Refereed Journal Publications and Book Chapters:

1. R. Nair, K. W. Goossen, M. W. Haney, "Dual-prism coupler for board-level free-space optical interconnects: Design and simulations," to appear in: *Optical Engineering*, Vol. 51, No. 4, April 2012.
2. M. Haney, "Comments on 'Design and characterization of thin multiple aperture infrared cameras," *Applied Optics,* Vol. 50, No. 11, 10 April 2011, pp. 1584-1586.
3. T. Gu, R. Nair, and M. W. Haney, "Prismatic Coupling Structure for Intrachip Global Communication," *IEEE Journal of Quantum Electronics*, vol. 45, no. 4, 388-395, April 2009.
4. M. J. McFadden, M. Iqbal, T. Dillon, R. Nair, T. Gu, D. W. Prather, and M. W. Haney, "Optical Interconnects for Intra-chip Global Communication: Motivation, Analysis and Experimental Validation," in Feature Issue of *Applied Optics* on *Information Photonics*, Vol. 45, No. 25, September 2006, pp. 6358-6366.
5. P. Milojkovic, M. P. Christensen, and M. W. Haney, "Tradeoffs between Lens Complexity and Real Estate Utilization in a Free space Multi-chip Global Interconnection Module," *Journal of the Optical Society of America A*, Vol. 23, No. 7, July 2006, pp. 61787-61795.
6. Marc P. Christensen, Vikrant Bhakta, Dinesh Rajan, Tejaswini Mirani, Scott C. Douglas, Sally L. Wood, and Michael W. Haney, "Adaptive Flat Multi-resolution Multiplexed Computational Imaging Architecture utilizing Micro-mirror arrays to Steer Sub-imager Fields-of-view," *Applied Optics* Special Issue on Task Specific Sensing, Vol. 45, No. 13, May 2006, pp. 2884-2892.
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11. M. W. Haney, M. J. McFadden, M. Iqbal, D. W. Prather, T. Dillon, "Optical Interconnects: A Potential Solution to the *Intrachip* Interconnect Problem?" IEEE *LEOS Newsletter* "Hot Topics" Article, June, 2005.
12. Joseph N. Mait, M. W. Haney, Keith W. Goossen, and Marc P. Christensen, "Shedding Light on the Battlefield: Tactical Applications of Photonic Technology," *Defense & Technology Paper Series (number 7), Center for Technology and National Security Policy, National Defense University, November 2004.*

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Patents Issued:

1. *5,467,211, "Optoelectronic Sliding Banyan Network"*
2. *6,326,600, "Low-distortion Global Optical Interconnection Module"*
3. *7,526,159, "Method and Apparatus for Coupling Spatial Light Modulators"*
4. *7,873,280, "Method and apparatus for free-space optical interconnects between arbitrary locations in a field using lenses, steering elements and a curved reflecting surface"*

Pending Patent Applications:

1. T. Gu, R. Nair and M. W. Haney, "*Method and apparatus for modulator-based optical interconnections, (Vertical prismatic coupling fabrics for optical interconnections*)," 2009.
2. M. McFadden and M. Haney, "*Ultra and very high efficiency solar cells*," 2010
3. R. Nair, T. Gu and M. W. Haney, "*Dual-channel optical multiplexer and 4-level optical pulse amplitude modulator,*" 2010.
4. T. Gu and M. W. Haney, "*Integrated concentrating photovoltaics*," 2010
5. T. Gu, R. Nair and M. W. Haney, "*Multi-reflection prismatic coupling structures and tapered remote couplers for optical interconnections*," 2010.

Invited Conference Presentations:

1. Michael Haney, Rohit Nair, Tian Gu, "Chip-scale Integrated Optical Interconnects – A Key Enabler for Future High Performance Computing," presented at SPIE Photonics West, *Proc. SPIE 7607* (Optoelectronic Interconnects XII), San Francisco, CA, USA, January 2012.
2. M. W. Haney, Photonic Integrated Circuits for Analog Signal Processing: Progress and Challenges, presented at the IEEE AVFOP Conference, September, 2010.
3. M. W. Haney, "The Future of Optical Interconnects," *Plenary Talk* at the IEEE Workshop on High Speed Interconnects, May 3, 2010.
4. M. W. Haney, D. Sparacin, J. Hodiak, C. Dohrman, "The Transition to Chip-level Optical Interconnects, Symposium on Computer Communications, OFC, March 22, 2010.
5. M. W. Haney, "Photonic Integrated Circuits: Ready for Prime Time?" presented at CapSci'08, Arlington, VA, March 29, 2008.
6. M. W. Haney, M. J. McFadden, M. Iqbal, "Progress Toward Intra-chip Optical Interconnects," Symposium on Integrated Optoelectronic Devices, Photonics West 2006, Photonics Integration and Packaging VI, *Proc. of SPIE* Vol. 6126, 15 pages, San, Jose, CA, January 25, 2006.
7. M. W. Haney, M. J. McFadden, M. Iqbal," *Intra-chip* Optical Interconnects: Challenges and

