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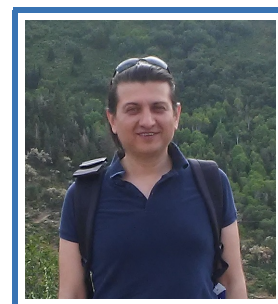
Şenol Pişkin

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in [senol-piskin](#)



Research Interests

Translational Healthcare Technology, Bio-medical Engineering, Blood Flow, Hemodynamics, Blood Damage, Computational and Experimental Fluid Dynamics, Finite Element Analysis, Fluid-Structure Interaction, Computational Science, Parallel Computing, High Performance Computing, Cardiovascular Simulation, Bio-mechanics, Surgical Planning, Biomimetics, Microfluidic Devices, Bio-materials, Bio-medical Conduits and Devices, Hemodynamics, Rheology

Academic Experience

- February 2017 – Present **Research Associate**, *University of Texas*, San Antonio – USA.
Pulmonary hypertension, Accurate modeling of lungs, growth, cardiac CT/MR image segmentation for simulation and rapid prototyping, predicting rupture risk of cerebral and aortic aneurysms, device design
- August 2018 – January 2019 **Instructor**, *University of Texas*, San Antonio – USA.
Biomechanics II: Cardiovascular fluid dynamics
- Aug 2013 – February 2017 **Post Doctoral Fellow**, *Koc University & Carnegie Mellon University*.
Cardiovascular simulation, sketch-based surgery planning, growth, cardiac CT/MR image segmentation for rapid prototyping, coordination of research group, grant application, invention disclosure, supervision of the PhD, master and bachelor biomedical, mechanical and computer engineering students
- Feb – Jul 2013 **Researcher**, *Dogus University*, Istanbul – Turkey.
Cardiovascular fluid-structure interaction simulation, opening and closure of ventricle valve
- Nov 2001 – Nov 2012 **Graduate Research Assistant**, *Istanbul Technical University*, Istanbul – Turkey.
Research and Teaching activities

Education

- 2004 – 2013 **Ph.D. in Computational Science and Engineering**, *Istanbul Technical University*, Istanbul – Turkey.

2001 – 2004 **M.Sc. in Computational Science and Engineering**, *Istanbul Technical University*, Istanbul – Turkey.

1997 – 2001 **B.Sc. in Mechanical Engineering**, *Istanbul Technical University*, Istanbul – Turkey.

Ph.D. Thesis

Title *A Numerical Three Dimensional Blood - Artery Wall Interaction Model for Human Carotid Artery and Its Applications*

Supervisor Prof. M. Serdar Çelebi

Description The thesis includes several technical and clinical projects about modeling of large arteries

- Data acquisition and 3D reconstruction of patient-specific cardiovascular anatomies (Clinical meetings, literature search, image analysis, statistical analysis, evaluation of clinical relevance).
- Modeling blood flow in arteries using computational fluid dynamics (Software development, boundary condition implementation, mesh generation, post-processing, evaluation of clinical relevance)
- Analysing and modeling material behavior of carotid artery (Fitting material properties of the artery, finite element modeling, software development, post-processing, evaluation of clinical relevance)
- Fluid-structure interaction (Coupling fluid and structure codes, software development, optimization, post-processing, evaluation of clinical relevance)
- High-performance computing (Distributed computing of fluid and structure codes separately, parallel computing of fluid-structure interaction coupling code, performance analysis)
- Visualization and animation (Software development, GPU computing, parallel processing, large data management)

Graduation Project M.Sc.

Title *Model of Blood Flow in Carotid Artery Bifurcation using Computational Fluid Dynamics*

Supervisor Prof. M. Serdar Çelebi

Description Detailed analysis of a parametric artery model was performed. Effect of stenosis was investigated. A software was developed in order the generate many different models automatically. Simulations were performed in a parallel computing environment.

Graduation Project B.Sc.

Title *Calibration of Liquid Crystal Films*

Supervisor Prof. Mustafa Özdemir (promoter) and Prof. Murat Çakan (co-promoter)

Description Several experiments were performed to calibrate the liquid crystal films with respect to temperature and temperature changes within a specified range. Results were post-processed on computer.

Professional Experience

- December, 2013 – Present **Co-founder and CTO, Hemodyn, LLC, – .**
A Healthcare IT StartUp
- August, 2004 – June, 2013 **Engineering Applications Consultant and Administrator, National Supercomputing Center, Istanbul – Turkey.**
Supported system administrators during engineering software installation and case run. Helped users preparing their cases and solving their problems. Prepared scripts for best system performance. Field of applications includes computational fluid dynamics, computational structural mechanics and parallel visualization.
- Jul 2000 – May 2001 **Project Assistant, Arçelik A.Ş., Istanbul – Turkey.**
Carried out several engineering projects, including modeling (the scattering) of the amount of water used in washing machines.

Honors, awards, grants, and rankings

- 2019 **The Fields Institute for Research in Mathematical Sciences, Travel Award, UofT.**
Toronto, Ontario, Canada
- 2019 **Office of the Vice President for Research, Economic Development and Knowledge Enterprise, Travel Award, UTSA.**
San Antonio, Texas, USA
- 2018 **San Antonio Postdoctoral Research Forum (SAPRF), 2nd Best Poster Presentation Award, UTHealth.**
San Antonio, Texas, USA
- 2018 **on Image-based Biomedical Modeling (The University of Utah), Scholarship for Summer Course - IBBM, NIH.**
Park City, Utah, USA
- 2018 **for International High Performance Computing Summer School, Scholarship for Mentorship - IHPCSS, XSEDE - PRACE.**
Ostrava, Czech Republic
- 2017 **for Integrated Computational Materials Education (University of Michigan), Scholarship for Summer School - ICMEd, NSF.**
Ann Arbor, Michigan, USA
- 2016-2017 **The Scientific and Technological Research Council of Turkey, 2219 Postdoctoral Fellowship for University of Texas, TUBITAK.**
San Antonio, Texas, USA

- 2017 **The Scientific and Technological Research Council of Turkey**, *Investigated Patent Promotion*, TUBITAK.
TURKEY
- 2016 **Hyperloop Pod Competition Design Weekend (Texas A&M University)**, *Finalist and scholarship for attendance, travel*, SPACEX.
Austin, Texas, USA
- 2016 **Koç University**, *Patent Days Plate Award*, KU, TTO.
İstanbul, TURKEY
- 2015 **in Computational Sciences - Partnership for Advanced Computing in Europe**, *Scholarship for International Summer School on HPC Challenges*, PRACE.
Toronto, CANADA
- 2014 **The Scientific and Technological Research Council of Turkey**, *1512 Entrepreneurship Funding (65K USD): (Proje fonu - 100bin TL)*, TUBITAK.
TURKEY
- 2014 **The Scientific and Technological Research Council of Turkey**, *1602 Patent Support Program*, TUBITAK.
TURKEY
- 2013 **New Ideas New Businesses - Middle East Technical University**, *Entrepreneurship Competition Grand (1.) Prize (60K USD):*, METU.
Yeni Fikirler Yeni İşler Proje Ödülü - 100bin TL, Ankara, TURKEY
- 2013 **The Scientific and Technological Research Council of Turkey**, *1602 Patent Support Program*, TUBITAK.
TURKEY
- 2013 **Partnership for Advanced Computing in Europe**, *Research and Computing Source Fund*, PRACE, EU-FP7.
FRANCE and GERMANY
- 2012 **ITN in Advanced Techniques in Computational Mechanics, Marie Curie Actions**, *Scholarship for summer school on Discontinuous Galerkin Methods*, ATCoMe and E-CAero.
and European Collaborative Dissemination of Aeronautical research and applications, Aeronautics and Air Transport Coordination and Support Action, Barcelona, SPAIN
- 2010 **The Scientific and Technological Research Council of Turkey**, *Summer school participation and travel support*, TUBITAK.
Jyväskylä, FINLAND
- 2010 **The Scientific and Technological Research Council of Turkey**, *Conference participation and travel support*, TUBITAK.
Chongqing, CHINA
- 2008 **European Union Marie Curie Conferences and Training Courses**, *Scholarship for European Mathematical Society Summer Schools*, EMS.
Cortona, ITALY

