

Serdar Göktepe

Professor
Department of Civil Engineering
Division of Construction Materials
<http://users.metu.edu.tr/sgoktepe/>
sgoktepe@metu.edu.tr

Middle East Technical University
K1 Building, Rm.233
06800 Ankara, Türkiye
P. +90.312.210.2441
F. +90.312.210.5401

Education

- Dr.-Ing., Applied Mechanics, Civil Engineering
2002–2007 University of Stuttgart, Germany
Graduation with Distinction (Summa cum laude)
Advisor: Prof. Dr. Christian Miehe
Thesis: “Micro-Macro Approaches to Rubbery and Glassy Polymers:
Predictive Micromechanically-Based Models and Simulations”. ([url](#))
- M.Sc., Computational Mechanics of Materials and Structures ([COMMAS](#))
2000–2002 University of Stuttgart, Germany
Advisor: Prof. Dr. Christian Miehe
Thesis: “Micromechanically Based Description of Damage in Polymers at Large Strains”.
- B.Sc., Civil Engineering
1994–1999 Middle East Technical University (METU), Ankara, Türkiye

Academic Experience

- Professor at the Department of Civil Engineering,
Middle East Technical University, 08/2024–present
- Associate Professor at the Department of Civil Engineering,
Middle East Technical University, 04/2015–08/2024
- Associate Professor at the Graduate Program in Biomedical Engineering, Graduate School
of Natural and Applied Sciences, Middle East Technical University, 01/2016–01/2018.
- Assistant Professor at the Department of Civil Engineering,
Middle East Technical University, 05/2010–04/2015.
- Postdoctoral Scholar at Living Matter Lab, Department of Mechanical Engineering,
Stanford University, 12/2007–04/2010.
- Research Associate at the Institute of Applied Mechanics,
University of Stuttgart, 04/2002–11/2007.
- Graduate Student Assistant at the Institute of Applied Mechanics,
University of Stuttgart, 07/2001–03/2002.
- Graduate Teaching Assistant at the Department of Civil Engineering,
Middle East Technical University, 08/1999–08/2000.

Service and Committees

- Member of PhD Qualifying Committee of the Department of Civil Engineering, METU,
03/2019–present
- Member of the Administrative Committee of the Institute of Applied Mathematics, METU,
03/2015–02/2019 and 02/2021–present
- Member of Education Committee of the Department of Civil Engineering, METU,
02/2016–03/2019
- Member of Recruitment Committee of the Department of Civil Engineering, METU,
09/2011–02/2016 and 04/2022–present
- Vice Chairperson of the Department of Civil Engineering, Middle East Technical University,
08/2010–12/2012

Teaching Experience

- Lecturer, *CE 7026 - Continuum Mechanics*, Middle East Technical University, Fall: 2017, 2019, 2021, 2023.
- Lecturer, *CE 7018 - Computational Inelasticity*, Middle East Technical University, Spring: 2013–2017, Fall: 2018, 2020, 2022, 2024.
- Lecturer, *CE 4006 - Introduction to Computational Mechanics of Materials*, Middle East Technical University, Spring: 2011–2024.
- Lecturer, *ES 525 - Theory of Continuous Media I*, Middle East Technical University, Spring: 2012, 2013, Fall: 2014.
- Lecturer, *CE 305 - Numerical Methods for Engineers*, Middle East Technical University, Fall: 2011–2016.
- Lecturer, *CE 344 - Construction Materials*, Middle East Technical University, Spring: 2018–2021.
- Lecturer, *CE 241 - Materials Science*, Middle East Technical University, Fall: 2010–2024, Spring: 2022–2024.
- Lecturer, *CE 520 - Graduate Seminar*, Middle East Technical University, Spring: 2011–2012
- Lecturer, *ME 338A - Continuum Mechanics*, (Jointly with Prof. E. Kuhl) Stanford University, Spring Quarter: 2008, Winter Quarters: 2009, 2010.
- Lecturer, *Computational Modeling of Cardiac Electromechanics*, COMMAS Summer School, University of Stuttgart, October 6-10, 2008.
- Lecturer, *E2 - Micromechanics of Materials and Homogenization Methods*, University of Stuttgart, Spring: 2007.
- Teaching Assistant, *E2 - Micromechanics of Materials and Homogenization Methods*, University of Stuttgart, Spring: 2003.
- Teaching Assistant, *C2 - Computational Mechanics of Materials*, University of Stuttgart, Fall: 2002.
- Teaching Assistant, *CE 483 - Advanced Structural Analysis*, Middle East Technical University, Fall: 1999, Spring: 2000.
- Teaching Assistant, *CE 384 - Structural Analysis*, Middle East Technical University, Fall: 1999.

Skills

- Languages: Turkish (native), English, and German.
- Programming languages: Fortran, C.
- Scientific computing programs: Matlab[®], Mathcad[®], and Maple[®].
- Knowledge of Unix/Linux operating systems

Honors & Awards

- Turkish Academy of Sciences Distinguished Young Scientist Award ([TUBA-GEBIP](#)) 2013.
- [Parlar Foundation](#) – Young Scientist Research Incentive Award, 2011.
- METU – Outstanding Young Researcher Award, 2011.
- METU – Academic Performance Award, 2011, 2013, 2014, 2015.
- IUTAM Travel Award for IUTAM Symposium on "Mechanics of Soft Active Materials", Haifa, Israel, 2014.
- NSF Travel Award for IUTAM Symposium on "Computer Models in Biomechanics", Stanford, USA, 2011.
- Listed in *Marquis Who's Who in Science and Engineering*, 2011–2012 (11th) Edition
- USACM Travel Award for WCCM IX, Sydney, Australia, 2010.
- Graduation with Distinction (Summa cum laude), Dr.-Ing., University of Stuttgart, 2007.

Honors & Awards (continued)

- Best Ph.D. student presentation award (shared with P. Höfer) in the Fifth European Conference for Constitutive Models for Rubber (ECCMR), September 4-7, 2007, Paris, France.
- Graduation with Honors, M.Sc. in Computational Mechanics of Materials and Structures (COMMAS), University of Stuttgart, 2002.
- Robert Bosch GmbH Scholarship, 2000–2002.
- Graduation with High Honors, B.Sc. in Civil Engineering, Middle East Technical University, 1999.

Professional Memberships

- Since 2018 TUMTMK · Turkish National Committee of Theoretical and Applied Mechanics (TUMTMK · Teorik ve Uygulamalı Mekanik Türk Milli Komitesi)
- Since 2012 EUROMECH · European Mechanics Society
- Since 1999 Turkish Chamber of Civil Engineers (TMMOB-IMO)
- 2007-2020 International Association of Applied Mathematics and Mechanics (GAMM · Gesellschaft für Angewandte Mathematik und Mechanik e.V.)
- 2008–2010 Stanford Cardiovascular Institute

