YUE TONG

+32 494064561 | yue.tong@ulb.be | yue.tong94@gmail.com | bagel-yt.github.io
Route de Lennik 808, 1070 Brussels, Belgium

Education

ULB Center for Diabetes Research, Université Libre de Bruxelles — Brussels, Belgium
PhD of Biomedical and Pharmaceutical Science — *Sep. 2020 – Current*

The Second Xiangya Hospital, Central South University — Hunan, Changsha, China
Master of Clinical Medicine: Internal Medicine — *Sep. 2017 – Jun. 2020*

Xiangya School of Medicine, Central South University — Hunan, Changsha, China
Bachelor of Clinical Medicine — *Sep. 2012 – Jun. 2017*

Research Experience

Doctoral Fellow — Sep. 2020 – Present
ULB Center for Diabetes Research, Université Libre de Bruxelles — *Brussels, Belgium*
Fund For Research Training in Industry & Agriculture Fellow, F.R.S - FNRS — *Brussels, Belgium*

- **Modeling rare and common forms of diabetes using gene editing and organoids technologies**
  Developed and coordinated 8 disease-specific models using induced pluripotent stem cell (iPSC)-derived pancreatic beta-cells, leveraging clinical and multi-omics data. Advance the understanding of how genetic variants contribute to disease pathogenesis, focusing on *defective insulin biosynthesis*, *ER-Golgi stress*, and *gluco-lipotoxicity*.

  Keywords: iPSC; organoids; CRISPR/Cas; monogenic and polygenic diseases; clinical trials; GWAS; eQTL

- **Modeling nutrient metabolism in developing pancreatic beta cells: cross-species insights**
  Led the human models segment in a collaborative project investigating iron metabolism in pancreatic beta cells. Conducted cross-species cellular and molecular investigations from iron-level-tethered human and mouse beta cell models to explore iron transportation impact beta cell development, function, and survival.

  Keywords: cross-species model; cell/organ development; nutrient regulation; transcriptomics

Graduate Research Fellow — Sep. 2017 – Jun. 2020
The Second Xiangya Hospital, Central South University — *Hunan, Changsha, China*

- **Distinct secretion pattern of serum proinsulin in different types of diabetes**
  Developed the project experimental design. Oversaw the recruitment of 300 participants, ensuring standardization of records and measurement protocols. Conducted comprehensive data analysis to uncover variations in proinsulin secretion among diabetes subtypes, providing insights into potential biomarkers for disease differentiation.

  Keywords: cross-sectional study; biomarkers; disease subtypes

- **Immunologic and genetic pathogenesis of autoimmune diabetes**
  Organized the enrollment and follow-up for 1000 autoimmune diabetes patients and their first-degree relatives. Conceptualized and led the development of a diabetes prediction and staging project using neutrophil RNA sequencing and GWAS, advancing the understanding of genetic and immunologic risk factors in diabetes.

  Keywords: cohort study; genomic/transcriptomic profiling; disease prediction autoimmunity

Publications

1. **Tong Y**, Becker M, Schierloh U, et al. A New Form of Diabetes Caused by *INS* Mutations Defined by Zygosity, Stem Cell and Population Data (Under review in EMBO Molecular Medicine)
2. Lytrivi M*,, **Tong Y***, Virgilio E*, et al. Diabetes mellitus and the key role of endoplasmic reticulum stress in pancreatic beta cells. Nat Rev Endocrinol. 2025 Jun 4. doi: 10.1038/s41574-025-01129-5. Co-first author.
3. Van Mulders A, Willems L, Coenen S; et al., **Tong Y**, et al. A critical role for iron import through the transferrin receptor in developing beta-cells. (Revision with Nature Communication)
4. Mandla R, Lorenz K, Yin X, et al., **Tong Y**, et al. Multi-omics characterization of type 2 diabetes associated genetic variation medRxiv [Preprint]. 2024 Jul 15:2024.07.15.24310282

5. Bourgeois S; Van Mulders A; Heremans Y; et al., **Tong Y**, et al. ER stress relief drives beta-cell proliferation (Revision with Diabetologia)
6. Arunagiri A, Alam M, Haataja L, et al., **Yue Tong**, et al. Proinsulin folding and trafficking defects trigger a common pathological disturbance of endoplasmic reticulum homeostasis. Protein Science. 2024;33(4):e4949.
7. **Tong Y**, Yang L, Shao F, et al. Distinct secretion pattern of serum proinsulin in different types of diabetes. Ann Transl Med. 2020;8(7):452.
8. Xing Y, Lin Q, **Tong Y**, et al. Abnormal Neutrophil Transcriptional Signature May Predict Newly Diagnosed Latent Autoimmune Diabetes in Adults of South China. Front Endocrinol (Lausanne). 2020;11:581902.
9. Hu J, Liu Z, **Tong Y**, et al. Fibroblast Growth Factor 19 Levels Predict Subclinical Atherosclerosis in Men With Type 2 Diabetes. Front Endocrinol (Lausanne). 2020;11:282.

Awards and Scholarships

ISPAD Standard Travel Grant | *International Society for Pediatric and Adolescent Diabetes (ISPAD)*	Oct. 2023
SFD Travel grants for research meetings in diabetes | *French-Speaking Diabetes Society (SFD)*	Oct. 2023
Fund For Research Training in Industry & Agriculture Doctoral Fellowship | *F.R.S.-FNRS*	Oct. 2021
First-prize Academic Scholarship | *Central South University*	Sep. 2017
Third-prize School Scholarship | *Central South University*	Sep. 2013

Conference Talk and Poster

2024-2025 Homozygous and heterozygous *INS* mutations cause divergent clinical and iPSC-derived beta-cell phenotypes, *The International Group on Insulin Secretion meeting of EASD*, Schloss Hohenkammer, Germany & *The 9th Meeting of Study Group on Genetics of Diabetes (SGGD)*, Exeter, UK | Talks

2023 Discovery of a new treatment for a novel form of rare diabetes caused by an insulin gene mutation using patients' iPSC-derived beta-cells, *The European Association for the Study of Diabetes (EASD) 2024 Annual Meeting & The International Society for Pediatric and Adolescent Diabetes (ISPAD) 2024 Annual Meeting*, Rotterdam, the Netherlands | Talks

2023 Bedside-inspired diabetes modeling: learn from monogenic diabetes to understand the pathogenic mechanisms of T1D, *19th Immunology of Diabetes Society (IDS) Congress*, Paris, France | Invited talk

2020 Distinct secretion pattern of serum proinsulin in different types of diabetes, *15th Xiangya International Diabetes Immunology Forum & 17th Immunology of Diabetes Society (IDS) Congress*, Beijing, China | Poster

Skills

Cell biology: stem cell technologies, cell culture, cell engineering, transfection, RNA-interference, cell&tissue imaging, flow cytometry, magnetic-activated cell sorting, perifusion assay, Seahorse assay
Molecular biology: ELISA, Western Blotting, BCA, PCR, RT/qPCR, CRISPR/Cas genome editing
Bioinformatics: transcriptomics, phylogenetics, data visualization
Clinical Practice: Certificate of Physician Credentials and Certificate of Medical Licensure (China)
Coding language: Bash, R, Python, LaTeX
Softwares: SPSS, Graphpad Prism, CellProfiler, ImageJ, Geneious Prime, SnapGene
Language: English (professional proficiency); Chinese-Mandarin (native); Chinese-Cantonese (conversational proficiency); French (conversational proficiency)