- 2008 **Centre d'Été Mathématique de Recherche Avancée en Calcul Scientifique**, *Junior Grants for summer schools and workshops*, CEMRACS.
Marseille, FRANCE
- September 2007 **European Atelier for Engineering and Computational Sciences**, *Young researcher scholarship*, EUA4X.
Crete, GREECE
- September 2007 **European Atelier for Engineering and Computational Sciences**, *Young researcher scholarship*, EUA4X.
Rome, ITALY
- 2007 **Centre d'Été Mathématique de Recherche Avancée en Calcul Scientifique**, *Junior Grants for summer schools and workshops*, CEMRACS.
Marseille, FRANCE
- 2007 **Translational Access Programme**, *EC-funded research visit support to Edinburgh*, HPC-Europa.
Edinburgh, SCOTLAND
- November 2005 **European Atelier for Engineering and Computational Sciences**, *Young researcher scholarship*, EUA4X.
Brussels, BELGIUM
- October 2005 **European Atelier for Engineering and Computational Sciences**, *Young researcher scholarship*, EUA4X.
Lecce, ITALY
- June 2005 **European Atelier for Engineering and Computational Sciences**, *Young researcher scholarship*, EUA4X.
Ancona, ITALY
- 2004 , *1st among all attendants award*, BSUN summer school final exam, Sakarya, TURKEY.
- 2004 , *Summer school support*, Black Sea Universities Network (BSUN), Sakarya, TURKEY.
- Between 2004 and 2019 **The Scientific and Technological Research Council of Turkey**, *Several promotions for journal publications*, TUBITAK.
TURKEY
- Between 2004 and 2015 **Istanbul Technical University**, *Several promotions for journal publications*, ITU.
TURKEY
- 1997 , *In the first 1000 out of 1,4 million applicants*, University entrance exam, TURKEY.

Project Activities

- **TUBITAK, Turkey** The Scientific and Technological Research Council of Turkey TEYDEB 1512

Principal Investigator

2013-2014

In this project, we developed a patient-specific pre-surgical planning platform for congenital heart defect operations. We implemented computational fluid dynamics tools to simulate blood flow of surgery scenarios to calculate post-surgery operation performance.

- **TUBITAK, Turkey** The Scientific and Technological Research Council of Turkey TEYDEB 1601

Principal Investigator

2016-2017

In this project, we proposed methodologies for semi-automatic segmentation of scanned pediatric patient data. The patient-specific geometry will be reconstructed and be prepared for computational fluid dynamics or structural mechanics analyses.

- **TUBITAK, Turkey** The Scientific and Technological Research Council of Turkey ARDEB 1003

Researcher

2015-2018

This project's main goal is to develop a medical image based computer-aided design/modeling tools for the patient-specific design of vascular conduits and grafts, and for the pre-operational surgical planning, aimed for the neonatal and pediatric congenital heart and vascular surgeries. The novelty of the proposed pre-surgical patient-specific design framework is its ability to employ bio-mechanical modeling of soft-tissue behavior under mechanical loading in order to predict post-operational outcomes.

- **University of Bath, England** International Research Funding

Researcher

2015-2017

In this seed project, we aim to improve the fluid dynamics performance of cardiovascular components via active and passive flow control principles. Expanding on the research interests of the partner laboratories, we will focus both on cardiovascular devices (ventricle assist devices and cardiopulmonary by-pass cannulas) and in-vivo models (for example, controlling flow in the embryonic heart during development).

- **ERC PoC** European Research Council - Proof of Concept Funding

Researcher

2014-2016

This type of funding was granted first time in Turkey to our company Hemodyn, LLC. We worked on sketch-based, online surgical planning platform to repair the heart and vascular anomalies, particularly by patch implementation. The scope of the study aimed to cover the growth of the patient cardiovascular system so that the surgery performance will be higher for a longer life span.

- **PRACE, European Union** Partnership for Advanced Computing in Europe

Researcher

2015-2016

We studied GPU solver performance of matrices produced by fluid flow simulation using the incompressible, laminar OpenFOAM solvers implemented in SuperLU direct solver libraries.

- **PRACE, European Union Partnership for Advanced Computing in Europe**
Researcher **2013-2014**
We studied a fluid flow simulation using the incompressible, laminar OpenFOAM solver icoFoam and other direct solvers (kernel class) such as SuperLU DIST 3.3 and SuperLU MCDT (Many-Core Distributed) for the large almost Penta-diagonal and almost Hepta-diagonal matrices coming from the simulation of flow with a structured mesh domain.

Journal Publications

- **A Canonical Correlation Analysis on the Relationship between Clinical Attributes and Patient-Specific Hemodynamic Indices in Adult Pulmonary Hypertension**, Şenol Pişkin, Sourav Patnaik, David Han, Alifer Bordonas, Srinivas Murali, Ender A. Finol, **Medical Engineering & Physics**, To be Submitted, 2019
- **Computational Fluid Dynamics as a Non-Invasive Tool for Assessment of Pulmonary Hypertension**, Şenol Pişkin, Alifer Bordonas, Vitaly Kheyfets, Sourav Patnaik, Kerem Pekkan, Srinivas Murali, Ender A. Finol, **Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine**, Submitted, 2019
- **Integrated visualization of multi-scale hemodynamics in human pulmonary arteries**, Pavan Pillalamarri*, Şenol Pişkin*, Ender A. Finol, **Journal of Visualization**, Submitted, 2019, *Both authors contributed equally to this paper
- **Comparison of Non-Newtonian Viscosity Models for Blood Flow in a Stenosed Patient-Specific Carotid Artery Using Measured Pulsatile Inlet Data**, Şenol Pişkin*, Hasret Türkeri, M. Serdar Çelebi, **Medical and Biological Engineering and Computing**, Submitted, 2019, *Corresponding author
- **Patient-specific hemodynamics of new coronary artery bypass configurations**, Gokce Nur Oguz, Şenol Pişkin, Sanser Ates, Tijen Alkan Bozkaya, Erhan Tenekecioğlu, Haldun Karagoz, Kerem Pekkan, **Cardiovascular Engineering and Technology**, Submitted, Major revisions, 2019
- **Biomechanical Restoration Potential of Pentagalloyl Glucose after Arterial Extracellular Matrix Degeneration**, Sourav Patnaik, Şenol Pişkin, Narasimha Rao Pillalamarri, Gabriella Romero Uribe, G. Patricia Escobar, Eugene Sprague, Ender A. Finol, **Bioengineering**, Accepted, 2019
- **Multiple Aneurysms AnaTomy Challenge 2018 (MATCH) - Phase II: Rupture Risk Assessment**, International Study, Şenol Pişkin with Multi-authors, **International Journal of Computer Assisted Radiology and Surgery**, Accepted, 2019
- **Multiple Aneurysms AnaTomy Challenge 2018 (MATCH) - Phase I: Segmenta-**

