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AREAS OF RECENT INTEREST

- Bayesian Machine Learning, Approximate inference, Monte Carlo methods
- Matrix and Tensor decompositions, Graphical Models
- Applications: Audio and Music Processing, Anomaly Detection, Financial Models, Privacy

EDUCATION

- **PhD**, (2004) Mathematics, Physics and Computer Science
Radboud University Nijmegen, Nijmegen, The Netherlands
Thesis: "Bayesian music transcription"
Advisor: Hilbert J. Kappen
- MSc. Computer Engineering (1995)
Boğaziçi University, Istanbul, Turkey
- B.Sc. Computer Engineering (1993)
Boğaziçi University, Istanbul, Turkey

EMPLOYMENT HISTORY

- **Prof.** (02/2018 –)
Boğaziçi University, Computer Engineering
- **Associate Prof.** (04/2012 – 02/2018)
Boğaziçi University, Computer Engineering
- **Assistant Prof.** (09/2008 – 04/2012)
Boğaziçi University, Computer Engineering,
- **Postdoc**, (09/2004 -- 04/2005) and (10/2005--09/2008)
University of Cambridge, Signal Processing and Communications Laboratory – with Simon Godsill
- **Postdoc**, (02/2003 -- 09/2004) and (04/2005--10/2005)
Amsterdam University, Intelligent and Adaptive Systems – with Ben Krose
- **Research Assistant**, (02/1998 -- 02/2003)
Radboud University Nijmegen, SNN, Foundation for Neural Networks, the Netherlands
- **Teaching Assistant**, (10/1993 -- 02/1998)
Boğaziçi University, Computer Engineering

PUBLICATIONS

Selected Publications

- Simsekli, U.; Yildiz, C.; Nguyen, T. H.; Cemgil, A. T. & Richard, G. Asynchronous Stochastic Quasi-Newton MCMC for Non-Convex Optimization ICML 2018
- Capan, G.; Akbayrak, S.; Ceritli, T. & Cemgil, A. T. Sum Conditioned Poisson Factorization. International conference on Latent Variable Analysis and Signal Separation, LVA/ICA, 2018
- Kurutmaz, B; Cemgil, AT; Simsekli, U and Yildirim, S. Bayesian Nonnegative Matrix Factorization as an Allocation Model, (2017) Advances in Approximate Bayesian Inference, NIPS 2017 Workshop
- Bozkurt, A. K. & Cemgil, A. T. (2017) Distributed particle filtering under real-time constraints 2017 25th European Signal Processing Conference (EUSIPCO), 2017, 1584-1588
- Simsekli, U.; Virtanen, T. & Cemgil, A. T. (2015), 'Non-negative Tensor Factorization Models for Bayesian Audio Processing', Digital Signal Processing 47, 178-191
- Krebs, F.; Holzapfel, A.; Cemgil, A. & Widmer, G. (2015), 'Inferring Metrical Structure in Music Using Particle Filters', IEEE/ACM Transactions on Audio, Speech, and Language Processing 23(5), 817--827. (SCIE)
- Simsekli, U.; Yilmaz, Y. K. & Cemgil, A. T. (2013), Learning the beta-Divergence in Tweedie Compound Poisson Matrix Factorization Models, ICML 2013, pp. 1409-1417.
- Yilmaz, K. Y.; Cemgil, A. T. & Şimşekli, U. (2011), Generalized Coupled Tensor Factorization, in 'Neural Information Processing Systems NIPS'.
- Cemgil, A. T. (2009), 'Bayesian Inference in Non-negative Matrix Factorisation Models', *Computational Intelligence and Neuroscience* (Article ID 785152)

Identifiers and Citation Statistics

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Web of Science (Thomson Reuters)- June 2018

Sum of Times Cited without self-citations:	526
Citing Articles without self-citations:	479
Average Citations per Item:	5.37
h-index :	12

Google Scholar

(<http://scholar.google.com/citations?user=X3ZFZ7AAAAAJ&hl=en>) 04.08.2018

	All	Since 2013
Citations	2926	1659
h-index	26	20
i10-index	55	39

Edited Books and Book Chapters

1. Barber, D.; Cemgil, A. T. & Chiappa, S. editors. *Bayesian Time Series Models*, Cambridge University Press. (2011)
2. Cemgil, A. T. (2012), A Tutorial Introduction to Monte Carlo methods, Markov Chain Monte Carlo and Particle Filtering, Elsevier Major Reference Works.
3. Barber, D.; Cemgil, A. T. & Chiappa, S. (2011), *Bayesian Time Series Models*, Cambridge University Press, chapter Inference and Estimation in Probabilistic Time-Series Models.
4. Cemgil, A. T.; Godsill, S. J.; Peeling, P. H. & Whiteley, N. (2010), *The Oxford Handbook of Applied Bayesian Analysis*, Oxford University Press, chapter Bayesian Statistical Methods for Audio and Music Processing.

Journal Publications

All Journals with years of publication:

- IEEE/ACM Transactions on Audio, Speech, and Language Processing (2006, 2010, 2010, 2013, 2015, 2015), (SCIE)
- Digital Signal Processing (2007, 2011, 2014, 2015, 2015, 2017,2017), (SCIE)
- IEEE Signal Processing Magazine (2010), (SCI)
- IEEE Signal Processing Letters (2010, 2015), (SCIE)
- Signal Processing (2011), (SCIE)
- Data Mining and Knowledge Discovery (2015), (SCI/SCIE)
- Computational Intelligence and Neuroscience (2009), (SCIE)
- Sensors (2017), (SCIE)
- Journal of Artificial Intelligence Research (2003), (SCI)
- Journal of New Music Research (2001, 2011, 2014), (SCI, AHCI)
- Computer Music Journal (2000), (SCIE)
- EURASIP Journal on Advances in Signal Processing (2011), (SCIE)
- EURASIP Journal on Audio, Speech, and Music Processing (2012), (SCIE)

Collaborations

- Journal of the Optical Society of America A (2017), (SCI)
 - IEEE Transactions on Signal Processing (2014), (SCI)
 - IEEE Transactions on Geoscience and Remote Sensing (2010), (SCI)
 - Bioinformatics (2015), (SCI/SCIE)
 - Journal of Neuroscience Methods (2009)
 - Biomedical Signal Processing and Control (2016), (SCIE)
 - Journal of Neural Engineering (2016), (SCI)
 - Computer Vision and Image Understanding (2009), (SCI)
 - Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology and Endodontology (2001)
1. Semerci, M.; Cemgil, A. T. & Sankur, B. (2018) An intelligent cyber security system against DDoS attacks in SIP networks *Computer Networks*, 2018, 136, 137 - 154
 2. Oksuz, K. & Cemgil, A. T. (2018), 'A Multitarget Tracking Performance Metric: Deficiency Aware Subpattern Assignment', *IET Radar, Sonar and Navigation*, (SCIE)
 3. Danis, S. and Cemgil, A. T. (2017) Model Based Localization and Tracking using Bluetooth Low-Energy Beacons, *Sensors*, 17, 2484; doi:10.3390/s17112484 (SCIE)

