

John McDonald

Optical Physicist

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Summary: Strong in rapid product development. Natural leader. Lots of entrepreneurial experience. I solve hard problems quickly. I lead (or work well on) multi-disciplinary teams, I own my own mistakes and I am a happy person.

Technical: Photonic Systems Architect. Expert in infrared phenomenology, microscopy, & semiconductor test equipment. I work and lead easily across mechanics, optics and electronic disciplines. Conversant with SolidWorks and Zemax. I have years of senior management experience.

Experience Since July 2011. *Current:* Beckman Coulter, Half-time, Remote, Sr. Staff Optical Engineer in the R&D group. Fulltime from 2011 to 2017. I joined as the optics expert to design a new high speed, imaging blood diagnostics instrument. My optics and systems role expanded until, in 2016 they asked me to manage the software group for a 'mission-impossible' 4-month FDA remediation effort. I inherited a hopeless 11 month plan, with unwieldy, dispirited staffing on 2 coasts. I redefined the task so it was tractable in the required time frame. I sold the idea to management and to our quality engineer. We reorganized and with only local staff completed the task before the deadline, within 3 months.
In Jan. 2018 Beckman moved the R&D labs to Miami. I declined to move but agreed to a half-time remote position. I am the optics expert to several R&D product groups in Miami. In 2019 I designed and fielded a 3 color LED flashlamp to replace a xenon arc flashlamp for blood imaging.

2018-2019 – I filled out my other half-time hours working with 2 startups with several new products. I rescued (redesigned and built) a failed high intensity ultraviolet product. Provided expert assistance with a robotic, stereo zoom-optics surgical microscope. For a group in Latvia I designed and built a microscope for rapid fluorescent detection and identification of contaminants in dairy products. I make and sell [Extreme Microscope Resolution Targets](#) online.

QFI 1997-2011 Co-founder **QuantumFocus.com (QFI)**, 14 years *from 1997*: creating microscopes with extreme sensors to find semiconductor defects. We fielded ultra-low noise, cryo-cooled cameras, and used direct laser stimulus at die and wafer level to reveal circuit defects. Our instruments ranged to \$1M selling price and shipped worldwide. Tiny company: I did design and business development. I presented and supported our technology worldwide. I still give annual 90 minute seminars on exotic microscopy at industry conferences.

Highlights Before 1997 9 years designing thermal imagers (Hughes and FLIR). Also **Lawrence Livermore** on their NIF fusion laser facility. For a medical supplier, I engineered an infrared calibration for a successful mass market ear thermometer.

Education B.S. Physics, Magna Cum Laude. Southern Oregon University.

www.latigooptics.com