- tion, International Study, Şenol Pişkin with Multi-authors, **Cardiovascular Engineering and Technology**, Volume 9, Issue 4, 2018
- **Real-World Variability in the Prediction of Intracranial Aneurysm Wall Shear Stress: The 2015 International Aneurysm CFD Challenge**, Kristian Valen-Sendstad, Aslak W. Bergersen, Yuji Shimogonya, Leonid Goubergrits, Jan Bruening, Jordi Pallares, Anton Vernet, Şenol Pişkin, et al., **Cardiovascular Engineering and Technology**, Volume 9, Issue 4, 2018
 - **Parametric limits of computational pre-surgical pulmonary artery patch reconstruction framework**, S.Samaneh Lashkarinia, Senol Piskin, Tijen A.Bozkaya, Ece Salihoglu, Can Yerebakan, Kerem Pekkan, **Annals of Biomedical Engineering**, Volume 46, Issue 9, 2018
 - **The effect of modified Blalock-Taussig shunt anastomosis angle and pulmonary artery diameter on pulmonary flow**, Ahmet Arnaz*, Senol Piskin*, Gokce Nur Oguz, Yusuf Yalcinbas, Kerem Pekkan, Tayyar Sarioglu, **The Anatolian Journal of Cardiology**, Volume 20, Issue 1, 2018, *Both authors contributed equally to this paper
 - **Cover Art: Hemodynamical visualization of pulmonary hypertension disease**, Senol Piskin, Alifer D. Bordones, Kerem Pekkan, Ender A. Finol, **Pulmonary Circulation**, 2018, Accepted
 - **Hemodynamic Recovery of a Twisted Testicular Artery Lumen**, Selda Goktas, Ozlem Yalcin, Erhan Ermek, Senol Piskin, Can Taylan Capraz, Yusuf Ozgur Cakmak, Kerem Pekkan, **Nature - Scientific Reports**, Volume 7, Number 15570, 2017
 - **Tetralogy of Fallot surgical repair: Shunt configurations, ductus arteriosus and the Circle of Willis**, Şenol Pişkin, Gözde Ünal, Kerem Pekkan, **Cardiovascular Engineering and Technology**, Volume 8, Issue 2, 2017, Most Downloaded paper list in 2017
 - **The total cavopulmonary connection buckling increase energy loss**, Gökçe N. Oğuz*, Şenol Pişkin*, Erhan Ermek, Naz Altekin, Samir Donmazov, Ahmet Arnaz, Kerem Pekkan, **Journal of Medical Devices**, Volume 11, Issue 2, 2017, *Both authors contributed equally to this paper
 - **Hemodynamics of patient-specific aorta-pulmonary shunt configurations**, Şenol Pişkin, Fırat H. Altın, Okan Yıldız, İhsan Bakır, Kerem Pekkan, **Journal of Biomechanics**, Volume 50, 2016
 - **The Computational Fluid Dynamics Rupture Challenge 2013 - Phase II: Variability of Hemodynamic Simulations in Two Intracranial Aneurysms**, International

Study, Şenol Pişkin with Multi-authors, **Journal of Biomechanical Engineering**, Volume 137, Issue 12, 2015

- **Computational Modeling of Neonatal Cardiopulmonary Bypass Hemodynamics with Full Circle of Willis Anatomy**, Şenol Pişkin, Akif Ündar, Kerem Pekkan, **Artificial Organs**, Volume 39, Issue 10, 2015
- **Non-invasive in vivo Determination of Residual Strains and Stresses**, Samir Dönmazov, Şenol Pişkin, Kerem Pekkan, **Journal of Biomechanical Engineering**, Volume 137, Issue 6, 2015
- **Scalability of OpenFOAM for bio-medical flow simulations**, Ahmet Duran, M. Serdar Çelebi, Şenol Pişkin, Mehmet Tuncel, **The Journal of Supercomputing**, Volume 71, Issue 3, 2015
- **Analysis of the effects of different pulsatile inlet profiles on the hemodynamical properties of blood flow in patient specific carotid artery with stenosis**, Şenol Pişkin*, M. Serdar Çelebi, **Computers in Biology and Medicine**, Volume 43, Issue 6, Pages 717-728, 2013, *Corresponding author was in the Most Downloaded Paper List in 2013, 2014 and 2015
- **Computational Science and Engineering at Istanbul Technical University**, Hasan Dağ, Gürkan Soykan, Şenol Pişkin, Osman Yaşar, **Computing in Science and Engineering**, Volume 7, Issue 1, 2005

Book Chapter

- **Computational Science and Engineering (CSE) Education: Faculty and Student Perspectives**, Hasan Dağ, Gürkan Soykan, Şenol Pişkin, Osman Yaşar, **Lecture Notes on Computer Science** 3045 Springer 2004, ISBN 3-540-22057-7

Letter to the Editor

- **Re: Role of Flow Preference in Decision Making for Blalock-Taussig Shunt**, Ahmet Arnaz, Şenol Pişkin **The Anatolian Journal of Cardiology**, Volume 20, Issue 6, 2018

Abstracts in Journals

- **Progress in Computational Modeling of Neonatal Cardiopulmonary Bypass Hemodynamics with Detailed Circle of Willis Anatomy**, Şenol Pişkin, Akif Ündar, Kerem Pekkan, **Artificial Organs**, Volume 38, Issue 5, 2014
- **Impact of Integrated Computational Fluid Dynamics and Lumped Parameter Modeling on Neonatal CPB and Congenital Heart Surgery** Kerem Pekkan, Berk

Yiğit, Prahlad Menon, Şenol Pişkin, William Kowalski, Ahmet Sasmazel, abstract in Artificial Organs, Volume 37, Issue 4, 2013

- **A parametric (inlet) flow analysis of 3D human carotid artery using realistic geometry**, Şenol Pişkin, Erke Aribas, M. Serdar Çelebi, abstract in Journal of Biomechanics, 44, Supplement 1, May 2011
- **A comparison between non-Newtonian and Newtonian blood viscosity models**, Hasret Turkeri, Şenol Pişkin, M. Serdar Çelebi, abstract in Journal of Biomechanics, 44, Supplement 1, May 2011
- **3D flow simulation at the geometry of thirteen main arteries of a human**, Erke Aribas, Şenol Pişkin, M. Serdar Çelebi, abstract in Journal of Biomechanics, 44, Supplement 1, May 2011

Papers in preparation

- **Streamlined Microfluidic Chip Design Through Simulation for Viscosity Measurements**, Senol Piskin, Aysenur Eser, Ahmet Erten, Ozlem Yalcin, To be submitted
- **Hypoxia: The best stimulator that increases the shear-induced response of red blood cells**, Elif Ugurel*, Senol Piskin*, Ali Cenk Aksu, Ozlem Yalcin, **Frontiers in Physiology**, To be submitted, *Both authors contributed equally to this paper
- **Mechanical Characterization and Torsional Buckling Effects of Pediatric Vascular Conduits**, Samir Donmazov, Şenol Pişkin, Erhan Ermek, Ahmet Arnaz, Tijen Bozkaya, Kerem Pekkan, To be submitted to Mechanical Behaviour of Biomedical Materials
- **Optimal Material Parameters to Attain a Uniform Stress Distribution in Growing and Remodeling Arteries**, Samir Donmazov, Senol Piskin, Kerem Pekkan, To be submitted to Biomechanics and Modeling in Mechanobiology
- **Microstructural Analysis of Early Embryonic Aortic Arch Morphogenesis**, S. Samaneh Lashkarinia, Senol Piskin, Selda Goktas, Kerem Pekkan, To be submitted to PlosONE
- **An Elastic Blood-Vessel Wall Interaction Model for a Real Carotid Artery**, Şenol Pişkin, M. Serdar Çelebi, Under Review in Journal of Mechanics in Medicine and Biology (Resubmission with revision requested, it is being prepared)

Conference Publications

- **Microstructural Characterization of Intraluminal Thrombus in Abdominal Aortic Aneurysms** Pete Gueldner, Sourav Patnaik, Şenol Pişkin, Mirunalini Thirugnanasambandam, Satish Muluk, Ender A. Finol, Biomedical Engineering Society Annual Meeting - BMES 2019, Philadelphia, PA, USA, October 16 - 19, 2019, Submitted
- **Comparison of Healthy and Pulmonary Hypertension Hemodynamics** Şenol Pişkin, Ender A. Finol, Summer Biomechanics, Bioengineering, and Biotransport Conference - SB3C 2019, Seven Springs, PA, USA, June 25 - 28, 2019
- **Developing A Scalable Open-Source Solver To Simulate Hemodynamics In The Human Pulmonary Vasculature** Narasimha Rao Pillalamarri, Şenol Pişkin, A. Finol, Summer Biomechanics, Bioengineering, and Biotransport Conference - SB3C 2019, Seven Springs, PA, USA, June 25 - 28, 2019
- **In-Silico Characterization Of Patient-Specific Pulmonary Hypertension Hemo-**