4. Baris Kurt, Cagatay Yildiz, Taha Yusuf Ceritli, Bulent Sankur, A. Taylan Cemgil. (2017) A Bayesian Change Point Model for Detecting SIP-based DDoS Attacks, Digital Signal Processing (Accepted) with accompanying free software published in Software X, "A Real-Time SIP Network Simulation and Monitoring System" (SCIE)
5. Basaran, D.; Cemgil, A. T. & Anarim, E. (2017) Multiresolution Alignment for Multiple Unsynchronized Audio Sequences using Sequential Monte Carlo Samplers, Digital Signal Processing, (SCIE)
6. Ericok, O. B.; Cemgil, A. T. & Erturk, H. (2017) Approximate Bayesian Computation Techniques for Optical Characterization of Nanoparticle Clusters, Journal of the Optical Society of America A, (SCI)
7. Fidaner, B. I.; Cankorur-Cetinkaya, A.; Dikicioglu, D.; Kirdar, B.; Cemgil, A. T. & Oliver, S. G. (2016), 'CLUSTERnGO: a user-defined modelling platform for two-stage clustering of time-series data', 32(3), 388-397, Bioinformatics. (SCI)
8. Aslan, S.; Cemgil, A. T.; Aslan, M. S.; Tureyin, B. U. & Akin, A. (2016), 'Joint parameter and state estimation of the hemodynamic model by iterative extended Kalman smoother ', Biomedical Signal Processing and Control 24, 47 - 62. (SCIE)
9. Simsekli, U.; Liutkus, A. & Cemgil, A. T. (2015) Alpha-Stable Matrix Factorization, IEEE Signal Processing Letters, 2015, 22, 2289-2293 (SCIE)
10. Simsekli, U.; Virtanen, T. & Cemgil, A. T. (2015), 'Non-negative Tensor Factorization Models for Bayesian Audio Processing', Digital Signal Processing 47, 178-191. (SCIE)
11. Basaran, D.; Cemgil, A. & Anarim, E. (2015), 'A Probabilistic Model-Based Approach for Aligning Multiple Audio Sequences', IEEE/ACM Transactions on Audio, Speech, and Language Processing 23(7), 1160--1171. (SCIE)
12. Krebs, F.; Holzapfel, A.; Cemgil, A. & Widmer, G. (2015), 'Inferring Metrical Structure in Music Using Particle Filters', IEEE/ACM Transactions on Audio, Speech, and Language Processing 23(5), 817--827. (SCIE)
13. Yumlu, S.; Gurgen, F. S.; Cemgil, A. T. & Okay, N. (2015), 'Bayesian Changepoint And Time-varying Parameter Learning In Regime Switching Volatility Models', Digital Signal Processing 40, 198-212. (SCIE)
14. Ermis, B.; Acar, E. & Cemgil, A. T. (2015), 'Link prediction in heterogeneous data via generalized coupled tensor factorization', Data Mining and Knowledge Discovery, Springer, 1-34. (SCI)
15. Ari, I.; Simsekli, U.; Cemgil, A. T. & Akarun, L. (2014), 'Randomized Matrix Decompositions and Exemplar Selection in Large Dictionaries for Polyphonic Piano Transcription', Journal of New Music Research 43(3), 255-265. (SCI)
16. Sübakan, Y. C.; Kurt, B.; Cemgil, A. T. & Sankur, B. (2014), 'Probabilistic sequence clustering with spectral learning', Digital Signal Processing 29, 1--19. (SCIE)
17. Nielsen, J.; Christensen, M.; Cemgil, A. & Jensen, S. (2014), 'Bayesian Model Comparison with the g-Prior', Signal Processing, IEEE Transactions on 62(1), 225 - 238. (SCI)
18. Demir, C.; Saraçlar, M. & Cemgil, A. T. (2012), 'Single-Channel Speech-Music Separation for Robust ASR With Mixture Models', *IEEE Transactions on Audio, Speech, and Language Processing*. (SCIE)
19. Şimşekli, U.; Sönmez, O.; Kurt, B. & Cemgil, A. T. (2012), 'Combined Perception and Control for Timing in Robotic Music Performances', *EURASIP Journal on Audio, Speech, and Music Processing* **2012**. (SCIE)
20. Yılmaz, Y. K. & Cemgil, A. T. (2011), 'Algorithms for Probabilistic Latent Tensor Factorization', *Signal Processing* **92**(8), 1853 - 1863. (SCIE)
21. Nielsen, J. K.; Christensen, M. G.; Cemgil, A. T.; Godsill, S. J. & Jensen, S. J. (2011), 'Bayesian Interpolation and Parameter Estimation in a Dynamic Sinusoidal Model', *Audio, Speech, and Language Processing, IEEE Transactions on* **19**(7), 1986-1998. (SCIE)

22. Şimşekli, U. & Cemgil, A. T. (2011), 'Probabilistic Models for Real-Time Acoustic Event Detection with Application to Pitch Tracking', *Journal of New Music Research* **40**(2), 175-185. (SCIE,AHCI)
23. Ülker, Y.; Günsel, B. & Cemgil, A. T. (2011), 'Annealed SMC Samplers for Nonparametric Bayesian Mixture Models', *IEEE Signal Processing Letters*. **18**, 3-6. (SCIE)
24. Şimşekli, U.; Jylha, A.; Erkut, C. & Cemgil, A. T. (2011), 'Real-Time Recognition of Percussive Sounds by a Model-Based Method', *EURASIP Journal on Advances in Signal Processing*. (SCIE)
25. Barber, D. & Cemgil, A. T. (2010), 'Graphical Models for Time Series', *IEEE Signal Processing Magazine, Special issue on graphical models* **27**(6), 18-28. (SCI)
26. Yıldırım, S.; Cemgil, A. T.; Aktar, M.; Ozakin, Y. & Ertuzun, A. B. (2010), 'A Bayesian Deconvolution Approach for Receiver Function Analysis', *IEEE Trans. Geoscience and Remote Sensing* **48**(12), 4151 - 4163. (SCI)
27. Dikmen, O. & Cemgil, A. T. (2010), 'Gamma Markov Random Fields for Audio Source Modelling', *IEEE Transactions on Audio, Speech, and Language Processing* **18**(3), 589-601. (SCIE)
28. Peeling, P. H.; Cemgil, A. T. & Godsill, S. J. (2010), 'Generative Spectrogram Factorization Models for Polyphonic Piano Transcription', *IEEE Transactions on Audio, Speech and Language Processing* **18**(3), 519-527. (SCIE)
29. Cemgil, A. T. (2009), 'Bayesian Inference in Non-negative Matrix Factorisation Models', *Computational Intelligence and Neuroscience* (Article ID 785152).
30. Broeke, J. H. P.; Ge, H.; Dijkstra, I. M.; Cemgil, A. T.; Riedl, J. A.; Cornelisse, L. N.; Toonen, R. F.; Verhage, M. & Fitzgerald, W. J. (2009), 'Automated quantification of cellular traffic in living cells', *Journal of Neuroscience Methods* **178**(2), 378 - 384. (SCIE)
31. Zivkovic, Z.; Cemgil, A. T. & Krose, B. J. A. (2009), 'Approximate Bayesian methods for kernel-based object tracking', *Computer Vision and Image Understanding* **113**(6), 743-749. (SCIE)
32. Cemgil, A. T.; Fevotte, C. & Godsill, S. J. (2007), 'Variational and Stochastic Inference for Bayesian Source Separation', *Digital Signal Processing* **17**(5), 891-913. (SCIE)
33. Cemgil, A. T.; Kappen, H. J. & Barber, D. (2006), 'A generative model for music transcription', *IEEE Transactions on Audio, Speech, and Language Processing* **14**(2), 679--694. (SCIE)
34. Cemgil, A. T. & Kappen, H. J. (2003), 'Monte Carlo Methods for Tempo Tracking and Rhythm Quantization', *Journal of Artificial Intelligence Research* **18**, 45-81. (SCIE)
35. Cemgil, A. T.; Kappen, H. J.; Desain, P. & Honing, H. (2001), 'On Tempo Tracking: Tempogram Representation and Kalman Filtering', *Journal of New Music Research* **28:4**, 259-273. (SCIE,AHCI)
36. Sülün, T.; Cemgil, A. T.; Duc, J. M. P.; Rammelsberg, P. & Jaeger, L. (2001), 'Morphology of the mandibular fossa and inclination of the articular eminence in patients with internal derangement and in symptom-free volunteers', *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology and Endodontology* **92**, 98-107. (SCIE)
37. Cemgil, A. T.; Desain, P. & Kappen, H. J. (2000), 'Rhythm Quantization for Transcription', *Computer Music Journal* **24:2**, 60-76. (SCIE)

