

Elif KÖKSAL ERSÖZ

MathNeuro Team

INRIA Sophia Antipolis - Méditerranée

2004, route des Lucioles - BP 93

06902 Sophia Antipolis Cedex, France

(+33)4 89 73 24 03

elif.koksal@inria.fr

elifkoksal@protonmail.com

<http://www-sop.inria.fr/members/Elif.Koksal/>

CURRENT POSITION

Postdoctoral Researcher

01.01.2017 -31.12.2018

MathNeuro Team, INRIA Sophia Antipolis - Méditerranée

Line manager: Mathieu Desroches

Slow-fast Dynamics and Heteroclinics in Neuroscience

Grant: European Research Council

EDUCATION

Ph.D. in Applied Mathematics

2013-2016

ED386 Mathématiques Paris Centre, Université de Pierre & Marie Curie and Centre de Recherche Inria de Paris

Supervisors: Frédérique Clément (Inria de Paris) and Jean-Pierre Francoise (UPMC)

A Mathematical Study on Coupled Multiple Timescale Systems, Synchronization of Population of Endocrine Neurons

Grant: CORDI-S INRIA

M.S. Electrical- Electronic Engineering

2010-2012

Bogaziçi University, Istanbul, TURKEY

Supervisor: Prof. Yagmur Denizhan

Synchronization in Complex Networks and Control

Grant: TUBITAK National Graduate Studies Fellowship

B.S. Control Engineering

2005-2010

Istanbul Technical University, Istanbul, TURKEY

Supervisor: Prof. Leyla Gören Sümer

Control of Heteroclinic cycles

PUBLICATIONS

1. E. Köksal Ersöz, A. Vidal and F. Clément. Coupled multiple timescale dynamics in populations of endocrine neurons: Pulsatile and surge patterns of GnRH secretion, SIAM J. Appl. Dyn. Syst. *accepted*, 2017.
2. E. Köksal Ersöz, M. Desroches and M. Krupa. Synchronization of Weakly Coupled Canard Oscillators. Physica D 349, pp. 46-61, 2017.
3. E. Köksal Ersöz, M. Desroches, M. Krupa and F. Clément. Canard-Mediated (De)Synchronization in Coupled Phantom Bursters. SIAM J. Appl. Dyn. Syst. 15(1), pp. 580 - 608, 2016.

SCHOLARSHIPS

1. CORDI-S INRIA Doctoral Scholarship 2013-2016
2. TUBITAK Graduate Scholarship 2010-2012

CONFERENCE PRESENTATIONS/ACTIVITIES

Presentations:

1. E. Köksal Ersöz, M. Desroches, M. Krupa. Synchronization of Weakly Coupled Canard Oscillators, SIAM Applications of Dynamical Systems 2017, Snowbird, USA
2. E. Köksal Ersöz, M. Desroches, M. Krupa, F. Clément. Canard-Mediated Dynamics in Coupled Phantom Bursters, ECTMB 2016, Nottingham, UK
3. E. Köksal Ersöz, M. Desroches, M. Krupa. Phase Equations and Applications to Canard Cycles, ICMNS 2016, Antibes Juan les Pins, FRANCE
4. E. Köksal Ersöz, A. Vidal and F. Clément. Complex oscillatory rhythms in neurohormone secretion: the instance of the GnRH neurosecretory system, MCDB 2015, Paris, FRANCE
5. E. Köksal Ersöz, M. Desroches, M. Krupa, F. Clément. Canard-Mediated Dynamics in a Phantom Burster, SIAM Applications of Dynamical Systems 2015, Snowbird, USA
6. E. Köksal Ersöz, M. Desroches and F. Clément. Canard-Mediated Mixed-Mode Oscillations in a 4D Model of GnRH Pulse and Surge Generator, AIMS 2014, Madrid, SPAIN
7. E. Köksal and Y. Denizhan. Control of Globally Coupled Chaotic Oscillators Via Delayed Mean Field, MASFOR 2012, Istanbul, TURKEY
8. Control of Systems with Heteroclinic Cycles, ICAST 2010, Izmir, TURKEY
9. E. Köksal and L. Gören Sümer. Control of Systems with Heteroclinic Cycles, ITWCS 2010, Turunc, TURKEY

Activities:

1. MathNeuro Team Seminars, NRIA Sohia Antipolis - Méditerranée, FRANCE.
2. Mini-Symposium: Slow-Fast Dynamics in Neuroscience, ECMTB 2016, Nottingham, UK

SUMMER SCHOOLS

Turunc Summer School on Complex Systems 2010 Complex Systems: Structures and Dynamics, 23.08.2010- 27.08.2010, Turunc, TURKEY

RESEARCH EXPERIENCE

Pre-Doc Fellowship

June 2013 - August 2013

SISSA, Trieste, ITALY

Dynamical Features of Sensory Adaptation in Photoreceptor and Olfactory Sensory Neurons

Supervisor: Claudio Altafini

Master Internship

July 2012 - January 2013

INRIA Rhone-Alpes Equipe d'IBIS, Grenoble, FRANCE

Approximate Kinetic Formats in Metabolic Network Modeling

Supervisors: Eugenio Cinquemani and Hidde de Jong

NON-RESEARCH EXPERIENCE

Summer Internship

July 2009 - August 2009

Teknotel Electronic, Istanbul, TURKEY

Projects on 32 bits STM32F103 Microcontroller

Summer Internship

July 2008 - August 2008

Oyak-Renaoult, Bursa, TURKEY

Projects on Siemens S7-300 PLC

SKILLS

<i>Languages</i>	English (Good User), French (Competent user), Italian (Modest user)
<i>Programming</i>	MATLAB (Upper Intermediate), PYTHON (Intermediate)
<i>Softwares</i>	MATLAB, XPPAUT, AUTO
<i>OS</i>	Windows, Ubuntu

RESPONSIBILITIES

TOK 2008: Organization Committee

ITURO 2008: Sponsorship Coordinator

ITURO 2007: Sponsorship Coordinator

Projekent 2007: "Mini Projekent" Coordinator

PROFESSIONAL MEMBERSHIPS

SIAM Student Membership (2016)

IEEE Circuits and Systems Society (2009)

IEEE Control Systems Society (2009)

PERSONAL INTERESTS

Control Theory, Dynamical Systems, Social Systems

Cinema, Plastic Arts

Sociology

Running, Cycling, Trekking

REFERENCES

Frédérique Clément : frederique.clement@inria.fr

Mathieu Desroches : mathieu.desroches@inria.fr