

Dear ESHG,

I am very grateful to the ESHG for giving me the opportunity to participate in the ESHG Mentoring Program. This valuable initiative plays a crucial role in promoting young talent in the field of genetics. I feel honored not only to have been selected for this rewarding mentoring program, but also to have the opportunity to present my work at the ESHG Congress in Milan.

As part of the program, I spent a week at the Institute of Human Genetics in Jena under the supervision of Professor Thomas Liehr, one of the leading experts in the field of molecular cytogenetics. His research focuses primarily on the characterization of chromosome aberrations and aims to uncover the biological mechanisms behind structural chromosome changes and their relevance for clinical genetics.

During my time in the laboratory, I gained practical experience with various molecular cytogenetic techniques, with a focus on fluorescence in situ hybridization (FISH). I performed glass needle-based chromosome microdissection, probe labeling, and detailed analysis of FISH results, including probe development and adaptation, skills that are not routinely practiced in my home laboratory, which mainly uses commercial probes. This experience has greatly improved my understanding of the FISH method and its role in diagnostics. I also compared the classical cytogenetic protocols of my home laboratory with those of the institute and identified opportunities for improvement. In addition, I reviewed the results of Bionano's optical mapping test, which gave me a better insight into how this advanced technique can complement both classical and molecular karyotyping and serve as a diagnostic tool in the future.

This experience has not only expanded my technical skills, but also inspired me with new ideas to advance both diagnostic approaches and scientific research at my own institution. In addition, I was able to establish valuable new contacts with experts and colleagues who will promote collaboration and the exchange of innovative ideas and further advance my growth and progress in my work.

I am sincerely grateful to the ESHG for the funding and opportunity provided by this mentoring program and to Professor Liehr and his team for their generosity, guidance, and willingness to share their knowledge.

Best regards,

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