Conference Organization

- Member of the scientific committee of *VI African Conference on Computational Mechanics*, Cape Town, South Africa, February 2024.
- Member of the scientific committee of *BEYOND 2023: Computational Science, Mathematical Modeling and Engineering Conference*, Ankara, Türkiye, October 2023.
- Member of the scientific committee of *XXIII National Congress of Mechanics*, Konya, Türkiye, September 2023.
- Member of the scientific committee of *fib Symposium 2023, Building for the future: Durable, Sustainable, Resilient*, İstanbul, Türkiye, June 2023.
- Member of the scientific committee of *XXII National Congress of Mechanics*, Adana, Türkiye, September 2021.
- Member of the scientific committee of *XXI National Congress of Mechanics*, Niğde, Türkiye, September 2019.
- Member of Organizing Committee of *BEYOND 2019: Computational Science and Engineering Conference*, Ankara, Türkiye, September 2019.
- Co-organizer of the mini-symposium *Cardiac Mechanics and Heart Modeling* jointly with Prof. D. Hurtado at the 8th World Congress of Biomechanics, Dublin, Ireland, July 2018.
- Co-organizer of the *European Conference on Numerical Mathematics and Advanced Applications*, ENUMATH 2015, jointly with Profs. Bülent Karasözen, Murat Manguoğlu, Ömür Uğur, Münevver Sezgin-Tezer, Ankara, Türkiye, September 2015.
- Co-organizer of the mini-symposium *Computational Modeling Of Multi-Physics Phenomena In Advanced Engineering Applications* jointly with Prof. E. Gürses at the European Conference on Numerical Mathematics and Advanced Applications (ENUMATH) 2015, Ankara, Türkiye, September 2015.
- Co-organizer of the mini-symposium *Cardiac Mechanics* jointly with Prof. D. Hurtado at the 9th European Solid Mechanics Conference, Madrid, Spain, July 2015.
- Member of the scientific committee of the 2nd International Workshop on Latest Advances in Cardiac Modeling, Munich, Germany, March 2015.
- Co-organizer of the mini-symposium *Multiscale Cardiac Electromechanics* jointly with Prof. D. Hurtado at the 7th World Congress of Biomechanics, Boston, USA, July 2014.
- Co-organizer of the workshop *Kaskade 7 and Its Applications* jointly with Prof. B. Karasözen at Middle East Technical University, Ankara, Türkiye, October 2013.

Conference Organization (continued)

- Co-organizer of the EUROMECH Colloquium 545 · *Frontiers in Finite-Deformation Electromechanics* jointly with Prof. A. Menzel and Prof. E. Kuhl, Dortmund, Germany, May 2013.
- Co-organizer of the 10th International Congress on Advances in Civil Engineering, METU-Ankara, Türkiye, October 2012.
- Co-organizer of the mini-symposium *MS 6043 - Computational Mechanics of Electro-Active Materials* jointly with Prof. E. Kuhl and Prof. A. Menzel at the WCCM IX, Sydney, Australia, July 2010.
- Co-organizer of the Young Researcher's Minisymposium on "Computational Mechanics of Electro-Active Synthetic and Biological Materials" jointly with Dr.-Ing. D. Rosato at the 82. Annual GAMM Conference, Graz, Austria, April 2011.

Refereeing

- **International Journals**
 - Acta Mechanica (ACME)
 - Annals of Biomedical Engineering (ABME)
 - Archive of Applied Mechanics (AoAM)
 - Biomechanics and Modeling in Mechanobiology (BMMB)
 - Communications in Computational Physics (CiCP)
 - Computational and Mathematical Methods in Medicine
 - Computational Mechanics (CM)
 - Computer Methods in Applied Mechanics and Engineering (CMAME)
 - Computer Methods in Biomechanics and Biomedical Engineering (CMBBE)
 - Engineering with Computers (EWCO)
 - European Journal of Mechanics: A/Solids (EJM-A)
 - Experimental Mechanics
 - Frontiers in Physiology
 - Heliyon
 - IEEE Transactions on Biomedical Engineering
 - International Journal for Numerical Methods in Biomedical Engineering (CNM)
 - International Journal for Numerical Methods in Engineering (IJNME)
 - International Journal of Non-linear Mechanics (IJNM)
 - International Journal of Solids and Structures (IJSS)
 - Journal of Applied Mathematics (IMA-JAM)
 - Journal of Applied Mechanics (ASME-JAM)
 - Journal of Biomechanics (JB)
 - Journal of Computational and Applied Mathematics (ELSCAM)
 - Journal of Engineering Mechanics (EMENG)
 - Journal of Intelligent Material Systems and Structures (JIMMS)
 - Journal of Materials Research and Technology
 - Journal of the Mechanical Behavior of Biomedical Materials (JMBBM)
 - Journal of the Mechanics and Physics of Solids (JMPS)
 - Macromolecular Materials and Engineering (MME)
 - Mechanics of Soft Materials (MOSM)
 - Optimization
 - PLOS Computational Biology
 - Rubber Chemistry and Technology (RCT)
 - Technische Mechanik (TM)
 - The Journal of Adhesion (JoA)
 - Turkish Journal of Civil Engineering (Teknik Dergi (TD))

Refereeing (continued)

• National Journals

- Dumlupınar University · Journal of Natural and Applied Sciences
- Gazi University · Journal of Science (GUJS)
- Gazi Üniversitesi Mühendislik Mimarlık Fakültesi Dergisi
- Isı Bilimi ve Tekniği Dergisi
- SDÜ · Journal of Natural and Applied Sciences (SDUFBED)

Scientific Visits

- Institute of Applied Mechanics, Prof. Christian Miehe, University of Stuttgart, Germany, October 6-10, 2008.
- Institute for Structural Analysis, Prof. Michael Kaliske, Dresden University of Technology, and Leibniz Institute of Polymer Research-Dresden, Germany, December 10-25, 2009.
- Institute for Structural Analysis, Prof. Michael Kaliske, Dresden University of Technology, Germany, January 28-February 06, 2011.
- Institute of Mechanics (Chair I), Prof. Alexander Lion, Universität der Bundeswehr München, Germany, September 8-9, 2011.
- Institute of Numerical Mathematics, Prof. Yuri Vassilevski, Russian Academy of Sciences (RAS), Moscow, Russia, October 29-31, 2015.

Theses Supervised –Master–

- M.Sc. Thesis “Finite Elastic and Inelastic Behavior of Rubbery Polymers: Experiments and Modeling”, Joel Méndez, 2004. (Co-supervisors: S. Lee, Prof. C. Miehe)[†]
- M.Sc. Thesis “A Formulation of Finite Viscoplasticity for Glassy Polymers in the Logarithmic Strain Space”, Arun P. Balasubramanian, 2004. (Co-supervisor: Prof. C. Miehe)[†]
- M.Sc. Thesis “Parameter Identification for Material Models from Inhomogeneous Experiments with Three-Dimensional Surface Matching”, Aruna Prakash, 2005. (Co-supervisors: A. Rieger, Prof. C. Miehe)[†]
- M.Sc. Thesis “Approaches to Modeling of Thermoviscoplastic Behavior of Glassy Polymers”, Hüsnü Dal, 2005. (Co-supervisor: Prof. C. Miehe)[†]
- M.Sc. Thesis “Micromechanically Based Thermo-Viscoplasticity of Glassy Polymers: Experiments and Constitutive Modeling”, Harish Iyer, 2006. (Co-supervisors: J. Méndez, Prof. C. Miehe)[†]
- M.Sc. Thesis “Temperature-Dependent Finite Viscoplasticity of Glassy Polymers: Experiments and Simulations”, Shaofei Qu, 2007. (Co-supervisors: J. Méndez, Prof. C. Miehe)[†]
- Diploma Thesis “Anisotropic Finite Viscoelasticity of Rubber-like Materials”, Dirk Liefeth, 2007. (Co-supervisors: Dr. Stefan Kolling, Daimler AG and Prof. C. Miehe)[†]

-
- M.Sc. Thesis “Dilation and Hypertrophy: Mechanics of growth and remodeling of the heart”, Joe Ulerich, 2009. (Co-supervisor: Prof. E. Kuhl)[‡]
 - M.Sc. Thesis “Computational Electrophysiology of the Heart: Modeling of Cardiac Arrhythmias”, Jonathan Wong, 2009. (Co-supervisor: Prof. E. Kuhl)[‡]
 - M.Sc. Thesis “Computational Simulation of Electrocardiograms in Healthy and Diseased Hearts”, Mohan Kotikanyadanam, 2010. (Co-supervisor: Prof. E. Kuhl)[‡]
-

[†] At the [Institute of Applied Mechanics, University of Stuttgart](#).

[‡] At the [Living Matter Lab, Stanford University](#).

