

Personal Information

Name:	ALI CAGDAS AKYILDIZ	
Date & place of birth:	23/11/1982, Istanbul-Turkey	
Nationality:	Turkish	
Current employment:	Assistant Professor 1. Dept. of Biomedical Engineering, Erasmus Medical Center Wytemaweg 80, Ee 2342a, 3015 CN, Rotterdam, the Netherlands 2. Dept. of Biomechanical Engineering, Delft University of Technology Mekelweg 2, 2628 CD, Delft, the Netherlands	
Telephone:	+31 10 704 4044	
Email:	a.akyildiz@erasmusmc.nl / a.c.akyildiz@tudelft.nl	
Website:	https://www.aliakyildiz.net	
Researcher IDs:	Scopus ID: 37261058100 / ResearcherID: F-5279-2012 / ORCID ID: 0000-0001-5900-0	

Short Biography

Ali C. Akyildiz received his BSc (2007) and MSc (2009) degrees from the Mechanical Engineering Department at Bogazici University (Turkey) with a major in solid mechanics. He obtained his PhD degree (2013) from the Department of Biomedical Engineering at Erasmus Medical Center (the Netherlands) in the field of biomechanical risk assessment of atherosclerotic arteries. Dr. Akyildiz then accepted a post-doctoral position in the “Center for Modeling, Simulation, & Imaging in Medicine” at Rensselaer Polytechnic Institute (NY, USA). There he co-founded a tissue experimentation lab and developed numerical and experimental tools for mechanical characterization of biological soft tissues. In 2016, he rejoined the Dept. of Biomedical Engineering at Erasmus MC as a research fellow. Since 2019, dr. Akyildiz serves in the department as an assistant professor. He also holds an assistant professor position in the Dept. of Biomechanical Engineering at Delft University of Technology.

Dr. Akyildiz currently leads a research team of 6 PhD students, 1 post-doctoral researcher, 1 lab technician, and 6 MSc students. His main research interests are in the field of cardiovascular medicine, including atherosclerotic artery biomechanics, thrombus mechanics, and cardiac mechanics. He co-authored two book chapters, 32 peer-reviewed journal publications, and about ~80 conference abstracts. Dr. Akyildiz is an associate editor of the journal “Molecular & Cellular Biomechanics”, a board member of “YOUNG@Heart” (Netherlands Heart Institute), and a review editorial board member of “Frontiers in Medical Technology/Cardiovascular Medical Technology”. Dr. Akyildiz co-edited a special issue on “Thrombus Mechanics” in the Journal of Biomechanics in 2022.

Work Experience

2020– now:	<i>Assistant Professor</i> , Delft University of Technology (the Netherlands), Dept. of Biomechanical Engineering
2019– now:	<i>Assistant Professor</i> , Erasmus Medical Center (the Netherlands), Department of Biomedical Engineering
2019–2021:	<i>Visiting Researcher</i> , Radboud University Medical Center (the Netherlands), Department of Radiology and Nuclear Medicine
2017–2019:	<i>Marie Skłodowska-Curie research fellow</i> , Erasmus Medical Center (the Netherlands), Department of Biomedical Engineering

- 2016–2017: *Post-doctoral researcher*, Erasmus Medical Center (the Netherlands), Department of Biomedical Engineering
- 2014–2016: *Post-doctoral researcher*, Rensselaer Polytechnic Institute (USA), Department of Mechanical, Aerospace, and Nuclear Engineering
- 2009–2013: *Doctoral research assistant*, Erasmus Medical Center (the Netherlands), Department of Biomedical Engineering

Education

- Feb 2009 – Oct 2013: *PhD in Biomedical Engineering & Biomechanics*
- Dept. of Biomedical Engineering, Erasmus Medical Center, the Netherlands
 - Thesis: Biomechanical Modeling of Atherosclerotic Plaques for Risk Assessment (Supervisors: Prof. Dr. ir. A.F.W. van der Steen and Assoc. Prof. Dr. ir. F.J.H. Gijzen)
- Sept 2006 – Nov 2008: *MSc (Graduation in the Honor List of the Institute)*
- Mechanical Engineering Dept., Bogazici University, Turkey
 - Thesis: Modeling of Micropipette Aspiration of Flaccid Human Red Blood Cell Using Finite Elements (Supervisor: Prof. Dr. G. Anlas)
- Sept 2002 – June 2006: *BSc (Graduation in the Honor List of the Institute)*
- Mechanical Engineering Dept., Bogazici University, Turkey (Major in Solid Mechanics)

