

Personal information form for Fellow members of EAMBES

Personal Info



Name: Carlijn V.C. Bouten

Gender: female

Date and place of birth: August 31, 1967; Vleuten-De Meern, The Netherlands

Present affiliations and functions: Professor of Cell-Matrix Interactions in Cardiovascular Regeneration, Department of Biomedical Engineering, TU/e, The Netherlands.

Theme leader 'Smart Interventions' of the TU/e Strategic Area Health.

Presents e-mail address: c.v.c.bouten@tue.nl

Webpage address:

http://www.mate.tue.nl/mate/showemp.php/60

Short CV

1. Education/training:

- 1991 MSc Human Movement Sciences, Free University (VU) Amsterdam, The Netherlands (Majors: Functional Anatomy & Biomechanics; Exercise Physiology)
- 1995 PhD, joint research project between Eindhoven University of Technology & Maastricht University, The Netherlands

2. Professional affiliations

1991-1995	PhD Dept. Mechanical Engineering, TU/e.
1995	Research Assistant, Université Laval, Quebec, Canada, Sept-Nov.
1996-1997	Postdoc, Department of Mechanical Engineering, TU/e.

- 1997 Postdoc IRC in Biomedical Materials, Queen Mary, University of London (with prof. D.L. Bader).
- 1997 1998 Postdoc, Department of Biomedical Engineering, TU/e.
- 1998 2002 Assistant professor of Cell Mechanics, Department of Biomedical Engineering, TU/e.
- 2002 2010 Associate professor of Tissue Engineering, Department of Biomedical Engineering, TU/e.
- Since 2010 Full Professor of Cell-Matrix Interactions in Cardiovascular Regeneration, TU/e

3. Other experience and major activities

- (Co)advisor of 23 current and past PhD projects (TU/e, London (1), UMC Utrecht (2)).
- Founder and (Co-)director, 'Cell Mechanics Laboratory' and later 'Cell and Tissue Engineering Laboratory', Department of Biomedical Engineering (1998-present).
- Member of the research assessment committee 'Tissue Engineering' of the Royal Dutch Society of Arts and Sciences (KNAW) (2006-2007).
- Member of the research assessment committee 'Regenerative Medicine' of the Royal Dutch Society of Arts and Sciences (KNAW) (2007-2010).



- Member of the 'Young Academy' of the Royal Dutch Society of Arts and Sciences (2005-2010).
- Visiting professor at the Department of Cardiothoracic Surgery, University Medical Center Utrecht (2007-2009).
- Member of Task Force on Stem Cell Regeneration of the Heart, European Society of Cardiology (since 2010).
- Reviewer/jury member for national grant schemes (ZON-MW, STW, NHS, Echo (CW), Mosaik, Veni/Vidi schemes) and various international grant schemes (EU, Marie Curie).
- Active in conference organisation (e.g. ESB 2004, Eindhoven)
- Professional memberships
 - Society of Heart Valve Disease (SHVD)
 - European Society of Biomechanics (ESB)
 - Dutch Society of Matrix Biology (NVMB)
 - Dutch Society of Physiology (NVF)

4. Major scientific interest

The current research of the candidate focuses on cell-matrix interactions in cardiovascular tissues, with special emphasis on regulating growth, differentiation, adaptation and regeneration. She uses 'living' model systems at different length scales (cell, cell-matrix, engineered tissue, native tissue) to quantify these aspects, preferably in real-time. Her research converges tissue engineering, cell and tissue mechanics, developmental biology, (stem)cell biology, disease modeling, and image analysis.

Fields of research interest

- Mechanobiology of cells and (engineered) cardiovascular tissues, applied to growth, differentiation, adaptation and regeneration.
- Extracellular matrix remodeling and cell-matrix interactions
- Cardiovascular tissue engineering
- Engineered disease modeling

5. Number of journal publications (full articles), total citations, Hirsch Factor and number of patents

Number of publications: 95; Total citations: 2214 (without self citations: 1969); H-index: 26

Patents: 1

6. Four references to papers you find most important and relevant

- 1. <u>Bouten CVC</u>, Dankers PYW, Driessen-Mol A, Pedron S, Brizard AM, Baaijens FPT. Substrates for cardiovascular tissue engineering. Adv. Drug Deliv. Rev. 63 (4-5): 221-241, 2011.
- 2. Riem Vis PW, Kluin J, Sluijter JPG, van Herwerden LA, <u>Bouten, CVC</u>. Environmental regulation of valvulogenesis: implications for tissue engineering. Eur. J. Cardio Thoracic Surgery, 39: 8-17, 2011.
- 3. Balguid A, Mol A, van Vlimmeren MAA Baaijens FPT, <u>Bouten CVC</u>. Hypoxia induced nearnative mechanical properties of engineered heart valve tissue. Circulation 119:290-297, 2009.
- 4. Boerboom RA, Nash-Krahn K, Megens RTA, van Zandvoort MAMJ, Merkx M, <u>Bouten CVC</u>. High resolution imaging of collagen organization and synthesis using a versatile collagen specific probe. J Struct Biol 2007; 159:392-399.

Recognitions: Honors and awards



- 2002 Aspasia award, Dutch Science Foundation (€ 180.000; for female researchers, followed by promotion to associate professor). For research on skeletal muscle tissue engineering.
- 2003 NWO Vici award, Dutch Science Foundation. Personal research grant (€ 1.250.000) for excellent Dutch researchers. For studies on collagen remodelling in tissue engineered heart valves.
- 2005 2010 Member of the 'Young Academy' of the Royal Dutch Society of Arts and Sciences