**Theses Supervised
–Master–
(continued)**

- M.Sc. Thesis “Finite Element Analyses of Differential Shrinkage-Induced Cracking in Centrifugally Cast Concrete Poles”, Tuğrul Tanfener, September 2012. (Co-supervisor: Prof. İ. Özgür Yaman)*
- M.Sc. Thesis “Computational Modeling of Cardiac Dysfunctions”, Ezgi Berberoğlu, February 2014.*
- M.Sc. Thesis “Coupled Thermomechanical Analysis of Concrete Hardening”, Halil İbrahim Andiç, (Co-supervisor: Prof. İ. Özgür Yaman), February 2015.*
- M.Sc. Thesis “Fracture Analysis of Spun-Cast Concrete Poles Using the Phase-Field Method”, Ali Azim Azary, September 2017.*
- M.Sc. Thesis “Computationally Efficient Approaches to Integrated Cardiac Electrophysiology”, Özgür Paşaoğlu, August 2017.*
- M.Sc. Thesis “Computational Modeling of Electroactive Polymers”, Sinan Fırat Dal, August 2019.*
- M.Sc. Thesis “Computational Modeling of Rupture in Rubbery Polymers”, Berkay Akçören, January 2020.*
- M.Sc. Thesis “Computational Modeling of Self-Assembly in Deformable Bodies”, Bilgin Koçak, September 2021.*
- M.Sc. Thesis “Computational Modeling of Frontal Polymerization”, Koray Kaya, February 2022.*
- M.Sc. Thesis “Computational Modeling of Hardening Concrete at Mesoscale”, Çağlar Yılmaz, April 2023.*
- M.Sc. Thesis “Phase-Field Modeling of Cracking in Additively Manufactured Concrete”, Ozan Özgür Kaynar, August 2023.*
- M.Sc. Thesis “A Deep Learning-Based Hybrid Computational Approach to Cardiac Electrophysiology”, Ali Fatih Kuloğlu, September 2023.*
- M.Sc. Thesis “Recurrent Neural Network Based Model Discovery of Finite Viscoelasticity”, Saim Masood, July 2024.*
- M.Sc. Thesis “Phase-Field Modeling of Rupture in Fiber-Reinforced Rubberlike Materials”, Hasan Hüseyin Türkmen, ongoing.*
- M.Sc. Thesis “Computational Modeling of Dynamic Pattern Transformation in Mechanical Metamaterials”, Arif Yiğit İpekoğlu, ongoing.*
- M.Sc. Thesis “Computational Modeling of Fracture Behavior in Frontally Polymerized Composites Incorporating Residual Stresses”, Işık Özbay, ongoing.*

* At the [Department of Civil Engineering, Middle East Technical University](#).

Theses Supervised –Doctoral–

- Ph.D. Thesis “Micromechanical Modeling of Semicrystalline Polymers with Spherulite Morphology”, Hasan Emre Oktay, (Co-supervisor: Asst.Prof.Dr. Ercan Gürses), September 2020.*
- Ph.D. Thesis “Computational Modeling of Thermal and Shrinkage-Induced Cracking in Concrete”, Mehran Ghasabeh, (Co-supervisor: Prof. İ. Özgür Yaman), March 2021.*
- Ph.D. Thesis “A New Time-Domain Boundary Element Formulation for Rate-Dependent Inelasticity with Application to Homogenization”, A.Arda Akay, (Co-supervisor: Assoc. Prof. Ercan Gürses), August 2023.*
- Ph.D. Thesis “Computationally Efficient Approaches to Cardiac Electromechanics”, Özgür Paşaoğlu, ongoing.*
- Ph.D. Thesis “Homogenization-Based Stability Analyses of Electro-Active Polymers”, Sinan Fırat Dal, ongoing.*
- Ph.D. Thesis “Computational Modeling of Hydraulic Fracture in Porous Media”, Muhittin Babaoğlu, ongoing.*
- Ph.D. Thesis “Design of Material Microstructures Through Phase Evolution Equations”, Yiğit Urhan, ongoing.*
- Ph.D. Thesis “Phase-Field Modeling of Multiple Cracking in Engineered Cementitious Composites”, Ozan Özgür Kaynar, ongoing.*

Research Projects

- EU FP7-People-Marie Curie Career Integration Grant (CIG) – “VHEART: Virtual Heart Models: Multi-Physics Approaches to Computational Cardiology”, Grant: 100,000 Euros, Duration: 4 years, Start: September 2011, End: August 2015. Role: Principal Investigator
- TUBITAK 1007 Project “2863-2:Research and Development of Bridge Design and Construction Technologies in Türkiye”, Start: October 2011, End: January 2015. Role: Researcher
- Roketsan R&D Project “Modeling and Design of Concrete Mixes for Effective Ballistic Protection (Etkin Balistik Koruma için Beton Karışım Tasarımlarına Modellenmesi)”, Duration: 18 Months, Start: October 2013, End: March 2015. Role: Principal Investigator
- Simsoft R&D Project “Development of Ship Bridge Simulator, Duration: 14 Months, Start: August 2016, End: October 2017. Role: Principal Investigator
- TUBITAK 1001 Project “218M274: Development of a Combined Finite Element-Boundary Element Method for Modeling of Mechanical Behavior of Polymer Nanocomposites”, Start: March 2019, End: January 2022. Role: Researcher
- TUBITAK 1001 Project “115M550: Multiscale Modeling of Carbonnanotube-Reinforced Polymer Composites”, Role: Advisor, Start: September 2015, End: March 2019.
- METU BAP (Seed Project) – “Theoretical and Computational Approaches to the Coupled Thermomechanics of Glassy Polymers”, Grant: 30,000 TL, Duration: 29 Months, Start: March 2011, Role: Principal Investigator

* At the [Department of Civil Engineering, Middle East Technical University](#).

Publications

Journal Publications

- J1. C. Miehe, **S. Göktepe**, and F. Lulei: "A Micro–Macro Approach to Rubber-like Materials. Part I: The Non–Affine Micro–Sphere Model of Rubber Elasticity", *Journal of the Mechanics and Physics of Solids*, vol.52, 2004, pp. 2617–2660. ([url](#))
- J2. C. Miehe and **S. Göktepe**: "A Micro–Macro Approach to Rubber-like Materials. Part II: The Micro–Sphere Model of Finite Rubber Viscoelasticity", *Journal of the Mechanics and Physics of Solids*, vol.53, 2005, pp. 2231–2258. ([url](#))
- J3. **S. Göktepe** and C. Miehe: "A Micro–Macro Approach to Rubber-like Materials. Part III: The Micro–Sphere Model of Anisotropic Mullins–Type Damage", *Journal of the Mechanics and Physics of Solids*, vol.53, 2005, pp. 2259–2283. ([url](#))
- J4. K. Garikipati, **S. Göktepe**, and C. Miehe: "Elastica-based Strain Energy Functions for Soft Biological Tissue", *Journal of the Mechanics and Physics of Solids*, vol.56, 2008, pp. 1693–1713. ([url](#))
- J5. **S. Göktepe** and C. Miehe: "Efficient Two-Scale Modeling of Finite Rubber Viscoelasticity", *Technische Mechanik*, vol.28, 2008, pp.22–31. ([url](#))
- J6. C. Miehe, **S. Göktepe**, and J. Méndez: "Finite Viscoplasticity of Glassy Polymers in the Logarithmic Strain Space", *International Journal of Solids and Structures*, vol.46, 2009, pp.181–202. ([url](#))
- J7. **S. Göktepe** and E. Kuhl: "Computational Modeling of Cardiac Electrophysiology: A Novel Finite Element Approach", *International Journal for Numerical Methods in Engineering*, vol.79, 2009, pp.156–178. ([url](#))
- J8. M. Kotikanyadanam, **S. Göktepe**, and E. Kuhl: "Computational Modeling of Electrocardiograms: A Finite Element Approach Towards Cardiac Excitation", *International Journal for Numerical Methods in Biomedical Engineering*, vol.26, 2010, pp.524–533. *Published Online: June 08, 2009.* ([url](#))
- J9. **S. Göktepe**, J. Wong, and E. Kuhl: "Atrial and Ventricular Fibrillation - Computational Simulation of Spiral Waves in Cardiac Tissue", *Archive of Applied Mechanics*, vol.80, 2010, pp.569–580. *Published Online: October 25, 2009.* ([url](#))
- J10. **S. Göktepe**, W. Bothe, J-P. E. Kvitting, J. C. Swanson, N. B. Ingels, D. C. Miller, and E. Kuhl: "Anterior Mitral Leaflet Curvature in the Beating Ovine Heart: A Case Study Using Videofluoroscopic Markers and Subdivision Surfaces", *Biomechanics and Modeling in Mechanobiology*, vol.9, 2010, pp.281–293. *Published Online: November 05, 2009.* ([url](#))
- J11. **S. Göktepe** and E. Kuhl: "Electromechanics of the Heart: A Unified Approach to the Strongly Coupled Excitation-Contraction Problem", *Computational Mechanics*, vol.45, 2010, pp.227–243. ([url](#))
- J12. W. Bothe, J-P. E. Kvitting, J. C. Swanson, **S. Göktepe**, K. N. Vo, N. B. Ingels, and D. C. Miller: "How Do Annuloplasty Rings Affect Mitral Leaflet Dynamic Motion?", *European Journal of Cardio-thoracic Surgery*, vol.38, 2010, pp.340–349. *Published Online: March 23, 2010.* ([url](#))
- J13. **S. Göktepe**, O. J. Abilez, K. K. Parker, and E. Kuhl: "A Multiscale Model for Eccentric and Concentric Cardiac Growth Through Sarcomerogenesis", *Journal of Theoretical Biology*, vol.265, 2010, pp.433–442. *Published Online: May 4, 2010.* ([url](#))
- J14. **S. Göktepe**, O. J. Abilez, and E. Kuhl: "A Generic Approach Towards Finite Growth with Examples of Athlete's Heart, Cardiac Dilation, and Cardiac Wall Thickening", *Journal of the Mechanics and Physics of Solids*, vol.58, 2010, pp.1661–1680. *Published Online: July 9, 2010.* ([url](#))

