

## Curriculum Vitae

### PERSONAL INFO

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<b>Last name:</b>	Lee	<b>Office-Address:</b>	INC, UC San Diego
<b>First name:</b>	Te-Won		La Jolla, CA 9093-0523, USA
<b>Date and Place of Birth:</b>	Chungnam, South-Korea, Born 1969 (Age: 32)	<b>Phone:</b>	(++1-858) 534-9662
		<b>Fax:</b>	(++1-858) 534-2014
<b>Citizenship:</b>	Germany	<b>Email:</b>	<a href="mailto:tewon@inc.ucsd.edu">tewon@inc.ucsd.edu</a>
<b>Marital Status:</b>	Married	<b>WWW:</b>	<a href="http://rhythm.ucsd.edu/~tewon">http://rhythm.ucsd.edu/~tewon</a>

### EDUCATION

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Oct. 97                    Ph.D. in electrical engineering from the **Technische Universität Berlin**  
with highest honor "*summa cum laude*"  
Thesis: *Independent Component Analysis: Theory and Applications*  
Advisors: *Prof. R. Orglmeister, Prof. T. Sejnowski*

March 95                    '*Diplom Ingenieur*' degree in *electrical engineering* from the  
**Technische Universität Berlin**, *GPA=3.8 ("sehr gut")*

Sept. 94 - March 95      *Master Thesis* at the **University of California at Berkeley**, Visiting Scholar in the  
Department of EECS, Signal Processing [TU Berlin scholarship]  
Project: *Sigma - Delta Modulator for A/D and D/A converter*  
Advisors: *Prof. A. Zakhor, Prof. R. Orglmeister*

Oct. 93 - July 94            Graduate studies in microelectronics at the **ENSERG** (Ecole Nationale Supérieure  
d'Electronique et de Radioélectricité de Grenoble) in France [ERASMUS scholarship]  
Advisors: *Prof. H. Berger, Prof. M. Depey*

April 92 - Oct. 93           Graduate studies at the **Technische Universität Berlin**  
Aug. 91                    **Diplom-Vorprüfung** [intermediate exam],  
Oct. 89                    Enrollment in the course of electrical engineering at the **Technische Universität Berlin**

1982 - 89                    **Freiherr vom Stein Gymnasium Abitur** [Main subjects: *Physics and Chemistry*]

### HONORS, PRIZES AND SCHOLARSHIPS

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1999                    *Carl Ramsauer Prize* for excellent dissertations.  
Awarded by the **Presidents** of the **TU, FU and Humboldt University** and sponsored  
by the **Daimler-Chrysler Corporation**.

1995                    *Erwin-Stephan Prize* for excellent studies.  
Awarded by the **President** of the **Technische Universität Berlin**

1998 - 1999                **DFG** Postdoc-Fellowship (German Science Foundation, 2 years)

1997                    **DAAD** Fellowship (German Academic Exchange Program, 1 year)

1996                    **Daimler-Benz** Fellowship (Daimler-Chrysler Corporation, 1 year)

1995 **Max-Planck-Society** Fellowship (Max-Planck Institute, 2 years)  
 1994 **TU Berlin** Scholarship (Technische Universitaet, 1 year)  
 1993 **ERASMUS** Scholarship (European Community, 1 year)

## RESEARCH EXPERIENCE

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Since June 99 **Research Assistant Professor** at the **University of California, San Diego**, Institute for Neural Computation in *La Jolla, USA*.

Feb. 97 - June 99 **Research Associate** at the **Computational Neurobiology Lab, The Salk Institute** in *La Jolla, USA*, [DFG Fellowship],  
 Advisor: *Prof. Terrence Sejnowski*

Feb. 96 – Jan. 97 **Visiting Researcher** in the **School of Computer Science (Interactive Systems Group), Carnegie Mellon University** in *Pittsburgh, USA*. [Daimler-Benz. Fellowship],  
 Advisor: *Prof. Alex Waibel*

April 95 – Jan. 96 **Ph.D. – Student** in the **Max-Planck-Society, Computer Science Institute, Fault-Tolerant Computing Group** in *Potsdam, Germany* [Max-Planck Ph.D. Fellowship]  
 Advisor: *Prof. Michael Gössel*

## INDUSTRY EXPERIENCE

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Since 1998 **Consultant to:**  
 Microsoft Research, Symbol Technologies, Samsung, SAIT.

