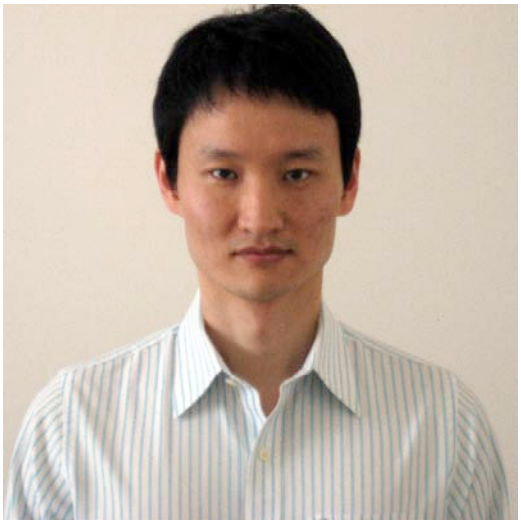

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Research Summary:

Current research focuses on the manipulation of light-matter interaction at the nanoscale, specifically using micro- and nano-mechanical devices to control the optical properties of photonic nanostructures. The aim is to integrate optical nanostructures and nanomechanical devices to create novel nanophotonic devices and effects to enhance the capability to precisely control the field-enhancement properties and further understanding of photonic interactions at the nanoscale.

Selected Recent Publications:

B. Park, J. Provine, I. W. Jung, R. T. Howe, O. Solgaard, "Photonic Crystal Fiber Tip Sensor for High Temperature Measurement," *Sensors Journal, IEEE*, Vol., Issue, pp., 2011. *(IEEE early access)*

S. Basu-Mallick, I. W. Jung**,** A. Meisner, J. Provine, R. T. Howe, O. Solgaard, "Multilayered Monolithic Silicon Photonic Crystals," *Photonics Technology Letters*, Vol. 23, Issue 11, pp. 730-732, June 2011.

I. W. Jung, B. Park, J. Provine, R. T. Howe, O. Solgaard, "Highly Sensitive Monolithic Silicon Photonic Crystal Fiber Tip Sensor for Simultaneous Measurement of Refractive Index and Temperature," *Journal of Lightwave Technology*, Vol. 29, Issue 9, pp. 1367-1374, May 2011.

J.-W. Jeong, J. Cho, I. W. Jung, and O. Solgaard, "Amplified Spontaneous Emission Rejection with a Multi-functional MEMS Tunable Filter," *Electronics Letters*, Vol. 46, No.18, pp. 1275-1277, September 2010.

J.-W. Jeong, I. W. Jung, H. J. Jung, D. M. Baney, and O. Solgaard, "Multi-functional Tunable Optical Filter Using MEMS Spatial Light Modulator," *Journal of Microelectromechanical Systems*, Vol. 19, Issue 3, pp. 610-618, April 2010.

I. W. Jung, S. Basu Mallick, O. Solgaard, "Large-Area High-Reflectivity Broadband Monolithic Single-Crystal-Silicon Photonic Crystal Mirror MEMS Scanner with Low Dependence on Incident Angle and Polarization," *Journal of Selected Topics in Quantum Electronics*, Vol. 15, Issue 5, pp. 1447-1454, September-October 2009.