Extra training received:

- University teaching qualification training (TU Delft, 2023) (qualification of pedagogical competencies of university teachers)
- Career guidance program for young scientists (Erasmus Medical Center, 2017)
- Supervision in science (Erasmus Medical Center, 2017)
- Leading through conflict (Erasmus Medical Center, 2016)

Scientific Societal Duties & Memberships

- Co-editor of the special issue “Thrombus Mechanics” in Journal of Biomechanics - 2022
- Associate editor of the journal “Molecular & Cellular Biomechanics” (2019-now)
- Review editorial board member of “Frontiers in Medical Technology/Cardiovascular Medical Technology” (2020-now)
- Scientific council member of “YOUNG@Heart (Netherlands Heart Institute)” (2018-now)
- External examiner for PhD graduation of:
 - Sara Bridio, Politecnico Di Milano, 2023
 - Wisam Al-Obaidi, The University of Manchester, 2019
- Grant reviewer/evaluator for
 - MedTrain+ Marie Skłodowska-Curie COFUND Fellowship Programme, Horizon Europe at CÚRAM, SFI Research Centre for Medical Devices, 2023
 - European Commission - Marie Skłodowska-Curie Action - 2021
- Judge for
 - PhD & MSc competitions of Summer Biomechanics, Bioengineering, and Biotransport Conference (SB³C), USA (2018 – now)
 - YC Fung Best Paper Award at Int. Conference on Biomechanics & Medical Engineering, USA (2019)

- Member of “Virtual Physiological Human | European Mechanics Society | American Society of Mechanical Engineers | European Society of Biomechanics”
- Session chair and reviewer (~10 times) at international conferences of World Congress of Biomechanics, SB³C, and ESB (2016 – now)
- Reviewer for:
 - Acta Biomaterialia
 - Frontiers in Physiology
 - Atherosclerosis
 - Int. Journal of Num. Methods in Biomedical Eng
 - Advanced Material Letters
 - International Journal of Cardiovascular Imaging
 - Advanced Science
 - IEEE Access
 - Angiology
 - IEEE Transactions on Biomedical Engineering
 - Annals of Biomedical Engineering
 - Journal of Applied Mechanics
 - AJP: Heart & Circ Physio
 - Journal of Biomechanics
 - Applied Bionics and Biomechanics
 - J Biomed Mat Res: Part B – Applied Biomat
 - Biomedical Engineering Online
 - J Mech Behavior of Biomedical Materials
 - Biomechanics and Modeling in Mechanobiology
 - Molecular & Cellular Biomechanics
 - Cardiovascular Engineering and Technology
 - Royal Society of Interface
 - Clinical Biomechanics
 - Scientific Reports / Nature
 - Comput Methods in Biomechanics & Biomed Eng.
 - Structural and Multidisciplinary Optimization
 - Computer Methods and Programs in Biomedicine
 - Ultrasonics
 - EuroIntervention

Grants, Fellowships, Awards

2023	Erasmus MC Synergy grant (as co-PI, Grant: €300,000, success rate: 20%)
2022	ERC Starting Grant (as PI, Grant: €1,900,000, success rate: 12%)
2020	Erasmus MC grant (as PI, Grant: €150,000, Project budget: €440,000, success rate: 13%)
2020	Thorax Foundation grant (as PI, Project budget: €270,000, success rate: 15%. This is a fundraising program. My project is selected by the program. Fundraising is still ongoing.)
2019	Hartekind Foundation (as co-PI, Grant: €15,000, success rate: <20%)
2018	Erasmus MC grant (as co-PI, Grant: €150,000, Project budget: €436,000, success rate: 16%)
2017	Marie Sklodowska-Curie Fellowship (personal grant, €165,000; success rate:15%)
2017	Career Guidance Training Award, Erasmus Medical Center, Rotterdam, the Netherlands
2013	Young Investigator Best Poster Award, International. Symposium on Biomechanics in Vascular Biology and Cardiovascular Disease

