
ALBERT RIBES, Ph.D.

Professor of Biology
Biology Department

EDUCATION

1993 Bachelor of Science, Biology, Universitat Autònoma de Barcelona
2001 Master in Molecular Biology, University of Kentucky
2007 Ph.D. in Molecular Biology, Baylor College of Medicine

PROFESSIONAL APPOINTMENTS

2008	IRACDA Post-Doctoral Fellow, Texas Children's Hospital
2009-2011	Visiting Professor in Biology, University of St. Thomas
2011-2017	Tenure-Track assistant professor, University of St. Thomas
2017-2025	Associate Professor, University of St. Thomas
2025-Present	Full Professor, University of St. Thomas

PUBLICATIONS

PEER-REVIEWED PUBLICATIONS

Emerson CH, Lopez CR, **Ribes-Zamora A**, Polleys EJ, Williams CL, Yeo L, Zaneveld JE, Chen R, Bertuch A. KU DNA end-binding activity promotes repair fidelity and influences end-processing during nonhomologous end-joining in *Saccharomyces cerevisiae*. *Genetics* 2018 May 1; 209(1):115-128

Cara L, Baitemirova M, Follis J, Larios-Sanz M, **Ribes-Zamora A**. The ATM- and ATR-related SCD Domain is over-represented in proteins involved in nervous system development. *Sci Rep*. 2016 Jan 8;6:19050.

Simmons AD, Nguyen TK, Follis JL, **Ribes-Zamora A**. Using a PyMOL activity to reinforce the connection between genotype and phenotype in an undergraduate genetics laboratory. *PLoS One*. 2014 Dec 2;9(12):e114257.

Ribes-Zamora A, Indiviglio S, Mihalek M, Williams C, Bertuch A. TRF2 interaction with Ku heterotetramerization interface gives insight into c-NHEJ prevention at human telomeres. *Cell Reports*. 2013 Oct 17;5(1):194-206

Cheung HC, San Lucas FA, Hicks S, Chang K, Bertuch AA, **Ribes-Zamora A**. An S/T-Q cluster domain census unveils new putative pathways and targets under Tel1/Mec1 control. *BMC Genomics*. 2012 Nov 23;13:664.

Sasa G, **Ribes-Zamora A**, Nelson N, Bertuch AA. Three novel truncating TINF2 mutations causing severe dyskeratosis congenital in early childhood. *Clinical Genetics* 2011 Feb 24.

Lopez CR, **Ribes-Zamora A**, Indiviglio SM, Williams CL, Haricharan S, Bertuch AA. Ku must load directly onto the chromosome end in order to mediate its telomeric functions. *PLoS Genetics*. 2011 Aug;7(8):e1002233

Horton TM, Jenkins G, Pati D, Zhang L, Dolan ME, **Ribes-Zamora A**, Bertuch AA, Blaney SM, Delaney SL, Hedge M, Berg SL. Poly(ADP-Ribose) polymerase inhibitor ABT-888 potentiates the cytotoxic activity of temozolomide in leukemia cells: influence of mismatch repair status and O6-Methylguanine-DNA methyltransferase activity. *Molecular*

Cancer Therapeutics. (2009) Aug;8(8):2232-42.

Ribes-Zamora A, Mihalek I, Lichtarge O, Bertuch AA. Distinct faces of the Ku heterodimer mediate DNA repair and telomeric functions. *Nature Structural and Molecular Biology*. 2007 Apr;14(4):301-307

CONFERENCE PROCEEDINGS

Taylor R, Williams A, Bigler A, Marin S, Sequeira C, Rizk G, Lichtarge O, **Ribes-Zamora A**, Marciano DC, Simmons AD (2025). Directed evolution of chromoprotein tinselpurple in a course-based undergraduate research experience improves scientific proficiency. *EDULEARN25 Proceedings* (ISBN: 978-84-09-74218-9), pp. 2669-2678, Palma de Mallorca, Spain.

Ribes-Zamora A, Simmons (2022) Reimagining an undergraduate genetics laboratory: Using bioinformatic tools and 3D printing to study the Covid virus in an online environment., *EDULEARN22 Proceedings*, pp. 1598-1603.

Beason-Abmayr, B., Martinez-Vargas, M., Catanese, D.J., Amin, S., **Ribes-Zamora A**, and Haseltine, D. (2020), ACTOR Trainees Experience Diverse Undergraduate Learning Environments. *The FASEB Journal*, 34: 1-1.

Nam E, **Ribes-Zamora A**, Simmons-Nout A, Amin SR, Villares GJ, Bagnall RA, Rosell RC, Ribes-Zamora A, Amin SR, Simmons-Nout A, Rosell R, Larios-Sanz M. (2018). Comprehensive inclusion of an active and inquiry-based curriculum increases retention and persistence in Biology *EDULEARN18 Proceedings*, pp. 5457-64

Ribes-Zamora (2016) Benefits of using molecular visualization software and active learning activities in an undergraduate molecular biology course, *EDULEARN16 Proceedings*, pp. 7260-7264.

