HEINRICH WIELAND PRIZE

SYMPOSIUM SPEAKER 2025 | PROFILE

Dr Ana Bošković
European Molecular Biology Laboratory (EMBL), Rome, Italy

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Ana Bošković has revealed the first mechanistic insights into the molecular basis of transgenerational epigenetic inheritance and the mechanisms governing the transcriptional activation of the genome of early embryos. She discovered that sperm-borne tRNA fragments responsive to paternal diet can influence the activation of totipotency-associated genes through regulation of histone protein levels and chromatin organization. In her most recent work, she has been developing a multi-exposome paradigm setting for systematic molecular dissection of the impact of human-relevant environments of reproductive fitness and immediate offspring phenotypes. She continues her work on tRNA-fragments, particularly focusing on elucidating *if* and *how* early transcriptomic changes in the embryo ultimately contribute to adult metabolic phenotypes.

Ana Bošković studied Molecular Biology at the University of Zagreb, Croatia, and obtained her PhD from the University of Strasbourg and the Institute of Genetics and Molecular and Cellular Biology (IGBMC) in France in 2014. She then conducted postdoctoral research at the University of Massachusetts Medical School, USA, as a Human Frontier Science Program Fellow. Since 2021, she has been a group leader at EMBL Rome, Italy. She is a recipient of EMBL HETT and NIH RO1 grants, and a member of the European Society of Human Reproduction and Embryology as well as Junior Investigators in Chromatin and Epigenetics.

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