- dynamics** Narasimha Rao Pillalamarri, Şenol Pişkin, Sourav Patnaik, Alifer Bordonos Ender, Vitaly Kheyfets, A. Finol, Summer Biomechanics, Bioengineering, and Biotransport Conference - SB3C 2019, Seven Springs, PA, USA, June 25 - 28, 2019
- **Biomechanical Restoration Potential of Pentagalloyl Glucose after Arterial Extracellular Matrix Damage** Sourav Patnaik, Narasimha Rao Pillalamarri, Şenol Pişkin, Mirunalini Thirugnanasambandam, Vangelina Osteguín, Gladys P. Escobar, Eugene Sprague, Ender A. Finol, Summer Biomechanics, Bioengineering, and Biotransport Conference - SB3C 2019, Seven Springs, PA, USA, June 25 - 28, 2019
 - **Regional Anisotropic Mechanical Characterization Of Porcine Pulmonary Arteries** Narasimha Rao Pillalamarri, Sourav Patnaik, Şenol Pişkin, Ender A. Finol, Summer Biomechanics, Bioengineering, and Biotransport Conference - SB3C 2019, Seven Springs, PA, USA, June 25 - 28, 2019
 - **Microstructural Characterization Of Intraluminal Thrombus In Abdominal Aortic Aneurysms** Pete Gueldner, Sourav Patnaik, Şenol Pişkin, Mirunalini Thirugnanasambandam, Satish Muluk, Ender A. Finol, Summer Biomechanics, Bioengineering, and Biotransport Conference - SB3C 2019, Seven Springs, PA, USA, June 25 - 28, 2019
 - **Microstructural Characterization of Intraluminal Thrombus in Abdominal Aortic Aneurysms** Pete Gueldner, Sourav Patnaik, Şenol Pişkin, Mirunalini Thirugnanasambandam, Satish Muluk, Ender A. Finol, San Antonio Military Health System and Universities Research Forum - SURF 2019, San Antonio, TX, USA, June 13 - 14, 2019
 - **Parallelization of a New CFD Boundary Condition for Evolving Arteriovenous Malformations** Gokç N. Oğuz, Şenol Pişkin, Kerem Pekkan, 31st International Conference on Parallel Computational Fluid Dynamics - Par CFD2019, Indianapolis, Antalya, Turkey, May 14 - 17, 2019
 - **Temporal Evolution of Abdominal Aortic Wall Stress using image-based Vascular Mechanical Characterization (iV-MeCh) technique** Mirunalini Thirugnanasambandam, Prahlad G. Menon, Stephane Avril, Şenol Pişkin, Tejas Canchi, Christof Karmonik, Ender A. Finol, ASME's International Mechanical Engineering Congress and Exposition - IMECE 2018, Pittsburgh, PA, USA, November 9 - 15, 2018
 - **Computer Aided Diagnosis, Prognosis And Treatment Of Cardiovascular Diseases: Pulmonary Hypertension, Abdominal Aortic Aneurysm And Cerebral Aneurysm,** Senol Piskin, Sourav Patnaik, Ender A. Finol, 6th Annual San Antonio Postdoctoral Research Forum (SAPRF), UT Health, San Antonio, Texas, USA, September 18, 2018.
 - **A Canonical Correlation Analysis on the Relationship between Clinical Attributes and Patient-Specific Computational Fluid Dynamic indices in Pulmonary Hypertension Patients** Şenol Pişkin, Sourav Patnaik, Alifer D. Bordonos, Srinivas Murali, Ender A. Finol, 8th World Congress of Biomechanics - WCB 2018, Dublin, Ireland, July 8 - 12, 2018
 - **Biomechanical Changes in the Porcine Abdominal Aorta after Treatment with Pentagalloyl Glucose** Şenol Pişkin, Sourav S. Patnaik, Miguel Guerrero, Gladys Escobar, Eugene Sprague, Ender A. Finol, 8th World Congress of Biomechanics - WCB 2018, Dublin, Ireland, July 8 - 12, 2018
 - **A New CFD Boundary Condition for Evolving Arterial to Venous Malformations**

- in the Brain and Lung** Gokçe N. Oğuz, Şenol Pişkin, Hakan Hanimoglu, Ender A. Finol, Kerem Pekkan, 8th World Congress of Biomechanics - WCB 2018, Dublin, Ireland, July 8 - 12, 2018
- **Hypoxia: The Best Stimulator that Increases Shear-Induced Response of Red Blood Cell** Elif Ugurel, Ali Cenk Aksu, Senol Piskin, Ozlem Yalcin, Joint Meeting of The European Society for Clinical Hemorheology and Microcirculation The International Society of Clinical Hemorheology The International Society of Biorheology - ESCHM-ISB-ISCH 2018, Krakow, Poland, July 2 - 6, 2018
 - **Soft error sensitivity of large scale CFD applications** E Fatih Yetkin, Şenol Pişkin, 10th International Workshop on Parallel Matrix Algorithms and Applications - PMAA18, ETH Zurich, Zurich, Switzerland, June 27 - 29, 2018, Invited
 - **Radiation-induced Non-targeted Changes in Arterial Tissue Mechanics** Sourav S. Patnaik, Catherine M. Davis, Mirunalini Thirugnanasambandam, Şenol Pişkin, Anthony G. Lau, and Ender A. Finol, Conference on Normal Tissue Radiation Effects and Countermeasures, a Winthrop Rockefeller Conference - CONTREC 2018, Winthrop Rockefeller Institute, Petit Jean Mountain, Moritton, AR, USA, May 14 - 17, 2018, Invited
 - **Parallelization of a New CFD Boundary Condition for Evolving Arteriovenous Malformations** Gokçe N. Oğuz, Şenol Pişkin, Kerem Pekkan, 30th International Conference on Parallel Computational Fluid Dynamics - Parallel CFD2018, Indianapolis, IN, USA, May 14 - 17, 2018, Invited
 - **Disease severity index derived from hemolysis evaluation** Şenol Pişkin, Ender A. Finol, Kerem Pekkan, 70th Annual Meeting of the American Physical Society Division of Fluid Dynamics - APS DFD 2017, Denver, CO, USA, November 19 - 21, 2017
 - **Computational Fluid Dynamics as a Non-Invasive Tool for Assessment of Pulmonary Hypertension** Şenol Pişkin, Alifer Bordones, Vitaly Kheyfets, Sourav Patnaik, Kerem Pekkan, Ender A. Finol, The 54th Annual Technical Meeting of the Society of Engineering Science - SES 2017, ASME-AMD Joint Conference, Boston, MA, USA, July 25 - 28, 2017
 - **Ex-Vivo Mechanical Characterization of the Canine Abdominal Aorta** Sourav S. Patnaik, Mirunalini Thirugnanasambandam, Gladys P. Escobar, Eugene A. Sprague, Şenol Pişkin, Ender A. Finol, The 54th Annual Technical Meeting of the Society of Engineering Science - SES 2017, ASME-AMD Joint Conference, Boston, MA, USA, July 25 - 28, 2017
 - **Cardiovascular Surgical Planning Demonstration** Şenol Pişkin, Bringing Advanced Concepts to Life, Cool Ideas Expo, Engineering Science Education, The 54th Annual Technical Meeting of the Society of Engineering Science - SES 2017, ASME-AMD Joint Conference, Boston, MA, USA, July 25 - 28, 2017, Invited
 - **The effect of modified Blalock-Taussig shunt anastomosis angle and pulmonary artery diameter on pulmonary flow** Ahmet Arnaz, Şenol Pişkin, Yusuf Yalçınbaş, Tayyar Sarıoğlu, Kerem Pekkan, 7th World Congress of Pediatric Cardiology & Cardiothoracic Surgery - WCPCCS 2017, Barcelona, Spain, July 16 - 21, 2017
 - **Parametric analysis of new coronary artery bypass configurations** Gokçe N. Oğuz, Şenol Pişkin, Tijen A.Bozkaya, Mehmet Sanser Ates, Haldun Karagoz, Kerem Pekkan, Summer Biomechanics, Bioengineering and Biotransport Conference - SB3C 2017, Tucson,

