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David L. Dickensheets received his Ph.D. in Electrical Engineering from Stanford University in 1997. From 1996-1997 he was a research associate in the Edward L. Ginzton Laboratory at Stanford University. In 1997 he joined the faculty at Montana State University in Bozeman, Montana, where he is currently an Assistant Professor of Electrical Engineering. His research interests include optical imaging and spectroscopy of tissues, and the application of microfabrication technologies to develop miniature optical instruments for biomedical and industrial imaging applications, telecommunications and planetary exploration.

EDUCATION:

- Ph.D. (1997) Electrical Engineering, Stanford University, Stanford, CA
"A Microfabricated Scanning Confocal Optical Microscope for In Situ Imaging"
- M.S. (1988) Electrical Engineering, University of Washington, Seattle, WA
"Non-Invasive Quantitative Estimation of Circulating Bilirubin in Newborns"
- B.S. (1985) Electrical Engineering, University of Colorado, Boulder, CO

PROFESSIONAL EXPERIENCE:

- 2003- Associate Professor, Montana State University, Bozeman, MT
2004- Director, MSU Microfabrication Facility, Bozeman, MT
1997-2003 Assistant Professor, Montana State University, Bozeman, MT
1996-97 Research Associate at the Edward L. Ginzton Laboratory, Stanford University
1991-96 Research Assistant for Stanford University Dept. of Electrical Engineering
1988-91 Design Engineer for Hewlett-Packard Co., Andover, MA
1988 Research Engineer for SciMed, Bothell, WA
1986-88 Research Assistant for Univ. of Washington Dept. of Electrical Engineering
1983-85 Student Engineer, NBI, inc., Boulder, CO

SELECTED PUBLICATIONS: (from 50 total publications and 13 patents)

- [1] Sarah J. Lukes, Phillip A. Himmer, Eric J. Moog, Steven R. Shaw, David L. Dickensheets, "Feedback Stabilized Deformable Membrane Mirrors for Focus Control," SPIE Vol. **7208**, January 27-28, 2009.
- [2] Christopher L. Arrasmith, Chetan A. Patil, David L. Dickensheets, Anita Mahadevan-Jansen, "A MEMS based handheld confocal microscope with Raman spectroscopy for in-vivo skin cancer diagnosis," SPIE Vol. **7169**, January 24-27, 2009.
- [3] David L. Dickensheets, Hans Peter Herzig, Wataru Nakagawa, Kaspar Suter, Urs Staufer, "Nanostructured effective-index micro-optical devices based on blazed 2-D sub-wavelength gratings with uniform features on a variable-pitch," 2008 IEEE/LEOS International Conference on Optical MEMS, Freiburg, Germany, August 11-14, 2008.
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- Micro/Nanolithography, MEMS and MOEMS Vol. 7, 021008, Apr. 30, 2008.
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 - [6] David L. Dickensheets, Marshall Overcast, Phillip Himmer, Victor X.D. Yang, I. Alex Vitkin, "Focus Tracking in Time Domain Optical Coherence Tomography Using Membrane Mirrors Operated Near Snap-Down," 2006 IEEE/LEOS International Conference on Optical MEMS, Big Sky, Montana, August 21-24, 2006.
 - [7] Victor X. D. Yang, Youxin Mao, Beau A. Standish, Nigel R. Munce, Stephanie Chiu, Daina Burnes, Brian C. Wilson, and I. Alex Vitkin, Phillip A. Himmer and David L. Dickensheets, "Doppler optical coherence tomography with a micro-electro-mechanical membrane mirror for high-speed dynamic focus tracking," Optics Letters, Vol. 31, No. 9, pp 1262-1264, May 2006.
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 - [10] Yuhe Shao, David Dickensheets, Phillip Himmer, "3-D MOEMS Mirror for Laser Beam Pointing and Focus Control," IEEE Journal Of Selected Topics In Quantum Electronics, Vol. **10**, No. 3, May/June 2004.
 - [11] Alex Ellery, David Wynn-Williams, John Parnell, Howell G.M. Edwards, David Dickensheets "The role of Raman spectroscopy as an astrobiological tool in the exploration of Mars" Journal of Raman Spectroscopy Volume: 35, Issue: 6, pp. 441 – 457, June 2004.
 - [12] Bing Qi, Phillip A. Himmer, Maggie L. Gordon, Victor X.D. Yang, David L. Dickensheets, I. Alex Vitkin, "Dynamic focus control in high-speed optical coherence tomography based on a microelectromechanical mirror," Optics Communications, Vol **232**/1-6 pp 123-128, 2004.
 - [13] B. Jeffrey Lutzenberger, David L. Dickensheets and Todd J. Kaiser, "Large Area Molded Silicon Nitride Torsion Mirrors for Optical Switching IEEE Photonics Technology Letters, **15** (10), pp 1407-1409, October, 2003.
 - [14] Howell G. M. Edwards, Emma M. Newton, David D. Winn-Williams, David Dickensheets, Chris Schoen, Chelle Crowder, "Laser Wavelength Selection for Raman Spectroscopy of Microbial Pigments *in situ* in Antarctic Desert Ecosystem Analogues of Former Habitats on Mars," International Journal of Astrobiology, Vol. **1** (4), 333-348, 2002.
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 - [17] David L. Dickensheets, "MOEMS-Based Instruments For In-Situ Scanning Confocal Microscopy," (*Invited Paper*) presented at LEOS 2001 14th Annual Meeting of the IEEE Lasers and Electro-optics Society, San Diego, CA, pp 68-69, November 12-15, 2001.
 - [18] David L. Dickensheets, David D. Wynn-Williams, Howell G. M. Edwards, Christian Schoen, Chelle Crowder and Emma M. Newton, "A novel miniature confocal microscope/Raman spectrometer system for biomolecular analysis on future Mars missions after Antarctic trials," Journal of Raman Spectroscopy, vol. **31**, pp 633-635, 2000.
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 - [21] D.L. Dickensheets, "Imaging Performance of Off-Axis Planar Diffractive Lenses." Journal of the Optical Society of America, A, **13**, 1849-58, 1996.
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