Teaching Activities

2023 – now	Lecturer of <i>Introduction Strength of Material</i> , Mechanical Engineering BSc program, Delft Uni. of Technology, the Netherlands (6 ECTS, ~1000 students)
2021 – now	Lecturer and course coordinator of <i>Introduction to Tissue Biomechanics</i> , Biomedical Engineering MSc program, Delft Uni. of Technology, the Netherlands (3 ECTS, ~110 students)
2020 – now	Guest lecturer of <i>Anatomy & Physiology</i> , Biomedical Engineering MSc program, Delft Uni. of Technology, the Netherlands (6 ECTS, ~150 students)
2018 – now	Guest lecturer of <i>Continuum Mechanics</i> , Civil Engineering MSc program, Delft Uni. of Technology, the Netherlands (6 ECTS, ~50 students)
2017 – now	Lecturer of <i>Introduction to Cardiovascular Biomechanics</i> , Minor in Biomedical Engineering (BSc program), Erasmus Medical Center, Rotterdam, the Netherlands (Minor program course, ~40 students)

- 2010 – 2013 Lecturer of *Biomechanical Modeling of Soft Tissues*, Biomedical Engineering, Erasmus Medical Center, Rotterdam, the Netherlands (Minor program course, ~50 students)
- 2010 – 2013 Module co-organizer of *Medical Delta Minor program on Cardiology*, Biomedical Engineering, Erasmus Medical Center, Rotterdam, the Netherlands (~50 students)

Supervision of Graduate Students & Scientific Staff

Ongoing

Postdoctoral researcher: 1

- Pegah Asgari, PhD
 - Optical characterization of biological tissues

Lab technician: 1

- Kim van Gaalen
 - Structural characterization of biological tissues

PhD students: 6 (3 main supervisorship, 3 co-supervisorship)

- Su Guvenir, MSc (Graduation date: 21/02/2023)
- Brian Berghout, MD (Expected graduation in 2024)
- Aikaterini Tziotziou, MSc (Expected graduation in 2024)
- Hanneke Crielaard, MSc (Expected graduation in 2024)
- Federica Fontana, MSc (Expected graduation in 2026)
- Silke Dreesen, MSc (Expected graduation in 2027)

MSc students: 6 (direct supervisor)

- All students are from the Technical University of Delft

Completed

PhD students: 2 (daily co-supervisor)

- Saurabh Dargar (2017, Rensselaer Polytechnic University, USA)
- Wafaa Karaki (2017, Rensselaer Polytechnic University, USA)

MSc students: 15 (supervisor, 2016 - now)

Publications

Book Chapters

- BC.2 Akyildiz AC, Barrett HE, Gijzen FJH; 2020, *Identification of coronary plaque mechanical properties from ex vivo testing*, in “Biomechanics of Coronary Atherosclerotic Plaque: From Model to Patient”, Ohayon J, Finet G, Pettigrew RI (Editors), Academic Press, pp. 419-442
- BC.1 Khalafvand SS & Akyildiz AC; 2019, *Artery Buckling and Atherosclerotic Plaque Rupture under High Lumen Pressure*, in “Computational and Mathematical Methods in Cardiovascular Physiology”, Zhong L, Tan RS, Ghista D (Editors), World Scientific Publishing, pp. 229-255

Peer-reviewed International Journal Articles

- A.32 Tziotziou, A., E. Hartman, S.-A. Korteland, A. van der Lugt, A. F. W. van der Steen, J. Daemen, D. Bos, J. Wentzel, Akyildiz AC; 2023, *Mechanical wall stress and wall shear stress are associated with atherosclerosis development in non-calcified coronary segments*, *Atherosclerosis* 387:117387, 2023.