AZ, USA, June 21 - 24, 2017

- **Patient Specific, Image Based Cardiovascular Disease Modeling Using Computational Fluid Dynamics (Hastaya Özgü Görüntü Tabanlı Hesaplamalı Akışkanlar Dinamiği ile kardiyovasküler Hastalık Modellemesi)** Gokç N. Oğuz, Şenol Pişkin, Kerem Pekkan, The 22nd International Biomedical Science and Technology Symposium - BIOMED 2017, Ankara, Turkey, May 12 - 14, 2017
- **Modifiye Blalock-Taussing Şant Anastomoz Açısının ve Pulmoner Arter Çaplarının Pulmoner Akım Üzerine Etkisi** Ahmet Arnaz, Şenol Pişkin, Yusuf Kenan Yalçınbaş, Kerem Pekkan, Tayyar Sarioğlu, 16. Ulusal Pediyatrik Kardiyoloji ve Kalp Cerrahisi Kongresi, Antalya, Turkey, April 19 - 22, 2017
- **Parametric limits and sensitivity of pulmonary outflow patch reconstruction with respect to the native and artificial tissue properties** S.Samaneh Lashkarinia, Şenol Pişkin, Tijen A.Bozkaya, Samir Donmazov, Kerem Pekkan, The 14th International Symposium Computer Methods in Biomechanics and Biomedical Engineering, Tel Aviv, Israel, September 20 - 22, 2016
- **Microstructural analysis of early embryonic aortic arch morphogenesis** S.Samaneh Lashkarinia, Şenol Pişkin, Selda Göktaş, A. İdil Çakıroğlu, Fazıl E. Uslu, Kerem Pekkan, Summer Biomechanics, Bioengineering and Biotransport Conference - SB3C2016, National Harbor, MD, USA, June 29 - July 2, 2016
- **Buckling Configurations of Total Cavopulmonary Conduit** Gokç N. Oğuz, Şenol Pişkin, Erhan Ermeç, Naz Altekin, Samir Donmazov, Ahmet Arnaz, Kerem Pekkan, Summer Biomechanics, Bioengineering and Biotransport Conference - SB3C2016, National Harbor, MD, USA, June 29 - July 2, 2016
- **Evaluating the maturity of OpenFOAM simulations on GPGPU for bio-fluid applications** Ahmet Duran, Şenol Pişkin, Mehmet Tucnel, Emerging Technology Conference - EMiT 2016, Barcelona Supercomputing Center, Barcelona, Spain, June 2-3, 2016
- **Patient Specific First Stage Neonatal Shunt Hemodynamics** Şenol Pişkin, Fırat H. Altın, Kerem Pekkan, The 8th International Bio-Fluid Symposium, Pasadena, California, USA, February 12-14, 2016
- **Patient-specific Computer-aided Planning of Pulmonary Outflow Patch Reconstruction in Pediatric Congenital Heart Patients - Proof of Concept** Tijen Alkan-Bozkaya, Şenol Pişkin, Banu Köse, Atif Akçevin, Halil Türkoğlu, Tufan Paker, Kerem Pekkan, The Eleventh International Conference on Pediatric Mechanical Circulatory Support Systems and Pediatric Cardiopulmonary Perfusion, Verona, Italy, June 10 - 13, 2015
- **Emerging Predictive Tools and Hemodynamic Parameters in Pediatric Cardiovascular Bioengineering** Şenol Pişkin, Yusuf Yalçınbaş, Tayyar Sarioğlu, Kerem Pekkan, Pediatric Biomechanics Symposium, 7th World Congress of Biomechanics, Boston, MA, USA, July 6 - 11, 2014
- **Progress in Computational Modeling of Neonatal Cardiopulmonary Bypass Hemodynamics with Detailed Circle of Willis Anatomy** Şenol Pişkin, Akif Ündar, Kerem Pekkan, Tenth International Conference on Pediatric Mechanical Circulatory Support Systems and Pediatric Cardiopulmonary Perfusion, Hershey, PA, USA, May 28 - 31, 2014
- **Computational Modeling of First-Stage Shunt Hemodynamics: Novel Shunt Con-**

- figurations, Diameter and Cerebral Great Vessels** Şenol Pişkin, Gözde Ünal, Yusuf Yalçınbaş, Tayyar Sarıoğlu, Kerem Pekkan, 4th International Conference on Engineering Frontiers in Pediatric and Congenital Heart Disease, Paris, France, May 21 - 22, 2014
- **Konjenital Kalp Hastalıklarında Cerrahi Öncesi Hemodinamik Planlama ve In-vitro Biyomühendislik Test Platformu**, Şenol Pişkin, Sezin Nargül, Kerem Pekkan, 13. Ulusal Pediatrik Kardiyoloji ve Kalp Damar Cerrahi Kongresi - PEDKAR2014, Diyarbakır, Turkey, April, 16-19, 2014
 - **CFD Challenge 2013 for Rupture Prediction in Intracranial Aneurysms**, 12th Congress of the World Federation of Interventional and Therapeutic Neuroradiology joint with International IntraCranial Stent Meeting - WFITN+ICS2013, Buenos Aires, Argentine, November 9-14, 2013
 - **Impact of Integrated Computational Fluid Dynamics and Lumped Parameter Modeling on Neonatal CPB and Congenital Heart Surgery** Kerem Pekkan, Berk Yiğit, Prahlad Menon, Şenol Pişkin, William Kowalski, Ahmet Sasmazel, Ninth International Conference on Pediatric Mechanical Circulatory Support Systems and Pediatric Cardiopulmonary Bypass, Hershey, PA, USA, May 8 - 11, 2013
 - **Blood Flow in Realistic Neonatal Aorta using Open Source Software OpenFOAM**, Şenol Pişkin, Onur Dur, Kerem Pekkan, 8th International OpenFOAM Workshop, Jeju, Korea, June 11-14, 2013
 - **Bir Boyutlu Damar Hareketi ile Sayısal Kan Akışı Benzetimi**, Şenol Pişkin, M. Serdar Çelebi, Tıp Teknolojileri Ulusal Kongresi - TIPTEKNO 12, Antalya, Turkey, November 1-3, 2012
 - **Numerical Blood Flow Simulation with Predefined Artery Movement**, Şenol Pişkin, M. Serdar Çelebi, 5th International Conference on BioMedical Engineering and Informatics, BMEI'12, Chongqing, China, October 16-18, 2012
 - **Açık Kaynak Kodlu Yazılımlarla Biyolojik Akış Uygulamaları - Biofluid Flow Applications by Open-Source Software**, Şenol Pişkin, Abdurrahman Akkuş, 17. Biyomedikal Mühendisliği Ulusal Toplantısı - BIYOMUT 2012, Istanbul, Turkey, October 3-5, 2012
 - **Ön Tanımlı Damar Hareketi ile Sayısal Kan Akışı Benzetimi**, Şenol Pişkin, M. Serdar Çelebi, Tıp Teknolojileri Ulusal Kongresi - TIPTEKNO 11. BIYOMUT 2011 - 16. Biyomedikal Mühendisliği Ulusal Toplantısı, Antalya, Turkey, October 13-16, 2011
 - **Comparison of Two Blood Flow Simulations with and without a Compliant Vessel Wall Model**, Şenol Pişkin, M. Serdar Çelebi, 3rd International Conference on Computational Methods in Engineering and Science, FEMTEC (Finite Element Methods in Engineering and Science) 2011, South Lake Tahoe, USA, May 9-13, 2011
 - **Visualization of Blood Flow Simulation in Human Arteries**, Esra Baltaoglu, Şenol Pişkin, M. Serdar Çelebi, 3rd International Conference on Computational Methods in Engineering and Science, FEMTEC (Finite Element Methods in Engineering and Science) 2011, South Lake Tahoe, USA, May 9-13, 2011
 - **Coupled Simulation of Viscoelastic Artery and Newtonian Blood Flow Models**, Şenol Pişkin, M. Serdar Çelebi, 1st International Conference on Multiphysics Simulation - Advanced Methods for Industrial Engineering, Bonn, Germany, June 22-23, 2010
 - **A 3d Human Carotid Artery Simulation Using Realistic Geometry with Two-Level**

