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- Assistant Professor
- Institute for the Advanced Study of Communication Processes



- **Rahul Shrivastav, Ph.D.**
- Associate Professor
- Department of Communicative Disorders
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- **Harry Hollien, Ph.D.**
- Professor Emeritus
- Institute for the Advanced Study of Communication Processes



- **JenShan Lin, Ph.D.**
- Professor
- Department of Electrical and Computer Engineering



- Perceptually-inspired models of indexical properties of speech
 - Age, Gender, Emotion, Stress, Deception, Identity, Accent, Intoxication
- Preconscious perception of linguistic and phonetic information



- Perception of Voice Quality
- Speech Intelligibility in Dysarthria
- Perception of Emotions in Speech
- Optimization of digital hearing devices
- Aging in Speech



- Phonetic Sciences
- Forensic Communication
- Underwater Communication
- Psychoacoustics



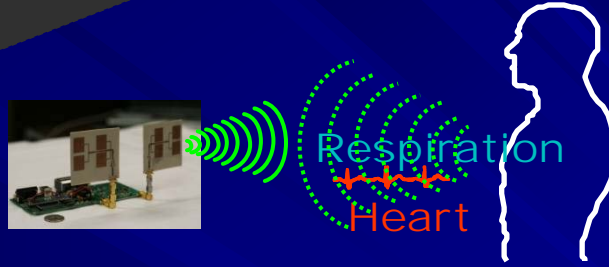
- Radio frequency Integrated Circuits
- Microwave/Millimeter-Wave Circuits and Systems
- Biomedical Applications of microwave/RF
- Wireless Sensors
- Wireless Power Transmission



Unique Capabilities:

Real-Time, Adaptive Techniques to Extract Indexical Properties of Speech and Integrate Them with Behavioral and Physiological Measures

Remote Sensing



Enables trust estimation covertly, reducing the likelihood of successful countermeasures

Infrastructure for speech expanding daily

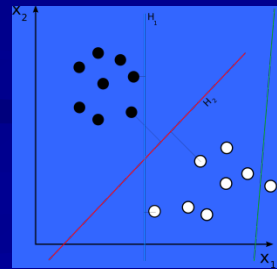
Indexical Calibration



Trust accuracy augmented by calibrating speech by: Gender, Age, Vocal Tract Size

In progress: Accent, Stress, Intoxication, Identity

Modality Integration



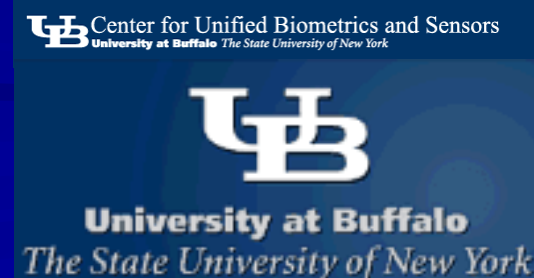
Voice/Speech + Physiological Correlates

(Facial Expression)



Specific Capabilities Sought

- Nonverbal
- Linguistic Analysis
 - Proposed collaboration with Prof. J. Burgoon, Center for the Management of Information and Center for Identification Technology Research, University of Arizona
- Language Identification
 - Cross-cultural generalization
- Facial Expression
 - Collaboration with Prof. M. Frank, SUNY-Buffalo, Center for Unified Biometrics and Sensors





Contact Information

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