Since July 99 **Co-Director, Industrial Affiliates Program,**  
 Institute for Neural Computation, University of California, San Diego.  
 Program to promote interactions between industry and the institute.

Since March 98 **President and Chief Technical Officer** and co-founder of **SoftMax, Inc.** in *La Jolla, USA*. Intelligent software development company, 10 employees.

April 94 - July 94 Practical Training at **DOLPHIN INTEGRATION** in *Grenoble, France*  
 Project: *Fast parallel multipliers for a multiplier generator*

July – Oct. 90 Practical Training at **Bosch GmbH** in *Berlin, Germany*

## TEACHING EXPERIENCE

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June 99 - August 99 Visiting Professor in the Department of Electrical Engineering, **Korea Advanced Institute of Science and Technology**  
*"Unsupervised Learning"*  
 [54h summer course for 20 graduate student and 10 visiting scholars]

April 93 – Oct. 93	Teaching Assistant in the <b>Semiconductor Materials and Devices Institute</b> "Materials and Devices in Electrical Engineering" [40h per month, undergrad. course] Advisor: Prof. W. Gerlach
Oct. 92 - April. 93	Teaching Assistant in the <b>Mathematics Department</b> "Mathematics for Electrical Engineers" [75 h per month, undergrad. course] Advisor: Prof. Winckler
Supervised graduate students and postdoctoral fellows	Dr. Oh-Wook Kwon Dr. Erik Visser Dr. Suman Mitra Kwokleung Chan Eizaburo Doi Gil-Jin Jang

## AWARDED GRANTS

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May 2001 1 year	<b>University of California, Digital Media Innovation Program</b> , Principal Investigator, "Affective Computing in Robots", co-sponsored by Sony Corporation supports two postdocs, faculty (partial), admin. staff (partial), equipment.
April 2000 6 months & 2 years	<b>Office of Naval Research</b> , co-PI with Dr. Tzyy-Ping Jung, "Alertness Monitoring Technology Using EEG", Small Business Innovative Research (SBIR 1 <sup>st</sup> phase & 2 <sup>nd</sup> phase).
April 2000 6 months	<b>Sony Corporation</b> , Principal Investigator, "Adaptive Signal Processing Applications", supports graduate student, faculty (partial).
March 2000 2 years	<b>University of California, Digital Media Innovation Program</b> , Principal Investigator, "Intelligent Sound and Image Processing Software", supports two postdocs, faculty (partial), admin. staff (partial), equipment.
Nov. 1999 1 year	<b>Swartz Foundation</b> , Principal Investigator, "Computational Neuroscience", supports faculty (partial).
May 1999 3 years	<b>National Science Foundation</b> , co-PI with Prof. Bhaskar Rao, UCSD, "Robust Feature Extraction For Speech Recognition", supports two graduate students, faculty (partial).

## WORKSHOP AND CONFERENCE ORGANIZATION

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2002	Program Committee, <b>Intl. Conf. On Neural Information Processing (ICONIP'2002)</b>
2001	Program Chair, <b>International Workshop on Independent Component Analysis and Blind Source Separation</b> , San Diego, December 2001.
2000	Co-organizer, <b>ICONIP'2000 special session</b> on <i>Models of Natural Image Statistics</i> .

- 2000 Co-organizer, **ICONIP'2000 special session** on *Blind Adaptive Filtering and Independent Component Analysis*.
- 2000 Program Committee, **Intl. Conf. On Neural Information Processing (ICONIP'2000)**
- 2000 Program Committee, **Biological Inspired Systems (BIS'2000)**
- 2000 Program Committee, **International Symposium on Neural Computation (NC 2000)**
- 2000 Program Committee, **International Workshop on Independent Component Analysis and Blind Source Separation**, Helsinki, June 2000.
- 1999 Organizer, **NIPS'99 Workshop on Overcomplete Representations and nonlinear ICA**