- Bifurcation and Experimental Inlet Velocity Profile**, Şenol Pişkin, Erke Aribas, M. Serdar Çelebi, Fifth European Conference on Computational Fluid Dynamics, Lisbon, Portugal, June 14-17, 2010
- **Non-Newtonian Blood Flow simulation in a Realistic Artery Domain**, Hasret Türkeri, Şenol Pişkin, M. Serdar Çelebi, Fifth European Conference on Computational Fluid Dynamics, Lisbon, Portugal, June 14-17, 2010
 - **Simulation of Blood Flow in Human Aorta Including Thirteen Main Arteries**, Erke Aribas, Şenol Pişkin, M. Serdar Çelebi, Fifth European Conference on Computational Fluid Dynamics, Lisbon, Portugal, June 14-17, 2010
 - **Gerçek Geometri ve Çeşitli Deneysel Giriş Koşulları Kullanılarak Üç Boyutlu İnsan Şah Damarı Benzetimi**, Şenol Pişkin, Erke Aribas, M. Serdar Çelebi, Uluslararası Katılımlı V. Ulusal Biyomekanik Kongresi, Çeşme, İzmir, Turkey, September 23-25, 2010
 - **Newtonyen olan ve olmayan Kan Viskozite Modellerinin Karşılaştırılması**, Hasret Türkeri, Şenol Pişkin, M. Serdar Çelebi, Uluslararası Katılımlı V. Ulusal Biyomekanik Kongresi, Çeşme, İzmir, Turkey, September 23-25, 2010
 - **13 Ana Damarla birlikte 3B Kan Akış Benzetimleri**, Erke Aribas, Şenol Pişkin, M. Serdar Çelebi, Uluslararası Katılımlı V. Ulusal Biyomekanik Kongresi, Çeşme, İzmir, Turkey, September 23-25, 2010
 - **3D Blood Flow Simulations in Human Arterial Tree Bifurcations**, Erke Aribas, Şenol Pişkin, M. Serdar Çelebi, BIYOMUT: 2009 14th National Biomedical Engineering Meeting, Izmir, Turkey, May 20-22, 2009
 - **Coupled Simulation of a Carotid Artery Bifurcation**, Şenol Pişkin, Erke Aribas, M. Serdar Çelebi, 10th Mesh Based Parallel Code Coupling Interface User Forum, Bonn, Germany, February 17-18, 2009
 - **Carotid Artery Modelling Using Real Geometry**, Şenol Pişkin, M. Serdar Çelebi, Meeting on Applied Scientific Computing and Tools Grid Generation, Approximation and Visualization MASCOT 07, Rome, Italy, September 2007
 - **Investigating the Effects of Variable Inlet Velocity Profiles at Main Carotid Artery and Different Carotid Artery Bifurcation Angles**, Şenol Pişkin, M. Serdar Çelebi, International Conference on Computational Science and Education - ICCSE 2006, Rochester, USA, August 7-10, 2006
 - **Three Dimensional Carotid Artery Modeling in a Parallel Environment**, Şenol Pişkin, M. Serdar Çelebi, Meeting on Applied Scientific Computing and Tools Grid Generation, Approximation and Visualization - MASCOT 05, Lecce, Italy, October 2005
 - **Effect of Changing the Parameters of a Carotid Artery Bifurcation Model**, Şenol Pişkin, M. Serdar Çelebi, International Conference on CAE and Computational Computational Technologies for Industry - TCN CAE 2005, Lecce, Italy, October 5-8, 2005
 - **Kriging Reconstruction of Gappy Data for Twin-Jet Flow**, Şenol Pişkin, Hasan Güneş, International Conference of Computational Science and Engineering - ICCSE'05, Istanbul, Turkey, June 27-30, 2005
 - **Computational Science and Engineering (CSE) Education: Faculty and Student Perspectives**, Hasan Dağ, Gürkan Soykan, Şenol Pişkin, Osman Yaşar, International Conference of Computational Science and Applications - ICCSA 2004, Assisi, Italy, May

14-17, 2004

- **A Carotid Artery Bifurcation Modelling for Blood Flow**, Şenol Pişkin, M. Serdar Çelebi, 7th International Symposium on Fluid Control, Measurement and Visualization, FLUCOME '03, Sorrento, Italy, August 25-28 2003.

Posters

- **Computational and Experimental Studies On Diagnosis, Prognosis And Treatment Of Cardiovascular Diseases: Pulmonary Hypertension, Abdominal Aortic Aneurysm And Cerebral Aneurysm**, Senol Piskin, Sourav Patnaik, Ender A. Finol, 6th Annual San Antonio Postdoctoral Research Forum (SAPRF), UT Health, San Antonio, Texas, USA, September 18, 2018.
- **Attempting Prognosis of Pulmonary Hypertension (PH) via Computational Fluid Dynamics**, Narasimha Rao Pillalamarri, Senol Piskin, Vitaly Kheyfets, Alifer Bordones, and Ender A. Finol, Scientific Computing with Python conference - SciPy 2018 - John Hunter Excellence in Plotting Contest, Austin, Texas, USA, July 9-15 2018.
- **Automatic Geometric Characterization of Pulmonary Arteries**, Gary Hernandez, Şenol Pişkin, Ender A. Finol, 2018 Undergraduate Research & Creative Inquiry Showcase, the University of Texas at San Antonio, San Antonio, Texas, USA, April 19, 2018.
- **Novel Catheter Design for Delivery of PGG in Large Arteries**, Vangelina Osteguín, Sourav Patnaik, Şenol Pişkin, Ender A. Finol, 2018 Undergraduate Research & Creative Inquiry Showcase, the University of Texas at San Antonio, San Antonio, Texas, USA, April 19, 2018.
- **Computational Surgical Planning and Non-Invasive Diagnosis Methodologies with Experimental Validation** Şenol Pişkin, Kerem Pekkan, Ender A. Finol, 6th Summer School for Integrated Computational Materials Education - ICMEd 2017, the University of Michigan at Ann Arbor, MI, USA, June 5 - 16, 2017
- **In silico planning of complex cardiovascular surgeries for optimal physiological outcome** Kerem Pekkan, Şenol Pişkin, Volkan Tuncay, Üniversite-Sanayi İşbirliği Merkezleri Platformu - ÜSİMP PATENT FUARI 2015, Harbiye Askeri Müzesi, Istanbul, Turkey, November 11 - 12, 2015

Workshops

- **Multiple Aneurysms AnaTomy Challenge 2018 (MATCH)**, 15th Interdisciplinary Cerebrovascular Symposium - ICS2018, June, 6-8, 2018, Magdeburg, GERMANY
- **International Aneurysm CFD Challenge 2015: Segmentation, Human vs. Computer**, 13th International IntraCranial Stent Meeting Interdisciplinary Cerebrovascular Symposium - ICS2016, November, 26-27, 2016, Kobe, JAPAN
- **SpaceX Hyperloop Pod Competition Design Weekend**, Design of the Hyperloop Pod, January 29-30, 2016, Texas A&M University, Austin, Texas, USA,
- **International Aneurysm CFD Challenge 2015: Segmentation, Human vs. Computer**, 13th Congress of the World Federation of Interventional and Therapeutic Neuroradiology joint with International IntraCranial Stent Meeting - WFITN+ICS2015, Gold Coast, November 9-13, 2015, Queensland, AUSTRALIA