Under Review

1. Kamer Kaya, Figen Oztoprak, Ilker Birbil, Ali Taylan Cemgil, Umut Simsekli, Nurdan Kuru, Hazal Koptagel, and Kaan Öztürk. HAMSİ: A Parallel Incremental Optimization Algorithm Using Quadratic Approximations for Solving Partially Separable Problems. (under review - arXiv:1509.01698)

2. Beyza Ermis; A. Taylan Cemgil, Differentially Private MCMC Algorithms for Distributed Matrix Factorization (under review)
3. Murat Semerci, Ali Taylan Cemgil and Bulent Sankur, An Intelligent Cyber Security System Against DDoS Attacks in SIP Networks, (under review)

Peer Reviewed International Conferences

Major conferences, with years of publication

Machine Learning

- Neural Information Processing Systems (NIPS) 2002, 2011, 2013
- Artificial Intelligence and Statistics (AISTATS) 2010
- International Conference on Machine Learning (ICML) 2013, 2016, 2017, 2018
- Computer Vision and Pattern Recognition (CVPR) 2005
- International Conference on Pattern Recognition (ICPR) 2004, 2010, 2010

Signal Processing

- IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2007, 2007, 2008, 2009, 2012, 2013, 2015, 2015, 2017
- European Signal Processing Conference (EUSIPCO) 2005, 2005, 2007, 2009, 2010, 2011, 2012, 2012, 2012, 2013, 2016, 2017, 2017
- IFAC Symposium on System Identification (SYSID) 2012, 2015
- Conference on Latent Variable Analysis and Signal Separation (LVA/ICA) 2007, 2009, 2010, 2015, 2018
- IEEE Workshop on Statistical Signal Processing (SSP) 2011, 2014
- IEEE Machine Learning and Signal Processing (MLSP) 2012, 2012
- IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA) 2003, 2005, 2007, 2007, 2009, 2011, 2011
- Meeting of the International Speech Communication Association (INTERSPEECH), 2010, 2011

Audio and Music

- International Conference on Music Information Retrieval, (ISMIR) 2006, 2007, 2015
- International Computer Music Conference (ICMC) 2000, 2001, 2002, 2004

1. Simsekli, U.; Yildiz, C.; Nguyen, T. H.; Cemgil, A. T. & Richard, G. Asynchronous Stochastic Quasi-Newton MCMC for Non-Convex Optimization ICML 2018
2. Capan, G.; Akbayrak, S.; Ceritli, T. & Cemgil, A. T. Sum Conditioned Poisson Factorization The international conference on Latent Variable Analysis and Signal Separation, LVA/ICA, 2018
3. Şimşekli, U.; Durmus, A.; Badeau, R.; Richard, G.; Moulines, É. & Cemgil, A. T. (2017) Parallelized Stochastic Gradient Markov Chain Monte Carlo algorithms for non-negative matrix factorization (2017) IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2017, 2242-2246
4. Yamac, M.; Sankur, B. & Cemgil, A. T. (2017) Malicious users discrimination in organized attacks using structured sparsity 2017 25th European Signal Processing Conference (EUSIPCO), 2017, 266-270
5. Bozkurt, A. K. & Cemgil, A. T. (2017) Distributed particle filtering under real-time constraints 2017 25th European Signal Processing Conference (EUSIPCO), 2017, 1584-1588
6. U. Şimşekli, R. Badeau, A. T. Cemgil, G. Richard, (2016) "Stochastic Quasi-Newton Langevin Monte Carlo", International Conference on Machine Learning (ICML), New York, NY, USA, 2016
7. U. Şimşekli, R. Badeau, G. Richard, A. T. Cemgil, (2016) "Stochastic Thermodynamic Integration: Efficient Bayesian Model Selection via Stochastic Gradient MCMC", IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Shanghai, China, 2016
8. Şimşekli, U.; Koptagel, H.; Gültaş, H.; Cemgil, A. T.; Öztoprak, F. & Birbil, .I. (2016), 'Parallel

