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Akademik Deneyim

- 09.2023 – ... ◇ **Dr. Öğretim Üyesi**, Bilgisayar Programlama, Bilgisayar Teknolojileri Bölümü, Antalya Bilim Üniversitesi, 07190 Antalya.
- 09.2023 – ... ◇ **Dr. Dr. Öğretim Üyesi (görevlendirme)**, İİSBF, Antalya Bilim Üniversitesi, 07190 Antalya.
- 03.2022 – 09.2023 ◇ **Dr. Öğretim Görevlisi**, Bilgisayar Programlama, Bilgisayar Teknolojileri Bölümü, Antalya Bilim Üniversitesi, 07190 Antalya.
- 03.2022 – 09.2023 ◇ **Dr. Öğretim Görevlisi (görevlendirme)**, İİSBF, Antalya Bilim Üniversitesi, 07190 Antalya.
- 12.2017 – 03.2022 ◇ **Öğretim Görevlisi**, Bilgisayar Programlama, Bilgisayar Teknolojileri Bölümü, Antalya Bilim Üniversitesi, 07190 Antalya.
- 12.2017 – 03.2022 ◇ **Öğretim Görevlisi (görevlendirme)**, İİSBF, Antalya Bilim Üniversitesi, 07190 Antalya.
- 09.2014 – 12.2017 ◇ **Araştırma Görevlisi**, Ekonomi Bölümü, İİSBF, Antalya Bilim Üniversitesi, 07190 Antalya.

Eğitim

- 2014 – 2022 ◇ **Doktora – Bilimsel Hesaplama**, Uygulamalı Matematik Enstitüsü, Orta Doğu Teknik Üniversitesi (ODTÜ), 06800 Ankara.
Tez: *Stabilized Finite Element Simulations of Multispecies Inviscid Hypersonic Flows in Thermochemical Nonequilibrium*
Danışman: Prof. Ömür Uğur & Prof. Tayfun E. Tezduyar
- 2012 – 2014 ◇ **Yüksek lisans – Matematik**, Fen Bilimleri Enstitüsü, Nevşehir Hacı Bektaş Veli Üniversitesi, 50300 Nevşehir.
Özel öğrenci: ODTÜ Mühendislik Bilimleri Bölümü
Tez: *Singüler Perturbasyon Problemlerinin Asimptotik Analizi*
Danışman: Dr. Aytekin Eryılmaz & Dr. M. Tarık Atay

Eğitim (continued)

- 2008 – 2012 ◇ **Lisans – Matematik**, Matematik Bölümü, Niğde Ömer Halisdemir Üniversitesi, 51240 Niğde.
Bitirme projesi: *Dual Uzaylar*.

Akademik Ziyaret

- 2024 – 2025 ◇ **Doktora sonrası araştırmacı**, Mathematical Institute, University of Oxford, Oxford OX2 6GG, UK.
Danışman: Prof. Patrick E. Farrell  [web-page](#)
- 3.2022 – 9.2022 ◇ **Doktora sonrası araştırmacı**, Mechanical Engineering, Rice University, Houston, TX 77005, US.
Danışman: Prof. Tayfun E. Tezduyar  [web-page](#)
- May 2017 ◇ **Erasmus+ visiting staff**, The Interdisciplinary Center for Scientific Computing (IWR), Ruprecht-Karls University of Heidelberg, 69120 Heidelberg, Germany.
Danışman: Prof. Anna Marciniak-Czochra  [web-page](#)

Araştırma

İlgili Alanları

- ◇ (Stabilize) sonlu eleman metotları, asimptotik metotlar, sayısal analiz, diferansiyel denklemler, hesaplamalı akışkanlar dinamiği, aerodinamik, hipersonik akışlar, bilimsel hesaplama & programlama, hesaplamalı mekanik & fizik, sayısal benzetim & modelleme.

