide polymorphisms derived from whole exome sequence samples that changes variant interpretation compared to individual variants.
 - Developed an easy and brief way to analyze the trio whole exome sequence;
 - Called, analyzed the differential expression in RNA-Seq data, and drew enrichment plot to make the differences clearly using KEGG or GO as background;
 - Analyzed the results from array comparative genomic hybridization (aCGH).
- Wet experiment
 - Made the libraries of whole exome sequence from the patient's whole blood;
 - Made the comparative genomic hybridization array (aCGH) from the patient's whole blood or patient's carcinoma and adjacent tissue.
- Clinic

- Collecting POF (Primary Ovarian Failure) patients' whole samples and ranked the priority of these samples with doctor and other members of POF project.

Undergraduate (Hainan, China)

Xudong Yu Lab of Hainan University of Botany and Plant Science (5/2011 – 6/2013)

- Found the medicinal and health value of *Muntingia calabura* L.
- *Muntingia calabura* L tissue cultured

Zhiqiong Tan Lab of Hainan University of Plant Pathology (6/2013 - 6/2014)

- Determined the anti-microbial activity of *Bacillus subtilis* B25 to some
- Isolation and purification of *Bacillus subtilis* B25
- Culture of *Bacillus subtilis* B25
- Used dual culture technique and single immunodiffusion test and inhibitory activity of azoxystrobin against mycelial growth and conidia germination of *Bacillus subtilis* B25 to determine it's anti-microbial activity to some phytopathogen

Publications

* ACKNOWLEDGEMENTS

- Xi Yang, Xiaojin Zhang, Jiao Jiao, Feng Zhang, Yuncheng Pan, Qiqi Wang, Qing Chen, **Baozhu Cai**, Shuyan Tang, Zixue Zhou, Siyuan Chen, Hao Yin, Wei Fu, Yang Luo, Da Li, Guoqing Li, Lingyue Shang, Jialing Yang, Li Jin, Qinghua Shi, Yanhua Wu. "Rare variants in FANCA induce premature ovarian insufficiency." *Human genetics* (2019): 1-10.
- Zhang, Ling, Ximing Xu, Kaiqiang Sun, Jingchuan Sun, Yuan Wang, Yang Liu, Nan Yang, Chengqiu Tao, **Baozhu Cai**, Guodong Shi, Feng Zhang, Jiangang Shi. "A de novo mutation in DHD domain of SKI causing spina bifida with no craniofacial malformation or intellectual disability." *American Journal of Medical Genetics Part A* 179.6 (2019): 936-939.
- Qiqi Wang, Da Li, **Baozhu Cai**, Qing Chen, Caihua Li, Yanhua Wu, Li Jin, Xiuxia Wang, Xiaojin Zhang, Feng Zhang. "Whole exome sequencing reveals SALL4 mutations in premature ovarian insufficiency: an update on genotype-phenotype correlations." *Human genetics* 138.1 (2019): 83-92.

- Qing Chen, Qi-Qi Wang, **Bao-Zhu Cai**, Xiao-Jun Ren, Feng Zhang, Xiao-Jin Zhang. "Analysis of the fragile X mental retardation 1 premutation in Han Chinese women presenting with primary ovarian insufficiency." ***Reproductive and Developmental Medicine*** 1.1 (2017): 9.
- * Wang, Lingbo, et al. "Joint utilization of genetic analysis and semi-cloning technology reveals a digenic etiology of Müllerian anomalies." ***Cell Research***(2019): 1-4.

Selected Coursework (scores out of 100)

- Advanced Mathematics (2) (80/100)
- Mathematical Modeling (90/100)
- Advanced Language Programming (85/100)
- Linear Algebra (73/100)

Independent Coursework

- Grammar and Punctuation
 - Coursera (University of California, Irvine)
- An Introduction to Interactive Programming in Python (Part 1)
 - Coursera (Rice University)
- Biology Meets Programming: Bioinformatics for Beginners (learning)
 - Coursera (University of California, San Diego)
- Machine Learning (learning)
 - Coursera (Stanford University)

Skills

- **Computing:** Python, R, Perl, C++, Ruby
- **Web Development:** HTML, Markdown, CSS
- **Operating Systems:** Linux, Windows

Leadership Experience and Activites

- The student union of Hainan University 5/2011 - 6/2012
 - Vice President
- The Agriculture Scholarship 2010 – 2011
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