- Stochastic Gradient Markov Chain Monte Carlo for Matrix Factorisation Models', arXiv preprint arXiv:1506.01418. TDA 2016, Workshop on Tensor Decompositions and Applications
9. Kurt, B.; Zeydan, E.; Yabas, U.; Karatepe, I. A.; Kurt, G. K. & Cemgil, A. T. A Network Monitoring System for High Speed Network Traffic Sensing, Communication, and Networking (SECON), 2016 13th Annual IEEE International Conference on, 2016, 1-3
 10. Cemgil, A. T.; Guldaz, H.; Whiteley, N. & Heine, K. (2015), A Practical Introduction to Butterfly and Adaptive Resampling in Sequential Monte Carlo, in 'Proceedings 17th IFAC Symposium on System Identification SYSID 2015', pp. 781-786.
 11. Simsekli, U.; Liutkus, A. & Cemgil, A. T. (2015), Extraction of Temporal Patterns in Multi-rate and Multi-modal Dataset, in '12th International Conference on Latent Variable Analysis and Signal Separation'.
 12. Srinivasamurthy, A.; Holzapfel, A.; Cemgil, A. T. & Serra, X. (2015), Particle Filters for Efficient Meter Tracking with Dynamic Bayesian Networks, in 'Proceedings of International Conference on Music Information Retrieval, ISMIR 2015'.
 13. Holzapfel, A.; Simsekli, U.; Senturk, S. & Cemgil, A. T. (2015), Section-Level Modeling Of Musical Audio For Linking Performances To Scores In Turkish Makam Music, in 'IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2015)'.
 14. Simsekli, U.; Cemgil, A. T. & Ermis, B. (2015), Learning Mixed Divergences In Coupled Matrix And Tensor Factorization Models, in 'IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)', pp. 2120-2124.
 15. Dikmen, O. & Cemgil, A. T. (2014), Sequential Monte Carlo Samplers for Marginal Likelihood Computation in Multiplicative Exponential Noise Models, in 'IEEE Statistical Signal Processing Workshop (SSP'14)'.
 16. Fidaner, I. B. & Cemgil, A. T. (2013), Summary Statistics for Partitionings and Feature Allocations, in C.J.C. Burges; L. Bottou; M. Welling; Z. Ghahramani & K.Q. Weinberger, ed., 'Advances in Neural Information Processing Systems 26', pp. 261--269.
 17. Simsekli, U.; Ermis, B.; Cemgil, A. T. & Acar, E. (2013), Optimal weight learning for coupled tensor factorization with mixed divergences, in EUSIPCO.
 18. Simsekli, U.; Yilmaz, Y. K. & Cemgil, A. T. (2013), Learning the beta-Divergence in Tweedie Compound Poisson Matrix Factorization Models, in Sanjoy Dasgupta & David Mcallester, ed., 'Proceedings of the 30th International Conference on Machine Learning (ICML-13)', JMLR Workshop and Conference Proceedings, pp. 1409-1417.
 19. Basaran, D.; Cemgil, A. T. & Anarim, E. (2013), SMC Samplers for Multiresolution Audio Sequence Alignment, in 'International Conference on Acoustics Speech and Signal Processing ICASSP'.
 20. Ari, .I.; Cemgil, A. T. & Akarun, L. (2012), Probabilistic Interpolative Decomposition, in 'IEEE International Workshop on Machine Learning for Signal Processing (MLSP)'.
 21. Ermis, B.; Acar, E. & Cemgil, A. T. (2012), Link Prediction via Generalized Coupled Tensor Factorisation, in 'ECML PKDD Colisd Workshop'.
 22. Şimşekli, U. & Cemgil, A. T. (2012), Markov Chain Monte Carlo Inference for Probabilistic Latent Tensor Factorization, in 'IEEE International Workshop on Machine Learning for Signal Processing (MLSP)'.
 23. Kurt, B.; Cemgil, A.; Mungan, M.; Polat, N.; Ozdogan, A. & Saygun, E. (2012), Network Management without Payload Inspection: Application Classification via Statistical Analysis of Bulk Flow Data, in 'Future Network and MobileSummit 2012 Conference Proceedings', pp. 1 - 8.
 24. Demir, C.; Saraclar, M. & Cemgil, A. T. (2012), Catalog-Based Single-Channel Speech-Music Separation with the Itakura-Saito Divergence, in 'Eusipco'.
 25. Yildirim, S.; Cemgil, A. T. & Singh, S. S. (2012), An Online Expectation-Maximisation Algorithm for Nonnegative Matrix Factorisation Models, in '16th IFAC Symposium on System Identification (SYSID 2012)'.
 26. Ari, .I.; Şimşekli, U.; Cemgil, A. T. & Akarun, L. (2012), Large Scale Polyphonic Music Transcription Using Randomized Matrix Decompositions, in '20th European Signal Processing Conference

- (EUSIPCO)', pp. 2020 - 2024.
27. Şimşekli, U. & Cemgil, A. T. (2012), Score Guided Musical Source Separation Using Generalized Coupled Tensor Factorization, *in* '20th European Signal Processing Conference (EUSIPCO)', pp. 2639 - 2643.
 28. Şimşekli, U.; Cemgil, A. T. & Yilmaz, Y. K. (2012), Score Guided Audio Restoration via Generalised Coupled Tensor Factorisation, *in* 'International Conference on Acoustics Speech and Signal Processing ICASSP', pp. 5369 - 5372.
 29. Yilmaz, K. Y.; Cemgil, A. T. & Şimşekli, U. (2011), Generalized Coupled Tensor Factorization, *in* 'Neural Information Processing Systems NIPS'.
 30. Basaran, D.; Cemgil, A. T. & Anarım, E. (2011), Model Based Multiple Audio Sequence Alignment, *in* 'Proc. IEEE Workshop on Applications of Signal Processing to Audio and Acoustics WASPAA '11', pp. 13-16.
 31. Cemgil, A. T.; Şimşekli, U. & Subakan, Y. C. (2011), Probabilistic Latent Tensor Factorization Framework for Audio Modeling, *in* 'Proc. IEEE Workshop on Applications of Signal Processing to Audio and Acoustics WASPAA '11', pp. 137-140.
 32. Keskin, C.; Cemgil, A. T. & Akarun, L. (2011), DTW Based Clustering to Improve Hand Gesture Recognition, *in* 'HBU'.
 33. Demir, C.; Cemgil, A. T. & Saraclar, M. (2011), Semi-supervised Single-Channel Speech-Music Separation for Automatic Speech Recognition, *in* 'INTERSPEECH'.
 34. Demir, C.; Cemgil, A. T. & Saraclar, M. (2011), Catalog-Based Single-Channel Speech-Music Separation for Automatic Speech Recognition, *in* 'Proc. 19th European Signal Processing Conference, EUSIPCO'11'.
 35. Fevotte, C.; Cappe, O. & Cemgil, A. T. (2011), Efficient Markov chain Monte Carlo inference in composite models with space alternating data augmentation, *in* 'Proc. IEEE Workshop on Statistical Signal Processing (SSP)', pp. 221 - 224.
 36. Demir, C.; Cemgil, A. T. & Saraclar, M. (2011), Gain Estimation Approaches in Catalog-Based Single-Channel Speech-Music Separation., *in* 'Proceedings of the Automatic Speech Recognition and Understanding Workshop (ASRU)', pp. 185 - 190.
 37. Demir, C.; Cemgil, A. T. & Saraclar, M. (2010), Catalog-Based Single-Channel Speech-Music Separation, *in* 'INTERSPEECH'.
 38. Yilmaz, K. & Cemgil, A. T. (2010), Probabilistic Latent Tensor factorisation, *in* 'Proc. of International Conference on Latent Variable analysis and Signal Separation', pp. 346-353.
 39. Nielsen, J. K.; Christensen, M. G.; Cemgil, A. T.; Godsill, S. J. & Jensen, S. H. (2010), Bayesian Interpolation in a Dynamic Sinusoidal Model with Application to Packet-loss Concealment, *in* 'EUSIPCO 2010'.
 40. Kirbiz, S.; Cemgil, A. T. & Gungel, B. (2010), Bayesian Inference for Nonnegative Matrix Factor Deconvolution Models, *in* 'ICPR'10', pp. 2812 - 2815.
 41. Ulker, Y.; Gungel, B. & Cemgil, A. T. (2010), Annealed SMC Samplers for Dirichlet Process Mixture Models, *in* 'ICPR'10'.
 42. Şimşekli, U. & Cemgil, A. T. (2010), A Comparison of Probabilistic Models for online pitch tracking, *in* 'Proc. of 7th Sound and Music Computing Conference'.
 43. Ulker, Y.; Gungel, B. & Cemgil, A. T. (2010), Sequential Monte Carlo Samplers for Dirichlet Process Mixtures, *in* 'AISTATS'10'.
 44. Dikmen, O. & Cemgil, A. T. (2009), Unsupervised single-channel source separation using bayesian NMF, *in* 'Proc. IEEE Workshop on Applications of Signal Processing to Audio and Acoustics WASPAA '09', pp. 93--96.
 45. Fevotte, C. & Cemgil, A. T. (2009), Nonnegative matrix factorisations as probabilistic inference in composite models, *in* 'Proc. 17th European Signal Processing Conference (EUSIPCO'09)'.
 46. Virtanen, T. O. & Cemgil, A. T. (2009), Mixtures of Gamma Priors for Non-Negative Matrix Factorization Based Speech Separation, *in* 'ICA 2009, 7th International Conference on Independent Component Analysis and Signal Separation', pp. 646-653 .

