

Süleyman CENGİZCİ

Lecturer of Computer Programming
PhD Cand. of Scientific Computing
Antalya Bilim University
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EDUCATION

- **Ph.D in Scientific Computing** (2014 - 2020) Middle East Technical University, Institute of Applied Mathematics, Department of Scientific Computing, Ankara / Turkey

Specializations: Scientific Computing, Numerical Solutions of Ordinary and Partial Differential Equations, Finite Element Methods, Hypersonic Fluid Mechanics

Thesis: *Stabilized Finite Element Simulations of Multispecies Navier-Stokes Equations for Chemically Reactive Hypersonic Flows*

Thesis Supervisor: Prof. Ömür Uğur (Middle East Technical University, Director to Institute of Applied Mathematics)

Thesis Co-advisor: Prof. Tayfun Tezduyar (Rice University, Mechanical Engineering; Waseda University, Faculty of Science and Engineering)

- **M.S in Applied Mathematics** (August, 2014) Nevşehir Hacı Bektaş Veli University (Middle East Technical University – Engineering Sciences, Ankara / Turkey), Graduate School of Natural and Applied Sciences, Nevşehir / Turkey

Specializations: Applied Mathematics (Asymptotic Methods, Singular Perturbation Problems)

: Spectral Methods (Middle East Technical University – Engineering Sciences)

Thesis: Asymptotic Analysis of Singular Perturbation Problems

Thesis Supervisor: Asst. Prof. Mehmet Tarık ATAY

- **Certificate in Mathematical Education** (June 2014) Pedagogical Formation, Akdeniz University, Faculty of Education
- **Bachelor Degree in Mathematics** (June, 2012) Niğde Ömer Halisdemir University (Niğde / Turkey), Department of Mathematics
Thesis: *Dual Spaces*

- **High School** (June, 2007) *Metin-Nuran Çakallıklı Anadolu Lisesi* (Antalya / Turkey), Natural Sciences

ACADEMIC FACILITIES

- **Lecturer**, *December 2017 - onwards*
Computer Programming, *Antalya Bilim University*, Antalya / Turkey
- **Research Assistant**, *September 2014 – December 2017*
College of Business, *Department of Economics*, *Antalya Bilim University*, Antalya / Turkey

OTHER FACILITIES

- **Teacher**, *September 2019 – onwards*
Antalya Yusuf Ziya Öner Science High School, Antalya / Turkey
Courses: International Baccalaureate, Mathematics
- **Trainee Teacher**, *January 2014- June 2014*
Hüsniye Özdilek Vocational and Technical High School, Antalya / Turkey
Courses: High School Mathematics
- **Trainee Teacher**, *June 2013- May 2014*
Antalya Vahap Yılmaz Private Educational Institution, Antalya / Turkey
Courses: High School Mathematics & Geometry

EDUCATIONAL FACILITIES

Antalya Bilim University (as TA, 2014-2017):

- *Calculus for Social Sciences I* (x3)
- *Calculus for Social Sciences II* (x3)
- *Linear Algebra* (x1)
- *Mathematical Economics* (x1)

Antalya Bilim University (as Lecturer, 2017-)

- *Introduction to Linear Algebra* (x3)
- *Information Technologies* (x2)
- *Calculus for Social Sciences I - II* (x3)
- *Mathematics I* (x3)
- *Statistics for Social Sciences* (x1)
- *Computer Hardware* (x1)
- *Matematik (in Turkish)* (x2)

RESEARCH INTERESTS

- Singular Perturbation Problems
- Numerical Solutions of ODE's and PDE's
- Finite Element Methods (FEM)
- Scientific Computing
- Scientific Programming
- Hypersonic Fluid Dynamics
- Cancer Modelling (After PhD)

PUBLICATIONS

- **Academic Papers**

1. (2015) **Cengizci S.**, Eryilmaz A., “Successive Complementary Expansion Method for solving Troesch's Problem as a Singular Perturbation Problem”, International Journal of Engineering Mathematics (published) doi:10.1155/2015/949463
2. (2016) **Cengizci S.**, Atay M. T., Eryilmaz A., “A uniformly valid approximation algorithm for singularly perturbed two-point boundary value problems in nonlinear ordinary differential equations” SpringerPlus (published) doi: 10.1186/s40064-016-1865-6 (SCI-E)
3. (2016) Atay M. T., **Cengizci S.**, Eryilmaz A., “SCEM Approach for Singularly Perturbed Linear Turning Mid-Point Problems with an Interior Layer”, New Trends in Mathematical Sciences (published) doi: 10.20852/ntmsci.2016115661
4. (2017) **Cengizci S.**, “An Asymptotic-Numerical Hybrid Method for Solving Singularly Perturbed Linear Delay Differential Equations,” International Journal of Differential Equations, vol. 2017, Article ID 7269450, 8 pages, 2017. doi:10.1155/2017/7269450 (published) (ESCI)
5. (2018) **S. Cengizci**, S. Natesan, M. T. Atay, “An asymptotic-numerical hybrid method for singularly perturbed system of two-point reaction-diffusion boundary-value problems”, Turkish Journal of Mathematics, 2018. doi: 10.3906/mat-1807-195 (published) (SCI-E)
6. (2019) **Cengizci S.**, “A comparison between MMAE and SCEM for solving singularly perturbed linear boundary layer problems”, Filomat (accepted) (SCI-E)