- **9. İstanbul Sempozyumu: Türkiye’de Pediyatrik Kalp Cerrahisi, CPB&ECLS Sistemlerinin Geliştirilmesi ve Komplikasyon Oranlarının Düşürülmesi İçin Öneriler**, 14 November 2015, İstanbul, TURKEY
- **International Aneurysm CFD Challenge 2015: Segmentation, Human vs. Computer**, Summer Biomechanics, Bioengineering & Biotransport Conference - SB3C2015, June, 17-20, 2015, Snowbird Resort, Utah, USA
- **8. İstanbul Sempozyumu: Türkiye’de Pediyatrik Kalp Cerrahisi, CPB&ECLS Sistemlerinin Geliştirilmesi ve Komplikasyon Oranlarının Düşürülmesi İçin Öneriler**, 10 January 2015, İstanbul, TURKEY
- **SPE - SIAM Mathematical Methods, Fluid Dynamics and Simulation of Giant Oil and Gas Reservoirs**, 3-5 September 2012, Swissotel, İstanbul, TURKEY
- **V. National Biomechanics Congress**, 23-25 September 2010, Cesme, Izmir, TURKEY
- **9th MPCCI User Forum**, 19-20 February 2008, Sankt Augustin, GERMANY
- **10th International Conference on Numerical Grid Generation in CFS, EUA4X #32**, 16-20 September 2007, Crete, GREECE
- **EUA4X Computational Field Simulation Days III, EUA4X#31 & MASCOT’07**, 13-14 September 2007, Rome, ITALY
- **Summer Mathematical Research Center on Scientific Computing and Its Applications**, July-August 2007, 5 Weeks, Marseille, FRANCE
- **Workshop on Combustion Science and Technology for Advanced Gas Turbines**, 28-30 March 2005, İstanbul, TURKEY
- **Chemical Kinetics and Diffusion Processes in Reactive Flows**, 7-9 June 2004, İstanbul, TURKEY

Book in preparation

- **Hemodynamic Cardiovascular Pre-Surgical Planning - a Practical Toolkit with Open Software**, Kerem Pekkan, Şenol Pişkin, in progress, signed a publishing agreement with **Springer International Publishing AG**.

Patents and Invention Disclosures

- **Yeni Doğan ve Fetüs Kalp Damar Tamir Ameliyatları İçin Ameliyat Senaryosu Akış ve Mekanik Modelleme ve Analiz Sistemi**, National (TURKEY), Issued for 20 years, PCT/TR2013/12991
- **Operation Scenario Flow and Mechanical Modeling and Analysis System of Cardiovascular Repair Operations for Newborn and Foetus**, International (EPC + US + JP), Pending, PCT/TR2014/000263
- **Pre-Operative Development of Patient-Specific Vascular Patch Graft Prototypes for Pediatric and Neonatal Patients**, International (EPC + US + JP), Pending with positive reports from European Patent Office, PCT/TR2015/000243
- **A 3-D suture robot system for stitching patient-specific 3D patches to the cardiovascular system (heart, aorta, pulmonary arteries)**, International application, submitted, 2017

- **Application of 3D Printed Scaffold to Design Patient Specific Patch**, International application, submitted, 2017
- **Node Ranking for Sharing of Computing within Cloud or Non-cloud Infrastructures, Environments, and/or Resources**, International application, submitted, 2018
- **A novel PGG drug delivery system without blocking blood flow for abdominal aortic aneurysms**, draft, 2018

———— Lecturer in courses:

- Biomechanics II: Cardiovascular
- High-Performance Computing and Parallel Programming
- Geometric Modelling and Applications
- Symbolic Programming with MuPAD

———— Guest lecturer in courses:

- Machine Design
- Biomimetics
- Introduction to Biomechanics

———— Teaching assistant in courses:

- Advanced Computational Methods for Fluids
- Analysis and Applications of Numerical Methods for ODE
- Numerical Solution of Partial Differential Equations
- Computational Grid Generation
- Parallel Numerical Algorithms and Tools
- Parallel and Distributed Computing
- Programming with C
- Programming with Fortran
- Programming and Numerical Methods with Matlab

———— Mentorship activity

- Mentored 9 MSc students and
- 10 Ph.D. students for thesis studies
- and many undergraduate students during my Ph.D. and postdoctoral studies

———— PhD Committee Member

- 1 student at the Department of Mechanical Engineering, UTSA

———— Journal Referee Activities

- Annals of Biomedical Engineering (ABME)
- Journal of Biomechanics (JBM)

- Artificial Organs (AO)
 - Cardiovascular Engineering and Technology (CVET)
 - Medical & Biological Engineering & Computing (MBEC)
 - Nature - BioMedical Engineering OnLine (BMEO)
 - Mathematics and Computers in Simulation (MATCOM)
 - Medicine
 - Fluids
 - Informatics in Medicine Unlocked (IMU)
 - PLOS One
 - Frontiers in Biotechnology and Bioengineering
 - Frontiers in Physiology (FIP)
 - Journal of Clinical Medicine
 - Clinical Hemorheology and Microcirculation (CHM)
 - Turkish Journal of Mathematics (TURKJMATH)
 - International Journal of Advanced Computer Science and Applications (IJACSA)
 - Iranian Journal of Science and Technology - Transactions of Mechanical Engineering (ISTM)
- To check recent review records, please visit: <https://publons.com/researcher/1199103/senol-piskin/peer-review>

Conference Referee Activities

- Summer Biomechanics, Bioengineering, and Biotransport Conference - SB3C 2019
- Scientific Computing with Python - SciPy 2019

Short Educations

- **HPC Training Series**, San Antonio, Texas, USA
Summer Institute on High Performance Computing, Office of Information Technology, The University of Texas at San Antonio, 2 days. July 2019
- **IBBM 2018**, Salt Lake City, Utah, USA
2018 Summer Course on Image-based Biomedical Modeling, SCI (The Scientific Computing and Imaging Institute, The University of Utah), 2 weeks. July 2018
- **Data and Information Analytics**, Austin, Texas, USA
Summer School, The TACC Institute Series, Immersive Training in Advanced computation, TACC (Texas Advanced Computing Center, The University of Texas at Austin), 1 week. June 2017
- **ICMED 2017**, Ann Arbor, Michigan, USA
Summer School for Integrated Computational Materials Education, University of Michigan), 2 weeks. June 2017
- **HPC Challenges**, Toronto, CANADA
2015 International Summer School on HPC Challenges in Computational Sciences, PRACE (Partnership for Advanced Computing in Europe), 1 week. June 2015
- **Bi-axial Testing**, Istanbul, TURKEY
Obtaining Material Properties Using Bia-axial Testing Equipment. 1 day. April 2015

- **OpenFoam on GPU**, Istanbul, TURKEY
Accelerating Large Scale CFD Analysis Using OpenFOAM on GPUs. 1 day. January 2014
- **OpenFoam Training**, Jeju, KOREA
8th International OpenFOAM Workshop, Training Day. 1 day. June 2013
- **High Performance Computing**, Istanbul, TURKEY
7th High-Performance Computing and Parallel Programming Summer School. 2 weeks. June 2012 (As a lecturer)
- **Advanced Techniques in Computational Mechanics**, Barcelona, SPAIN
Summer School on Discontinuous Galerkin Methods. 5 days. June 2012
- **Symbolic Programming**, Istanbul, TURKEY
MuPAD Programming Workshop. 10 days. September 2011 (As a lecturer)
- **GPGPU Programming**, Istanbul, TURKEY
GPGPU (CUDA, OpenCL) Programming Workshop. 4 days. June 2011
- **High Performance Computing**, Istanbul, TURKEY
6th High-Performance Computing and Parallel Programming Summer School. 2 weeks. June 2011 (As a lecturer)
- **GPU Programming**, Istanbul, TURKEY
Parallel Programming and Algorithms with GPU, Winter Workshop. 2 days. December 2010
- **Mimics and 3-Matic Software**, Istanbul, TURKEY
Mimics and 3-Matic Innovation Forum and Courses. 2 days. October 2010
- **Jyväskylä Summer School**, Jyväskylä, FINLAND
The 20th Jyväskylä Summer School. Courses of Modeling and Numerical Simulation of Biological Systems, and Introduction to Medical Imaging. 2 weeks. August 2010
- **High Performance Computing**, Istanbul, TURKEY
5th High-Performance Computing and Parallel Programming Summer School, including two days of CFD tutorial. 2 weeks. June-July 2010 (As a lecturer)
- **High Performance Computing**, Istanbul, TURKEY
High-Performance Computing and Parallel Programming Summer School, including two days of CFD tutorial. 2 week. June 2009 (As a lecturer)
- **RedHAT 5.0 and Virtualization Training**, Istanbul, TURKEY
Installation, Configuration and Application. 4 weeks. October November 2008
- **High Performance Computing**, Istanbul, TURKEY
High-Performance Computing and Parallel Programming Summer School, including one day of CFD tutorial. 2 week. September 2008 (As a lecturer)
- **European Mathematical Society Summer School**, Cortona, ITALY
Mathematical and Numerical Methods for the Cardiovascular System. 2 weeks. August 2008
- **MpCCI Training**, Sankt Augustin, GERMANY
MpCCI Basic Training seminar. 2 days. February 2008
- **High Performance Computing**, Istanbul, TURKEY
High-Performance Computing and Parallel Programming Winter Workshop, including one day of CFD tutorial. 2 week. January 2008 (As a lecturer)