47. Yildirim, S.; Cemgil, A. T. & Ertuzun, A. B. (2009), A hybrid method for deconvolution of Bernoulli-Gaussian processes, *in* 'Proc. IEEE International Conference on Acoustics, Speech and Signal Processing ICASSP 2009', pp. 3417--3420.
48. Cemgil, A. T. & Dikmen, O. (2008), Inference and learning in gamma chains for Bayesian audio processing, *in* 'Proceedings of Acoustics'08', pp. 4055-4060.
49. Virtanen, T.; Cemgil, A. T. & Godsill, S. (2008), Bayesian extensions to non-negative matrix factorisation for audio signal modelling, *in* 'Proc. IEEE International Conference on Acoustics, Speech and Signal Processing ICASSP 2008', pp. 1825--1828.
50. Peeling, P.; Cemgil, A. T. & Godsill, S. (2008), Bayesian hierarchical models and inference for musical audio processing, *in* 'Proc. 3rd International Symposium on Wireless Pervasive Computing ISWPC 2008', pp. 278--282.
51. Cemgil, A. T.; Peeling, P.; Dikmen, O. & Godsill, S. J. (2007), Prior Structures for Time-Frequency Energy Distributions, *in* 'Proc. IEEE Workshop on Applications of Signal Processing to Audio and Acoustics', pp. 151--154.
52. Clark, D.; Cemgil, A. T.; Peeling, P. & Godsill, S. (2007), Multi-Object Tracking of Sinusoidal Components in Audio with the Gaussian Mixture Probability Hypothesis Density Filter, *in* 'Proc. IEEE Workshop on Applications of Signal Processing to Audio and Acoustics', pp. 339--342.
53. Cemgil, A. T. & Dikmen, O. (2007), Conjugate Gamma Markov random fields for modelling nonstationary sources, *in* 'ICA 2007, 7th International Conference on Independent Component Analysis and Signal Separation'.
54. Excell, D.; Cemgil, A. T. & Fitzgerald, W. J. (2007), Generative Model for Human Motion Recognition, *in* 'Proc. 5th International Symposium on Image and Signal Processing and Analysis ISPA 2007', pp. 423--428.
55. Peeling, P.; Cemgil, A. T. & Godsill, S. J. (2007), A Probabilistic Framework for Matching Music Representations, *in* 'Proceedings of International Conference on Music Information Retrieval'.
56. Cemgil, A. T. (2007), Strategies for Sequential Inference in Factorial Switching State Space Models, *in* 'Proc. IEEE International Conference on Acoustics, Speech and Signal Processing ICASSP 2007', pp. II-513--II-516.
57. Godsill, S.; Cemgil, A.; Fevotte, C. & Wolfe, P. (2007), Bayesian computational methods for sparse audio and music processing, *in* '15th European Signal Processing Conference'.
58. Whiteley, N.; Cemgil, A. T. & Godsill, S. (2007), Sequential Inference of Rhythmic Structure in Musical Audio, *in* 'Proc. IEEE International Conference on Acoustics, Speech and Signal Processing ICASSP 2007', pp. IV-1321--IV-1324.
59. van Kasteren, T.; Krose, B. & Cemgil, A. T. (2007), Realtime Simultaneous Tempo Tracking and Rhythm Quantization in Music, *in* 'Proceedings of Belgian-Dutch Conference on Artificial Intelligence (BNAIC)'.
60. Whiteley, N.; Cemgil, A. T. & Godsill, S. J. (2006), Bayesian Modelling of Temporal Structure in Musical Audio, *in* 'Proceedings of International Conference on Music Information Retrieval'.
61. Cemgil, A. T. (2006), Sequential Inference for Factorial Change-point Models, *in* 'Proc. IEEE Nonlinear Statistical Signal Processing Workshop', pp. 203--206.
62. Zajdel, W.; Cemgil, A. & Kruse, B. (2006), Dynamic Bayesian networks for visual surveillance with distributed cameras, *in* '1st European Conference on Smart Sensing and Context (EuroSSC)', Springer, , pp. 240-243.
63. Cemgil, A. T. & Godsill, S. J. (2005), Probabilistic Phase Vocoder and its application to Interpolation of Missing Values in Audio Signals, *in* '13th European Signal Processing Conference EUSIPCO'.
64. Cemgil, A. T.; Fevotte, C. & Godsill, S. J. (2005), Blind Separation of Sparse Sources using Variational EM, *in* '13th European Signal Processing Conference EUSIPCO'.
65. Cemgil, A. T. & Godsill, S. J. (2005), Efficient Variational Inference for the Dynamic Harmonic Model, *in* 'Proc. of IEEE Workshop on Applications of Signal Processing to Audio and Acoustics', pp. 271-274.

66. Cemgil, A. T.; Zajdel, W. & Krose, B. J. A. (2005), A hybrid graphical model for robust feature extraction from video, *in* C. Schmid; S. Soatto & C. Tomasi, ed., 'Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition CVPR 2005', pp. 1158--1165.
67. Krose, B.; Cemgil, T. & Zajdel, W. (2004), Tracking humans, *in* R Jacquart, ed., '18th World Computer Congress', pp. 751-752.
68. Zajdel, W.; Cemgil, A. T. & Krose, B. J. A. (2004), Online multicamera tracking with a switching state-space model, *in* 'Proc. 17th International Conference on Pattern Recognition ICPR 2004', pp. 339--343 Vol.4.
69. Cemgil, A. T. (2004), Polyphonic Pitch Identification and Bayesian Inference, *in* 'Proceedings of the International Computer Music Conference'.
70. Cemgil, A. T.; Kappen, B. & Barber, D. (2003), Generative model based polyphonic music transcription, *in* 'Proc. IEEE Workshop on Applications of Signal Processing to Audio and Acoustics', pp. 181--184.
71. Cemgil, A.; Barber, D. & Kappen, H. J. (2003), A Dynamical Bayesian Network for Tempo and Polyphonic Pitch Tracking, *in* 'Proceedings of ICANN'.
72. Cemgil, A. & Kappen, H. J. (2002), Integrating Tempo Tracking and Quantization using Particle filtering, *in* 'Proceedings of the 2002 International Computer Music Conference', pp. 419-422.
73. Cemgil, A. T. & Kappen, H. J. (2002), Tempo Tracking and Rhythm Quantization by Sequential Monte Carlo, *in* Thomas G. Dietterich; Sue Becker & Zoubin Ghahramani, ed., 'Advances in Neural Information Processing Systems 14', MIT Press, pp. 1361-1368.
74. Cemgil, A. & Kappen, H. J. (2001), Bayesian Real-time Adaptation for Interactive Performance Systems, *in* 'Proceedings of the 2001 International Computer Music Conference', pp. 147-150.
75. Cemgil, A. & Kappen, H. J. (2001), A Dynamic Belief Network Implementation for Realtime Music Transcription, *in* 'Proceedings of the Belgian-Dutch Conference on Artificial Intelligence 2001'.
76. Cemgil, A.; Kappen, H. J.; Desain, P. & Honing, H. (2000), On tempo tracking: Tempogram Representation and Kalman filtering, *in* Ioannis Zannos, ed., 'Proceedings of the 2000 International Computer Music Conference', The Berliner Kulturveranstaltungs GmbH, Berlin, pp. 352-355.
77. Cemgil, A. T.; Desain, P. & Kappen, H. J. (1999), Rhythm Quantization for Transcription, *in* 'Proceedings of the AISB'99 Symposium on Musical Creativity', pp. 140-146.
78. Cemgil, A. & Erkut, C. (1997), Calibration of Physical Models using Artificial Neural Networks with Application to Plucked String Instruments, *in* 'Proceedings of ISMA97, International Symposium on Musical Acoustics'.
79. Cemgil, A. T.; Caglar, H. & Anarım, E. (1995), Comparison of Wavelet Filters for Pitch Detection of Monophonic Music Signals, *in* 'Proceedings of European Conference on Circuit Theory and Design, (ECCTD95)'.

