

**EDUCATION** *PhD*, Signal Processing, Carlos III University of Madrid, Spain. Ongoing  
*Thesis Theme*: Filtering methods for high dimensional inference and optimization  
*Supervisor*: Joaquin Miguez.

*MSc*, Telecommunications Engineering, Istanbul Technical University, Turkey. 2012  
*Thesis Title*: A structured sparse decomposition method for audio signals

*BSc*, Telecommunications Engineering, Istanbul Technical University, Turkey. 2010  
*Thesis Title*: Anisotropic diffusion in image processing

## PAPERS

1. *Adaptive noisy importance sampling for stochastic optimization*, Ö. D. Akyıldız, I. P. Marino, J. Miguez, IEEE CAMSAP 2017.
2. *Nudging the Particle Filter*, Ö. D. Akyıldız, J. Miguez, [arXiv:1708.07801](https://arxiv.org/abs/1708.07801).
3. *On the Relationship between Online Optimizers and Recursive Filters*, Ö. D. Akyıldız, V. Elvira, J. Fernandez-Bes, J. Miguez, NIPS Workshop on Optimizing the Optimizers, Barcelona, Spain, 2016.
4. *Matrix Factorisation with Linear Filters*, Ö. D. Akyıldız, Preprint, [arXiv:1509.02088](https://arxiv.org/abs/1509.02088), 2015.
5. *Online Matrix Factorization via Broyden Updates*, Ö. D. Akyıldız, Preprint, [arXiv:1506.04389](https://arxiv.org/abs/1506.04389), 2015.
6. *Primal-Dual Algorithms for Audio Decomposition Using Mixed Norms*, İ. Bayram, Ö. D. Akyıldız, Journal of Signal, Image and Video Processing, 2014.
7. *An Analysis Prior Based Decomposition Method for Audio Signals*, Ö. D. Akyıldız and İ. Bayram, EUSIPCO 2012.

## WORK

### EXPERIENCE

*Research Associate*, Carlos III University of Madrid, Spain. 2015 –  
with Signal Processing Group (GTS).  
on *stochastic filters; stochastic optimisation; Monte Carlo methods*.

*Visiting Research Scientist*, Fraunhofer HHI, Berlin, Germany. August 2017  
on *proximal forward-backward splitting methods; sparse dictionary learning*.

*Research Assistant*, Boğaziçi University, Istanbul, Turkey. 2012 – 2015  
under the supervision of A. Taylan Cemgil with Statistical Inference Group.  
on *Bayesian statistics; machine learning; probabilistic inference*.

*Quantitative Researcher*, algosis inc. 2014 – 2015  
on *financial time series analysis; portfolio optimization; algorithmic trading*.

*Research Assistant*, Istanbul Technical University, Turkey. 2010 – 2012  
on *convex optimisation; machine learning; signal processing*.

## VISITS & CONFERENCES

SMC 2017 Workshop, Uppsala, Sweden 29 August – 1 September 2017

NIPS Conference, Barcelona, Spain. 5-10 December 2016

	European Workshop on Reinforcement Learning, Barcelona.	3-4 December 2016
	IEEE Workshop on Statistical Signal Processing, Palma, Spain.	26-29 June 2016
	School of Mathematical Sciences, Queen Mary University of London, UK.	<ul style="list-style-type: none"> <li>• 14-24 Dec. 2015 — 1-5 Feb. 2016 — 16-20 May 2016</li> </ul>
	Sequential Monte Carlo Workshop, Imperial College London, UK.	21-23 Dec. 2015
<b>TEACHING EXPERIENCE</b>	<i>Teaching Assistant</i> (Voluntarily), Boğaziçi University, Istanbul, Turkey. Monte Carlo methods (graduate course) × 3 Instructor: A. Taylan Cemgil, Dept. of Computer Engineering.	2013 – 2015
	Bayesian statistics and machine learning (graduate course) × 2 Instructor: A. Taylan Cemgil, Dept. of Computer Engineering.	2013 – 2014
<b>SKILLS</b>	MATLAB, C, Python, LaTeX.	
<b>GRADUATE SCHOOLS</b>	<i>Dobbiaco Summer School on Probabilistic Numerics</i> Dobbiaco, Italy.	19-23 June 2017
	<i>Spring School and Workshop on Volatility Dynamics</i> Bernoulli Center, EPFL, Lausanne, Switzerland.	10-13 March 2017
	<i>Summer School on Uncertainty Quantification for Applied Problems</i> Basque Center for Applied Mathematics, Bilbao, Spain.	4-8 July 2016
	<i>Machine Learning Summer School</i> Max Planck Institute of Intelligent Systems, Tübingen, Germany. (accepted with extremely competitive full financial support.)	13-24 July 2015
	<i>Foundations and Advances in Stochastic Filtering</i> Barcelona, Spain.	22-26 June 2015
<b>HONORS</b>	<ul style="list-style-type: none"> <li>• Protel A.Ş. Graduate Fellowship</li> <li>• Istanbul Metropolitan Municipality Undergraduate Fellowship</li> <li>• Premiership Undergraduate Fellowship</li> </ul>	<p>2010 – 2012</p> <p>2005 – 2008</p> <p>2005 – 2010</p>
<b>TALKS</b>	<ul style="list-style-type: none"> <li>• Adaptive noisy importance sampling, at UC3M</li> <li>• A filtering approach to stochastic optimisation, at UC3M</li> <li>• Filtering in high-dimensional spaces, at UC3M</li> <li>• Matrix Factorisation with Linear Filters, at UC3M</li> <li>• Particle methods for parameter estimation, at Bogazici</li> <li>• An online EM algorithm and applications, at Bogazici</li> <li>• Stochastic approximations, at Bogazici</li> <li>• Learning Linear Dynamical Systems, at Bogazici</li> </ul>	<p>November 28, 2017</p> <p>June 6, 2017</p> <p>November 14, 2016</p> <p>October 22, 2015</p> <p>March 31, 2015</p> <p>November 26, 2013</p> <p>March 26, 2013</p> <p>January 21, 2013</p>