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8. M. Haney, K. Goossen, F. Kiamilev, R. Hunsperger, D. Prather. V. Stoleru, J. Kolodzey "Photonics at the University of Delaware," presented at the University Forum event of the SPIE's Optics East, October 27, 2004.
9. M. W. Haney, M. J. McFadden, M. Iqbal, U. Hameed, "Intrachip Optical Interconnects: Challenges and Solutions," Proceedings of the ICO, Tokyo, Japan, 12-15 July 2004.
10. M. W. Haney, "Architecture and Technology Issues for Optical Interconnects at the Chip Level," *Technical Digest* of the Optical Society of America's Annual Meeting, Paper WDD1, October, 2003.
11. M. W. Haney, et al, "Smart Pixel-based Free-space Interconnects: Solving the High-speed Multi-chip Bottleneck," ITCOM, August, 2001.
12. M. W. Haney, "Macro vs. Micro in Free-space optical Interconnects," presented at the OSA Diffractive Optical and Micro-optics Topical Meeting (joint session with *Optics in Computing* Topical Meeting), SPIE Vol. 4089, pp. 630-632, June 20, 2000.
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14. M. W. Haney, M. P. Christensen, P. Milojkovic, J. Ekman, P. Chandramani, F. Kiamilev, Y. Liu, M. Hibbs-Brenner, E. Strzelecka, G. Fokken, M. Vickberg, "*FAST-Net* Optical Interconnection Module Design and Development," *Optics in Computing Topical Meeting*, OSA Technical Digest Series, April, 1999, pp. 227-229.
15. M. W. Haney, "VCSEL Array Test Module for the Evaluation of Multi Chip Smart Pixel Systems," Workshop of the US-Japan Joint Optoelectronics Project, March 1999.
16. Michael W. Haney and James Cullen, "University/Industrial Collaborations in Photonics," "*Three Presidents CEO Summit*," organized by the presidents of GMU, University of Maryland, and Johns Hopkins to showcase and foster university/industrial collaborations in R&D. I represented GMU with a presentation on our collaborations with industry and other universities in the DARPA *FAST-Net* consortium, March 27, 1998.
17. M. W. Haney, M. P. Christensen, P. Milojkovic, J. Ekman, P. Chandramani, R. Rozier, F. Kiamilev, Y. Liu, M. Hibbs-Brenner, J. Nohava, E. Kalweit, S. Bounnak, T. Marta, B. Walterson, "*FAST-Net* Optical Interconnection Prototype Demonstration Program," *SPIE Proceedings,* Vol. 3288, January 1998, pp. 194-203.
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21. M. W. Haney, “Topological Advantages of Free-space Optical Interconnections,” presented at Joint Optoelectronics Program Experts Workshop, April, 1996.
22. M. W. Haney, "Free-space Interconnects for Multistage Shuffle/Exchange Networks," presented at: Optical Society Symposium on Information Processing, October 1993.
23. M. W. Haney, "Free-Space Folded Perfect Shuffle Interconnect Topology," First Annual Workshop on Interconnections within High-Speed Digital Systems, Santa Fe, NM, May, 1990.

Conference Papers:

1. Rohit Nair, Tian Gu, and Michael W. Haney, “Hybrid Chip-Scale Optical Interconnects Using Multiple Quantum Well Devices Bonded to Silicon” (submitted to OIC 2012)
2. Tian Gu, Rohit Nair, and Michael W. Haney, “Integrated Free-space Optical Interconnects: All Optical Communications On- and Off-chip” (submitted to OIC 2012)
3. Salman Khaleghi, Mohammad Reza Chitgarha, Omer F. Yilmaz, Moshe Tur, Michael W. Haney, Carsten Langrock, Martin M. Fejer, Alan E. Willner, "Experimental Characterization of Phase Tuning using Fine Wavelength Offset in a Complex-Coefficient Optical FIR Filter" (submitted to CLEO 2012).
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6. Mohammad Reza Chitgarha, Salman Khaleghi, Omer F. Yilmaz, Moshe Tur, Michael W. Haney, and Alan E. Willner, Coherent Multi-Pattern Correlator and All-Optical Equalizer Enabling Simultaneous Equalization, Wavelength Conversion and Multicasting", Proceedings of the IEEE/OSA Conference on Optical Fiber Communications (OFC), Los Angeles, CA, March 2012.
7. T. Gu and M. W. Haney, "Common-plane Spectrum-splitting Concentrating Photovoltaic Module Design and Development," in Renewable Energy and the Environment, OSA Technical Digest, Austin, Texas, November 2, 2011.
8. R. Nair, T. Gu, K. W. Goossen, F. Kiamilev, and M. W. Haney, "Demonstration of chip-scale optical interconnects based on the integration of polymer waveguides and multiple quantum well modulators on silicon," IEEE Photonics 2011 Conference, Arlington, VA, USA, 9-13, October 2011.
9. T. Gu, R. Nair, and M. W. Haney, "On-chip guided-wave optical interconnects using multiple quantum well modulators," IEEE Photonics 2011 Conference, Arlington, VA, USA, 9-13

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14. T. Gu, R. Nair, and M. W. Haney, "Novel coupling structure and multi-layer optical interconnects for intrachip global communication," *19th Annual Workshop on Interconnections within High-Speed Digital Systems*, May 18-21, 2008, Santa Fe, NM, USA.
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21. M. Iqbal, M. J. McFadden, M. W. Haney, "Intrachip Global Communication – Interconnect Modeling, Challenges & Potential Solutions," Proceedings of OSA 89th Annual Meeting,

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