Patent

- Patent: EP1596334-A1; WO2005114579-A1; EP1751716-A1
"Multiple objects/individuals tracking method e.g. for car in airport, involves defining probabilistic dependency between labels and observation of objects, and estimating number of distinct objects from posterior probability distribution"

RESEARCH GRANTS

- ANR-TUBITAK, **(FBIMATRIX) Parallel and Distributed Markov Chain Monte Carlo for Bayesian Inference in Matrix and Tensor Factorization Models**. (with Telecom ParisTech) (Granted, 2017)
- EC ICT-10-2015. **(OpenMaker), Harnessing the power of Digital Social Platforms to shake up makers and manufacturing entrepreneurs towards a European Open Manufacturing ecosystem, 2 years (WP Leader)** Started Oct 2016, **(3157K EUR Total, BOUN 367K EUR)**
- TUBITAK 113M492, (Co-investigator) **(PAVERA), Advanced Parallel Optimization Algorithms for Big Data Analysis Using Machine Learning Starting** October 2013-2016, **180K TL** (PI İlker Birbil, Sabancı U. - Finished)
- BAP 8340, Kombinatoriyal Nesnelerin İncelenmesi için İstatistiksel Yöntemler, **Statistical methods for the analysis of combinatorial objects**, 28.500 (Finished)
- 10360 Gen ve Protein ifadesi zaman serilerinin istatistiksel yöntemlerle incelenmesi, **Gene and Protein expression analysis with time series**, 29.300 (Finished)
- FP7-PEOPLE-2012-IEF 328379, **Rhythmus: A generic framework for analyzing temporal structure in music** (Postdoc: Andre Holzapfel), 2 Years, May 2013-May 2015, 173K EUR (Finished)
- BAP 6882, Sosyal Sistem Verilerinden Bayesci Tensor ayrıştırma yöntemleri ile bilgi çıkarımı. **"Information extraction from social interactions with Bayesian Tensor Factorizations"**, 1 Yıl, Ekim 2012-Ekim 2013, 34 KTL (Finished)
- TUBITAK 110E292, Durağan Olmayan Çok Boyutlu Zaman Serileri İçin Hızlı Bayesci Matris ve Tensör Ayrıştırma Yöntemleri **(BAYTEN) "Fast Bayesian Matrix and Tensor factorisation methods for nonstationary multivariate time series analysis"**, 2 Yıl, Nisan 2011- Nisan 2013, 150K TL, European Bilateral project with CNRS, Telecom ParisTech France (Finished)
- BAP 5723, Ağ yapılarının tensör ayrıştırma ile istatistiksel modellenmesi. **"Statistical Modelling of Networks via Tensor Factorisations"**, Years, Jan 2011 - June 2012, 30K TL (Finished)
- BAP 1875, **Bayesci Negatif Olmayan Matris ve Tensor Ayrışımını ile Ses ve Müzik Verisi İşleme Uygulamaları**. "Bayesian matrix and tensor factorisations for audio and music processing" Ocak 2010 - Ocak 2011, 20K TL (Finished)
- TUBITAK 107E050, (Danışman) Zaman serileri ile Bayesci kaynak ayrıştırma. **"Bayesian Source Separation with time series models"**, 2007-2009, 160K TL (PI Aysin Ertuzun, Bogazici) (Finished)
- EPSRC EPD03261X 1, (Named Researcher) **Probabilistic Modelling of Musical Audio for Machine Listening**, 3 Years, 17.10.2005-17.10.2008, University of Cambridge (PI, Simon Godsill) (Finished)

Startup

- Cofounded Algoris in 2013 with postdoc Yener Ulker, postdoc Arman Boyaci joined later. A spinoff company that develops financial investment strategies and software for personalized portfolio management,
 - TUBITAK TEYDEB 1507 (2017-), Yatırım Stratejileri Tasarım ve Yönetim Sistemi, Investment Grant no 7160355 (500 TRY) (Ongoing)
 - TUBITAK TEYDEB 1507 (2015-2016), Portföy Yönetim Sistemleri ve Algoritmik İşlem Platformu Tasarımı (Portfolio management systems and algorithmic trading transaction platform), Grant no 7150327 (500K TRY) (Finished)

- TUBITAK TEYDEB 1512 (2014-2015) Finansal zaman serilerinin modellenmesi ve algoritmik alım-satım sistemleri (Modelling financial time series and algorithmic trading systems) (150K TRY)

Industrial Research Projects/Consultancy

- Customer scoring BKM (Interbank Card Center) (2018)
- Indoor Localization with Low energy beacons. POI (2018)
- Information extraction from large log data. Sahibinden.com (2017)
- Detection of Credit Card Fraud, BKM (Interbank Card Center) (2017)
- DDOS and Fraud detection in SIP networks, Netas (2015-2017)
- Recommendation system in retail based on iBeacon localization and customer habits, (2015-2016)
- Gamer profiling from behaviour data for churn prediction, Gamegos (2016)
- Cloud based platform for IoT, a case study in privacy preserving machine learning, Koc Sistem (2014-2016)
- Estimation of size distributions in network packet flows, with Avea, (2014-2015)
- Predictive Dialling System for Call centers, Alotech, (2013)
- Probabilistic Expert Systems for plant diseases, Doktor, (2011)
- Statistical techniques for Application classification Network packet data without Deep Packet Inspection (DPI), Ericsson Türkiye, Istanbul (FP7 Mevico) (2012)
- Statistical Models for Teletraffic trend Prediction, P1M1, Istanbul, Turkey (2011-2012)
- Multitrack Audio matching, for a Canada based company (2011)
- Fraud detection in transaction data, for FeatureSpace, Cambridge (2008)
- Audio processing and source separation, CEDAR audio, Cambridge (2008)
- Inertial Navigation and GPS integration using particle filtering, for a Cambridge, UK, based company (2007)
- Tracking of vesicles in axons and dendrites from video sequences, for Center for Neurogenomics and Cognitive Research (CNCR), VU, Amsterdam (2007)

TEACHING EXPERIENCE

(F: Fall, S: Spring, Su: Summer Semesters)

Undergraduate

CMPE 250, Data Structures and Algorithms (F10, S11, F11, S12, F12, S13, F13, F14, F15, F16, F17, F18)

CMPE 362, Signal Processing for Computer Engineering (F08, F09)

CMPE 482, Numerical Linear Algebra, (S14, S15, S16, S17)

CMPE 462, Machine Learning, (S18)

Graduate

CMPE 547 (was 58K), Bayesian Statistics and Machine Learning (F08, F09, F10, F11, F12, F13, F14, F15, S17, F18)

CMPE 548 (was 58N), Monte Carlo Computation (S09, F09, S11, S12, S13, S14, S15, S16, F17)

CMPE 58P, Machine Learning (S09, S10, with Andre Holzapfel S15)

