

## Bilge Güvenç Tuna



Asistant Proffesor

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## Research Interest

My main research interest is focused on the influences of various cardiovascular pathologies on cardiac and vascular function. I use a wide variety of approaches including hypertension and flow restriction animal models, genetically modified animals, perfused arteries and arterioles of human and animal origin in organoid culture, cell based experimental models and mathematical modeling and simulation. Recently a project of mine called "Prevention of atherosclerotic plaque formation by targeted and controlled delivery of transglutaminase inhibitor" was supported by the Scientific and Technological Research Council of Turkey

## Biography

**PhD:** Academic Medical Center, Amsterdam, The Netherlands

Department of Biomedical Engineering and Physics, 2014.

**MS:** Hacettepe University Faculty of Medicine, Ankara, Turkey

Department of Biophysics, 2008

**BA:** Middle East Technical University, Ankara, Turkey

Department of Physics, 2003.

## Publications

- 1) **Tuna, BG.,** Lachkar N., de Vos J., Bakker EN., VanBavel E. Cerebral Artery Remodeling in Rodent Models of Subarachnoid Hemorrhage *J Vasc Res.* 2015 ;52:103–115
- 2) VanBavel E., **Tuna, BG.** Integrative Modeling of Small Artery Structure and Function Uncovers Critical Parameters for Diameter Regulation. *PLoS One.* 2014; 9(1): e86901.
- 3) **Tuna, BG.,** Schoorl, MJ., Bakker EN., de Vos J., VanBavel E.; Smooth Muscle Contractile Plasticity in Rat Mesenteric Small Arteries: Sensitivity to Specific Vasoconstrictors, Distension and Inflammatory Cytokines. *J Vasc Res.* 2013 Jul 2; 50(3):249-262.
- 4) **Tuna, BG.,** Bakker EN., VanBavel E.; Relation between active and passive biomechanics of small mesenteric arteries during remodeling. *J Biomech.* 2013 May 31; 46(8):1420-6.
- 5) **Tuna, BG.,** Bakker EN., VanBavel E.; Smooth muscle biomechanics and plasticity: relevance for vascular caliber and remodeling. *Basic Clin Pharmacol Toxicol.* 2012; 110(1): 35-41.
- 6) **Guvenc Tuna B.,** Ozturk N., Comelekoglu U., Coskun Yılmaz B.; Effects of organophosphate insecticides on mechanical properties of rat aorta. *Physiol Res* 60: 39-46 (2011).
- 7) **Guvenc B.,** Ustunel C., Ozturk N., Brozovich F; A dynamic approach reveals non-muscle myosin influences the overall smooth muscle cross-bridge cycling rate. *FEBS Letters* 584: 2862–2866 (2010).

## Book

Tuna BG, Smooth muscle cell function and organization of the resistance artery Wall. 's-Hertogenbosch: BOXPress 2014, The Netherlands.

## Courses

Fall: Biophysics, Electrophysiology

Spring: Biophysics