Makaleler

- ◇ Cengizci S., Natesan S. Hybridized successive complementary expansions for solving convection-dominated 2D elliptic PDEs with boundary layers. *Computational and Applied Mathematics*, 42(6):273, 2023. doi: <https://doi.org/10.1007/s40314-023-02411-w>.
- ◇ Cengizci S., Uğur Ö., Natesan S. A SUPG formulation augmented with shock-capturing for solving convection-dominated reaction–convection–diffusion equations. *Computational and Applied Mathematics*, 42(5):235, 2023. doi: <https://doi.org/10.1007/s40314-023-02370-2>.
- ◇ Cengizci, S., Uğur, Ö. SUPG formulation augmented with $YZ\beta$ shock-capturing for computing shallow-water equations. *Zeitschrift für Angewandte Mathematik und Mechanik*, 2023. doi: <https://doi.org/10.1002/zamm.202200232>.
- ◇ Cengizci, S., Uğur, Ö. A stabilized FEM formulation with discontinuity-capturing for solving Burgers’-type equations at high Reynolds numbers. *Applied Mathematics and Computation*, 442, 127705, 2023. doi: <https://doi.org/10.1016/j.amc.2022.127705>.
- ◇ Cengizci S., Kumar D., Atay M.T. A semi-analytic method for solving singularly perturbed twin-layer problems with a turning point, *Mathematical Modelling and Analysis*, 28(1):102–117, 2023. doi: <https://doi.org/10.3846/mma.2023.14953>.
- ◇ Cengizci S., Uğur Ö., Natesan S. SUPG- $YZ\beta$ computation of chemically reactive convection-dominated nonlinear models. *International Journal of Computer Mathematics*, 100(2):283–303, 2023. doi: <https://doi.org/10.1080/00207160.2022.2114794>.

Araştırma (continued)

- ◊ Cengizci S., Uğur Ö. A comparative and illustrative study for solving singularly perturbed ODEs with two parameters. TWMS Journal of Applied and Engineering Mathematics, 2022 (accepted for publication).
- ◊ Cengizci S., Dursun Cengizci A., Uğur Ö. A mathematical model for human-to-human transmission of COVID-19: a case study for Turkey's data, Mathematical Biosciences and Engineering, 18(6), 9787–9805, 2021. doi: <https://doi.org/10.3934/mbe.2021480>.
- ◊ Cengizci S. A comparison between MMAE and SCEM for solving singularly perturbed linear boundary layer problems, Filomat, 33(7), 2135–2148, 2019. doi: <https://doi.org/10.2298/FIL1907135C>.
- ◊ Cengizci S., Natesan S., Atay M.T. An asymptotic-numerical hybrid method for singularly perturbed system of two-point reaction-diffusion boundary-value problems. Turkish Journal of Mathematics, 43(1), 460–472, 2019. doi: <https://doi.org/10.3906/mat-1807-195>.
- ◊ Cengizci S. An asymptotic-numerical hybrid method for solving singularly perturbed linear delay differential equations. International Journal of Differential Equations, 2017, Article ID 7269450, 2017. doi: <https://doi.org/10.1155/2017/7269450>.
- ◊ Atay M.T., Cengizci S., Eryılmaz, A. SCEM approach for singularly perturbed linear turning mid-point problems with an interior layer. New Trends in Mathematical Sciences, 4(1), 115–124, 2016. doi: <https://doi.org/10.20852/ntmsci.2016115661>.
- ◊ Cengizci S., Atay M.T., Eryılmaz A. A uniformly valid approximation algorithm for nonlinear ordinary singular perturbation problems with boundary layer solutions. SpringerPlus, 5(280), 2016. doi: <https://doi.org/10.1186/s40064-016-1865-6>.
- ◊ Cengizci S., Eryılmaz A. Successive complementary expansion method for solving Troesch's problem as a singular perturbation problem, International Journal of Engineering Mathematics, Article ID 949463, 2015. doi: <https://doi.org/10.1155/2015/949463>.

