

EĞİTİM

- **Postdoc** George Mason University, ABD
Krasnow Institute for Advanced Studies, 2016
- **Doktora** Sakarya Üniversitesi, TR
Elektrik - Elektronik Mühendisliği, 2011
- **Yüksek Lisans** Zonguldak Karaelmas Üniversitesi, TR
Elektrik - Elektronik Mühendisliği, 2006
- **Lisans** Kocaeli Üniversitesi, TR
Elektronik ve Haberleşme Mühendisliği, 2003

AKADEMİK VE İDARİ GÖREVLER

- **Editorler Kurulu Üyesi:** Fluctuation and Noise Letters, 2018-Halen.
- **Baş Editör Yardımcısı** (Assistant Editor-in-Chief): Turkish Journal of Electrical Engineering & Computer Sciences, 2016-Halen.
- **Editorler Kurulu Üyesi:** Neurocomputing, 2016-Halen.
- **Editorler Kurulu Üyesi:** Turkish Journal of Electrical Engineering & Computer Sciences, 2014-2016.
- **Bölüm Başkanı:** Bülent Ecevit Üniversitesi, Mühendislik Fakültesi, Biyomedikal Mühendisliği Bölümü, 2017-Halen.
- **Bölüm Başkan Yardımcısı:** Bülent Ecevit Üniversitesi, Mühendislik Fakültesi, Biyomedikal Mühendisliği Bölümü, 2011-2015.
- **Merkez Müdürü:** BEÜ- Biyomedikal Kalibrasyon Uygulama ve Araştırma Merkezi, 2013-2015.
- **Doktora Sonrası Araştırmacı:** Krasnow Institute for Advanced Studies, George Mason University, ABD, 2015-2016.
- **Ziyaretçi Araştırmacı:** Krasnow Institute for Advanced Studies, George Mason University, ABD, Ocak 2012-Nisan 2012.
- **Doçent:** Bülent Ecevit Üniversitesi, Mühendislik Fakültesi, Biyomedikal Mühendisliği Bölümü, 2014.
- **Yardımcı Doçent:** Bülent Ecevit Üniversitesi, Mühendislik Fakültesi, Biyomedikal Mühendisliği Bölümü, 2011-2014.
- **Araştırma Görevlisi:** Bülent Ecevit Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2004-2011.

DANIŞMANLIĞINDA YÜRÜTÜLEN DOKTORA TEZLERİ

2. Ş. Nihal AĞAOĞLU, "Biyolojik Nöron Popülasyonlarında Vibrasyonel Rezonans", BEÜ Fen Bilimleri Enstitüsü, Devam Ediyor (Ortak Danışman: M. Özer).

1. Ali Çalim, “Nöron Popülasyonlarında Chimera Durumu”, BEÜ Fen Bilimleri Enstitüsü, Devam Ediyor (Ortak Danışman: M. Özer).

DANIŞMANLIĞINDA YÜRÜTÜLEN YÜKSEK LİSANS TEZLERİ

2. Uğur İleri, “Kısa-Süreli Sinaptik Plastisitenin Nöron Dinamiklerine Etkisi”, BEÜ Fen Bilimleri Enstitüsü, Ocak 2015 (Ortak Danışman: M. Özer).
1. Ali Çalim, “Heterojen Nöral Ağda Eşik Altı Bilgi Kodlama”, BEÜ Fen Bilimleri Enstitüsü, Mayıs 2014 (Ortak Danışman: M. Özer).