## INVITED TALKS

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- November 01 **UC Berkeley, Statistics Department, USA**
- October 01 **Statistical Institute of Japan, Tokyo, Japan**
- October 01 **Hanyang University, Biomedical Department, Seoul, Korea**
- October 01 **Seoul National University, EECS Department, Seoul, Korea**
- June 01 **Axon Inc., Silicon Valley, USA**
- March 01 **Northwestern University, Chicago, USA**
- February 01 **Microsoft Corporation, Seattle, USA**
- November 00 **ICONIP'2000 Conference, Invited Tutorial, Taejon, Korea**
- October 00 **Department of Statistics, UCLA, Los Angeles, USA**
- September 00 **Department of Mathematical and Computer Sciences, SDSU, San Diego, USA**
- August 00 **SPIE'2000 Conference, San Diego, USA**
- May 00 **Sony Corporation, Tokyo, Japan**
- May 00 **Denso Corporation, Nagoya, Japan**
- March 00 **24<sup>th</sup> Conference Gesellschaft fuer Klassifikation, Passau, Germany**
- February 00 **Symbol Technology Conference, Las Vegas, USA**
- October 99 **Bell Labs, New Jersey, USA**
- September 99 Department of Computer Science, **Free University Berlin, Germany**
- July 99 Department of Neurology, **Seoul National University, Korea**
- July 99 Samsung Advanced Institute of Technology (**SAIT**), Korea
- July 99 International Workshop on **Stochastic Dynamics & Pattern Formation**, Seoul, Korea
- March 99 **Dagstuhl Seminar** on Unsupervised Learning, Wadern, Germany
- March 99 **AI seminar series**, Department of computer science, UCSD, San Diego, USA
- January 99 **Gordon Research Conference** on Bioanalytical Sensors, California, USA
- July 98 Department of electrical engineering, **Seoul National University, Korea**
- July 98 **Korea Advanced Institute of Science and Technology**, Brain research center, Korea
- June 98 **RIKEN**, Prof. Amari's group, Japan
- June 98 Speech recognition group at **ATR** in Japan
- June 98 **Sony Computer Science Research Center** in Tokyo, Japan,
- October 97 **GMD First** in Berlin, Germany
- July 97 **Telluride Workshop** (3 weeks) on neuromorphic VLSI design, Colorado, USA
- June 97 **McDonnell – Pew Center** for cognitive neuroscience, San Diego, California, USA
- January 97 TIRF, **Institute Nationale Polytechnique de Grenoble**, France
- Dec. 96 Special session on blind source separation at **NIPS'96 Workshop** in Colorado, USA
- Dec. 95 **Daimler – Benz**, Fellowship seminar, Germany

**ACADEMIC EDITORIAL**

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Reviewer for **Neural Computation,**  
**IEEE Circuits and Systems,**  
**IEEE Transactions on Signal Processing,**  
**IEEE Signal Processing Letters,**  
**IEEE Transactions on Neural Networks,**  
**Journal of Neuroscience Methods,**  
**Kluwer Academic Publishers,**  
**Cambridge University Press**  
**Physics Letters Review**  
**Electronic Letters**

Guest Editor *Neurocomputing Journal,*  
Special Issue on "Independent Component Analysis & Blind Source Separation"

**LANGUAGE SKILLS**

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**Native language:** German, Korean  
**Foreign language:** English [*fluently*], French [*fluently*]

**PERSONAL ACTIVITIES AND INTERESTS**

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Since Oct. 98 Korean-American Scientists and Engineers Association (KSEA), Director in San Diego.  
Since Nov. 97 Member of the San Diego Korean Calvary Church Choir  
Since March 95 **IEEE** Associate Member

## List of Publications

### BOOKS

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- B1. Published Te-Won Lee, "**Independent Component Analysis: Theory and Applications**", *Kluwer Academic Publishers*, Boston, ISBN: 0 7923 8261 7, September 1998. (over 600 copies sold)

### BOOKCHAPTERS

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- C1. Published T.-W. Lee, A. Bell and R. Lambert "**Blind Separation of Delayed and Convolved Sources**", *Advances in Neural Information Processing Systems 9*, pp. 758-764, MIT Press, Cambridge, 1997.
- C2. Published T.P Jung, C. Humphries, T.-W. Lee, S. Makeig, M. McKeown, V. Iragui, T. Sejnowski. "**Extended ICA Removes Artifacts from Electroencephalographic Recordings**" *Advances in Neural Information Processing Systems 10*, pp. 894-900, MIT Press, Cambridge, 1998.
- C3. Published T.-W. Lee, M.S. Lewicki, T.J. Sejnowski "**Unsupervised Classification with non-Gaussian Mixture Models using ICA**", *Advances in Neural Information Processing Systems 11*, pp. 508-514, MIT Press, Cambridge, 1999.
- C4. Published, Inv. chapter T.-W. Lee, M.S. Lewicki "**Image Processing Methods Using ICA Mixture Models**", *ICA: Principles and Practice*, Cambridge University Press, 234-254, April 2001.
- C5. Published T.-W. Lee, T. Wachtler and T.J. Sejnowski "**Color Opponency Constitutes A Sparse Representation For the Chromatic Structure of Natural Scenes**" *Advances in Neural Information Processing Systems 13*, 866-872, MIT Press, Cambridge, 2001

