

- **Atul Kumar**, Ching-Jen Wu, Kai-Che Liu, Yen-Yu Wang, Anant S. Vemuri; Ming-Chou Ku; ChiHsiang Wu; Hurng-Sheng Wu. Robot arm controlled dynamic field view expansion of the endoscope video. **(2013, July)** at IEEE Conference on Computer Vision and Pattern Recognition 2013; Portland, Oregon, USA
- **Atul Kumar**, Tai-Sheng Tan, Wen-Chen Tsai, Li-Ting Chiu, Peichen Kung, Ming-Chou Ku. Temporal Trends in Total Knee and Hip Replacement in Taiwan. **(2012, October)** at Annual meeting of Taiwan Orthopedic Association 2012; Taipei, Taiwan
- **Atul Kumar**, Donghoon Lee, Peter R. Cavanagh. Measurement of MTPJ cartilage thickness distribution using 14T MRI. **(2012, August)** at American Society of Biomechanics 2012; Gainesville, Florida.
- **Atul Kumar**, Kai-Che Liu, Yen-Yu Wang, Hurng-Sheng Wu. Stereoscopic visualization of monoscopic laparoscopy image by registration to the rendered image. **(2012, May)** at World Congress on Medical Physics and Biomedical Engineering; Beijing, China.
- **Atul Kumar**, Brian Donley, and Peter R. Cavanagh. Design of a 1st Metatarsophalangeal Hemi-Arthroplasty Implant Based on Morphological Data. **(2010, September)** at International society of foot and ankle biomechanics; Seattle, WA.
- **Atul Kumar**, Brian Donley, and Peter R. Cavanagh. Design of a 1st Metatarsophalangeal Hemi-Arthroplasty Implant Based on Morphological Data. **(2010, August)** at American Society of Biomechanics; Providence, RI.

PATENTS

- A system and method for monoscopic endoscope with adapter lens to capture stereo image (Application in Process)
- Stereo endoscope using shape from shading algorithm (European Patent number : 15180882; Taiwan patent application No. 103104853)
- A device for converting 2D endoscope video to stereo video. (Taiwan patent No. M467436)
- Infra-red rays based vein viewing device (Taiwan provisional patent No. 61/891,543)

GRANTS

- Public (PI): NT\$800,000 from National Science Council, Taiwan for *3D reconstruction from endoscope images* **2016-2017**
- Private (co-PI): NT\$281,000 from Show Chwan Memorial Hospital for *Lymph node identification using infrared image during endoscopy* **2015-2016**
- Private (co-PI): NT\$281,000 from Show Chwan Memorial Hospital for *A Software for geometrical measurements on the 2D and 3D medical images.* **2015-2016**
- Private (co-PI): NT\$281,000 from Show Chwan Memorial Hospital for *Evaluation of 3D stereo endoscope* **2015-2016**
- Public (PI): NT\$ 400,000 from National Science Council, Taiwan for *Augmented reality system for laparoscopy.* **2014-2015**
- Private (PI): NT\$282,000 from Show Chwan Memorial Hospital for *Augmented reality during endoscopy* **2013-2014**
- Private (PI): NT\$281,000 from Show Chwan Memorial Hospital for *Texture Analysis of Chest X-ray* **2012-2013**