- J15. J-P. E. Kvitting, W. Bothe, **S. Göktepe**, M. K. Rausch, J. C. Swanson, E. Kuhl, N. B. Ingels, and D. C. Miller: "Anterior Mitral Leaflet Curvature During the Cardiac Cycle in the Normal Ovine Heart", *Circulation*, vol.122, 2010, pp.1683–1689. *Published Online: October 11, 2010.* ([url](#))
- J16. **S. Göktepe**, S. N. S. Acharya, J. Wong, and E. Kuhl: "Computational Modeling of Passive Myocardium", *International Journal for Numerical Methods in Biomedical Engineering*, vol.27, 2011, pp.1–12. *Published Online: June 17, 2010.* ([url](#))
- J17. M. K. Rausch, W. Bothe, J-P. E. Kvitting, **S. Göktepe**, D. C. Miller, and E. Kuhl: "In Vivo Dynamic Strains of the Ovine Anterior Mitral Valve Leaflet", *Journal of Biomechanics*, vol.44, 2011, pp.1149–1157. *Published Online: February 8, 2011.* ([url](#))
- J18. C. Miehe, J. Méndez, **S. Göktepe**, and L-M. Schänzel: "Coupled Thermoviscoplasticity of Glassy Polymers in the Logarithmic Strain Space Based on the Free Volume Theory", *International Journal of Solids and Structures*, vol.48, 2011, pp.1799–1817. *Published Online: February 21, 2011.* ([url](#))
- J19. J. Wong, **S. Göktepe**, and E. Kuhl: "Computational Modeling of Electrochemical Coupling: A Novel Finite Element Approach Towards Ionic Models for Cardiac Electrophysiology", *Computer Methods in Applied Mechanics and Engineering*, vol.200, 2011, pp.3139–3158. *Published Online: July 23, 2011.* ([url](#))
- J20. W. Bothe, E. Kuhl, J-P. E. Kvitting, M. K. Rausch, **S. Göktepe**, J. C. Swanson, S. Farahmandni, N. B. Ingels, and D. C. Miller: "Rigid, Complete Annuloplasty Rings Increase Anterior Mitral Leaflet Strains in the Normal Beating Ovine Heart", *Circulation*, vol.124, 2011, pp.S81–S96. *Published Online: September 12, 2011.* ([url](#))
- J21. M. K. Rausch, A. Dam, **S. Göktepe**, O. J. Abilez, and E. Kuhl: "Computational Modeling of Growth: Systemic and Pulmonary Hypertension in the Heart", *Biomechanics and Modeling in Mechanobiology*, vol.10, 2011, pp.799–811. *Published Online: December 28, 2010.* ([url](#))
- J22. H. Dal, **S. Göktepe**, M. Kaliske, and E. Kuhl: "A Fully Implicit Finite Element Method for Bidomain Models of Cardiac Electrophysiology", *Computer Methods in Biomechanics and Biomedical Engineering*, vol.15, 2012, pp.645–656. *Published Online: April 11, 2011.* ([url](#))
- J23. H. Dal, **S. Göktepe**, M. Kaliske, and E. Kuhl: "A Fully Implicit Finite Element Method for Bidomain Models of Cardiac Electromechanics", *Computer Methods in Applied Mechanics and Engineering*, vol.253, 2013, pp.323–336. *Published Online: July 24, 2012.* ([url](#))
- J24. J. Wong, **S. Göktepe**, and E. Kuhl: "Computational Modeling of Chemo-Electro-Mechanical Coupling: A Novel Implicit Monolithic Finite Element Approach", *International Journal for Numerical Methods in Biomedical Engineering*, vol.29, 2013, pp.1104–1133. *Published Online: June 24, 2013.* ([url](#))
- J25. F. Vogel, **S. Göktepe**, P. Steinmann, and E. Kuhl: "Modeling and Simulation of Viscous Electro-Active Polymers", *European Journal of Mechanics - A/Solids*, vol.48, 2014, pp.112–128. *Published Online: March 12, 2014.* ([url](#))
- J26. E. Berberoğlu, H. O. Solmaz, and **S. Göktepe**: "Computational Approaches to Coupled Cardiac Electromechanics Incorporating Dysfunctional Cases", *European Journal of Mechanics - A/Solids*, vol. 48, 2014, pp. 60–73. *Published Online: April 13, 2014.* ([url](#))
- J27. **S. Göktepe**, A. Menzel, and E. Kuhl: "The Generalized Hill Model: A Kinematic Approach Towards Active Muscle Contraction", *Journal of the Mechanics and Physics of Solids*, vol. 72, 2014, pp. 20–39. *Published Online: August 14, 2014.* ([url](#))
- J28. Ş. Kayan, H. Merdan, R. Yafia, and **S. Göktepe**: "Bifurcation Analysis of a Modified Tumor-immune System Interaction Model Involving Time Delay", *Mathematical Modelling of Natural Phenomena*, vol. 12, 2017, pp. 120–145. *Published Online: October 13, 2017.* ([url](#))

