

DIVISION OF BIOMEDICAL ENGINEERING

- [Prospective Students](#)
- [Education](#)
- [Admissions](#)
- [Research](#)
- [People](#)
- [News](#)
- [Events](#)
- [Employment & Internships](#)
- [Facilities & Resources](#)
- [Contact BME](#)

[Go to DSE Home](#)

OHSU QUICK LINKS

- [Academic Technology](#)
- [Departments & Divisions](#)
- [Find Degree Programs](#)
- [Academic Calendar](#)
- [Academic Affairs](#)

BME People

Todd K Leen

E-mail: tleen@csee.ogi.edu

Phone: 503-748-1160

Fax: 503-748-1306

Alt Phone: 503-748-1160

Web Site: <http://www.cse.ogi.edu/~tleen/>

Current Appointments

Professor, Department of Computer Science and Engineering, OGI

Office

Central Building
Room 157

Department(s)

Biomedical Computer Science

Biomedical Engineering

Research Interests

Machine Learning: Local and mixture models, stochastic learning, and Bayesian methods with applications to environmental sensor network monitoring, data and model/data fusion, and fault detection. Computational neuroscience.

Research Project(s)

Development of model-based stochastic inference techniques for deriving key functional information from a wide variety of sensor data

Effects of Noise on the Electrosensory System of Mormyrid Electric Fish

Learning Dynamics

Mixture and Local Linear Models for Dimension Reduction, Sensor Fusion, and Coding

Modeling in coastal oceanography

On-Line Learning (Stochastic Approximation)

Theoretical and Computational Neuroscience

Research Group(s)

Adaptive Systems Lab

Center for Spoken Language Understanding

Coastal Observation and Prediction

Neuroengineering

Point of Care Laboratory

Selected Publications

R. Sharma, T.K. Leen and M. Pavel, "Bayesian Image Sensor Fusion Using Local Linear Generative Models," *Optical Engineering*, 40, 1364, 2001.

C. Archer and T.K. Leen, "The Coding Optimal Transform," in *Proceedings of the Data Compression Conference 2001*, IEEE Computer Press, 2001.



C. Archer and T.K. Leen, "From Mixtures of Mixtures to Adaptive Transform Coding," in Advances in Neural Information Processing Systems,

T. Leen, T. Dietterich, V. Tresp, eds., 13, MIT Press, 2001.

W. Wei, T.K. Leen and E. Barnard, "A Fast Histogram-Based Postprocessor that Improves Posterior Probability Estimates," Neural Computation, 11, 1235, 1999.

T.K. Leen, B. Schottky and D. Saad, "Optimal Symptotic Learning: Macroscopic Versus Microscopic Dynamics," Physical Review E, 59, 985, 1999.

T.K. Leen and J.E. Moody, "Stochastic Manhattan Learning: Time-Evolution Operator for the Ensemble Dynamics," Physical Review E, 56, 1262, 1997.

N. Kambhatla and T.K. Leen, "Dimension Reduction by Local Principal Component Analysis," Neural Computation, 9, 1493, 1997.

T.K. Leen, "From Data Distribution to Regularization in Invariant Learning," Neural Computation, 7, 974, 1995.

T.K. Leen, "A Coordinate-Independent Center Manifold Reduction," Physics Letters, A 174, 89, 1993.

Current and Upcoming Classes (through Spring 2009)

Class Number	CRN	Title	Term
GEN 669	20590	Scholarship Skills	Winter 2007



Oregon Health & Science University is dedicated to improving the health and quality of life for all Oregonians through excellence, innovation and leadership in health care, education and research.

© 2001-2009 Oregon Health & Science University
OHSU is an equal opportunity affirmative action institution.
Notice of Privacy Practices

[OHSU Home](#)
[Contact OHSU](#)

OHSU RESOURCES

[Maps & Directions](#)
[Jobs](#)
[Library](#)
[Calendar](#)
[Giving to OHSU](#)

ABOUT OHSU

[Accessibility](#)
[Diversity](#)
[Integrity](#)

PATIENT RESOURCES

[Billing & Insurance](#)
[Find a Doctor](#)
[Find a Clinic](#)
[For Patients & Visitors](#)
[Clinical Trials](#)

RESEARCH

[About](#)
[Administration](#)
[Shared Resources](#)
[Technology Transfer](#)
[Research Expertise](#)

EDUCATION

[School of Medicine](#)
[School of Nursing](#)
[School of Dentistry](#)
[College of Pharmacy](#)
[Admissions](#)
[Student Services](#)

FOR EMPLOYEES

[O-Zone](#)
[Email](#)
[Connecting Off-Campus](#)