Journal Impact Factor: 6.8, Quartile: 1

- A.31 Minderhoud, S. C. S., A. Hirsch, F. Marin, I. Kardys, J. F. Rodriguez Matas, C. Chiastra, J. W. Roos-Hesselink, J. Wentzel, W. A. Helbing, [Akyildiz AC](#); 2023, *Serial RV Wall Stress Measurement: Association with Right Ventricular Function in Tetralogy of Fallot Patients*, 2023, *Frontiers in Cardiovascular Medicine*, doi: 10.3389/fcvm.2023.1256792, 2023
Journal Impact Factor: 5.1, Quartile: 1
- A.30 Jansen, I., H. Crielaard, T. Wissing, C. Bouten, F. Gijsen, [A. C. Akyildiz](#), E. Farrell, and K. van der Heiden; 2023, *A tissue-engineered model of the atherosclerotic plaque cap: Toward understanding the role of microcalcifications in plaque rupture*, *APL Bioengineering* 7:036120
Journal Impact Factor: 5.7, Quartile: 1
- A.29 Cahalane, R., [Akyildiz AC](#), M. Kavousi, M. W. Vernooij, M. K. Ikram, F. Gijsen, D. Bos; 2023, *Cross-Sectional Validation of a Novel Computed Tomography-Based Carotid Mean Calcium Density Measurement*, *Journal of the American Heart Association*, 12:e027866
Journal Impact Factor: 6.1, Quartile: 1
- A.28 Guvenir Torun S, de Miguel Muñoz P, Crielaard H, Verhagen HJM, Kremers G, van der Steen AFW, [Akyildiz AC](#); 2023, *Local Characterization of Collagen Architecture and Mechanical Failure Properties of Fibrous Plaque Tissue of Atherosclerotic Human Carotid Arteries*, *Acta Biomaterialia*, 2023.doi:10.1016/j.actbio.2023.04.022
Journal Impact Factor: 10.1, Quartile: 1
- A.27 Cahalane RME, de Vries JJ, de Maat MPM, van Gaalen K, van Beusekom HM, van der Lugt A, Fereidoonzhad B, [Akyildiz AC](#), Gijsen FJH; 2023, *Tensile and Compressive Mechanical Behaviour of Human Blood Clot Analogues*, *Annals of Biomedical Engineering*, 2023.doi:10.1007/s10439-023-03181-6
Journal Impact Factor: 4.2, Quartile: 1
- A.26 Crielaard H, Guvenir Torun S, Wissing TB, de Miguel Muñoz P, Kremers G, Gijsen FJH, van der Heiden K, [Akyildiz AC](#); 2022, *A Method to Study the Correlation Between Local Collagen Structure and Mechanical Properties of Atherosclerotic Plaque Fibrous Tissue*. *Journal of Visualized Experiments*, 2022.doi:10.3791/64334
Journal Impact Factor: 1.6, Quartile: 2
- A.25 Wang T, Pfeiffer T, [Akyildiz AC](#), van Beusekom HMM, Huber R, van der Steen AFW, van Soest G.: 2022, *Intravascular optical coherence elastography*, *Biomedical Optics Express*, 2022 13:5418–5433, 2022.
Journal Impact Factor: 4.3, Quartile: 1
- A.24 Migliavacca F, Luraghi G, [Akyildiz AC](#), Gijsen FJH; 2022, *Thrombus mechanics: How can we contribute to improve diagnostics and treatment?*, *Journal of Biomechanics*, 2022; 132:110935. doi:10.1016/j.jbiomech.2021.110935
Journal Impact Factor: 2.7, Quartile: 1
- A.23 Guvenir Torun S, Torun HM, Hansen HHG, de Korte CL, van der Steen AFW, Gijsen FJH, [Akyildiz AC](#); 2022, *Multicomponent material property characterization of atherosclerotic human carotid arteries through a Bayesian Optimization based inverse finite element approach*, *Journal of the Mechanical Behavior of Biomedical Materials*, 2022;126:104996. doi:10.1016/j.jmbbm.2021.104996
Journal Impact Factor: 3.9, Quartile: 1
- A.22 van den Beukel TC, van der Toorn JE, Vernooij MW, Kavousi M, [Akyildiz AC](#), de Jong PA, van der Lugt A, Ikram MK, Bos D; 2021, *Morphological Subtypes of Intracranial Internal Carotid Artery Arteriosclerosis and the Risk of Stroke*, *Stroke*, STROKEAHA.121.036213. doi:10.1161/STROKEAHA.121.036213
Journal Impact Factor: 7.9, Quartile: 1
- A.21 Cahalane R, Boodt N, [Akyildiz AC](#), Giezen J anne, Mondeel M, van der Lugt A, Marquering H, Gijsen F; 2021, *A review on the association of thrombus composition with mechanical and radiological imaging*

characteristics in acute ischemic stroke, Journal of Biomechanics, 129:110816. doi:10.1016/j.jbiomech.2021.110816

Journal Impact Factor: 2.7, Quartile: 1

- A.20 Luraghi G, Cahalane RME, van de Ven E, Overschie SCM, Gijsen FJH, [Akyildiz AC](#); 2021, *In vitro and in silico modeling of endovascular stroke treatments for acute ischemic stroke*, Journal of Biomechanics, 127:110693. doi:10.1016/j.jbiomech.2021.110693