**Journal
Publications
(continued)**

- J29. H. Gülaşık, **S. Göktepe**, and E. Gürses: "A Modulus Gradient Model for an Axially Loaded Inhomogeneous Elastic Rod", *Meccanica*, vol. 53, 2018, pp. 2573–2584. *Published Online: March 29, 2018.* ([url](#))
- J30. H. Gülaşık, **S. Göktepe**, and E. Gürses: "A modulus gradient model for inhomogeneous materials with isotropic linear elastic constituents", *European Journal of Mechanics - A/Solids*, vol. 78, 2019, 103846. *Published Online: August 29, 2019.* ([url](#))
- J31. M.C.P. Vila Pouca, P. Areias, **S. Göktepe**, J.A. Ashton-Miller, R.M. Natal Jorge, and M.P.L. Parente: "Modeling permanent deformation during low-cycle fatigue: Application to the pelvic floor muscles during labor", *Journal of the Mechanics and Physics of Solids*, vol. 164, 2022, 104908. *Published Online: April 28, 2022.* ([url](#))
- J32. A. A. Akay, E. Gürses, and **S. Göktepe**: "A new time-domain boundary element formulation for generalized models of viscoelasticity", *Engineering Analysis with Boundary Elements*, vol. 150, 2023, pp.30–43. *Published Online: February 7, 2023.* ([url](#))
- J33. M. Ghasabeh and **S. Göktepe**: "Phase-field modeling of thermal cracking in hardening mass concrete", *Engineering Fracture Mechanics*, vol. 289, 2023, 109398. *Published Online: June 14, 2023.* ([url](#))
- J34. Ş. Bilazeroğlu, **S. Göktepe**, and H. Merdan: "Effects of the random walk and the maturation period in a diffusive predator-prey system with two discrete delays", *Chaos, Solitons and Fractals*, vol.176 , 2023, 114101. *Published Online: October 4, 2023.* ([url](#))
- J35. A. A. Akay, E. Gürses, and **S. Göktepe**: "A Non-Iterative Boundary Element Formulation for Nonlinear Viscoelasticity", *Engineering Analysis with Boundary Elements*, vol. 163, 2024, pp.223–236. *Published Online: March 12, 2024.* ([url](#))
- J36. S. F. Dal and **S. Göktepe**: "Computational modeling of viscoelastic snap-through in mechanical metamaterials", *In preparation.*
- J37. M. Babaoğlu and **S. Göktepe**: "An Efficient Approach to Crack Opening Displacement Calculation in Cohesive Phase-Field Hydraulic Fracture", *In preparation.*

Book Chapters

- B1. **S. Göktepe**: "Fitzhugh-Nagumo Equation", *Encyclopedia of Applied and Computational Mathematics*, Enquist, B. (Ed.), Springer, 2015, pp. 553–556.

Books Edited

- E1. *Numerical Mathematics and Advanced Applications ENUMATH 2015*, Springer International Switzerland, 2016, Karasözen, B., Manguoğlu, M., Tezer-Sezgin, M., **Göktepe, S.**, Uğur, Ö. (Eds.)

Proceedings

- C1. M. U. Polat, **S. Göktepe**, and E. Gürses: "Prefabrike Çerçeve ve Panel Duvar Yapısal Sistemlerin Deprem Davranışı ve Sismik Rehabilitasyonu", *Deprem ve Prefabrikasyon - 10. Prefabrikasyon Sempozyumu Bildiri Kitabı*, 2000, pp. 117–126. (In Turkish)
- C2. **S. Göktepe** and C. Miehe: "A New Micromechanically Based Approach for the Elastic Response of Rubber-like Materials at Large Strains", *Proceedings in Applied Mathematics and Mechanics PAMM*, vol.3, 2003, pp. 174–175.
- C3. **S. Göktepe** and C. Miehe: "The Micro-Sphere Model for Rubber Viscoelasticity: A Micromechanically Based Network Model for Polymers", *Proceedings in Applied Mathematics and Mechanics PAMM*, vol.4, 2004, pp. 191–192.
- C4. **S. Göktepe** and C. Miehe: "A Micromechanically Based Network Model for Rubbery Polymers Incorporating Mullins-Type Stress Softening", *Proceedings of the XXI International Congress of Theoretical and Applied Mechanics ICTAM 2004*, 15-21 August 2004, Warsaw, Poland.
- C5. **S. Göktepe**, J. Méndez, and C. Miehe: "A Formulation of Finite Viscoplasticity for Amorphous Glassy Polymers in the Logarithmic Strain Space", *Proceedings in Applied Mathematics and Mechanics PAMM*, vol.5, 2005, pp. 269–270.
- C6. **S. Göktepe** and C. Miehe: "A Micro-Macro Approach to Rubbery Polymers Incorporating Anisotropic Evolution of Mullins-type Damage", In Austrell, P.-E., Kari, L. (Editors), *Constitutive Models for Rubber IV*, vol.4, 2005, pp. 215–221.
- C7. **S. Göktepe** and C. Miehe: "Coupled Finite Thermoviscoplasticity of Glassy Polymers", *Proceedings in Applied Mathematics and Mechanics PAMM*, vol.6, 2006, pp. 437–438.
- C8. J. Méndez, **S. Göktepe**, and C. Miehe: "Experiments and Identifications for Finite Polymer Inelasticity", *Proceedings in Applied Mathematics and Mechanics PAMM*, vol.6, 2006, pp. 401–402.
- C9. **S. Göktepe** and C. Miehe: "An Efficient Micro-Macro Approach to Finite Rubber Viscoelasticity", In Boukamel et al. (Editors), *Constitutive Models for Rubber V*, vol.5, 2007, pp. 119–125.
- C10. **S. Göktepe**, J. Méndez, and C. Miehe: "Finite Thermoviscoplasticity of Amorphous Glassy Polymers: Experiments, Modeling and Simulations", *Proceedings in Applied Mathematics and Mechanics PAMM*, vol.7, 2007, pp. 4060041–4060042.
- C11. J. Ulerich, **S. Göktepe**, and E. Kuhl: "Dilation and Hypertrophy – A Cell-Based Continuum Mechanics Approach Towards Ventricular Growth and Remodeling", *IUTAM Symposium on Cellular, Molecular and Tissue Mechanics*, Garikipati, K. and Arruda, E. (Eds.), Springer, 2008, pp. 237–244.
- C12. J. Méndez, **S. Göktepe**, and C. Miehe: "Temperature and Rate Effects in Finite Viscoplasticity of Glassy Polymers at Different Deformation Modes: Experiments and Simulations", *Proceedings in Applied Mathematics and Mechanics PAMM*, vol.8, 2008, pp. 10445–10446.
- C13. J. Ulerich, **S. Göktepe**, and E. Kuhl: "First Attempts Towards the Computational Simulation of Novel Stem-Cell Based Post-Infarction Therapies", *Proceedings of the ASME Summer Bioengineering Conference*, Marco Island, Florida, USA, SBC2008-192715, 2008.
- C14. **S. Göktepe**, J. Ulerich, and E. Kuhl: "How to Treat the Loss of Beat: Modeling and Simulation of Growth and Remodeling and Novel Post-Infarction Therapies", *Proceedings of the ASME Summer Bioengineering Conference*, Marco Island, Florida, USA, SBC2008-193159, 2008.
- C15. **S. Göktepe**, J. Ulerich, O. Abilez, C.K. Zarins, and E. Kuhl: "Computational Design of Novel Stem Cell Based Therapies for Myocardial Infarction", *Proceedings of the XXII ICTAM*, Adelaide, Australia, 2008.
- C16. **S. Göktepe** and E. Kuhl: "Electromechanics of Cardiac Tissue: A Unified Approach to the Fully Coupled Excitation-Contraction Problem", *Proceedings in Applied Mathematics and Mechanics PAMM*, vol.9, 2009, pp. 159–160.

