

## Mike Zollers

### Professional Experience

2022-Present	Sr. Illumination Systems Engineer, Synopsys, Inc.
2019-2022	SmartStart Library Product Manager, Synopsys, Inc.
2013-2019	Sr. LightTools Application Engineer, Synopsys, Inc.
2011-2012	Applications & Product Design Manager, Fraen Corporation
2004-2011	Sr. Optical Engineer, Optical Research Associates
2001-2003	Optical Engineer, Guide Corporation

### Education

2025	M.S. Degree in Optical Sciences, University of Arizona
2001	B.S. in Applied Optics, B.S. in Mathematics, Minor in Computer Science, Rose-Hulman Institute of Technology

Mr. Zollers is an experienced illumination engineer with extensive experience working with solid-state (LED) light systems and applications, stray light analysis, color science, BSDF and optical scattering materials, human vision modeling, injection-molded plastic optics, CAD software (including SOLIDWORKS, Rhinoceros, and CATIA V5), and software development in Visual Basic, C#, and C++. His design experience spans multiple domains, from automotive exterior lighting to airfield lighting and from portable lighting to streetlighting.

### Patents

U.S. 9,146,016	Tiling of multiple polygons for micro-lens array
U.S. 9,255,688	Oscillating interface for light mixing lenses
U.S. 9,746,596	Multi-LED/multi-chip color mixing optics
U.S. 9,890,926	Low profile multi-lens TIR

### Publications

Zollers, M.W. and David, S.R. "Design and Optimization of a Projector Headlamp." SAE Technical Paper 2009-01-0337, January 2009.

Zollers, M.W., Tamkin, J.M., Gregory, G.G. "Efficient design process for the evaluation and control of flare in opto-mechanical systems." Proc. SPIE 7428. Current Developments in Lens Design and Optical Engineering X. August 2009.

Zollers, M.W., Yang, H., Melman, J.H., David, S.R., Wang, G., Xu, X. "Process to measure particulate down-converting phosphors and create well-correlated software models of LED performance." Proc. SPIE 7954. Light-Emitting Diodes: Materials, Devices, and Applications for Solid State Lighting XV. February 2011.

Zollers, M.W. "Color science demonstration kit from open source hardware and software." Proc. SPIE 9188. Optics Education and Outreach III. September 2014.

Calabro, K.W., Gregory, G.G., Zollers, M.W. "Color: what, how, and why we see: a workshop for K-12 students and parents." Proc. SPIE 9188. Optics Education and Outreach III. September 2014.

Zollers, M.W., Gregory, G.G. "Statistical variation of color uniformity for solid-state illumination systems." Proc. SPIE 10746. Novel Optical Systems Design and Optimization XXI. September 2018.

Calabro, K.W., Zollers, M.W. "Effects of individual particulates in optical systems using a spatially isolated contamination scattering method." Proc. SPIE 11105. Novel Optical Systems, Methods, and Applications XXII. September 2019.

Rogers, J., Herman, E., Zollers, M.W. "Characterizing Finely Structured Ghost Images Using Physical Optics Propagation Methods." Proc. SPIE 12798. International Optical Design Conference 2023. June 2023.

Magarill, S., Zollers, M. "Toward a fully-automated luminaire design and manufacturing solution utilizing freeform optics and additive manufacturing." Proc. SPIE 12670. 3D Printing for Lighting. August 2023.

Perera, I.U., Freyssonier, J.P., Mills, S., Ring, C., Zollers, M.W. "Designing freeform luminaire optics for additive manufacturing: lessons learned." Proc. SPIE 12670. 3D Printing for Lighting. August 2023.

## **Professional Societies**

Member, SPIE	The International Society for Optical Engineering
Member, Optica	Optica, formerly The Optical Society of America
Member, IESNA	Illumination Engineering Society of North America
Member, SAE	The Society of Automotive Engineers
Member, SID	The Society for Information Display
Member, ISCC	Inter-Society Color Council
Member, CIE	International Commission on Illumination
Member, NES-Optica	New England Section of Optica, former president and secretary