### JOURNALS

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- J1. Published M. Motamed, A. Zakhor, S. Sanders, T.-W. Lee "**Spectral Characteristics of the Double Loop Sigma Delta Modulator**", *IEEE Transactions on Circuits and Systems II: Analog and Digital Signal Processing*, Jan. 1998, vol.45, (no.1):144-7
- J2. Published M. McKeown, T.P. Jung, S. Makeig, G. Brown, S. Kindermann, T.-W. Lee, T. Sejnowski. "**Statistically independent activity patterns in functional magnetic resonance imaging data during the stroop colornaming task.**", *Proceedings of the National Academy of Science*.95: 803-10, Jan. 1998.
- J3. Published T.-W. Lee, M. Girolami and T. Sejnowski " **Independent component analysis using an extended infomax algorithm for mixed sub-Gaussian and super-Gaussian sources**", *Neural Computation*, MIT Press, 1999, Vol.11(2): 609-633.

- J4. Published T.-W. Lee, M. Girolami and T. Sejnowski "A unifying framework for independent component analysis", *Computers and Mathematics with Application*, Vol 39(11), 1-21, March 2000.
- J5. Published T.P Jung, C. Humphries, T.-W. Lee, S. Makeig, M. McKeown, V. Iragui, T. Sejnowski. **"Removing Electroencephalographic Artifacts by Blind Source Separation"** *Psychophysiology*, 37:167-78, March 2000.
- J6. Published T.-W. Lee, M. Lewicki, M. Girolami, T. Sejnowski **"Blind source separation of more sources than mixtures using overcomplete representations. *IEEE Signal Processing Letters***, Vol 6, no 4, April 1999.
- J7. Published T.-W. Lee, M.S. Lewicki and T.J. Sejnowski **"Unsupervised Classification with non-Gaussian Sources and Automatic Context Switching in Blind Signal Separation "**, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol 22(10), 1078-1089, Oct. 2000.
- J8. Published H.-M. Park, H.-Y. Jung, T.-W. Lee and S.-Y. Lee **"On Subband-Based Blind Signal Separation for Noisy Speech Recognition"**, *Electronic Letters*, Vol. 35(23), 2011-2012, 1999.
- J9. Published U.-M. Bae, T.-W. Lee and S.-Y. Lee **"Blind signal separation in teleconferencing using the ICA mixture model"** *Electronic Letters*, Vol. 37(7), 680-682, 2000.
- J10. Published T. Wachtler, T.-W. Lee and T.J. Sejnowski **"The Chromatic Structure of Natural Scenes"**, *Journal of the Optical Society of America A*, Vol 18(1), 65-77, Jan. 2001.
- J11. Published, invited paper T.-P. Jung, S. Makeig, M. McKeown, A. J. Bell, T.-W. Lee, T. J. Sejnowski **"Imaging Brain Dynamics Using Independent Component Analysis"**, *IEEE Proceedings*, 89 (7): 1107-22, August 2001.
- J12. Published J-H. Lee, H-J. Jung, T-W. Lee and S-Y. Lee. **"Speech enhancement with MAP estimation and ICA-based speech features"** *Electronic Letters*, Vol 36(17), 1506-1507, 2000.
- J13. Published H.-M. Park, H.-Y. Jung, T.-W. Lee and S.-Y. Lee **"Independent Component Analysis on a Subband Domain for Robust Speech Recognition"**, *The Journal of the Institute of Electronics Engineers of Korea*, 2000.
- J14. In press T.-W. Lee and M.S. Lewicki **"Unsupervised Classification, Segmentation, Denoising of Images using ICA Mixture Models"** *IEEE Transactions on Image Processing*
- J15. In press G.-J. Jang, T-W. Lee and Y.-H. Oh **"Speaker Recognition Using ICA Mixture Models"** *Neurocomputing, special issue on ICA and BSS*.
- J16. In press M.H. Goldbaum, P.A. Sample, J. M. Williams K.L. Chan, T.W. Lee, D. Najafi, T.J. Sejnowski, R.N. Weinreb. **"Comparing Machine Classifiers for Diagnosing Glaucoma from Standard Automated Perimetry"**, *Investigative Ophthalmology and Vision Science (IOVS)* 2001

