

My name is Konrad Chwelatiuk. I am 27 years old and I come from Poland. Currently I am part of NDTonAIR project, as an early stage researcher, at Fraunhofer IKTS in Dresden. The main area of my research would be focused on new designs of Piezoelectric Fiber Patch transducers to make them suitable for SH0 propagation, and therefore for SHM applications.

I studied Mechatronics at Lublin University of Technology. During my studies, I gained wide technical knowledge and I actively looked for various opportunities to gain also some professional experience. My career as a researcher started at Fraunhofer IKTS, where I was enrolled during my first Erasmus internship. This was my first experience with NDT. The subject of my research was development of technology and production of prototypes for ultrasonic Phased Array transducers. I have gained a lot of knowledge about NDT methods, especially in ultrasonic techniques.

Afterwards, I started research in Energy Harvesting field. I designed multiple variants of Energy Harvesting devices, mainly electromagnetic ones. I gained significant experience in this area by conducting research at Lublin University of Technology and during my Erasmus internships: at University of Perugia and at Brno University of Technology. Based on results obtained during my research I was able to complete my Bachelor's and Master's thesis. My Bachelor's thesis consisted of design of electromagnetic Energy Harvester and the qualitative and quantitative analysis of acquired energy. My Master's thesis were based on Bachelor's and it was enhanced with the analysis of nonlinear effects that makes Energy Harvesting devices more efficient.

After my graduation, I started to work as a Mechanical Design Engineer in R&D Centre at Polish Bearings Factory in Krasnik. I developed my passion for creation and strong striving for improvements. By designing new products I improved a lot my CAD skills, which are significant in the R&D environment. Afterwards I worked as a Junior R&D Engineer at Inphotech, a company that conducts research in photonics and transfers acquired knowledge into specific industrial applications (Fiber Optic Sensors, Distributed Acoustic Sensors). My main area of investigation was improving the process of inscription of Fiber Bragg Gratings – optical sensing elements which are used for SHM applications.

Apart from research and my professional career, I like travelling and playing board games. I also really enjoy the music, always trying to discover something new.

Email: konrad.chwelatiuk@ikts.fraunhofer.de