CMPE 58R, Statistical Data Analysis (with William Fitzgerald Su11)

SWE 501, Object Oriented Programming (S16, S17)

SWE 546, Data Mining (S12, S13, S14, S15, S16, S17)

SWE 582, Machine Learning for Data Analytics, (F15, F16, F17)

FE 587, C/C++ Programming for Finance (F10, F11, F12, F13, F14, F15)

FE 588, Python Programming for Financial Engineering (F16, F17)

SUPERVISION

Postdoc

1. Andre Holzapfel (2013-2015) (Marie Curie fellow), Rhythmus, now assist. Prof. at KTH, Sweden
2. Yener Ulker (Algosis), Financial Data Analysis, Algorithmic Trading
3. Arman Boyaci (OpenMaker) Social Media Monitoring

PhD - graduated

(As Thesis Advisor)

1. Işık Barış Fidaner (2010-2016), (with Prof. Betül Kırdar) Bayesian Nonparametrics, Bioinformatics,
2. Umut Şimşekli (2010-2015), Tensor Fusion: Learning In Heterogeneous and Distributed Data, now Assist. Prof. Telecom ParisTech, France
3. Kenan Yilmaz (2009-2012), Bayesian Matrix and Tensor Factorisations, now Palo Alto Networks, Heidelberg, Germany
4. Onur Dikmen (2006-2009), Bayesian Source Modelling for Single-Channel Audio Separation, now Researcher in U. of Helsinki, Finland

(Co-advisor)

1. Doğaç Başaran (2008-2015) (Emin Anarim, EE), Multichannel Source Separation and Audio matching, now postdoc in IRCAM, Paris, France
2. Cemil Demir (2009-2014, with Murat Saraclar, EE), Speech Music Separation
3. Cem Keskin (2009-2012), (with Lale Akarun, CMPE), Activity Recognition with Dynamic models, now at Google, Mountain View
4. Paul Peeling (2006-2008, with Simon Godsill), Polyphonic Music Transcription, now at Mathworks, Cambridge UK.
5. Wojciech Zajdel (2003-2004, UvA, with Ben Krose), Multi Camera, Multi object tracking and recognition, EagleVision, The Netherlands

PhD (In progress)

1. Barış Kurt (2010-), Statistical Analysis of Internet Traffic, Amazon, Berlin
2. Beyza Ermiş (2012-), Privacy Preserving Coupled Tensor Factorisations, Amazon, Berlin
3. Ertuğ Karamatli (2012-), Deep Learning for polyphonic music transcription,
4. Caner Türkmen (2015-), Bayesian inference methods for Hawkes Processes
5. Murat Semerci (2015-) Kernels and Tensor based Methods, Now at Daimler Research, Berlin, Germany
6. Gökhan Çapan (2015-), Learning Representations of Human Behaviour
7. Melih Barsbey (2017-)

MSc Theses supervised

1. Mine Öğretir (2016-2018) Collaborative Filtering and Content Based Hybrid Models for Recommending Scientific Articles, Now PhD student at Boğaziçi University
2. Alper Kamil Bozkurt (2015-2018) Parallel Resampling For Real-Time Sequential Monte Carlo, now PhD student at Duke University, ECE, USA

3. Semih Akbayrak (2016-2018) Tensor Decomposition Models for Knowledge Graphs, Now PhD student in Eindhoven Technical University, the Netherlands
4. Yasin Almalioglu (2015-2017) EndoSensorFusion: Particle Filtering-Based Multi-Sensory Data Fusion with Switching State-Space Model for Endoscopic Capsule Robots using Recurrent Neural Network Kinematics, now PhD student at University of Oxford
5. Abdulkadir Celikkanat (2016-2017) Uniform Sampling and Exact Counting Algorithms for Simple Graphs with Prescribed Degree Sequences, now PhD student in Paris Saclay
6. Cagatay Yildiz (2014-2017) Inference and Parameter Estimation in Bayesian Change Point Models, now PhD student at Aalto University, Finland
7. Taha Yusuf Ceritli (CSE) (2015-2017) Modeling Bounded Data with Sum Conditioned Poisson Factorization, now PhD student at Alan Turing Inst. and University of Edinburgh, UK
8. Kemal Oksuz (2015-2016) Multiobject tracking, PhD student in METU
9. Hakan Guldaz (2011-2015), (with Nick Whiteley) Particle filtering with bounded interactions, Now PhD student in Leiden, the Netherlands
10. Cem Sübakan (2011-2014), (with Bulent Sankur), Sequence Classification with Nonparametric Bayesian and Spectral Methods, Now PhD student in UUIC
11. Türkan Hamzaoglu (2010-2012), Statistical Analysis of Networks, Finansbank
12. Beyza Ermiş (2011-2012), (with Evrim Acar) Matrix and Tensor Factorisations for Link Prediction, now PhD student in Bogazici
13. Safiye Çelik (2011-2012), Nonparametric Bayesian Biclustering, PhD student in University of Washington
14. Umut Şimşekli (2010), Real time pitch tracking with Bayesian changepoint models, Now faculty at ParisTech, France
15. Sinan Yıldırım (2008-2009, with Aysin Ertüzün, EE), Bayesian Deconvolution of seismic signals, Now Faculty at Sabancı
16. Tim van Kasteren (2004-2005), (Amsterdam University) Real time tempo tracking for interactive music performance systems

EDITORIAL

- Area chair, Neural Information Processing Systems Conference NIPS (2017, 2018)
- Associate editor, Digital Signal Processing, Elsevier (2011-2014)
- Associate editor, IEEE Signal Processing Letters (2011-2015)
- Guest Editor, Special Issue in memory of Bill Fitzgerald, 'Bayesian Signal Processing', Elsevier, Digital Signal Processing (2014)
- IEEE MLSP (Machine Learning for Signal Processing) technical committee (2011-2013)

REFEREE

Project proposal panel member

- Research Foundation of Portugal (FCT – Fundacao para a Ciencia e a Tecnologia)
- Turkish Research Foundation (TUBITAK) TEYDEB and 1001 Panels
- Finnish Funding Agency for Technology and Innovation
- Research Foundation – Flanders Belgium (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO)
- Dutch Research Foundation (NWO – Nederlands Wetenschappelijk Onderzoek)
- EPSRC (Engineering and Physical Sciences Research Council) UK

Refereed for

- IEEE Transactions on Signal Processing,
- IEEE Transactions on Neural Networks,
- IEEE Transactions on Audio, Speech and Language Processing,
- IEEE Transactions on Image Processing,
- IEEE Transactions on Aerospace and Electronic Systems,
- IEEE Transactions on Systems, Man and Cybernetics
- IEEE Signal processing Letters,
- Bayesian Statistics,
- Journal of New Music Research
- Cognitive Science,
- Neurocomputing,
- Machine Learning,
- Digital Signal Processing,
- Signal Image and Video Processing,
- Journal of American Statistical Association,
- Biometrika

Conferences

- AAAI (Conference of Association for the Advancement of Artificial Intelligence)
- NIPS (Neural Information Processing Systems),
- ICML (International Conference of Machine Learning)
- ICMC (International Computer Music Conference),
- ISMIR (International Conference on Music Information Retrieval),
- EUSIPCO (European Signal Processing Conference),
- IEEE ICASSP (International Conference on Acoustics, Speech and Signal Processing),
- IEEE MLSP (Machine Learning for Signal Processing),
- AISTATS (International Conference on Artificial Intelligence and Statistics)

