

Triple Ring Technologies Experience: Computational Tools

Triple Ring Technologies has significant experience in the computational analysis of electromagnetic fields and charged particle transport, with extensive expertise in numerical simulations and finite element analysis. Triple Ring uses these capabilities to assist in the development of novel X-ray imaging technologies for medical and security applications. Detailed computational analysis provides an intimate understanding of the underlying physics of these technologies, improving performance and reliability in the field. Recent areas of focus include:

- Thermal modeling for X-ray-generating targets
 - EGS deposition model to enable input to COMSOL
 - COMSOL for thermal analysis
- Analysis of electron beam optics in the presence of electric and magnetic fields
 - Field Precision software computes electro magnetics and charged particle transport
 - Matlab to analyze results

Selected Biographical Sketches:

Brian Wilfley Ph.D. has over 20 years of experience leading development efforts for medical device and instrumentation companies. He has held senior scientific and engineering positions with Resonex, Inc., Park Scientific, Inc., Signature Bioscience, Inc., and NexRay, Inc.

Combining a broad theoretical background with a highly developed experimental sense, Brian has experience across the full range of challenges encountered in developing complex measurement-based products. He is able to support the basic research and development of measurement-based equipment, as well as the detailed engineering required to implement it. His experience ranges from magnetism to x-rays, and includes a broad array of applications including biotech instrumentation, medical imaging, and optical inspection.

Brian is a co-inventor of six issued patents and has authored a number of technical papers. He received his AB in Physics from the University of California at Berkeley and his Ph.D. in Physics from the University of California at San Diego.



Tobias Funk Ph.D. is a Principal Physicist on the science team at Triple Ring Technologies working on dose reduction strategies in X-ray imaging. He has over 10 years of experience in the development of instrumentation for science and medicine.

His focus is in the areas of X-ray imaging, SPECT/CT imaging, and modeling and simulations of complex systems. Tobias has worked as a researcher at Lawrence Berkeley National Laboratory and in the Department of Radiology at the University of California, San Francisco.

He received his MS and Ph.D. from Freie Universität Berlin, Germany and has authored over 20 peer reviewed publications.

Anne Sandman Ph.D. has 10 years of experience in the computational analysis of electromagnetics and magnetized plasmas. An astrophysicist by training, her experience is primarily in analytical and numerical modeling of magnetic fields in the solar atmosphere. She previously worked as a research assistant at the Lockheed Martin Solar and Astrophysics Laboratory and the University of Chicago Center on Astrophysical Thermonuclear Flashes, and has authored or co-authored several peer-reviewed publications. She received her B.A. in physics from the University of Chicago, and her M.S. and Ph.D. in solar astrophysics from Rice University.