Journal Impact Factor: 2.7, Quartile: 1

- A.19 Guvenir Torun S, Torun HM, Hansen HHG, Gandini G, Berselli I, Codazzi V, de Korte CL, van der Steen AFW, Migliavacca F, Chiastra C, [Akyildiz AC](#); 2021, *Multicomponent Mechanical Characterization of Atherosclerotic Human Coronary Arteries: An Experimental and Computational Hybrid Approach*, Frontiers in Physiology, 12:1480. doi:10.3389/fphys.2021.733009

Journal Impact Factor: 4.1, Quartile: 1

- A.18 Minderhoud SCS, [Akyildiz AC](#), Hirsch A, Helbing WA; 2021, *Seven-year clinical and mechanical follow-up of a Tetralogy of Fallot patient with severe pulmonary regurgitation*, European Heart Journal - Cardiovascular Imaging, doi:10.1093/ehjci/jeab167

Journal Impact Factor: 6.9, Quartile: 1

- A.17 Boodt N, Snouckaert van Schauburg PRW, Hund HM, Fereidoonzhad B, McGarry JP, [Akyildiz AC](#), van Es ACGM, de Meyer SF, Dippel DWJ, Lingsma HF, van Beusekom HMM, van der Lugt A, Gijsen FJH; 2021, *Mechanical Characterization of Thrombi Retrieved with Endovascular Thrombectomy in Patients with Acute Ischemic Stroke*, Stroke, doi: 10.1161/STROKEAHA.120.033527

Journal Impact Factor: 7.9, Quartile: 1

- A.16 Gijsen FJH, Vis B, Barrett HE, Zadpoor AA, Verhagen HJ, Bos D, van der Steen AFW, [Akyildiz AC](#); 2020, *Morphometric and Mechanical Analyses of Calcifications and Fibrous Plaque Tissue in Carotid Arteries for Plaque Rupture Risk Assessment*, IEEE Transactions on Biomedical Engineering, 68:1429–38

Journal Impact Factor: 5.5, Quartile: 1

- A.15 Hartman EMJ, Hoogendoorn A, [Akyildiz AC](#), Shuurman AS, van der Steen AFW, Boersma E, Wentzel JJ, Daemen J; 2020, *Colocalization of Intracoronary Lipid-Rich Plaques and Calcifications: An Integrated NIRS-IVUS Analysis*, JACC: Cardiovasc Imaging, vol. 13, no. 7, 1627-1628

Journal Impact Factor: 12.7, Quartile: 1

- A.14 Barrett HE, van der Heiden K, Farrell, E, Gijsen FJH, [Akyildiz AC](#); 2019, *Calcifications in Atherosclerotic Plaques and Impact on Plaques Biomechanics*, Journal of Biomechanics, 87, 1-12

Journal Impact Factor: 2.7, Quartile: 1

- A.13 [Akyildiz AC](#), Speelman L, van Velzen B, Stevens R, Huberts W, Gijsen FJH; 2018, *Intima Heterogeneity in Stress Assessment of Atherosclerotic Plaques*, Interface Focus, 8 (1)

Journal Impact Factor: 3.2, Quartile: 1

- A.12 [Akyildiz AC](#), Chai CK-C, Strijkers GJ, Oomens CWJ, van der Lugt A, Baaijens FPT, Gijsen FJH; 2017, *3D Fiber Orientation in Atherosclerotic Carotid Plaques*, Journal of Structural Biology, 200 (1), 28-35

Journal Impact Factor: 3.4, Quartile: 1

- A.11 Dargar S, [Akyildiz AC](#), De S; 2017, *In Situ Mechanical Characterization of Multilayer Soft Tissue Using Ultrasound Imaging*, IEEE Transactions on Biomedical Engineering, 64 (11), 2595-2606

Journal Impact Factor: 5.5, Quartile: 1

- A.10 Karaki W, [Akyildiz AC](#), De S, Borca Tasciuc DA; 2017, *Energy Dissipation in Ex-Vivo Porcine Liver During Electrosurgery*, IEEE Transactions on Biomedical Engineering, 64 (6), 1211-1217