## PROCEEDINGS

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- P1. Published M. Motamed, A. Zakhor, S. Sanders, T.-W. Lee **"Spectral Characteristics of the Double Loop Sigma Delta Modulator"**, *IEEE International Symposium on Circuits and Systems*, vol.1, pp. 457-460, Atlanta, May1996.

- P2. Published T.-W. Lee and R. Orglmeister "**A Contextual Blind Separation of Delayed and Convolved Sources**", *IEEE International Conference on Acoustics, Speech and Signal Processing*, pp. 1199-1203, Munich, April 1997.
- P3. Published T.-W. Lee, A. Bell and R. Orglmeister "**Blind Separation of Real World Recordings**", *IEEE International Conference on Neural Networks*, pp. 2129-2135, Houston, June 1997.
- P4. Published T.-W. Lee and T. Sejnowski "**Independent Component Analysis for Sub-Gaussian and Super-Gaussian Mixtures**", *4th Joint Symposium on Neural Computation*, Institute for Neural Computation, vol. 7, pp. 132-139, June 1997.
- P5. Published T.-W. Lee, B. Koehler and R. Orglmeister "**Blind Separation of Nonlinear Mixing Models**", *IEEE International Workshop on Neural Networks for Signal Processing*, pp. 406-415, Sept. 1997.
- P6. Published S. Makeig, T.P. Jung, T.-W. Lee, T. Sejnowski. "**Independent component analysis of steady-state responses**" *Symposium on steady-state responses for the Soc. For Psychophysiology Research (SPR)*, 1997.
- P7. Published B.U. Koehler, T.-W. Lee and R. Orglmeister. "**Improving The Performance of Infomax Using Statistical Signal Processing Techniques**", *International Conference in Artificial Neural Networks (ICANN)*, pp. 535-540, Oct. 1997.
- P8. Published, invited paper T.-W. Lee, A. Ziehe, R. Orglmeister, T. Sejnowski "**Combining time-delayed decorrelation and infomax: Towards solving the cocktail party problem**", *IEEE International Conference on Acoustics, Speech and Signal Processing*, pp. 1249-1252, Seattle, May 1998.
- P9. Published T.P Jung, C. Humphries, T.-W. Lee, M. McKeown, V. Iragui, S. Makeig T. Sejnowski. "**Removing Electroencephalographic Artifacts: Comparison between ICA and PCA**. *IEEE International Workshop on Neural Networks for Signal Processing*, pp. 63-72, Cambridge, June 1998.
- P10. Published T.-W. Lee, M.S. Lewicki and T.J. Sejnowski "**ICA Mixture Models For Unsupervised Classification And Automatic Context Switching**", *International Workshop on Independent Component Analysis (ICA'99)*, pp. 209-214, Aussie, Jan.1999.
- P11. Published T-W. Lee, M.S. Lewicki and T.J. Sejnowski. "**ICA mixture models for image processing**", *6th Joint Symposium on Neural Computation*, Institute for Neural Computation, pages 79-86, Caltech, May 1999
- P12. Published K. Kreutz-Delgado, B.D. Rao, K. Engan, T-W. Lee and T.J. Sejnowski. "**Convex/Schur-Convex (CSC) Log-Priors and Sparse Coding**", *6th Joint Symposium on Neural Computation*, Institute for Neural Computation, pages 65-71, Caltech, May 1999.
- P13. Published K. Kreutz-Delgado, B.D. Rao, K. Engan, T-W. Lee and T.J. Sejnowski. "**Learning Overcomplete Dictionaries: Convex/Schur-Convex (SCS) Log-Priors, Factorial Codes, and Independent/Dependent Component Analysis (I/DCA)**", *6th Joint Symposium on Neural Computation*, Institute for Neural Computation, pages 72-78, Caltech, May 1999.
- P14. Published H.-M. Park, H.-Y. Jung, T.-W. Lee and S.-Y. Lee "**On Subband-Based Blind Source Separation for Noisy Speech Recognition**", *International Conference On Neural Information Processing*, Vol. 1, 204-209, 1999.
- P15. Published, invited paper T.-W. Lee "**Nonlinear Approaches to Independent Component Analysis**", *Proceedings of the American Institute of Physics*, Oct. 1999.

