

Biomedical Applications using TracePro

Enhanced Life Science Research and Accelerated Biomedical Product Design in a Single Tool

Life Science Research & Discovery

Optical modeling for life science research requires an extraordinary degree of interdisciplinary collaboration among medical doctors, life scientists, and biomedical design engineers.

TracePro offers:

- Intuitive Modeling Environment
- Collaboration-Enhancing Features
- Full Spectrum Analytical Capabilities
- Real and Simulated Specimens

TracePro has enabled research discoveries in:

- Flow Cytometry and Cell Imaging
- Pulse Oximetry
- Tissue Characterization (In-Vitro & In-Vivo)
- Molecular Spectroscopy
- Microscopy
- Laparoscopic Endoscopic Single Site (LESS) Procedures
- Noninvasive Glucometry
- Heart Rate Monitoring

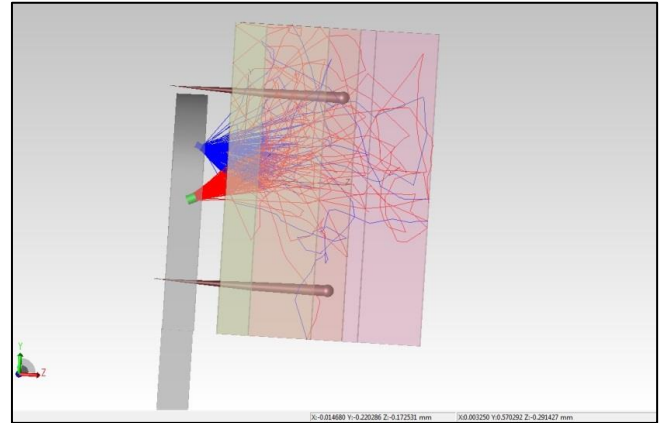


Figure 1: Evaluation of Bulk Absorption and Scatter in Tissue

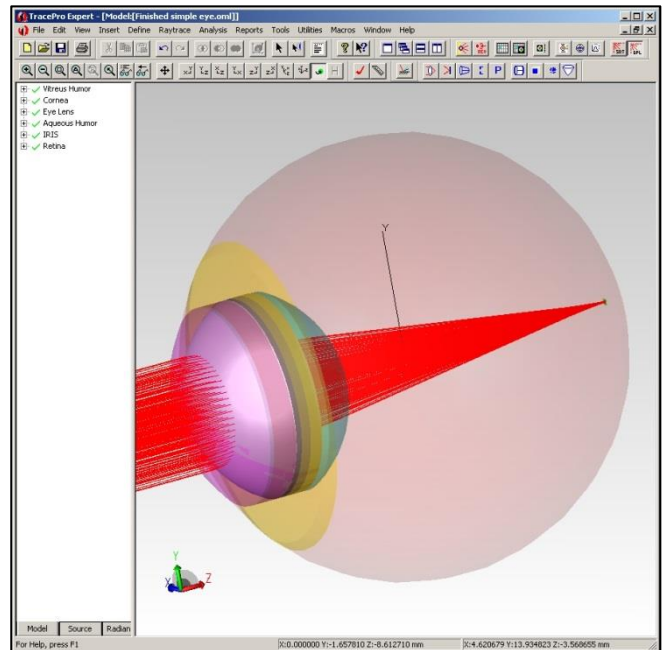


Figure 2: TracePro Model of the Human Eye

Biomedical Device Design & Development

Biomedical device manufacturers are facing pressure to decrease time to market, while dealing with increasingly tighter R&D budgets and significantly higher cost barriers for certification.

TracePro provides:

- Intuitive CAD Interface
- Interoperability with mechanical CAD software
- Unsurpassed ray tracing performance and accuracy
- Interactive Optimization
- Powerful visualization and Photorealistic Rendering

TracePro provides a high-output design environment for biomedical optics product design and development, with a proven track record in successful biomedical device development.

TracePro has specifically enabled new product design and innovation for:

- Biosensors
- Laser and LED surgical devices
- Surgical lamps and special-purpose luminaires

TracePro's intuitive design environment, combined with interactive optimization, visualization and photorealistic rendering capabilities, and award-winning performance and accuracy, helps produce highly successful designs.



Figure 3: Lighted Ear Curette



Figure 4: Welch Allyn Panoptic Ophthalmoscope with Half Moon Aperture