Journal Impact Factor: 5.5, Quartile: 1

- A.9 Akyildiz AC, Hansen HHG, Nieuwstadt HA, Speelman L, de Korte CL, van der Steen AF, Gijsen FJ; 2016, *A Framework for Local Mechanical Characterization of Atherosclerotic Plaques: Combination of Ultrasound Displacement Imaging and Inverse Finite Element Analysis*, *Annals of Biomed Eng*, 44 (4), 968-979
Journal Impact Factor: 3.4, Quartile: 1
- A.8 Akyildiz AC, Speelman L, Nieuwstadt HA, van Brummelen H, Virmani R, van der Lugt A, van der Steen AF, Wentzel JJ, Gijsen FJ; 2016, *The Effects of Plaque Morphology and Material Properties on Peak Cap Stress in Human Coronary Arteries*, *Computer Methods in Biomechanics and Biomed Eng*, 19 (7), 771-779
Journal Impact Factor: 2.0, Quartile: 1
- A.7 Chai C-K, Akyildiz AC, Speelman L, Gijsen FJ, Oomens CWJ, van Sambeek MRHM, van der Lugt A, Baaijens FPT; 2015, *Local Anisotropic Mechanical Behavior of Human Carotid Atherosclerotic Plaques - Characterization Using Indentation Test and Inverse Finite Element Analysis*, *Journal of the Mech Behavior of Biomed Materials*, 43, 59-68
Journal Impact Factor: 3.7, Quartile: 1
- A.6 Akyildiz AC, Speelman L, Gijsen FJ; 2013, *Mechanical Properties of Human Atherosclerotic Intima Tissue*, *Journal of Biomechanics*, 47(4): 773-783
Journal Impact Factor: 2.7, Quartile: 1
- A.5 Walsh MT, Cunnane EM, Mulvihill JJ, Akyildiz AC, Gijsen FJH, Holzapfel GA; 2013, *Uniaxial Tensile Testing Approaches for Characterisation of Atherosclerotic Plaques*, *Journal of Biomechanics*, 47(4), 793-804
Journal Impact Factor: 2.7, Quartile: 1
- A.4 Chai C-K, Akyildiz AC, Speelman L, Gijsen FJ, Oomens CWJ, van Sambeek MRHM, van der Lugt A, Baaijens FPT; 2013, *Local Axial Compressive Mechanical Properties of Human Carotid Atherosclerotic Plaques – Characterization by Indentation Test and FE Inverse Analysis*, *Journal of Biomechanics*, 46(10):1759-66
Journal Impact Factor: 2.7, Quartile: 1
- A.3 Nieuwstadt HA, Akyildiz AC, Speelman L, Virmani R, van der Lugt A, van der Steen AF, Wentzel JJ, Gijsen FJ; 2013, *The Influence of Axial Image Resolution on Atherosclerotic Plaque Stress Computations*, *Journal of Biomechanics*, 44(13):2376-82
Journal Impact Factor: 2.7, Quartile: 1
- A.2 Akyildiz AC, Speelman L, van Brummelen H, Gutiérrez MA, Virmani R, van der Lugt A, van der Steen AF, Wentzel JJ, Gijsen FJ; 2011, *Effects of Intima Stiffness and Plaque Morphology on Peak Cap Stress*, *Biomedical Engineering Online*, 10: (1), 25
Journal Impact Factor: 2.3, Quartile: 2
- A.1 Speelman L, Akyildiz AC, den Adel B, Wentzel JJ, van der Steen AF, Virmani R, van der Weerd L, Jukema JW, Poelmann RE, van Brummelen EH, Gijsen FJ; 2011, *Initial Stress In Biomechanical Models of Atherosclerotic Plaques*, *Journal of Biomechanics*, 44(13):2376-82
Journal Impact Factor: 2.7, Quartile: 1

Media / Press / Public Disseminations

- M4. Erasmus Medical Center monthly magazine (May 2020, Nr 22), Our research on computational modeling of heart for understanding heart failure appeared as an article.
- M3. All my research is published on my personal website – www.aliakyildiz.net (updated monthly)
- M2. A recent study I performed with a BSc student of mine on microscale atherosclerotic plaque modeling received some media attention in the local news: “Techniek en medische wetenschap samen in afstudeeronderzoek”, 09/09/2016 (<http://nieuws.inholland.nl/techniek-en-medische-wetenschap-samen-in-afstudeeronderzoek/>)
- M1. Article in the newspaper “Volkskrant” on my PhD study on atherosclerosis modeling: "Computer predicts the severity of atherosclerosis", Newspaper: "de Volkskrant", 23/10/2013. (<http://www.volkskrant.nl/archief/computer-voorspelt-ernst-van-aderverkalking~a3531670/>)