- **CEMRACS'07 Scientific Computing and Its Applications**, Marseille, FRANCE
Pre and Post Processing in Scientific Computing Summer School. 1 week. July 2007
- **High Performance Computing**, Istanbul, TURKEY
High-Performance Computing and Parallel Programming Summer School. 1 week. July 2007 (As a lecturer)
- **Geometric Modelling And Applications**, Istanbul, TURKEY
Summer School on Geometric Modelling and Applications for Master and Ph.D. students. 2 weeks. June 2007 (As a lecturer)
- **LSF Batch System**, Istanbul, TURKEY
Basic and Advanced Configuration and Administration. 5 days. April 2007
- **Mimics Software**, Istanbul, TURKEY
Mimics Training (3D reconstruction of CT, MRI data of arteries and remeshing). 4 days. February-March 2007
- **Intel Software College**, Istanbul, TURKEY
High-Performance Application Tuning; Cluster Building; Programming for Multi-core (Linux). 5 days. November 2006
- **NATO RTO MSG-043 LECTURE SERIES**, Ankara, TURKEY
Integration of Modeling And Simulation. 2 days. October 2006
- **EUMEDGRID TUTORIAL**, Istanbul, TURKEY
European Mediterranean Grid Tutorial. 5 days. July 2006
- **Linux Administration**, Istanbul, TURKEY
Advanced Linux and Linux Administration. 20 days. June 2006
- **von Karman Institute Lecture Series, EUA4X#12**, Brussels, BELGIUM
Higher Order Discretization Methods for Computational Physics. 5 days. November 2005
- **CNR-IAC MASCOT, EUA4X#9**, Lecce, ITALY
Meeting on Applied Scientific Computing and Tools Grid Generation, Approximation, Simulation and Visualization. 2 days. October 2005
- **CNR-IAC EUA4X#8-Training Course**, Lecce, ITALY
State of the Art in Numerical Grid Generation From Theory to Practice. 3 days. October 2005
- **A.I.VE.LA.**, Ancona, ITALY
Short Courses on LDA and PIV. 2 days. June 2005
- **von Karman Institute Lecture Series**, Brussels, BELGIUM
Introduction to Computational Fluid Dynamics. 5 days. January 2005
- **Fluent and Gambit Training**, Istanbul, TURKEY
Basics of the use of Gambit preprocessor and Fluent solver. 4 days. September 2004
- **Black Sea Universities Network Summer School, Attendance**, Sakarya, TURKEY
Attended the International Summer School on: Computational and Experimental Simulation of Combustion & Multi-Phase Flows in Advanced Energy Systems. 6 days. July 2004
- **Black Sea Universities Network Summer School, Credits**, Sakarya, TURKEY
Passed the exam of the International Summer School on Computational and Experimental Simulation of Combustion & Multi-Phase Flows in Advanced Energy Systems. 5 Credits. July 2004

- **Matlab Training**, Istanbul, TURKEY
Basics of Matlab and its Toolboxes (Simulink, Curve Fitting, Optimization). 3 days. 2003
- **SUN High-Performance Computing Education**, Istanbul, TURKEY
Advanced Programming Techniques on Large Computer Systems. 3 days. 2003

Computer skills

Programming Languages	Fortran 77/90/95, C, C++, (Visual) Basic, parallel processing libraries (MPI, PVM, HPF, OpenMP, OpenCL, CUDA), SQL, bash, Perl, PHP, Python, R, etc.
Engineering Software	Gambit, Fluent, Abaqus, Ansys, OpenFOAM, ADINA, FEBio, I-Deas, Mathematica, Matlab, MuPAD, Mathcad, TecPlot, Paraview, Icem CFD, Mimics, 3-matic, ScanIP, Geomagic (Studio, Wrap, Freeform), VMTKLab, 3D Slicer, 3D Printing software: 3DPrint, 3DEdit Pro
Other Software	TEX/L ^A T _E X, common Windows database, spreadsheet, and presentation software
Hardware	3D Mouse (Connexion), 3D Haptic device (Touch X), 3D Printer (Projet CJP 260C), ViVitro pulse duplicator (in vitro cardiovascular hydrodynamic testing system), Bose biaxial tensile test system
Operating Systems	Unix/Linux, Windows, MacOS
Administration	Linux system administration, HPC application expert, Content management system

Selected Courses Taken

- Computational Fluid Dynamics
- Advanced Computational Fluid Dynamics
- Finite Element Methods
- Advanced Fluid Dynamics
- Analysis and Applications of Numerical Methods for ODE
- Partial Differential Equations (Analytical, Numerical)
- Computational Mechanics
- Numerical Grid Generation
- Viscoelastic Materials
- Parallel Numerical Algorithms and Tools
- Parallel and Distributed Computing
- Computational Geometry
- Boundary Element Methods
- Scientific Computing

Entrepreneurship Activities

Hemodyn, LLC, In silico surgery planning platform, Co-founder and Co-owner, 2013-present

We are providing surgeons an opportunity to implement the vessel configurations in their minds on the pre-surgical planning platform and compare the hemodynamic performance of each configuration so that the surgeon can choose the best one to implement during the real operation. This methodology can prevent re-operations that can save lives and reduce surgery costs.

Achievements;

- Selected for Ph.D. Thesis Awards, Technology Development Foundation of Turkey (TTGV), Academical Thesis Applied in Industry, 2016
- Selected for TeknoJump International Acceleration program, San Francisco, Boston, 2015-2016
- Selected for Koc University Incubation, acceleration program, 2015-2016
- Koc University Incubation, Office support, 12 months, 2015-2016
- The Scientific and Technological Research Council of Turkey (TUBITAK) TEYDEB 1512 Project Fund, 2014
- Teknopark İstanbul Office support, 12 months, 2014-2015
- Middle East Technical University YFYI Grand Prize, 1st award, 2013
- Middle East Technical University Technopark Office support, 36 months, 2013
- IBM Smart Camp Finalist, 2013
- İstanbul Technical University ARI Çekirdek Finalist, 2013

Languages

Turkish	Expert	<i>Native</i>
English	Expert	<i>Both written and spoken</i>
German	Beginner	

References

- **Ender A. Finol**: Professor, Department of Mechanical Engineering, University of Texas, San Antonio, TX, USA, e-mail: ender.finol@utsa.edu
- **Eric Brey**: Chair, Professor, Department of Biomedical Engineering, University of Texas, San Antonio, TX, USA, e-mail: eric.brey@utsa.edu
- **Kerem Pekkan**: Professor, Department of Biomedical Engineering, Carnegie Mellon University, PA, USA, & Department of Mechanical Engineering, College of Engineering, Koc University, Turkey, e-mail: kpekk@ku.edu.tr

Media Coverage

Available upon request.

Volunteer work

- June 2016 – **Mentor**, *Outreach Activity*.
- Feb 2017 Help primary, middle and high school students to interact with research tools used in our labs

Sep 2011 – **Lecturer**, *Education*.

Sep 2011 MuPAD Programming Workshop - Symbolic Programming to university grad students and faculties