Anup Basu's Email: basu@ualberta.ca

Anup Basu's Education or Academic background: Anup Basu received his PhD in Computing Science from the University of Maryland in 1990, following an ME and BS in Computer Science, Mathematics, and Statistics from the Indian Statistical Institute (Calcutta) in 1983 and 1980, respectively.

Anup Basu's research Areas or fields include Computer Graphics, Computer Vision, Multimedia Communications

Anup Basu's research Interests are in 3D Computer Vision & Graphics, Multimedia Networks, Quality of Service (QoS)

The Funded Projects of Anup Basu include 1. Hewlett-Packard Imaging Systems Curriculum: $365,000 in equipment funding. 2. ASRA/TelePhotogenics/IBM/Keeweetinok Lakes RHA 3D Medical Imaging: $2M+ in cash/in-kind funding.

Key Research Contributions of Anup Basu: Anup Basu developed statistical techniques for *optimal bandwidth monitoring* in distributed multimedia systems, with particular applications in adaptive QoS for **Electronic Commerce** and **TeleLearning**. In **3D visualization**, he created JAVA Applet-based tools enabling interactive Super High Resolution (SHR) and 3D image viewing. His patented technologies for SHR stereo/3D scanners were funded by **TelePhotogenics Inc.** and **NRC Canada**, further underscoring the impact of his innovations. Anup Basu contributed to the development of **Synthetic Natural Hybrid Coding (SNHC)** for **MPEG-4**, with a focus on facial feature tracking for videoconferencing. He also explored stereo head-and-shoulder model displays using immersive environments such as the **CAVE projection system**. Anup Basu also worked on **Image Compression Innovations** pioneering *foveated imaging*—a variable resolution technique enabling low-bitrate communications by mimicking human visual perception. He enhanced standard JPEG/MPEG/Wavelet compression techniques through intelligent pre-processing and optimized delivery over **ATM networks**, pushing the boundaries of multimedia efficiency.

Anup Basu is currently serving as the AITF Industrial Chair in Multimedia at the University of Alberta. Anup Basu has held prominent leadership roles in the academic community, serving as **General Chair** of the IEEE International Conference on Systems, Man, and Cybernetics (SMC) 2017 in Banff, Canada, **Industrial Chair** for IEEE SMC 2014 in San Diego, and **General Chair** of IEEE ICME 2013 in San Jose. Anup Basu is a **Fellow of the American Neurological Association**, reflecting the interdisciplinary significance of his research across computing and health sciences.