**Proceedings
(continued)**

- C17. J. Wong, **S. Göktepe**, and E. Kuhl: "Computational Simulation of Traveling Arrhythmic Waves in Myocardial Tissue", *Proceedings of the ASME Summer Bioengineering Conference*, Lake Tahoe, California, USA, SBC2009-206552, 2009.
- C18. F. Vogel, P. Steinmann, **S. Göktepe**, and E. Kuhl: "Application of a Viscoelastic Material Model in Electro-Mechanics", *Proceedings in Applied Mathematics and Mechanics PAMM*, vol.10, 2010, pp. 387-388.
- C19. T. Tanfener, **S. Göktepe**, and İ.Ö. Yaman: "Merkezkaç Dökümlü Beton Direklerde Oluşan Rötire Çatlaklarının Sonlu Elemanlar Yöntemi Kullanılarak İncelenmesi" *Proceedings of the National Congress on Concrete*, 2011, pp. 289-298. (In Turkish)
- C20. H. Dal, **S. Göktepe**, M. Kaliske, and E. Kuhl: "A Three-Field, Bi-domain Based Approach to the Strongly Coupled Electromechanics of the Heart" *Proceedings in Applied Mathematics and Mechanics PAMM*, vol.11, 2011, pp. 931-934.
- C21. T. Tanfener, **S. Göktepe**, and İ.Ö. Yaman: "Finite Element Analysis of Differential Shrinkage-Induced Cracking in Centrifugally Cast Concrete Poles", *Proceedings of the 10th International Congress on Advances in Civil Engineering*, in CD, 2012.
- C22. **S. Göktepe**, A. Menzel, and E. Kuhl: "Micro-Structurally Based Kinematic Approaches to Electromechanics of the Heart" *IUTAM Symposium on Computer Models in Biomechanics: from Nano to Macro*, Holzapfel, G. and Kuhl, E.. (Eds.), Springer, 2013, pp. 175-187.
- C23. **S. Göktepe**: "Eşyönsüz Mikro Yapıya Sahip Kalp Dokusundaki Büyümenin Modellenmesi Üzerine", *Proceedings of the XVII National Congress of Mechanics*, vol. 17, (ISBN: 978-975-561-442-7), 2014, pp.256-262. (In Turkish)
- C24. E. Berberoğlu and **S. Göktepe**: "Computational Modeling of Myocardial Infarction", *Proceedings of the IUTAM Symposium on Mechanics of Soft Active Materials*, Procedia IUTAM, vol.12, 2015, pp. 52-61.
- C25. B. Alam, M.Ghasabeh, K. Toksoy, G. Dara, **S. Göktepe**, and İ.Ö. Yaman: "An Experimental and Numerical Study of Ballistic Performance of SFRC Structures" *Proceedings of 29. International Symposium on Ballistics*, vol.1-2, 2016, pp. 2088-2097.
- C26. M. Ghasabeh and **S. Göktepe**: "Computational Modeling of Drying Shrinkage in Early-Age Concrete" *Proceedings in Applied Mathematics and Mechanics PAMM*, vol.19, 2019, e201900415.
- C27. M. Ghasabeh and **S. Göktepe**: "Betonda Kemo-Termo-Mekanik Yükler Altında Çatlak Oluşumunun Hesaplamalı Modellenmesi", *Proceedings of the XXI National Congress of Mechanics*, vol. 21, (ISBN: 978-975-561-506-6), 2019, pp.743-752. (In Turkish)
- C28. M. Ghasabeh and **S. Göktepe**: "Sertleşen Betonda Rötire Çatlaklarının Hesaplamalı Modellenmesi", *Proceedings of the XXI National Congress of Mechanics*, vol. 21, (ISBN: 978-975-561-506-6), 2019, pp.644-663. (In Turkish)
- C29. S. F. Dal and **S. Göktepe**: "Periyodik Yapılı Elektro-Aktif Polimerlerin Kararlılık Analizi", *Proceedings of the XXI National Congress of Mechanics*, vol. 21, (ISBN: 978-975-561-506-6), 2019, pp.535-544. (In Turkish)
- C30. H. E. Oktay, E. Gürses, and **S. Göktepe**: "Çok Fazlı Malzemelerin Düzlemsel Arayüzlerle Homojenleştirilmesi: Kinematik Uyumlu Yaklaşım", *Proceedings of the XXI National Congress of Mechanics*, vol. 21, (ISBN: 978-975-561-506-6), 2019, pp.571-577. (In Turkish)
- C31. Ö. Paşaoğlu and **S. Göktepe**: "Hesaplamalı Kalp Elektrofizyolojisi Problemine Etkin Yaklaşımlar", *Proceedings of the XXI National Congress of Mechanics*, vol. 21, (ISBN: 978-975-561-506-6), 2019, pp.621-630. (In Turkish)
- C32. M. Atasoy, A. Kayran, and **S. Göktepe**: "Homogenization of Unidirectional Composites with Brittle Fracture Modeled by the Phase-Field Approach", *6th International Virtual Conference of Engineering Against Failure*, vol.115, 2021, pp.100.

Proceedings (continued)

- C33. S. F. Dal and **S. Göktepe**: "Periyodik Gözenekli Yapıya Sahip Metamalzemelerde Vurgu Burulması için Viskoleastik Model", *Proceedings of the XXII National Congress of Mechanics*, vol. 22, (ISBN: 978-975-561-523-3), 2022, pp.650-662. (In Turkish)
- C34. B. Akçören and **S. Göktepe**: "Elastomerlerde Yırtılmanın Faz Alanı Yöntemi ile Hesaplamalı Modellenmesi", *Proceedings of the XXII National Congress of Mechanics*, vol. 22, (ISBN: 978-975-561-523-3), 2022, pp.629-640. (In Turkish)
- C35. A. A. Akay, **S. Göktepe**, and E. Gürses: "Formulation of a Bilinear Traction-Separation Interface Law in Boundary Elements with Homogenization", *Structural Integrity Procedia*, vol. 61, pp.138-147, 2024,

Lecture Presentations

- P1. S. Göktepe and C. Miehe: "A New Micromechanically Based Approach for the Elastic Response of Rubber-like Materials at Large Strains", GAMM Annual Scientific Conference, March 24-28, 2003, Abano Terme, Italy.
- P2. S. Göktepe and C. Miehe: "The Micro-Sphere Model for Rubber Viscoelasticity: A Micromechanically Based Network Model for Polymers", GAMM Annual Scientific Conference, March 21-27, 2004, Dresden, Germany.
- P3. S. Göktepe: "A Micromechanically Based Constitutive Approach to the Modeling of Hysteresis Effects in Rubbery Polymers", Colloquium at the Chair of Applied Mechanics, University of Kaiserslautern, July 22, 2004, Kaiserslautern, Germany. (**Invited Talk**)
- P4. S. Göktepe and C. Miehe: "A Micromechanically Based Network Model for Rubbery Polymers Incorporating Mullins-Type Stress Softening", ICTAM 2004, XXI International Congress of Theoretical and Applied Mechanics, August 15-20, 2004, Warsaw, Poland.
- P5. S. Göktepe, J. Méndez, and C. Miehe: "A Formulation of Finite Viscoplasticity for Amorphous Glassy Polymers in the Logarithmic Strain Space", GAMM Annual Scientific Conference, March 28-April 01, 2005, Luxembourg.
- P6. S. Göktepe and C. Miehe: "A Micro-Macro Approach to Rubbery Polymers Incorporating Anisotropic Evolution of Mullins-type Damage", Fourth European Conference for Constitutive Models for Rubber (ECCMR), June 27-29, 2005, Stockholm, Sweden.
- P7. S. Göktepe and C. Miehe: "Coupled Finite Thermoviscoplasticity of Glassy Polymers", GAMM Annual Scientific Conference, March 27-31, 2006, Berlin, Germany.
- P8. S. Göktepe, J. Méndez, and C. Miehe: "Viscoplasticity of Glassy Polymers: Experiments, Modeling and Simulations", Hybrid Materials for High Performance Systems (HYPER), October 12-13, 2006, Darmstadt, Germany. (**Invited Talk**)
- P9. S. Göktepe and C. Miehe: "Two-Scale Modeling of Rubbery and Glassy Polymers", First GAMM/ GACM-Seminar on Multiscale Material Modeling, April 20-21, 2007, Saarbrücken, Germany. (**Invited Talk**)
- P10. S. Göktepe, J. Méndez, and C. Miehe: "Finite Thermoviscoplasticity of Amorphous Glassy Polymers: Experiments, Modeling and Simulations" GAMM Annual Scientific Conference, July 16-20, 2007, Zurich, Switzerland. (**Invited Talk**)
- P11. S. Göktepe and C. Miehe: "An Efficient Micro-Macro Approach to Finite Rubber Viscoelasticity", Fifth European Conference for Constitutive Models for Rubber (ECCMR), September 4-7, 2007, Paris, France.
- P12. S. Göktepe: "Computational Modeling of Cardiac Electromechanics", Series of three advanced level lectures in Computational Mechanics of Materials and Structures (COMMAS) Summer School, October 6-10, 2008, Stuttgart, Germany. (**Invited Lectures**)
- P13. S. Göktepe: "Micro-Macro Approaches to Rubbery and Glassy Polymers: Predictive Micromechanically-Based Models and Simulations", Middle East Technical University (METU), Structural Mechanics Laboratory, October 20, 2008, Ankara, Türkiye. (**Invited Talk**)