- P16. Published, invited paper T.-W. Lee, M. S. Lewicki "**Learning Classes Of Efficient Codes**", *Proceedings of the International Society for Optical Engineering (SPIE)*, San Diego, July 2000.
- P17. Published T.-W. Lee, T. Wachtler and T.J. Sejnowski "**The Spectral Independent Components of Natural Scenes**", *Biologically Motivated Computer Vision*, Springer Verlag, May 2000.
- P18. In press, invited paper T.-W. Lee, M. S. Lewicki "**Unsupervised classification of non-Gaussian sources**", *Proceedings of the 24<sup>th</sup> Gesellschaft fuer Klassifikation*, Springer Verlag March 2000.
- P19. Published J.-H. Lee, H.-J. Jung, T.-W. Lee and S.-Y. Lee. "**Speech Feature Extraction Using Independent Component Analysis**" *IEEE International Conference on Acoustics, Speech and Signal Processing*, III 1631-4, June 2000.
- P20. Published T.-W. Lee, M. S. Lewicki "**The Generalized Gaussian Mixture Model Using ICA**", *International Workshop on Independent Component Analysis (ICA'00)*, Helsinki, pages 239-244, June.2000.
- P21. Published, Invited paper T.-P. Jung, S. Makeig, T.-W. Lee, M. McKeown, G. Brown, A. J. Bell, T. J. Sejnowski "**Independent Component Analysis of Biomedical Signals**", *International Workshop on Independent Component Analysis (ICA'00)*, Helsinki, pages 633-644, June.2000.
- P22. Published J.-H. Lee, H.-J. Jung, T.-W. Lee and S.-Y. Lee. "**Speech Coding and Noise Reduction Using ICA-based Speech Features**" *International Workshop on Independent Component Analysis (ICA'00)*, Helsinki, pages 417-422, June.2000.
- P23. Published H.-M. Park, T.-W. Lee and S.-Y. Lee "**Blind Source Separation Based on Wavelet Filter Banks**", *Intl. Conf. On Neural Information Processing 2000*, Taejon, Korea, 1210-1215, Nov. 2000.
- P24. Published T.-W. Lee and G.-J. Jang "**The Statistical Structure Of Male and Female Speech Signals**" *IEEE International Conference on Acoustics, Speech and Signal Processing*, May 2001.
- P25. Published G.-J. Jang, T.-W. Lee and Y.-H. Oh "**Speaker Recognition Using ICA**" *IEEE International Conference on Acoustics, Speech and Signal Processing*, May 2001.
- P26. Published K.-L. Chan, T.-W. Lee, M.H.Goldbaum, P.A.Sample, R.N. Weinreb and T.J. Sejnowski. "**Comparison of Machine Learning and Traditional Classifiers in Glaucoma Diagnosis**", *8th Joint Symposium on Neural Computation*, Institute for Neural Computation, San Diego, June 2001
- P27. In press G.-J. Jang, T.-W. Lee and Y.-H. Oh "**Blind Separation of Single Channel Mixture Using ICA Basis Functions**" *International Workshop on Independent Component Analysis (ICA'01)*, San Diego, Dec. 2001.
- P28. In press E. Visser, T.-W. Lee and M. Otsuka "**Speech Enhancement in a Noisy Car Environment**" *International Workshop on Independent Component Analysis (ICA'01)*, San Diego, Dec. 2001.
- P29. In press K.-L. Chan, T.-W. Lee and T.S. Sejnowski "**Variational Learning of Clusters of Undercomplete Nonsymmetric Independent Components**" *International Workshop on Independent Component Analysis (ICA'01)*, San Diego, Dec. 2001.