National & International Collaborations

- Prof. Dr. Wim Helbing (Pediatric Cardiology Department, Erasmus Medical Center, the Netherlands)
- Prof. Dr. Jose Rodriguez Matas (Dept of Chemistry, Materials and Chemical Eng, Politecnico di Milano, Italy)
- Prof. Dr. Francesco Migliavacca (Dept of Chemistry, Materials and Chemical Eng, Politecnico di Milano, Italy)
- Dr. Daniel Bos (Radiology Department, Erasmus Medical Center, the Netherlands)
- Dr. Claudio Chiastra (Department of Biomedical Engineering, Politecnico di Torino, Italy)
- Prof. Dr. Aad van der Lugt (Radiology Department, Erasmus Medical Center, the Netherlands)
- Prof. Dr. Chris de Korte (Dept. of Radiology and Nuclear Medicine, Radboud University, the Netherlands)
- Dr. Hendrik Hansen (Dept. of Radiology and Nuclear Medicine, Radboud University, the Netherlands)
- Dr. Frans van der Meer (Faculty of Civil Eng. & Geosciences, Delft Uni. of Technology, the Netherlands)
- Prof. Dr. Anton van der Steen (Dept. of Biomedical Eng., Erasmus Medical Center, the Netherlands)
- Dr. Gijs van Soest (Dept. of Biomedical Eng., Erasmus Medical Center, the Netherlands)
- Dr. Kim van der Heijden (Dept. of Biomedical Eng., Erasmus Medical Center, the Netherlands)
- Dr. Frank Gijzen (Dept. of Biomedical Eng., Erasmus Medical Center, the Netherlands)
- Dr. Jolanda Wentzel (Dept. of Biomedical Eng., Erasmus Medical Center, the Netherlands)

Presentations & Conference Abstracts

Invited International Presentations & Lectures

19. Vulnerable Patient Meeting, 2019, Stresa, Italy (invited by the organizing committee)
18. University of Pittsburgh, Pittsburgh, PA, USA, 2018 (invited by Prof. Dr. Anne Robertson)
17. Politecnico di Milano, Milano, Italy, 2018 (invited by Prof. Francesco Migliavacca)
16. World Congress of Biomechanics 2018, Dublin, Ireland (invited by Prof. Jacques Ohayon - session chair)
15. World Congress of Biomechanics 2014, Boston, MA, USA (invited by the organizing committee)
14. Bogazici University, Biomedical Engineering, Istanbul, Turkey, 2014 (invited by Prof. Dr. Can Yucesoy)
13. Bogazici University, Mechanical Engineering, Istanbul, Turkey, 2014 (invited by Prof. Dr. Gunay Anlas)
12. Yale University, New Haven, CT, USA, 2011 (invited by Prof. Dr. Jay Humphrey)
11. The City College of New York, New York, NY, USA, 2011 (invited by Prof. Dr. Sheldon Weinbaum)

Presentations/Abstracts in Peer-Reviewed International Conferences & Symposia

- P80. Guvenir Torun S, Kaaij B, de Miguel Muñoz P, Crielaard H, Verhagen H, Kremers G, van der Steen AFW, [Akyildiz AC](#); *Anisotropic Property Characterization of Human Carotid Plaques by Using Inverse Finite Element Modeling*, Congress of the European Society of Biomechanics, 2023, Maastricht, the Netherlands (oral presentation)
- P79. Tziotziou A, Hartman E, Korteland S, van der Steen AFW, Daemen J, Wentzel J, [Akyildiz AC](#); *Influence of Wall Shear and Mechanical Stress on Atherosclerotic Artery Disease in Human Coronaries*, Congress of the European Society of Biomechanics, 2023, Maastricht, the Netherlands (oral presentation)
- P78. Crielaard H, Wissing T, Guvenir Torun S, de Miguel Muñoz P, Kremers G, Gijzen FJH, [Akyildiz AC](#), van der Heiden K; *Investigating Rupture Characteristics of Tissue-Engineered Atherosclerotic Plaque*, Congress of the European Society of Biomechanics, 2023, Maastricht, the Netherlands (oral presentation)
- P77. Tziotziou A, Hartman E, Korteland S, van der Steen AFW, Daemen J, Wentzel J, [Akyildiz AC](#); *Influence of Wall Shear and Mechanical Stress on Atherosclerotic Artery Disease in Human Coronaries*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C), 2023, Colorado, USA (poster presentation)
- P76. Guvenir Torun S, Kaaij B, de Miguel Muñoz P, Verhagen H, Kremers G, van der Steen AFW, [Akyildiz AC](#); *Anisotropic Material Property and Local Strength Characterization of Human Carotid Plaques: A Bayesian*