**Lecture
Presentations
(continued)**

- P14. S. Göktepe and E. Kuhl: "Electromechanics of Cardiac Tissue: A Unified Approach to the Fully Coupled Excitation-Contraction Problem", GAMM Annual Scientific Conference, February 9-13, 2009, Gdansk, Poland.
- P15. S. Göktepe and E. Kuhl: "A New Computational Approach to Fully Coupled Excitation-Contraction in Cardiac Electromechanics", 10. US National Congress on Computational Mechanics (USNCCM X), July 16-19, 2009, Columbus, OH, USA. **(Invited Talk)**
- P16. M. Kotikanyadanam, S. Göktepe, and E. Kuhl: "Simulating electrocardiograms with a new finite element model of cardiac electrophysiology", 10. US National Congress on Computational Mechanics (USNCCM X), July 16-19, 2009, Columbus, OH, USA.
- P17. S. Göktepe, M. Kotikanyadanam, and E. Kuhl: "On Excitation-Contraction Coupling in Computational Cardiology", 10. International Conference on Computational Plasticity (COMPLAS X), September 2-4, 2009, Barcelona, Spain.
- P18. S. Göktepe and E. Kuhl: "Consistent Computational Procedures for Fully Coupled Excitation-Contraction in Cardiac Electromechanics", 1st International Conference on Material Modelling, September 15-17, 2009, Dortmund, Germany. **(Invited Talk)**
- P19. S. Göktepe: "Micro-Macro Approaches to Rubbery and Glassy Polymers: Predictive Micro-mechanically-Based Models and Simulations", Institute for Structural Analysis, Dresden University of Technology, December 15, 2009, Dresden, Germany. **(Invited Talk)**
- P20. S. Göktepe: "Computational Approaches to Electrophysiology and Coupled Electromechanics of the Heart", Faculty of Civil Engineering, Dresden University of Technology, December 18, 2009, Dresden, Germany. **(Invited Talk)**
- P21. S. Göktepe, A. Menzel, and E. Kuhl: "Micro-Structurally Based Kinematic Approaches to Anisotropic Electro-Active Materials", 9th World Congress on Computational Mechanics (WCCM IX), July 19-23, 2010, Sydney, Australia.
- P22. J. Wong, S. Göktepe, and E. Kuhl: "A Novel Efficient Algorithm for the Electro-Chemical Modeling of Cardiac Cells", 9th World Congress on Computational Mechanics (WCCM IX), July 19-23, 2010, Sydney, Australia.
- P23. E. Kuhl and S. Göktepe: "A Generic Approach Towards Finite Growth and Examples of Cardiac Dilation and Hypertrophy", 9th World Congress on Computational Mechanics (WCCM IX), July 19-23, 2010, Sydney, Australia.
- P24. F. Vogel, P. Steinmann, S. Göktepe, and E. Kuhl: "Exploring the Nature of Viscous Electro-Active Materials", 9th World Congress on Computational Mechanics (WCCM IX), July 19-23, 2010, Sydney, Australia.
- P25. S. Göktepe: "Micro-Macro Modeling of Glassy Polymers and Computational Cardiology", Series of five advanced level lectures within the Erasmus Lifelong Learning Program, Faculty of Civil Engineering, Dresden University of Technology, January 31-February 04, 2011, Dresden, Germany. **(Invited Lectures)**
- P26. S. Göktepe: "Consistent Approaches to Electrophysiology and Electromechanics of the Heart", Department of Mechanical Engineering, Bilkent University, February 10, 2011, Ankara, Türkiye. **(Invited Talk)**
- P27. S. Göktepe and E. Gürses: "Micromechanically Based Approaches to the Viscoplasticity of Semicrystalline Polymers", GAMM Annual Scientific Conference, April 18-22, 2011, Graz, Austria.
- P28. M. Rausch, S. Göktepe, O. J. Abilez, and E. Kuhl: "A Computational Multiscale Model for Heart Failure", GAMM Annual Scientific Conference, April 18-22, 2011, Graz, Austria.
- P29. S. Göktepe, A. Menzel, and E. Kuhl: "Micro-Structurally Based Kinematic Approaches to Electromechanics of the Heart", IUTAM Symposium on Computer Models in Biomechanics: from Nano to Macro, August 29-September 2, 2011, Stanford, USA. **(Invited Talk)**

**Lecture
Presentations
(continued)**

- P30. S. Göktepe: "Consistent Approaches to Electrophysiology and Electromechanics of the Heart", Institute of Mechanics, Universität der Bundeswehr München, September 8, 2011, Munich, Germany. **(Invited Talk)**
- P31. E. Berberoğlu, O. Solmaz, and S. Göktepe: "Computational Approaches to Coupled Cardiac Electromechanics Incorporating Dysfunctional Cases", EUROMECH Colloquium 545 Frontiers in Finite Deformation Electromechanics, May 22-24, 2013, Dortmund, Germany.
- P32. J. Wong, S. Göktepe, and E. Kuhl: "On Chemo-Electro-Mechanical Coupling in Living Systems", EUROMECH Colloquium 545 Frontiers in Finite Deformation Electromechanics, May 22-24, 2013, Dortmund, Germany.
- P33. E. Berberoğlu and S. Göktepe: "Computational Modeling of Coupled Cardiac Electromechanics Incorporating Cardiac Dysfunctions", 12. US National Congress on Computational Mechanics (USNCCM XII), July 22-25, 2013, Raleigh, North Carolina, USA. **(Invited Talk)**
- P34. S. Göktepe: "Eşyönsüz Mikro Yapıya Sahip Kalp Dokusundaki Büyümenin Modellenmesi Üzerine", XVII National Congress of Mechanics, August 26-30, 2013, Manisa, Türkiye. (In Turkish)
- P35. S. Göktepe and E. Berberoğlu: "Computational Approaches to Coupled Cardiac Electromechanics Incorporating Electrical and Mechanical Dysfunctional Cases", 12. International Conference on Computational Plasticity (COMPLAS XII), September 3-5, 2013, Barcelona, Spain.
- P36. S. Göktepe: "Virtual Heart Models: Multi-Physics Approaches to Computational Cardiology Incorporating Cardiac Dysfunctions", EAFS Seminars, TED University, November 19, 2013, Ankara, Türkiye. **(Invited Talk)**
- P37. S. Göktepe and E. Berberoğlu: "Computational Approaches to Coupled Cardiac Electromechanics Incorporating Electrical and Mechanical Dysfunctional Cases", General Seminar of the Institute of Applied Mathematics, METU, December 17, 2013, Ankara, Türkiye. **(Invited Talk)**
- P38. S. Göktepe and E. Berberoğlu: "Computational Modeling of Cardiac Dysfunctions", IUTAM Symposium on "Mechanics of Soft Active Materials", May 12-15, 2014, Haifa, Israel. **(Invited Talk)**
- P39. S. Göktepe and E. Berberoğlu: "Computational Modeling of Cardiac Dysfunctions", 11th World Congress on Computational Mechanics, July 20-25, 2014, Barcelona, Spain. **(Invited Talk)**
- P40. İ. Özdemir and S. Göktepe: "A Microstructurally Based Constitutive Model for Shape-Memory Polymers Formulated in the Logarithmic Strain Space" 11th World Congress on Computational Mechanics (WCCM XI), July 20-25, 2014, Barcelona, Spain. **(Invited Talk)**
- P41. S. Göktepe and E. Berberoğlu: "In Silico Modeling of Electrical and Mechanical Disorders in Cardiac Tissue", 2nd International Workshop on Latest Advances in Cardiac Modeling, March 12-13, 2015, Munich, Germany. **(Invited Talk)**
- P42. E. Berberoğlu and S. Göktepe: "In Silico Modeling of Electrical and Mechanical Disorders in Cardiac Tissue", 9th European Solid Mechanics Conference, July 6-10, 2015, Madrid, Spain.
- P43. S. Göktepe: "Multi-Physics Approaches to Computational Cardiology", European Conference on Numerical Mathematics and Advanced Applications, September 14-18, 2015, Ankara, Türkiye.
- P44. E. Berberoğlu and S. Göktepe: "Multi-Physics Approaches to Computational Cardiology", 7. Workshop on Mathematical Models and Numerical Methods in Biology and Medicine, Russian Academy of Sciences, October 29-31, 2015, Moscow, Russia. **(Invited Talk)**
- P45. Ö. Paşaoğlu and S. Göktepe: "Computational Approaches to Integrated Modeling of Electrophysiology of the Heart", 14. International Conference on Computational Plasticity (COMPLAS XIV), September 5-7, 2017, Barcelona, Spain.