İncelemede/devam etmekte olan makaleler

- ◊ Cengizci S. An enhanced SUPG-stabilized finite element formulation for simulating natural phenomena governed by coupled system of reaction-convection-diffusion equations. Mathematical Modelling and Numerical Simulation with Applications, 2023.
- ◊ Cengizci S., Mülüyim G., Uğur Ö. A SUPG/PSPG finite element formulation for simulating natural convection under magnetic effects with high Hartmann and Rayleigh numbers, 2023.
- ◊ Cengizci S., Uğur Ö., Natesan S. SUPG-based stabilized finite element computations of convection-dominated 3D elliptic PDEs using shock-capturing. Journal of Computational and Applied Mathematics, 2023.
- ◊ Cengizci S., Uğur Ö., Natesan S. Stabilized finite element method for convection-dominated problems with time-fractional derivatives. Journal of Computational Science, 2023.
- ◊ Cengizci S., Uğur Ö. SUPG finite element computation of high-speed inviscid flows around a cylinder using $YZ\beta$ shock-capturing: I. Non-reacting flows, Computational and Applied Mathematics, 2023.
- ◊ Cengizci S., Uğur Ö. SUPG finite element computation of high-speed inviscid flows around a cylinder using $YZ\beta$ shock-capturing: II. Thermochemical nonequilibrium flows, in progress, 2023.
- ◊ Cengizci S., Uğur Ö. Magnetohydrodynamic duct flow simulations for high Hartmann numbers with a stabilized finite element formulation using shock-capturing, Computers and Mathematics with Applications, 2023.

Araştırma (continued)

- ◊ Cengizci S., Uğur Ö. Stabilized finite element simulations for pricing European- and American-style options under Heston's stochastic volatility model. *Journal of Computational Science*, 2023.
- ◊ Cengizci S. A computational study on MHD natural convection heat transfer with Al_2O_3 -water nanofluid at high Hartmann numbers, in progress, 2023.

Konferans sunumları

- ◊ Cengizci S. A Computational Study on Natural Convection Phenomena. International Conference of Young Mathematicians, June 1–3, 2023, Institute of Mathematics of NAS of Ukraine (online), Kyiv, Ukraine. <https://www.imath.kiev.ua/~young/youngconf2023/index.php?module=1&lang=en>.
- ◊ Cengizci S., Uğur Ö. Pricing European- and American-type options under stochastic volatility: a computational study. Fifth Romanian Itinerant Seminar on Mathematical Analysis and its Applications, May 26–28, 2023, Craiova, Romania. <http://rismaa.ucv.ro/>.
- ◊ Cengizci S. Stabilized finite element simulations of dam-break problems. International E-Conference on Mathematical and Statistical Sciences: A Selçuk Meeting, October 20–22, 2022, Selçuk University, Konya, Turkey. <https://icomss22.selcuk.edu.tr/>.
- ◊ Cengizci S. Stabilized finite element computations augmented with shock-capturing: 3D convection-diffusion equations. International Conference on Analysis and Applied Mathematics (ICAAM), October 31–November 6, 2022, Antalya, Turkey. <http://icaam-online.org/>.
- ◊ Cengizci, S., Uğur, Ö., Natesan S. Stabilized finite element simulations for Burgers'-type equations, International Conference on Analysis and Its Applications (ICAA NEPAL 2021), April 9–11, 2021, Kathmandu University, Dhulikhel, Nepal. <http://iccaa2021.ku.edu.np/>.
- ◊ Cengizci S., Uğur Ö., Tezduyar T.E. Stabilized numerical simulations of hypersonic flows in thermochemical nonequilibrium with FEniCS, FEniCS2021, 22–26 March 2021, University of Cambridge, Virtual Conference. <https://fenics2021.com/talks/cengizci.html>.
- ◊ Cengizci S., Uğur Ö. SUPG-stabilized finite element formulation of shallow-water equations. International Conference of Young Mathematicians, June 3–5, 2021, Institute of Mathematics of NAS of Ukraine, Kyiv, Ukraine. <https://www.imath.kiev.ua/~young/youngconf2021/index.php?lang=en>.
- ◊ Cengizci S., Uğur Ö., Takizawa K., Tezduyar T.E. A streamline-upwind/Petrov–Galerkin formulation for supersonic and hypersonic flow simulations, The 20th Biennial Computational Techniques and Applications Conference (CTAC2020), 30th Aug–2nd Sep 2020, Sydney, NSW, Australia. <https://www.ctac2020.unsw.edu.au/>.
- ◊ Cengizci S., Uğur Ö., Natesan S. A SUPG formulation for solving a class of singularly perturbed steady problems in 2D, The 20th Biennial Computational Techniques and Applications Conference (CTAC2020), 30th Aug–2nd Sep 2020, Sydney, NSW, Australia. <https://www.ctac2020.unsw.edu.au/>.
- ◊ Cengizci S., Uğur Ö., Natesan S. A stabilized finite element formulation for numerical simulation of convection-dominated reactive models, Advances in Differential Equations and Numerical Analysis (ADENA), October 12–14, 2020, Indian Institute of Technology Guwahati, India. <https://www.iitg.ac.in/mathsc/ext/adena2020/>.
- ◊ 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. <http://www.iecmsa.org/2019/>.

