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## BME People

# Eric Wan

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### Current Appointments

Associate Professor, Department of Computer Science and Engineering

### Office

Central Building  
Room 167

### Department(s)

*Biomedical Computer Science*

### Research Interests

Learning algorithms and architectures for neural networks and adaptive signal processing; applications to time-series prediction, speech enhancement, adaptive control and telecommunications.

### Research Project(s)

*Bayesian Integrated Vision, Estimation, and Control for Unmanned Aerial Vehicles*

*Closed-Loop Control to Optimize Perfusion for Sepsis*

*Heart Function Characterization Through Combining Acoustic and Electrocardiogram Signals*

*Robust Information Filtering Techniques for Static and Dynamic State*

*Four-Dimensional Imaging and Analysis for the Study of Immune Responses*

### Research Group(s)

*Adaptive Systems Lab*

*Center for Spoken Language Understanding*

*Neuroengineering*

### Selected Publications

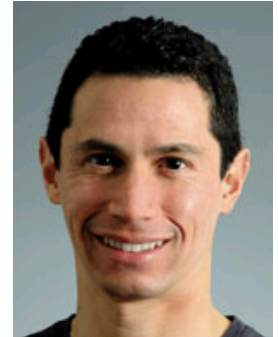
E.A. Wan, A.A. Bogdanov, R. Kiebertz, A. Baptista, M. Carlsson, Y. Zhang and M. Zulauf, "Model Predictive Neural Control for Aggressive Helicopter Maneuvers," IEEE volume on Software- Enabled Control, T. Samad and G. Balas (eds.), 2003.

E.A. Wan and R. van der Merwe, "The Unscented Kalman Filter," in Kalman Filtering and Neural Networks, S. Haykin (ed.), John Wiley & Sons, 2001.

E. Wan, and A. Nelson, "Networks for Speech Enhancement," in Handbook of Neural Networks for Speech Processing, S. Katagiri (ed.), Artech House, Boston, 1999.

E. Wan and F. Beaufays, "Diagrammatic Methods for Deriving and Relating Temporal Neural Networks Algorithms," in Adaptive Processing of Sequences and Data Structures," Lecture Notes in Artificial Intelligence, M. Gori, and C.L. Giles (eds.), Springer Verlag, 1998.

E. Wan, and A. Nelson, "Neural Dual Extended Kalman Filtering: Applications in Speech Enhancement and Monaural Blind Signal Separation," IEEE Workshop on Neural Networks and Signal Processing,



1997.

E. Wan, "Adjoint LMS: An Alternative to Filtered-X LMS and Multiple Error LMS," ICASSP96, 3, 1842-1845, 1996.

E. Wan, "Time Series Prediction Using a Neural Network with Embedded Tapped Delay-Lines," in Predicting the Future and Understanding the Past, A. Weigend, and N. Gershenfeld (eds.), SFI Studies in the Science of Complexity, Proc., 17, Addison-Wesley, 1993.

E. Wan, "Discrete Time Neural Networks," Journal of Applied Intelligence, 3(1), 91-105, 1993.

#### Event Speaker

*Eric A. Wan: "Biomedical Adaptive Signal Processing and Control"*

#### Staff

#### PhD Student(s)

*Jacobs, Peter*

*Paul, Anindya*

#### Joint Appointments

*Biomedical Engineering*



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