Laurence G. Hassebrook (PE), Kentucky Utility Professor of Electrical and Computer Engineering

Education

Carnegie Mellon University, Pittsburgh, PA	Ph.D. (Electrical and Computer Engr.)	1990
Syracuse University, Syracuse, NY	M.S. (Electrical Engineering)	1987
University of Nebraska, Lincoln, NE	B.S. (Electrical Engineering)	1979

Appointments

2008- Pres.	Professor of ECE	ECE, University of Kentucky, Lexington, KY
2013- Pres.	Kentucky Utility Prof.	ECE, University of Kentucky, Lexington, KY
2007- 2013	Blazie Prof. of ECE	ECE, University of Kentucky, Lexington, KY
2007- 2009	Assist. Director of Ind. Relations	CVVE, University of Kentucky, Lexington, KY
1996- 2007	Associate Professor	ECE, University of Kentucky, Lexington, KY
1990-1996	Assistant Professor	ECE, University of Kentucky, Lexington, KY
1987-1990	Research Assistant	Carnegie Mellon University, Pittsburgh, PA
1984-1987	Teaching Assistant	Syracuse University, Syracuse, NY
1981-1984	Senior Associate Engineer	IBM, Endicott, NY
1980-1981	Assistant Engineer	Lincoln Electric System Corp., Lincoln, NE

Selected Publications (from 31 Journals, 3 Book Chapters, 55 Conference, 6 Patents, 2 Patents pending)

- Charles Casey, L.G. Hassebrook and Minghao Wang, "Depth matched transfer function of the modified composite pattern structured light illumination method," *Optical Engineering*, Vol. **53**, No. 11, pp. 1-9, November (2014).
- Yongchang Wang, Kai Liu, Qi Hao, Xianwang Wang, D.L. Lau and L.G. Hassebrook, "Robust Active Stereo Vision Using Kullback-Leibler Divergence," IEEE PAMI, Vol. 34, no. 3, pp. 548-563, March 2012.
- Y. Wang, K. Liu, Q. Hao, D. L. Lau, and L. G. Hassebrook, "Period coded phase shifting strategy for real-time 3-D structured light illumination acquisition and reconstruction," IEEE Trans. Image Proc., vol. 20, no. 11, pp. 3001-3013, Nov. 2011.
- Charles Casey, L.G. Hassebrook, Eli Crane and Aaron Davidson, "Multi-Feature Distortion-Insensitive Constellation Detection," Applied Optics, Vol. 50, No. 12, pp 1650-1659, April (2011).
- Kai Liu, Yongchang Wang, D.L. Lau, Q. Hao and L.G. Hassebrook, "Gamma model and its analysis for phase measuring profilometry," *JOSA A*, Vol. 27, no. 3, pp. 553-562, Feb. 2010.
- Yongchang Wang, L.G. Hassebrook and D.L. Lau, "Data Acquisition and Processing of 3-D Fingerprints," *IEEE Transactions on Information Forensics & Security*, Vol. 5, No. 4, pp 750-760, December (2010).
- C. Guan, L. G. Hassebrook, and D. L. Lau, "Composite structured light pattern for three-dimensional video," Opt. Express **11,** 406-417 (2003).
- Jie-lin Li, L.G. Hassebrook and Chun Guan, "Optimized Two-Frequency Phase-Measuring-Profilometry Light-Sensor Temporal-Noise Sensitivity," *JOSA A*, **20**(1), 106-115, (2003).
- W. J. Chimitt and L.G. Hassebrook, "Scene reconstruction from partially overlapping images with use of composite filters," *JOSA A*, **16**(9), 2124-2135, September (1999).
- R. C. Daley and L. G. Hassebrook, "Channel capacity model of binary encoded structured light-stripe illumination," *Applied Optics*, **37**(17), 3689-3696, June (1998).

Synergistic Activities

Session co-chair for SPIE International Symposium on Defense and Security + Sensing, Biometric and Surveillance Technology for Human and Activity Identification, Baltimore, MA, May 2013, Session Co-Chair, "Image and Multidimensional Signal Processing II," at the 6th World Multiconference on Systemics, Cybernetics and Informatics, Orlando, Florida, July 15, 2002.