**Lecture
Presentations
(continued)**

- P46. H. E. Oktay, E. Gürses, and S. Göktepe: "Micromechanically Motivated Modeling of Semicrystalline Polymers", 14. International Conference on Computational Plasticity (COMPLAS XIV), September 5-7, 2017, Barcelona, Spain.
- P47. M. Ghasabeh and S. Göktepe: "Computational Modeling of Durability Phenomena in Concrete", 55. Annual Meeting of Society of Engineering Science (SES 2018), October 10-12, 2018, Madrid, Spain.
- P48. H. Gülaşık, S. Göktepe, and E. Gürses: "A Modulus Gradient Elasticity Model for Size Effects in Nanocomposites", 55. Annual Meeting of Society of Engineering Science (SES 2018), October 10-12, 2018, Madrid, Spain.
- P49. Ö. Paşaoğlu and S. Göktepe: "Computationally Efficient Approaches to Integrated Cardiac Electrophysiology", BEYOND 2018. Workshop on Computational Science and Engineering , October 20-21, 2018, Ankara, Türkiye.
- P50. H. Gülaşık, S. Göktepe, and E. Gürses: "A Modulus Gradient Model for Nano-Reinforced Composites", BEYOND 2018. Workshop on Computational Science and Engineering , October 20-21, 2018, Ankara, Türkiye.
- P51. M. Ghasabeh and S. Göktepe: "Computational Modeling of Durability Phenomena in Concrete", BEYOND 2018. Workshop on Computational Science and Engineering , October 20-21, 2018, Ankara, Türkiye.
- P52. S. Göktepe: "Introduction to Electrophysiology and Electromechanics of the Heart", Biomedical Engineering Seminars, Ankara University, November 21, 2018, Ankara, Türkiye. (**Invited Talk**)
- P53. M. Ghasabeh and S. Göktepe: "Computational Modeling of Drying Shrinkage in Early-Age Concrete", GAMM Annual Scientific Conference, February 18-22, 2019, Vienna, Austria.
- P54. M. Ghasabeh and S. Göktepe: "A Coupled Poroviscoelastic Model for Drying Shrinkage-Induced Cracking in Concrete", ICMM 6: International Conference on Material Modeling, June 26-28, 2019, Lund, Sweden.
- P55. H. E. Oktay, E. Gürses, and S. Göktepe: "A Homogenization Approach for Multiphase Materials with Planar Interfaces", ICMM 6: International Conference on Material Modeling, June 26-28, 2019, Lund, Sweden.
- P56. M. Ghasabeh and S. Göktepe: "Betonda Kemo-Termo-Mekanik Yükler Altında Çatlak Oluşumunun Hesaplamalı Modellenmesi", XXI National Congress of Mechanics, September 2-6, 2019, Niğde, Türkiye. (In Turkish)
- P57. M. Ghasabeh and S. Göktepe: "Sertleşen Betonda Rötire Çatlaklarının Hesaplamalı Modellenmesi", XXI National Congress of Mechanics, September 2-6, 2019, Niğde, Türkiye. (In Turkish)
- P58. S. F. Dal and S. Göktepe: "Periyodik Yapılı Elektro-Aktif Polimerlerin Kararlılık Analizi", XXI National Congress of Mechanics, September 2-6, 2019, Niğde, Türkiye. (In Turkish)
- P59. H. E. Oktay, E. Gürses, and S. Göktepe: "Çok Fazlı Malzemelerin Düzlemsel Arayüzlerle Homojenleştirilmesi: Kinematik Uyumlu Yaklaşım", XXI National Congress of Mechanics, September 2-6, 2019, Niğde, Türkiye. (In Turkish)
- P60. Ö. Paşaoğlu and S. Göktepe: "Hesaplamalı Kalp Elektrofizyolojisi Problemine Etkin Yaklaşımlar", XXI National Congress of Mechanics, September 2-6, 2019, Niğde, Türkiye. (In Turkish)
- P61. H. E. Oktay, E. Gürses, and S. Göktepe: "Micromechanically Motivated Multiscale Model for Semicrystalline Polymers", BEYOND 2019. Computational Science and Engineering Conference, September 9-11, 2019, Ankara, Türkiye.
- P62. M. Ghasabeh and S. Göktepe: "Computational Modeling of Shrinkage-Induced Cracking in Concrete", BEYOND 2019. Computational Science and Engineering Conference, September 9-11, 2019, Ankara, Türkiye.

**Lecture
Presentations
(continued)**

- P63. M. Atasoy, A. Kayran, and S. Göktepe: "Homogenization of Unidirectional Composites with Brittle Fracture Modeled by the Phase-Field Approach", 6th International Virtual Conference of Engineering Against Failure, June 23-25, 2021, Patras, Greece.
- P64. S. F. Dal and **S. Göktepe**: "Periyodik Gözenekli Yapıya Sahip Metamalzemelerde Vurgu Burulması için Viskoleastik Model", XXII National Congress of Mechanics, September 6-10, 2021, Adana, Türkiye.
- P65. B. Akçören and **S. Göktepe**: "Elastomerlerde Yırtılmanın Faz Alanı Yöntemi ile Hesaplamalı Modellenmesi", XXII National Congress of Mechanics, September 6-10, 2021, Adana, Türkiye.
- P66. A. A. Akay, E. Gürses, and S. Göktepe: "A New Approach for Boundary Element Formulation of Viscoelasticity in Time Domain", BEYOND 2023. Computational Science and Engineering Conference, October 19-20, 2023, Ankara, Türkiye.
- P67. M. Babaoğlu and S. Göktepe: "Phase-Field Regularized Cohesive Modeling of Hydraulic Fracture", BEYOND 2023. Computational Science and Engineering Conference, October 19-20, 2023, Ankara, Türkiye.
- P68. A. A. Akay, E. Gürses, and S. Göktepe: "Computational Homogenization of Heterogeneous Structures Undergoing Debonding using Boundary Element Method", IWPDF 2023. 3. International Workshop on Plasticity, Damage and Fracture of Engineering Materials, October 4-20, 2023, Ankara, Türkiye.
- P69. Ö. Paşaoğlu and S. Göktepe: "Generalized Hill Model Efficiently Incorporating Three-State Sliding Filament Theory", St. Petersburg Forum of Arrhythmology, June 9-11, 2024, St. Petersburg, Russia. **(Invited Talk)**