- **Publications in progress / in review**

1. (2019) **Cengizci S.**, Kumar D., “An asymptotic approach for singularly perturbed turning point problems with dual layers”, (SCI-E)
2. (2019) **Cengizci S.**, “A hybrid method for solving singularly perturbed differential equations with fractional order” Communications in Nonlinear Science and Numerical Simulation (in progress) (SCI)
3. (2019) **Cengizci S.**, “On an efficient method for solving singularly perturbed nonlinear difference-differential equations”, (in progress) (SCI)
4. (2019) **Cengizci S.**, “Uniformly valid hybrid method scheme for solving singularly perturbed parabolic partial differential equations”, (in progress)
5. (2019) **Cengizci S.**, “A hybrid method for solving a system of singularly perturbed two-point convection-diffusion equations”, Differential Equations and Dynamical Systems (E-SCI)
6. (2019) **Cengizci S.**, “On an efficient hybrid method for a system of singularly perturbed two-point boundary value problems with turning point”, (in progress)
7. (2019) **Cengizci S.**, “A finite element based hybrid method for solving singularly perturbed nonlinear differential equations”, (in progress)
8. (2019) **Cengizci S.**, “An asymptotic-numerical hybrid scheme for solving singularly perturbed difference-differential equations exhibiting interior layer behavior”, (in progress)

- **Conference Presentations**

1. **(2015) Cengizci S.,** Atay M. T., Eryilmaz A., “A uniformly valid approximation algorithm for singularly perturbed two-point boundary value problems in nonlinear ordinary differential equations”, International Conference on Advancements in Mathematical Sciences, Antalya, Turkey.
2. **(2016) Cengizci S.,** Eryilmaz A., “A hybrid approach for solving singularly perturbed turning point problems exhibiting dual layers”, International Conference on Mathematics and Mathematics Education (ICMME-2016), Fırat University, Elazığ, Turkey, 12-14 May 2016.
3. **(2017) Cengizci S.,** Kiroglu E. “On an asymptotic-numerical hybrid method for solving singularly perturbed nonlinear delay differential equations”, 4th International Conference on Computational and Experimental Science and Engineering (ICCESEN-2017), Side, Antalya, Turkey, 4-8 October 2017.
4. **(2017) Cengizci S.,** Kiroglu E., Dede F. “On an efficient hybrid method for solving singularly perturbed difference-differential equations exhibiting turning layer behavior”, 4th International Conference on Computational and Experimental Science and Engineering (ICCESEN-2017), Side, Antalya, Turkey, 4-8 October 2017.
5. **(2018) Cengizci S.,** “Some comparisons between MMAE and SCEM for solving singularly perturbed linear problems”, The Third International Conference on Computational Mathematics and Engineering Sciences (CMES-2018), May 4-6, 2018, Girne, Cyprus.
6. **(2018) Cengizci S.,** “A hybrid simulation for a system of singularly perturbed two-point reaction-diffusion equations”, The Third International Conference on Computational Mathematics and Engineering Sciences (CMES-2018). May 4-6, 2018, Girne, Cyprus.
7. **(2019) Cengizci S.,** “Some Numerical Experiments on Singularly Perturbed Problems with Multi-Parameters”, 8th International Eurasian Conference on Mathematical Sciences and Applications (IECMSA-2019). August 27-30, 2019, Baku, Azerbaijan.

OTHER ACADEMIC FACILITIES

- **Referee/Reviewer:**

- *Neural Processing Letters (Springer/SCI-E) x 3*
- *Mathematical Modelling and Analysis (Taylor & Francis / SCI-E) x 1*
- *Mathematical Sciences (Springer/E-SCI) x 1*
- *Mathematical Sciences Letters (Natural Sciences Publishing) x 7*
- *British Journal of Mathematics & Computer Science x 1*
- *Advances in Research x 1*
- *Journal of Advances in Mathematics and Computer Science x 2*
- *Asian Research Journal of Mathematics x 1*
- *Gazi University Journal of Science (E-SCI) x 1*

- **Visiting Research Institutions:**

1. *Visiting Researcher, Department of Computing + Mathematical Sciences, California Institute of Technology(CALTECH), USA.*

Supervisor: [Prof. Oscar P. Bruno](#)

2. Visiting Staff, [The Interdisciplinary Center for Scientific Computing \(IWR\)](#), [Ruprecht-Karls University of Heidelberg](#), Germany, (8-11 May, 2017)

Supervisor: [Prof. Anna Marciniak-Czochra](#)

COMPUTER AND PROGRAMMING

Windows, Linux (Ubuntu), Microsoft Office Pack, MATLAB, FEniCS, Scientific Workplace, LaTeX, C++ Programming Language, Fortran Programming Language, Python Programming Language

ACADEMIC MEMBERSHIPS

[International Association of Engineers \(IAENG\)](#)

ACADEMIC PROJECTS

- 1002 - Short Term R&D Funding Program, The Scientific and Technological Research Council of Turkey (TÜBİTAK), (submitted).

ACADEMIC AWARDS

- Publication encouragement award, Antalya Bilim University (x1)
- Publication encouragement award, The Scientific and Technological Research Council of Turkey (TÜBİTAK) UBYT (x1)

ACADEMIC RECOGNITION

Scopus ID: 57151353400

[LinkedIn](#)

Orcid ID: orcid.org/0000-0002-4345-1253

[Publons](#)

[ResearchGate](#)

[arxiv](#)

REFERENCES

- **Prof. Ömür UĞUR**
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Department of Scientific Computing
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Ömer Halisdemir University, Department of
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- **Prof. Srinivasan NATESAN**
Indian Institute of Technology Guwahati,
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- **Assoc. Prof. Mehmet Tarık ATAY**
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