YAYINLAR

A. ULUSLARARASI HAKEMLİ DERGİLERDE YAYIMLANAN MAKALELER (SCI)

20. A. Çalim, P. Hövel, M. Özer, M. Uzuntarla. Chimera States in Networks of Type-I Morris-Lecar Neurons. *Under Review*, 2018.
19. M. Uzuntarla, JJ Torres, A. Çalim, E. Barreto. Spike Termination in Networks of Bistable Neurons. *Under Review*, 2018.
18. S.N. Agaoglu, A. Çalim, P. Hövel, M. Özer, M. Uzuntarla. Vibrational Resonance in a Scale-Free Network with Different Coupling Schemes. *Neurocomputing*, Basım Aşamasında, 2018.
17. M. Uzuntarla, E. Barreto, J. J. Torres. Inverse stochastic resonance in networks of spiking neurons. *PLoS Computational Biology*, 13(7): e1005646, 2017.
16. M. Uzuntarla, J. J. Torres, P. So, M. Özer, E. Barreto. Double inverse stochastic resonance with dynamic synapses, *Physical Review E*, 95 (1), 012404, 2017.
15. M. Uzuntarla, M. Özer, U. İleri, A. Çalim, J. J. Torres. Effects of dynamic synapses on noise-delayed response latency of a single neuron, *Physical Review E*, 92 (6), 062710, 2015.
14. M. Uzuntarla, E. Yılmaz, A. Wagemakers, M. Özer. Vibrational resonance in a heterogeneous Scale Free network of neurons. *Communications in Nonlinear Science and Numerical Simulations*, 22(1-3): 367-374, 2015.
13. M. Uzuntarla, J. R. Cressmann, M. Özer, E. Barreto. Dynamical structure underlying inverse stochastic resonance and its implications, *Physical Review E*, 88, 042712, 2013.
12. M. Uzuntarla. Inverse stochastic resonance induced by synaptic background activity with unreliable synapses. *Physics Letters A*, 373(38): 2585-2589, 2013.
11. M. Uzuntarla, R. Uzun, E. Yılmaz, M. Özer, M. Perc. Noise-delayed decay in the response of a scale-free neuronal network. *Chaos, Solitons and Fractals*, 56: 202-208, 2013.
10. E. Yılmaz, M. Uzuntarla, M. Özer, M. Perc. Stochastic resonance in hybrid scale-free neuronal networks. *Physica A: Statistical Mechanics and its Applications*, 392(22): 5735-5741, 2013.
9. M. Uzuntarla, M. Özer, D. Guo. Controlling the first-spike latency response of a single neuron via unreliable synaptic transmission. *European Physical Journal B*, 85(8): 282-289, 2012.
8. M. Özer, M. Perc, M. Uzuntarla, E. Köklükaya. Weak signal propagation through noisy feedforward neuronal networks. *NeuroReport*, 21(5): 338-343, 2010.
7. M. Özer, M. Uzuntarla, M. Perc, L. J. Graham. Spike latency and jitter of neuronal membrane patches with stochastic Hodgkin-Huxley channels. *Journal of Theoretical Biology*, 261(1): 83-92, 2009.

6. M. Özer, M. Perc, M. Uzuntarla. Controlling the spontaneous spiking regularity via channel blocking on Newman-Watts networks of Hodgkin-Huxley neurons. *EuroPhysics Letters (EPL)*, 86(4): 40008, 2009.
5. M. Özer, M. Perc, M. Uzuntarla. Stochastic resonance on Newman-Watts networks of Hodgkin-Huxley neurons with local periodic driving, *Physics Letters A*, 373 (10): 964-968, 2009.
4. M. Özer, M. Uzuntarla, T. Kayıkçıoğlu, L. J. Graham. Collective temporal coherence for subthreshold signal encoding on a stochastic small-world Hodgkin-Huxley neuronal network. *Physics Letters A*, 372 (43): 6498-6503, 2008.
3. M. Özer, M. Uzuntarla. Effects of the network structure and coupling strength on the noise-induced response delay of a neuronal network. *Physics Letters A*, 372 (25): 4603-4609, 2008.
2. M. Özer, L. J. Graham, O. ErKaymaz, M. Uzuntarla. Impact of synaptic noise and conductance state on spontaneous cortical firing. *NeuroReport*, 18:1371-1374, 2007.
1. M. Özer, M. Uzuntarla, Ş. N. Ağaoglu. Effect of the subthreshold periodic current forcing on the regularity and the synchronization of neuronal spiking activity. *Physics Letters A*, 360 (1): 135-140, 2006.

B. KİTAP BÖLÜMLERİ

1. M. Özer, M. Uzuntarla. Synchronization between neuronal spiking activity and subthreshold sinusoidal stimuli based on the FitzHugh-Nagumo model. *Mathematical Methods in Engineering*, Eds. K. Tas, J.A. Tenreiro Machado and D. Baleanu, Springer ISBN: 978-1-4020-5677-2, 415-421, 2007.

C. ULUSAL HAKEMLİ DERGİLERDE YAYIMLANAN MAKALELER

5. U. İleri, A. Çalım, M. Özer, M. Uzuntarla. Latency coding in neurons with short-term synaptic depression and facilitation. *Journal of the Istanbul Faculty of Medicine*, 77(1): 72, 2014.
4. A. Çalım, M. Uzuntarla, M. Özer. Effects of heterogeneity and synaptic dynamics on weak signal processing in neuron populations. *Journal of the Istanbul Faculty of Medicine*, 77(1): 71, 2014.
3. M. Uzuntarla, M. Özer. Effects of neuronal noise on information coding for different stimulation regions. *Teknoloji*, 10 (1): 1-11, 2007.
2. O. ErKaymaz, M. Uzuntarla, M. Özer. Effect of the correlation in synaptic background activity on the latency of neocortical neurons. *Neuroanatomy*, 6(1): 6, 2007.
1. M. Uzuntarla, M. Özer. Synchronization between neuronal spiking activity and subthreshold periodic stimulus for two different noise models. *Neuroanatomy*, 5(1): 17, 2006.

