

Dr. Vijay K. Jain
Distinguished Professor, USF
Graduate Research Professor of Electrical Engineering, USF
Director, Center for Communications and Signal Processing, USF
Acting Director, Center for Digital and Computational Video, USF

Dr. Jain has

- Developed and taught more than 20 distinct graduate courses over the years, all of which have been/are cutting edge, in order to enhance the department's portfolio and, equally importantly, to benefit the students with state-of-the art offerings. One example of such courses is the 'Heterogeneous System on a Chip (HSoC)' course which deals with multi-phenomenological systems of the future. He has also taught several undergraduate EE courses.
- Cultivated several research areas, including digital signal processing, image processing, biomedical imaging, biomedical systems and pattern recognition, digital and wireless communications, networking, VLSI chip design and applications, pattern recognition, and HSoC
- Contributed to scientific and technical knowledge through more than 255 research papers, to-date
- Attracted sponsored research as a PI/PD from multiple agencies such as NSF, NNSA, RADC (subsequently called Rome Labs NY), ONR, DARPA, NCSC, WPAFB, NRL, FHTIC, USF (Interdisciplinary Centers grant), AT&T, Harris Corp., Conexant Corp., Pegasus, Intersil, E-Systems, GTC, GTEDS, and Paradyne, Inc. Also from NIH and HEW as a Co-PI.
- Served the nation as a *Program Director at the National Science Foundation* (on assignment from USF)
- Served as the *General Chair or Program Chair of eleven international conferences* to-date, most of them IEEE sponsored.
- Been, and is continuing to be, the Founding Director of (a) the Center for Communications and Signal Processing, and (b) the Center for Digital and Computational Video.
- Been the founder of the Communications and Signal Processing laboratory and, in an earlier time-frame, of the Biomedical Systems laboratory.
- Created and cultivated the graduate track in Communications and Signal Processing
- In year 2007 created the graduate track in Biomedical Systems
- Co-founded the national group on 'Heterogeneous System on a Chip'
- Somewhat recently (in 2009) organized/created an Interest Group on 'Medical Imaging'; members, from Moffitt Cancer Center and USF, include well known physicians, engineers, and scientists.
- Dr. Jain's students have won the university-wide best Ph.D. dissertation award, the university-wide best M.S. thesis award, and the college-wide outstanding graduate award.
- Dr. Jain's past students have attained very-very high positions in the industry, government, and academia.

- Among the honors that the University has bestowed are *Distinguished Professorship* in 1995, and Askounes-Ashford *Distinguished Scholar Award* in 1996 (awarded once annually, this represents the highest honor bestowed by the University for excellence in Research and Scholarship), and the professorial excellence award in 1997.
- Among the honors that the professional societies have bestowed is the IEEE Centennial medal in recognition of significant research in Digital Signal Processing and distinguished service to the Institute, in particular, to its Acoustics Speech and Signal Processing Society, 1984.

Research Interests

Biomedical systems, biomedical imaging and biomedical image processing. Communication systems and networks. Digital image and video processing. VLSI implementations; system on a chip (bio-sensing, DNA microarrays, opto-electronics, MEMS, digital, analog), 3-D SOCs.

Option Supervisor

Dr. Jain is the Option Supervisor for the 'Biomedical Systems' graduate track in the EE department.

Courses Taught

In Recent Years:

EEE 6412 System on a Chip
 EEL 6514 Biomedical Image Processing
 EEL 6357 Analog CMOS/VLSI Design
 EEE 6282 Biomedical Systems and Pattern Recognition

In the Past

EEL 5344 Digital CMOS/VLSI Design
 EEL 6593 Mobile and Personal Communication
 EEL 6534 Communication Systems I
 EEL 6535 Communication Systems II
 EEL 6506 Broadband Communication Networks
 EEL 6509 Satellite Communications
 EEL 6592 Digital Video and Multimedia
 EEL 5755 (now EEL 6502) Digital Signal Processing
 EEL 5759 Microprocessor Based DSP
 EEL 6752 Digital Signal Processing II
 EEL 6753 Digital Signal Processing III
 EEL 6820 Image Processing
 EEL 6935 Speech Signal Processing
 EEL 6825 Pattern Recognition