WORKSHOP ORGANIZATIONS

- Neural Information Processing Systems (NIPS) Workshops, Whistler, Canada,
 - Advances in Models for Acoustic Processing, Dec 2006, (with David Barber)
 - Music Information Processing Systems, Dec 2004, (with Douglas Eck and Daniel Ellis)
- In IEEE ISPA, Int'l Symposium on Image and Signal Processing and Analysis, Istanbul, Turkey,
 - Special Session on Bayesian Signal Processing, Sept 2007
- Isaac Newton Institute for Mathematical Sciences, Cambridge, UK 18, 19, 20 Haziran 2008, Cambridge, UK
 - Workshop on Inference and Estimation in Probabilistic Time-Series Models (David Barber and Silvia Chiappa)
- In European Signal Processing Conference (EUSIPCO'09), Aug 2009, Glasgow,
 - Special Session on Nonnegative Matrix and Tensor Factorisations: Statistical Methods and Applications (Cedric Fevotte)
- SIAM Conference on Computational Science and Engineering (CSE13) mini symposia on Tensor factorizations and information fusion, Feb 2013, Boston (with Evrim Acar, Rasmus Bro)

- In International conference on Latent Variable Analysis and Signal Separation (LVA/ICA 2018)
 - Structured Tensor Decompositions and Applications (with Umut Simsekli and Laurent Albera)

PhD Thesis Jury

- Sept 2014, Aalto University, Helsinki, Finland, Opponent (He Zhang, Dissertation: “Advances in NMF decomposition with applications to Cluster analysis”)
- Oct 2013, Ecole Polytechnique, Paris, France, Jury Member (Olivier Schwander, Dissertation: Information Geometric methods for mixture models)
- Oct 2013, Bogazici University, Istanbul, Turkey (Nese Alyuz, Dissertation: Three Dimensional Face Recognition Under Occlusion Variance)
- June 2013, Sabanci University, Istanbul, Turkey, Jury Member (Emad Monuir Grais)
- March 2013, Technical University of Denmark (DTU), Jury Member, (Bjørn Sans Jensen, Dissertation: Integration of top-down and bottom-up information for audio organization and retrieval)
- Nov 2012, ParisTech, Paris, France, Jury Member, (Antoine Liutkus, Dissertation: Processus gaussiens pour la séparation de sources et le codage informé – Gaussian Processes for informed Source Separation and Coding)
- May 2012, Catholic University of Leuven, Leuven, Belgium, Jury member, (Joris Driesen, Dissertation: Discovering Words in Speech using Matrix Factorization)
- June 2012, University of Cambridge, UK, External Examiner (Liam Lang, Dissertation: Kinematics in Conformal Geometric Algebra with Applications in Strapdown Inertial Navigation.)
- July 2008, University of Cambridge, Internal Examiner (Ji Won Yoon)
- June 2008, University of Cambridge, Internal Examiner (Haifeng Ge)

Invited Seminars

Tutorials

- VBYO (Data Science Summer School) TETAM Bogazici University 2017 (over 100 participants)
- BYOYO (Summer school on Machine Learning) Bogazici University 2018, <http://byoyo.cmpe.boun.edu.tr/> (over 500 participants)
- March 2018, Is Bank, Istanbul Turkey
- VBYO (Data Science Summer School) TETAM Bogazici University 2017 (over 100 participants)
- VBYO (Data Science Summer School) Nesin Math Village 2016 (over 100 participants)
- VBYO (Data Science Summer School) Nesin Math Village 2015 (over 100 participants)
- January 2017, Ford/Otosan, Istanbul Turkey
- November 2016, Is Bank, Istanbul Turkey
- October 2015, EMO Summer School, Matematik Koyu, Yenice, Izmir, Turkey
- May 2014, Avea, Istanbul, Turkey
- May 2013, Kuveyt Turkish Bank, Istanbul, Turkey
- December 2012, Istanbul Chamber of Commerce, Istanbul, Turkey
- June 2012 The 19th Istanbul Statistical Physics Meeting, Istanbul, Turkey
- August 2010 Turunc Summer School on Complex Systems, Mugla, Turkey

- March 2009, International Federation of Classification Societies (IFCS) 2009 Conference, Dresden, Germany
- June 2008, IEEE International Conference on Multimedia and Expo, Hannover, Germany
- September 2007, ACM Multimedia Conference, Augsburg, Germany
- June 2007, Birkbeck College, University of London
- October 2006, International Conference on Music Information Retrieval, Victoria, Canada
- February 2006, Eylül 2006, Bogazici University, Istanbul
- March 2006. IEE Professional Development Course on Adaptive Signal Processing, Birmingham, UK.
- April 2003 and July 2005, ASCI (Advanced School for Computing and Imaging) Summer school on Advanced Issues in Neurocomputing, Amsterdam, the Netherlands

Invited Research Seminars

- University of Karlsruhe, 2000
- University of Edinburgh, 2002
- University of Cambridge, 2004,
- University of Massachusetts, 2004
- Indiana University Bloomington, 2005
- University of Lille, 2005
- University College London - Gatsby Neuroscience Unit, 2007
- University of London - Queen Mary, 2005
- Radboud University Nijmegen, 2007
- University of Amsterdam, 2002, 2007
- Free University of Amsterdam (VU) - CNCR, 2007
- Sabanci University, Ocak 2007, Mart 2009
- Microsoft Research Cambridge, Aug 2007
- NIPS 2007 Workshop on Music, Brain and Cognition, December 2007
- Istituto di Scienza e Tecnologie dell'Informazione "A. Faedo", Pisa, May 2008
- 154'th meeting of Acoustical Society, Paris, July 2008
- Istanbul Technical University, Subat 2009
- Telecom ParisTech, Paris, June 2011
- University of Cambridge, June 2011
- Google Research, New York, October 2011
- NIPS 2011 Workshop on Machine Learning and Music, December 2011
- Xerox Research Center Europe, XRCE, Grenoble, April 2012
- Koç University, April 2012
- Katholieke Universiteit Leuven - ESAT, May 2012
- University of Cambridge, October 2012
- Microsoft Research Cambridge, October 2012
- Télécom ParisTech, Paris, November 2012
- Bilkent University, Industrial Eng., December 2012
- Mitsubishi Electric Research Labs (MERL), Boston, February, 2013
- Lyric labs, Analog Devices Inc, Boston, February 2013

Ali Taylan Cemgil

- ECML/PKDD Workshop: Tensor Methods for Machine Learning, Prague, September 2013,
- Aalto University, Finland, Sept 2014
- Tutorial on Tensors, LVA/ICA, Liberec, Czech Republic, Aug. 2015
- Télécom ParisTech, Paris, June 2017

Administrative Duties

- Erasmus and Exchange Students coordinator (2008-2014)
- Student advisor (2010-2014)
- Department of Computer Eng. vice head (2015-)

Language skills

- Turkish (Native)
- English (Excellent)
- German (Good)
- Dutch (Good)
- Music (Professional Electric Bass Player 1988-1998, Conservatory of Amsterdam 2001-2004, SemiProfessional since 2008)

Marital Status and Citizenship

- Date of Birth: 28 Jan 1970
- Partner: Asli Cemgil, with 2 kids (Defne (2005), Ali Sinan (2010))
- Dual: Turkey (by birth) and The Netherlands (since 2004)