Originator and Coordinator, "Electrical and Computer Engineering Senior Design Day," by the Department of Electrical and Computer Engineering, each semester from April, 2001 through 2004.

Session Chair, "Signal Processing," at the IEEE SoutheastCON, Lexington, Kentucky, March 26, 1999.

Collaborations and Other Affiliations

(a) Collaborators: Chris Begley (Anthropology University of Transylvania), J.C. Upshaw Downs (Georgia Bureau of Investigation, Coastal Medical Examiner Office, Savannah, GA), Benjamin Rennison (Clemson Conservation Center), Qi Hao (Electrical and Computer Engineering, Univ. of Alabama), Daniel Lau, Kevin Donohue and Hank Dietz (ECE, University of Kentucky); Robert Cohn (University of Louisville); Tien-Hsin Chao (NASA Jet Propulsion Laboratory); Jay Stockley (Boulder Non-Linear Systems); Chengwu Cui, Shaun Love and Michael Lhamon, (Lexmark International, Inc.); Brent Seales (CS, University of Kentucky); Adrian Parks (Minimally Invasive Surgery, University of Kentucky);

(b) Graduate and Postdoctoral Advisors: Professor B.V.K Vijay Kumar (PhD Advisor), Department of Electrical and Computer Engineering, Carnegie Mellon University.

(c) Thesis and Postdoctoral Advisees: Completed Degrees (8 Ph.D, 27 MS). Degrees in Progress (1 Ph.D). Charles J. Casey (PhD 2011); Eli Crane (MSEE 2011); Priyanka Chaudhary (MSEE anticipated 2010); Vikas Chandra Mehta (MSEE 2009); Neelima Mandava (MSEE 2008); Akshay Pethe (MSEE 2008); Raja Kalyan Ram Cavaturu (MSEE 2008); Charles J. Casey (MSEE 2008); Deepthi Boyanapally (MSEE 2008); Pratibha Gupta (MSEE 2007); Qi Hao (Postdoct. 2007); Veera Ganesh Yalla (PhD 2006); Wei Su (PhD 2006); Chun Guan (PhD 2004); Michael Earl Lhamon (PhD 1997); Mao Wang (PhD 1995); Mohammad Rhamati (PhD 1993); Veera Ganesh Yalla (MSEE 2004); Delecia Woon (MSEE 2005); Jielin Li (MSEE 2000); Robert R. Duncan (MSEE 1999); W.J.Chimitt (MSEE 1998); Yong Zhang (MSEE 1998); Raymond C. Daley (MSEE 1997); Jing Zhang(MSEE 1997); James Phillips (MSEE 1993); Marvin Nicholson (MSEE 1993); Mohit Bhushan (MSEE 1992); Harold Polus (MSEE 1992); Rajish Advani (MSEE 1992).

Narrative Biographical Sketch:

Dr. Hassebrook is a Professor of Electrical and Computer Engineering, a Professional Engineer and an active member of the Center for Visualization and Virtual Environments at the University of Kentucky. While studying at the Center of Excellence in Optical Processing at Carnegie Mellon University, he received his Ph.D. degree in 1990, his M.S.E.E. from Syracuse University in 1987 and his B.S.E.E. from University of Nebraska in Lincoln, in 1979. He worked at IBM Endicott, New York between 1981 through 1987. His research interests are in 3-Dimensional data acquisition, pattern recognition and N-Dimensional signal processing. Current work includes Structured Light Illumination scanner design, 3-D surface scanning of objects in motion, dynamic pattern projection for multi-target tracking, automatic target recognition, and scene reconstruction from partial images. Dr. Hassebrook has published more than 163 technical papers. He has 6 patents and two patents pending, two of which have been licensed. He is a member of IEEE, OSA and SPIE and graduated 8 Phd and 27 MSEE students. Member of the Advisory Board, Enomalies, LLC, Mount Vernon, Kentucky. He is cofounder of Blue Voxel, LLC, a cofounder of FlashScan3D, LLC and has worked on image processing related projects with Michigan Aerospace, Boulder Nonlinear systems and Physical Optics Corporation. He has worked on industrial projects for Toyota, IBM, GE, AT&T, Gentle Giant Studios, 3D Imaging, IBMoore, Foot Balance Systems Plus, Standard Products, Lexmark, Parker Seals and Stevrin & Partners.