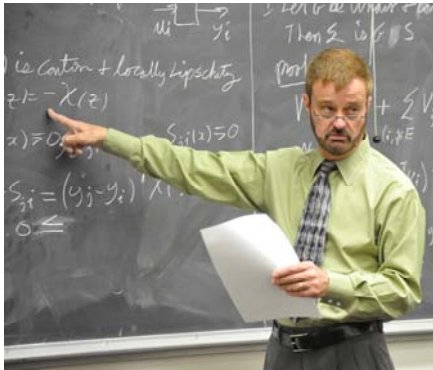


Moncrief-O'Donnell
Endowed Chair
2013 Annual Report



F. L. Lewis, Ph.D., Moncrief-O'Donnell Endowed Chair
Fellow IEEE, Fellow IFAC
Fellow U.K. Inst. Meas. & Control
Prof. Engineer Texas, Chartered Eng. UK Eng. Council
University Distinguished Scholar Professor
University Distinguished Teaching Professor
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The **Moncrief-O'Donnell Endowed Chair in Robotics** was filled in October of 1990 with the hiring of Dr. Frank L. Lewis. Dr. Lewis established the Advanced Controls and Sensors Group (ACS) of the UTA Research Institute immediately on his arrival.

ACS PROGRAM OVERVIEW

The UTARI Advanced Controls and Sensors (ACS) Group consists of Dr. Lewis, 5 Ph.D. students, masters and undergraduate students, and often international visiting research faculty. The primary thrusts of ACS are research in controls design for robotic, aerospace, and autonomous systems, intelligent control, cooperative control of networked teams, sensor networks, and real-time control implementation.

Lewis has graduated 43 PhD students. Most of these students have won international and local awards for their work, and several have written books and received US patents. Three are NSF Career Awardees and one is a Dept. of Homeland Security Career Awardee.

Acceptance Speech for IEEE CIS Neural Networks Pioneer Award

Dr. Lewis delivered his acceptance speech for the 2012 IEEE Computational Intelligence Society Neural Networks Pioneer Award in Dallas at IJCNN Conference in August 2013. This award recognizes significant contributions and sustained developments in neural networks, including engineering applications.



New Funding of \$655K

ACS has received 80 competitive research grants since 1990 for a total of more than \$8M. Lewis has been continually funded by NSF since 1982. New Funding Received this Year is from Army, Navy, and Air Force-

\$492,000, Office of Naval Research. With Dan Levine, Dept. of Psychology, "Neurocognition, Controls, Efficient Communication, and Enhanced Decision for Fast Satisficing in Autonomous Military Systems"

\$81,000, US Army TARDEC, "Games and Learning for Cooperative Nonlinear Systems and Internal Structure of Coalitions on Graphs"

\$82,000, Air Force OSR. With S. Bogdan at Univ. Zagreb, Croatia, "Human-in-the-loop Control of Multi-agent Aerial Systems"

Texas Regents Outstanding Teaching Award 2013

Dr. Lewis received the 2013 Texas Regents' Outstanding Teaching Award along with 8 other UTA professors. The award recognizes faculty who have demonstrated extraordinary classroom teaching performance and innovation in undergraduate instruction. Also considered are student evaluations of teaching performance, including classroom expertise, curricula quality, and innovative course development.

UTA Academies

Dr Lewis is a both a member of the UTA Academy of Distinguished Teachers and a Charter Member of the UTA Academy of Distinguished Scholars.



Top Ranked Students

UTARI ACS Former Students Are Now World Leaders

Kadri Ozcaldiran, President, Bosphorus University, Turkey, 2007-2012
Chaouki Abdallah, Provost, University of New Mexico
Vassilis Syrmos, Vice Chancellor for Research, Hawaii University System
Asma Al-Tamimi, Chairman, Department of Electrical Engineering, Hashemite University, Jordan
Draguna Vrabe, Senior Scientist, United Technologies Research Center, East Hartford, Connecticut
Murad Abu-Khalaf, Executive Director, Kuwait-MIT Center for Natural Resources.

H.S. Tsien Distinguished Scientist Speaker

Dr Lewis delivered the H.S. Tsien Distinguished Lecture at the Institute of Automation of the Chinese Academy of Sciences, Beijing, in July 2013. The Institute of Automation of the Chinese Academy of Sciences was founded in October 1956 and is the oldest governmental research organization in the field of automation.



International Invited Lectures

Lewis was invited to deliver 12 International Plenary Talks this year:

Opening Plenary Talk, IEEE Multi-Conference on Systems and Controls, Dubrovnik, Croatia, Oct. 2012.

Opening Plenary Speaker, Int. Conf. Intelligent Control and Information Processing (ICICIP), Beijing China, June 2013.

H.S. Tsien Distinguished Scientist Speaker, Chinese Academy of Sciences, Institute of Automation, Beijing, July 2013.

Our students make us successful as teachers and researchers. Without them we cannot succeed. In return, we should give them an intensity and passion for learning, a sense of rigor and clarity of thought, persistence, and confidence in their abilities. It is our responsibility to endow them with a sense of their own responsibility, a feeling for our place in the history of human development, and a good sense of humor. In the end, we always learn more from them than they do from us.

DFW LOCAL IMPACT

Leadership in the Local Scientific Community

ACS has contributed to the reputation within the scientific community of both UTA and Dallas/Ft. Worth. Lewis is listed in the Ft. Worth Business Press top 200 Leaders. He served as Founding Chairman of the DFW IEEE Control Systems Chapter, which won the national IEEE best chapter award in 1994. He was selected as Fort Worth Engineer of the Year by the IEEE Section in 1995. He received the IEEE Region Five Outstanding Engineering Educator Award in 2010.

We have received significant funding from NSF, AFOSR, ARO, Texas State, and the DoD SBIR program to work with local and national industry. This has enhanced the competitiveness of DFW and U.S. companies in the area of feedback control systems, automation, MEMS, and Wireless Sensor Networks.

3 PhD Students Graduate

Lewis has graduated 43 PhD students, many of whom have won national or international awards. This year, 3 PhD students graduated.



M. Abouheaf, PhD in Dec. 2012



M. Aurangzeb, PhD in May 2013



K. Hengster-Movric, PhD in Aug. 2013