**ABSTRACTS**

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- A1. Published M.H. Goldbaum, P.A. Sample, J. M. Williams K.L. Chan, T.W. Lee, D. Najafi, T.J. Sejnowski, R.N. Weinreb. **"Determination Of Optimal Visual Field Locations By Feature Selection With Neural Networks"**, ARVO 2001
- A2. Published P.A. Sample, J. Williams, E. Blumenthal, K.L. Chan, T.W. Lee, D. Najafi, T.J. Sejnowski, R.N. Weinreb, M.H. Goldbaum. **"Visual Field Classification Comparing Neural Networks, Statistical Classifiers, Statpac, and a Glaucoma Expert"**, ARVO 2001
- A3. Published C. Bowd, K.L. Chan, L.M. Zangwill, T.W. Lee, T.J. Sejnowski, M.H. Goldbaum, R.N. Weinreb. **"Comparison of Learning Neural Networks and Linear Discriminant Functions to Discriminate Between Glaucomatous and Non-Glaucomatous Eyes Using HRT Optic Disc Topography Parameters"**, ARVO 2001
- A4. Published Lee JS, Ahn JY, Lee DS, Kim SK, Chun GJ, Kang KW, Jang MJ, Lee TW, Park KS, Chung JK, Lee MC **"Blind separation of cardiac components and extraction of input function from (H2O)-O-15 dynamic myocardial PET using independent component analysis: A validation study."** JOURNAL OF NUCLEAR MEDICINE 41 (5): 386, Suppl. S MAY 2000
- A5. Published Sample PA, Goldbaum MH, Chan K-L, Boden C, Lee T-W, Sejnowski T, Johnson CA, Weinreb RN: **Machine classifiers predict development of abnormal standard visual fields in ocular hypertensive eyes.** North American Perimetric Society Meeting, September 28-29, 2001, Skaneateles, NY
- A6. Published E. Doi; T.-W. Lee; T. Wachtler; T. Inui; T. J. Sejnowski **"Spatial and chromatic filters derived from an information-theoretic analysis of natural scenes"** Society of Neuroscience Meeting, November, 2001, San Diego.

**PATENTS**

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- PA1. Pending 09/418099 Te-Won Lee, Michael Lewicki, Terrence Sejnowski **"Unsupervised Adaptation and Classification of Multiple Classes and Sources in Blind Source Separation"**, *The Salk Institute*, October 1999.
- PA2. Pending Te-Won Lee, Michael Lewicki, Terrence Sejnowski **"Unsupervised Adaptation and Classification of Multi-Source Data Using A Generalized Gaussian Mixture Model"**, *The Salk Institute*, October 2000.
- PA3. Pending Te-Won Lee, Thomas Wachtler, Terrence Sejnowski **"Methods and Apparatus for Efficiently Encoding Chromatic Information Using Blind Signal Separation Processes"**, *The Salk Institute*, January 2001.
- PA4. Provision Te-Won Lee, Gil-Jin Jang **"Methods and Apparatus for Speech Processing Using ICA"**, *SoftMax*, January 2001.
- PA5. Provision Jeng-Ren Duann, Tzyy-Ping Jung, Te-Won Lee **"Methods and Apparatus for Cardiac Arrhythmia Processing Using ICA"**, *SoftMax*, June 2001.

**SUBMITTED JOURNAL PAPERS**

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- S1. Submitted Oct 99 K. Kreutz-Delgado, B.D. Rao, K. Engan, T-W. Lee and T.J. Sejnowski. "**Supergaussian Priors – Sufficient for Sparse Coding?**".
- S2. Submitted March 00 U.-M. Bae, T.-W. Lee and S.-Y. Lee "**Blind Signal Separation In Nonstationary Environments Using The ICA Mixture Model**".
- S3. Submitted T.-W. Lee, T. Wachtler and T.J. Sejnowski "**Color Opponency Constitutes A Sparse Representation For the Chromatic Structure of Natural Scenes**".
- S4. Submitted March 01 G.-J. Jang, T-W. Lee and Y.-H. Oh "**The Statistical Structures of Male and Female Speech Signals**" *IEEE Transactions on Speech and Acoustic Processing*

**SUBMITTED GRANT PROPOSALS**

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- G1. Submitted Feb. 2000 K. Kreutz-Delgado, B.D. Rao, M. S. Lewicki and T-W. Lee "**Learning and Data Exploration in Natural Environments**", National Science Foundation
- G2. Submitted March 2000 K. Kreutz-Delgado, B.D. Rao and T-W. Lee "**Sparse Coding and ICA Algorithms in Human/Computer Interactive (HCI) Environments**", National Science Foundation
- G3. Submitted August 2000 M. Goldbaum and T-W. Lee "**Medical Assistance from Glaucoma Informatics**", National Institute of Health