Ribes-Zamora A, Baenziger EJ, Foss KB, Simmons AD. Orchid DNA-barcoding: A method to teach an inquiry-based, Undergraduate Genetics Laboratory. *ICERI2015 Proceedings* (ISBN: 978-84-608-2657-6), pp.6919-6925.

Ribes-Zamora A, Amin S, Simmons-Nout A, Larios-Sanz M, Rosell R. (2013) Bringing Research into Laboratory courses, *EDULEARN13 Proceedings*, pp. 5913-5918. (ISBN:978-84-616-3822-2) pp. 5913-5918.

GRANTS

2021-2026 Monroy, C (lead PI), Larios-Sanz, M. (co-PI), Ribes-Zamora, A (co-PI), Jermaine CM (Rice co-PI), and Nakhleh, L (Rice co-PI) (2021) NSF 21-533 - (Award number 2131293) Collaborative Research: CISE-MSI: RPEP: III: celtSTEM Research Collaborative: Catapulting MSI Faculty and Students into Computational Research, in collaboration with Rice University. (\$1.19M, funded 2021-2026)

2017-2021 UST STARS Program: Support, Train, Advise, Retain, Systematize. STEM award Grant Department of Education (P031C160188)

2016 Charity Child of Catholic Women. Summer 5/6th grade Scientific Camp for underrepresented minorities

2011-2016 US Department of Education UST/HCCS STEM Scholars Program (P031C110128-12)

RESEARCH ACTIVITY WITH UNDERGRADUATE STUDENTS

CURRENT PROJECTS

Identification of residues involved in the interaction between Ku and DNA repair proteins XLF and XRCC4. **2 undergraduate students**

Unveiling a putative novel interaction between Ku and BHRF1, a viral apoptotic protein. **1 undergraduate student**

Motif Cluster Domains, sequence signatures overrepresented in the DNA damage response, cell cycle control, and cell signaling pathways. **2 undergraduate students**

UNDERGRADUATE RESEARCH COMMITTEE GRANTS

2025 Acetylation of Ku and its binding to DNA repair proteins \$1,154.00

2022 Ku70 binds to Epstein bar Virus-encoded BHRF1 protein \$2,189.71

2021 Ku Binds to Herpesvirus BHRF 1 Protein \$673

PRESENTATIONS AT INTERNATIONAL/NATIONAL CONFERENCES

Motif Cluster Domains, Sequence Signatures Over-Represented in the DNA Damage Response, Cell Cycle Control, and Cell Signaling Pathways. Computational Biology of the Genome Conference, organized by Cold Spring Harbor Asia, Suzhou, China, October 21-25, 2024.

Mosquito Virus Mosaic: A Scalable Computational Workflow for Metagenomic Sequence Analysis in Mosquitoes. ABRCMS Annual Conference, Phoenix, Arizona, November 15-19, 2023.

Motif Cluster Domains, a Sequence Signature Playing Roles in DNA Damage Response and Cell Cycle Control Pathways ABRCMS Annual Conference, Phoenix, Arizona, November 15-19, 2023

Ku70 binds the Epstein Barr virus protein BHRF1 in an acetylation dependent manner 2023 American Society of Biochemistry and Molecular Biology Conference, Seattle, WA.

Impact of Immersive STEM Summer Camp for Underprivileged Middle Schoolers. 2018 American Society of Biochemistry and Molecular Biology Conference, San Diego, CA

DNA Repair Proteins XLF And XRCC4 Interact With Telomeric Proteins TRF1 And RAP1 2016 American Society of Biochemistry and Molecular Biology Conference, San Diego, CA *(This poster won the Undergraduate Poster Competition in the "Nucleic Acids" category)*

The ATM- and ATR-related SCD Domain is Over-Represented in Proteins Involved in Nervous System Development. 2015 Annual Biomedical Research Conference for Minority Students, Seattle, WA

Integration of undergraduate Research in multiple Laboratories of the UST-Biology curriculum 2015 Gordon Research Conference about Undergraduate Biology Education Research. Bates College, Lewiston, ME

SCDFinder : A bioinformatics tool to identify putative novel genes involved in the DNA damage response 2014 National conference of Undergraduate research (NCUR) Lexington, KY

PRESENTATIONS AT LOCAL CONFERENCES

Visualization and Clustering of Motifs Cluster Domains (MCDs) in Proteins (Student Oral Presentation) 2026 UST Research Symposium

Viruses Identified by Metagenomics in Houston (TX) Mosquitos. 2026 UST Research Symposium

mcdMiner: An Engine for Clustering Motifs in Proteins. (Student oral presentation). 2025 UST Research Symposium

Ku Binds targets in an acetylation dependent manner 2025 UST Research Symposium

Phylogenetics of Seven Restrepia Orchid Species 2024 UST Research Symposium

OTHER CMB RELATED ROLES

- Coordinator of CMB degree since inception
- Chair of CMB committee from inception
- Research Advisor for CMB students
- Academic Advisor for CMB students
- Faculty Advisor for the ASBMB Chapter at UST
- Faculty Advisor for the LMSA+ club at UST
- Chair of the Smith Endowed Chair in Biology