D. ULUSLARARASI BİLİMSEL TOPLANTILARDA SUNULAN VE BİLDİRİ KİTABINDA (PROCEEDINGS) BASILAN BİLDİRİLER

9. A. Çalım, P. Hövel, M. Özer, M. Uzuntarla. Chimera State in Neuron Populations with Dynamical Synapses. *DPG Spring Meeting - Berlin18, Berlin, Germany*, March 11-16, 2018.
8. A. Çalım, U. İleri, M. Uzuntarla, M. Özer. Vibrational resonance in feed-forward neural network motifs. *24th Annual Computational Neuroscience Meeting: CNS*2015, Prague, Czech Republic*, July 18-23, 2015.
7. M. Uzuntarla, J. R. Cressman, M. Özer, E. Barreto. Inverse stochastic resonance induced by ion channel noise. *21th Annual Computational Neuroscience Meeting: CNS*2012, Decatur, GA, USA, BMC Neuroscience 13 (Suppl 1) P181*, July 21-26, 2012.
6. M. Uzuntarla, M. Özer, E. Köklükaya. Optimization of weak signal propagation in a feedforward network. *20th Annual Computational Neuroscience Meeting: CNS *2011, Stockholm, Sweden, BMC Neuroscience 2011, 12(Suppl 1): P176*, July 23-28, 2011.

5. M. Uzuntarla, M. Özer, E. Köklükaya. Propagation of firing rate in a feedforward network of Hodgkin-Huxley neurons. *20th Biennial International Eurasip Conference-BIOSIGNAL 2010, Brno, Czech Republic, Analysis of Biomedical Signals and Images, 20: 122-128, ISBN 978-80-214-4106-4* June 27-29, 2010.
4. M. Özer, M. Uzuntarla, L. J. Garaham. Effect of ratio of inhibitory and excitatory conductance on regularity of spontaneous cortical activity. *19th Biennial International Eurasip Conference-BIOSIGNAL 2008, Brno, Czech Republic, Analysis of Biomedical Signals and Images, 64-68, ISBN 978-80-214-3613-8, June 29- July 1, 2008.*
3. M. Özer, M. Uzuntarla, Ş. N. Ağaoğlu. Effect of the sub-threshold periodic current forcing with noise on the synchronization of neuronal spiking activity. *15th Annual Computational Neuroscience Meeting: CNS*2006, Edinburgh, UK, Abstract Book, 80, July 16-20, 2006.*
2. M. Özer, M. Uzuntarla. Synchronization between neuronal spiking activity and subthreshold sinusoidal stimuli based on the FitzHugh-Nagumo model. *Mathematical Methods in Engineering-MME06, Ankara, Turkey, Abstract Book, 42, April 27-29, 2006.*
1. M. Özer, M. Uzuntarla. Investigation of synchronization between neuronal spiking activity and subthreshold sinusoidal forcing. *18th Biennial International Eurasip Conference- BIOSIGNAL 2006, Brno, Czech Republic, Analysis of Biomedical Signals and Images, 84-86, ISBN 80-214-3152-0, June 28-30, 2006.*

