



Dr. Özdemirhan SERÇİN

Dr. Özdemirhan Serçin As a research group leader specializing in the fields of molecular biology, DNA damage repair, and radiation biology, Özdemirhan Serçin is an internationally recognized scientist known for his studies aimed at understanding the cellular mechanisms that determine genome stability. His research focuses on DNA damage response, replication stress, genomic instability, and the biological effects of different types of radiation, establishing a strong bridge between fundamental biology and translational applications. After completing his undergraduate studies in the Department of Molecular Biology and Genetics at Bilkent University, Serçin earned his PhD in Biochemistry and Biophysics from the University of North Carolina at Chapel Hill in the United States. During his doctoral studies, he worked in the laboratory of Nobel Laureate Aziz Sancar, where he focused on the DNA damage response, the ATR–Chk1 checkpoint, and Claspin-mediated replication stress response mechanisms. The expertise gained during this period formed the foundation of his work demonstrating the critical role of DNA repair pathways in cellular integrity and cancer biology. Serçin conducted his postdoctoral research in Cédric Blanpain's laboratory at the Université Libre de Bruxelles in Belgium, where he utilized *in vivo* models to investigate the causal relationships between genomic instability, aneuploidy, and tumour development. These studies, which yielded significant findings on the role of genomic imbalance in oncogenesis, were published in the prestigious journal *Nature Cell Biology*. Subsequently, he served as a senior postdoctoral researcher and later as a group leader at the BioMedX Institute in Germany. There, he spearheaded the systematic mapping of synthetic lethality networks within DNA repair pathways using CRISPR/Cas9-based functional genomic screenings. This research, published in high-impact journals, contributed to the identification of clinically significant novel drug targets. Currently, Serçin serves as a Group Leader at the Institute of Aerospace Medicine – Radiation Biology and Space Medicine Department within the German Aerospace Centre (DLR). His current research is focused on understanding the effects of different radiation qualities—including photons, protons, and heavy ions—on DNA damage response and genome stability. His work, particularly in the context of space radiation, addresses the relationship between DNA repair mechanisms, cellular resilience, cancer risk, and biological protection strategies, carrying high translational importance for both

fundamental biology and space medicine. Today, through his interdisciplinary research in the fields of DNA repair and radiation biology, advanced genomic approaches, and the scientific studies he leads, Özdemirhan Serçin makes vital contributions to the understanding of cellular genome integrity and to the future applications of biomedical and space medicine.