Araştırma (continued)

- ◊ Cengizci S. Some comparisons between MMAE and SCEM for solving singularly perturbed linear problems, The Third International Conference on Computational Mathematics and Engineering Sciences (CMES2018), May 4–6, 2018, Girne, Cyprus.
- ◊ 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), May 12–14, 2016, Fırat University, Elazığ, Turkey. <http://theicmme.org/2016/Default.aspx>.
- ◊ 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, November 5–7, 2015, Antalya, Turkey.

Araştırma Projeleri

- ◊ **TÜBİTAK-2219:** *Cök-bileşenli konveksiyon-baskın taşıma fenomenlerinin sayısal benzetimleri için stabilize edilmiş sonlu eleman yöntemleri.* 2219-Yurt Dışı Doktora Sonrası Araştırma Burs Programı. Bütçe: €28,200.

Dersler

- ◊ **Öğretim Görevlisi/Üyesi olarak (2017–···):** Calculus for Social Sciences I-II, Mathematics I-II, Introduction to Linear Algebra, Statistics for Social Sciences, Bilgisayar Donanımı, Bilgisayar Güvenliği, Technical Mathematics, Programlamaya Giriş II (Python), Information Technologies, Decision Analysis Techniques, Business Analytics.
- ◊ **Ders asistanı olarak (2014–2017):** Calculus for Social Sciences I-II, Introduction to Linear Algebra, Mathematical Economics.

Dil-kodlama-program

Diller ◊ Türkçe, İngilizce, Almanca (başlangıç)

Kodlama & Yazılım ◊ Python, C++, Matlab, L^AT_EX, FEniCS, Linux, Firedrake (başlangıç), SU2 (başlangıç)

Diger

Akademik dergilerde hakemlik

- ◊ Neural Processing Letters, Mathematical Modelling and Analysis, Mathematical Sciences, Gazi University Journal of Science, Hacettepe Journal of Mathematics and Statistics, Differential Equations and Dynamical Systems, Mathematical Methods in the Applied Sciences, Heliyon, Physics of Fluids, Computational and Applied Mathematics, Iranian Journal of Numerical Analysis and Optimization, Journal of Applied Mathematics.

Diger (continued)

Üniversite dışı ders verme

- 2019–2021 ◇ **International Baccalaureate (IB) Matematik Öğretmeni**, Antalya Yusuf Ziya Öner Fen Lisesi, 07192 Antalya.

Sertifika

- 2019 ◇ **Öğretmenlik** – Mathematics for the International Baccalaureate (IB) Diploma: Higher Level.
- 2014 ◇ **Öğretmenlik** – Lise matematik. Eğitim Fakültesi, Akdeniz Üniversitesi, 07058 Antalya.

Panel

- 2019 ◇ **Gözlemci Panelist**, Matematik–Fizik Araştırma Grubu, TÜBİTAK, 18.09.2020.

Akademik ödül

- ◇ **Doktora Tez ödülü**, Orta Doğu Teknik Üniversitesi, 2023.  [Link](#)
- ◇ **Akademik yayın teşvik ödülü**, Antalya Bilim Üniversitesi (×3)
- ◇ **Yayın teşvik ödülü**, TÜBİTAK, UBYT (×2)

Referanslar

Prof. Ömür UĞUR

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Prof. Srinivasan NATESAN

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Indian Institute of Technology Guwahati
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Assoc. Prof. Mehmet Tarık ATAY

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