E. ULUSAL BİLİMSEL TOPLANTILARDA SUNULAN BİLDİRİLER

21. A. Çalım, M. Özer, M. Uzuntarla. Simulation of parkinsonian basal nuclei with network motifs. *IEEE 25th Signal Processing and Communications Applications, SIU 2017, Antalya, Turkey 2017.*
20. A. Çalım, Ş. N. Ağaoğlu, M. Uzuntarla. Synchronization induced termination in neuronal networks. *IEEE 25th Signal Processing and Communications Applications, SIU 2017, Antalya, Turkey 2017.*
19. Ş. N. Ağaoğlu, M. Özer, A. Çalım, M. Uzuntarla. Effects of synaptic time delay on vibrational resonance in neuronal networks. *IEEE 25th Signal Processing and Communications Applications, SIU 2017, Antalya, Turkey 2017.*
18. Ş. N. Ağaoğlu, M. Özer, A. Çalım, M. Uzuntarla. Effects of subthreshold excitation characteristics on vibrational resonance in weighted Scale-Free network. *IEEE 25th Signal Processing and Communications Applications, SIU 2017, Antalya, Turkey 2017.*
17. Ş. N. Ağaoğlu, A. Çalım, M. Özer, M. Uzuntarla. Effects of synaptic heterogeneity on vibrational resonance in biological neural networks. *TIPTEKNO 2016, Antalya, Turkey 2016.*
16. A. Çalım, U. İleri, M. Uzuntarla, M. Özer. Effects of synaptic reliability on the regularity of neuronal firing. *IEEE 23th Signal Processing and Communications Applications, SIU 2015, Malatya, Turkey 2015.*
15. U. İleri, A. Çalım, M. Uzuntarla, M. Özer. The role of short-term synaptic depression and adaptive threshold on cortical irregular spike activity. *IEEE 23th Signal Processing and Communications Applications, SIU 2015, Malatya, Turkey 2015.*
14. U. İleri, A. Çalım, M. Özer, M. Uzuntarla. Latency coding in neurons with short-term synaptic depression and facilitation. *12th National Neuroscience Conference, USK 2014, Istanbul, Turkey 2014.*
13. A. Çalım, M. Uzuntarla, M. Özer. Effects of heterogeneity and synaptic dynamics on weak signal processing in neuron populations. *12th National Neuroscience Conference, USK 2014, Istanbul, Turkey 2014.*
12. A. Çalım, M. Uzuntarla, M. Özer. Effects of heterogeneity on information processing in biological neural networks, *IEEE 22th Signal Processing and Communications Applications, SIU 2014, Trabzon, Turkey 2014.*
11. M. Uzuntarla, M. Özer, E. Köklükaya. Propagation of firing rate in feedforward biological neural networks

with ion channel noise. *IEEE 18th Signal Processing and Communications Applications, SIU 2010, Diyarbakir, Turkey* 2010.

10. M. Uzuntarla, M.Özer. Effects of network topology and ion channel noise on the spatial synchronization in a biological neural network. *ELECO 2008*, 225-228, Bursa, Turkey, 2008.
9. M. A. Özsoy, M. Özer, M. Uzuntarla. Effects of noise and synaptic coupling on neuronal network synchronization. *BIYOMUT 2007*, 139-143, Istanbul, Turkey, 2007.
8. M. Uzuntarla, M. Özer. Effect of subthreshold fluctuations of membrane potential on the firing threshold of neuron. *BIYOMUT 2007*, 134-138, Istanbul, Turkey, 2007.
7. M. Özer, O. ErKaymaz, M. Uzuntarla. Effect of the statistical parameters of synaptic background activity on the firing regularity and the effective refractory period of cortical neuron. *BIYOMUT 2007*, 144-148, Istanbul, Turkey, 2007.
6. M. A. Özsoy, M. Uzuntarla, M. Özer. Change in response time of neuronal populations with noise, synaptical interactions and stimulus frequency. *IEEE 15th Signal Processing and Communications Applications, SIU 2007*, Eskisehir, Turkey, 2007.
5. M. Özer, O. ErKaymaz, M. Uzuntarla. Effect of the correlation in synaptic background inputs on the regularity of neocortical neuron firing activity. *IEEE 15th Signal Processing and Communications Applications, SIU 2007*, Eskisehir, Turkey, 2007.
4. O. ErKaymaz, M. Uzuntarla, M. Özer. Effect of the correlation in synaptic background activity on the latency of neocortical neurons. *VI. 6th National Neuroscience Congress*, Karabuk, Turkey, 2007.
3. M. Uzuntarla, M. Özer. Anticipated synchronization in neuronal communication. *ELECO 2006*, 201-204, Bursa, Turkey, 2006.
2. M. Uzuntarla, M. Özer. Effect of intrinsic noise characteristics on the neuronal dynamics. *ELECO 2006*, 205-208, Bursa, Turkey, 2006.
1. M. Uzuntarla, M. Özer. Synchronization between neuronal spiking activity and subthreshold periodic stimulus for two different noise models. *5th National Neuroscience Congress*, Zonguldak, Turkey, 2006.

F. VERDİĞİ DERSLER

- **Bülent Ecevit Üniversitesi, Biyomedikal Mühendisliği Bölümü** Biyomedikal Enstrumantasyon, Elektronik Devreler, Mikroişlemciler, Biyoelektrik
- **Bülent Ecevit Üniversitesi, Elektrik-Elektronik Mühendisliği Bölümü** Matematiksel Fizyoloji, Biyolojik Sistemlerde Modelleme
- **Berlin Teknik Üniversitesi, ALMANYA** Hesaplamalı Sinirbilim
- **Granada Üniversitesi, İSPANYA** Hesaplamalı Sinirbilim
- **Ghent Üniversitesi, BELÇİKA** Hesaplamalı Sinirbilim