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David R. Jenkins

Professional Experience

2019-Present	Director, R&D, Optics
2012-2018	Senior Manager R&D / Illumination Engineering
2011-2012	Director of Strategic Marketing and Innovation, Micron Technology, Inc.
2009-2011	Director of Engineering / LED and SSL Design, Micron Technology, Inc.
2006-2009	President and Founder, Orb Optronix, Inc.
2004-2006	Optical Engineering Consultant, Microsoft
2000-2004	Vice President of Sales and Marketing, Radiant Imaging, Inc.
1998-2000	Senior Staff Optical Engineer, Radiant Imaging, Inc.
1996-1998	Senior Optical Engineer, Federal Signal Corporation
1994-1996	Advanced Engineering Project Engineer, North American Lighting
1990-1994	Research Associate and Fellow, University of Michigan
1986-1990	Research Associate and Fellow, University of Texas at Austin

Education

1991	M.S. Degree in Physics, University of Michigan
1990	B.S. Degree in Physics, University of Texas at Austin

Mr. Jenkins' experience in optical system R&D, engineering, and design falls primarily within four areas: laser systems, remote sensing systems, light and color measurement systems, and illumination systems. His responsibilities have spanned the range from research and development, innovation management, advanced engineering, technology development, new product development, product design, project management, manufacturing, QA/QC, compliance engineering and global sales and marketing management. Dave participated in the early implementations of non-sequential raytracing for illumination system design. Within the context of illumination system design, simulation, and engineering, he has developed new products and technology within both large multinational corporations and start-up environments. His experience includes the development of illumination systems and customized light and color measurement systems for approximately one hundred external clients.

His product design experience spans a broad range from illumination systems in automotive exterior lighting (signal and forward), emergency vehicle warning lamps (LED and strobe), aircraft interior lighting (white and color controlled SSL), aircraft exterior lighting, non-automotive motorized vehicle lighting (headlamps and signal lamps), runway lighting, street lighting, novel flat panel electronic display systems, backlights, touch screen, web cams, projection systems (LCD and DMD), cinema projectors, architectural lighting, emergency egress lighting, exit signs, signage illumination, iris detection systems, contact lens manufacturing equipment, UV curing systems, machine vision systems, food and agricultural product inspection equipment, medical lighting, surgical lighting, dental equipment, ophthalmology equipment, medical diagnostic equipment, non-invasive medical monitoring devices, scanners, R&D instrumentation, imaging and spectral materials characterization systems, fiber optic illumination, LED packages and modules, entertainment lighting and toys. He has designed illumination systems that utilize a wide variety of light sources including: plasma arc discharge, fluorescent, tungsten-halogen, incandescent, light emitting diodes, strobe and plasma induction. Dave drove early adoption of HID and LED technology in automotive lighting as well as LED technology adoption in emergency vehicle warning lamps, aviation lighting, and general lighting applications.

Many of Mr. Jenkins' illumination system designs are creative and novel. He has achieved this, in part, by developing engineering methods, CAD tools, empirical metrology methods, and unique algorithms throughout his career. These tools range from algorithms for optimizing illumination distributions leveraging computer-aided illumination system design software (including light pipe geometry, reflectors, Fresnel lenses, volumetric scattering models, phosphorescent materials models, and backward raytraced source engineering) to complex models for illumination system trade-off analysis and optimization (that include optical, electrical, thermal, and mechanical design variables as well as performance criteria, risk criteria, and cost models). In addition, Mr. Jenkins has pioneered many empirical techniques in illumination system design by developing specialized metrology tools including: imaging colorimeters, LED thermo-electrical-optical characterization systems, phosphor characterization systems, volumetric scattering materials characterization systems, translucent optical material characterization systems, and LED junction temperature correlation systems.

Dave has participated in standards organizations and committees throughout his career for lighting applications, illumination engineering practices, photometry, radiometry, colorimetry, LED technology and solid state lighting in professional organizations such as SAE, IESNA, CORM, CIE, and Zhaga.

Mr. Jenkins served on the patent committee for Micron Technology and has served as an expert witness in illumination system design.

Patents

US 7630002	Specular Reflection Reduction Using Multiple Cameras
US 7012633	Color Calibration Method for Imaging Color Measurement Device
US 6982744	Multi-point Calibration Method for Imaging Light and Color Measurement Device
US 6969181	Fully Recessed Unit Equipment Luminaire
US 6056426	Monolithic Beam Shaping Light Output Device
US 5931576	Optical Coupler for Distributive Lighting System

Applications

2012/0019164	Calibration Method for LED Lighting Systems
2012/0032182	Solid State Lights with Thermal Control Elements

Publications

Jenkins, D., "Mura Defects: Moving Beyond Display Industry Standards", in Information Display, Society for Information Display, Vol. 19, No. 12 (December 2003).

Jenkins, D., "Flat Panel Display Metrology Finds More than Meets the Eye: Camera-based systems for defect detection reduce production costs and improve quality", in Photonics Spectra, Laurin Publishing, (August 2003).

Cassarly, W.J., D.R. Jenkins, and H. Mönch, "Accurate Illumination System Predictions Using Measured Spatial Luminance Distributions", in Modeling and Characterization of Light Sources, Proceedings of SPIE Vol. 4775 (SPIE, Bellingham, WA 2002).

Jenkins, D.R., D.C. Beuzekom, G. Kollman, C.B. Wooley, and R.F. Rykowski, "Digital Imaging Colorimeter for Fast Measurement of Chromaticity Coordinate and Luminance Uniformity of Displays", in Flat Panel Display Technology and Display Metrology II, Edward F. Kelley; Apostolos T. Voutsas, Editors, Proceedings of SPIE Vol. 4295 (SPIE, Bellingham, WA 2001).

Jenkins, D.R, B. Wang, S. Banerjee, and J. Jiao, "Low Beam Head Lamp Design Using Distributive

Lighting System", Society of Automotive Engineers Annual Meeting 1996, Reprinted in Automotive Design Advancements in Human Factors: Improving Drivers' Comfort and Performance (Society of Automotive Engineers, Inc. Warrendale, PA, 1996).

Conti, R.S., P.H. Bucksbaum, D. Kilper and D. Jenkins, "New Tests of P-Conserving T-Violation in Atoms", in Proceedings of the Annual Meeting of the American Physical Society (1991).

Professional Societies

Member	SPIE (Society of Photo-Optical Instrumentation Engineers (SPIE)
Member	Illumination Engineering Society (IESNA)
Member	Society of Automotive Engineers (SAE)