- Optimization Based Inverse Finite Element Modeling*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C), 2023, Colorado, USA (poster presentation)
- P75. Crielaard H, Wissing T, Guvenir Torun S, de Miguel Muñoz P, Kremers G, Gijzen FJH, Akyildiz AC, van der Heiden K; *Impact of local collagen architecture on rupture behavior of tissue-engineered atherosclerotic plaque caps*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C), 2023, Colorado, USA (oral presentation)
- P74. Guvenir Torun S, Akyildiz AC; *Material Characterization of Heterogenous Atherosclerotic Plaques*, International Symposium on Computer Methods in Biomechanics and Biomedical Engineering 2023, Paris, France (oral presentation)
- P73. Tziotziou A, Wentzel J, Akyildiz AC; *The influence of plaque structural stress and wall shear stress on human coronary plaque progression*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C), 2022, Maryland, USA (oral presentation)
- P72. Crielaard H, Wissing T, Guvenir Torun S, Wissing TB, de Miguel Muñoz P, Hengst R, Kremers G, Gijzen FJH, van der Heiden K, Akyildiz AC; *Using a Tissue-Engineered Model to Investigate the Impact of Collagen Orientation on the Local Mechanical Behavior of Atherosclerotic Plaque Caps*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C), 2022, Maryland, USA (oral presentation)
- P71. Guvenir Torun S, de Miguel Muñoz P, Crielaard H, Verhagen HJM, van der Lugt A, Kremers G, Akyildiz AC; *Local structural and rupture characteristics of atherosclerotic human carotid arteries through second harmonic imaging, tensile testing and Digital Image Correlation*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C), 2022, Maryland, USA (oral presentation)
- P70. Cahalane RME, de Vries JJ, de Maat MPM, van Gaalen K, van Beusekom HM, van der Lugt A, Akyildiz AC, Gijzen FJH; *Inter-donor variability in the tensile and compressive behaviour of in vitro human thrombi*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C), 2022, Maryland, USA (oral presentation)
- P69. Guvenir Torun S, de Miguel Muñoz P, Crielaard H, Verhagen HJM, van der Lugt A, Kremers G, Akyildiz AC; *Local rupture analysis of atherosclerotic human carotid plaques by structural imaging, DIC and uniaxial testing*, 27th Congress of the European Society of Biomechanics, 2022, Porto, Portugal (oral presentation)
- P68. Cahalane RME, de Vries JJ, de Maat MPM, van Gaalen K, van Beusekom HM, van der Lugt A, Akyildiz AC, Gijzen FJH; *Inter-donor variability in the tensile and compressive behaviour of in vitro human thrombi*, 27th Congress of the European Society of Biomechanics, 2022, Porto, Portugal (oral presentation)
- P67. Tziotziou A, Hartman E, Korteland S, van der Steen AFW, Daemen J, Wentzel J, Akyildiz AC; *The influence of plaque structural stress and wall shear stress on human coronary plaque progression*, 27th Congress of the European Society of Biomechanics, 2022, Porto, Portugal (oral presentation)
- P66. Guvenir S, Torun HM, Hansen HHG, Akyildiz AC; *Heterogenous material characterization of atherosclerotic human carotid arteries*, 26th Congress of the European Society of Biomechanics, 2021, online (oral presentation)
- P65. Cahalane R, Boodt N, Akyildiz AC, Giezen JA, Mondeel M, van der Lugt A, Marquering H, Gijzen FJH; *A review on the association of thrombus composition with clinical imaging and mechanical characteristics*, 26th Congress of the European Society of Biomechanics, 2021, online (oral presentation)
- P64. Guvenir S, de Miguel P, Akyildiz AC; *Ex-vivo tensile testing, nano-indentation and digital image correlation based plaque rupture analysis*, 26th Congress of the European Society of Biomechanics, 2021, online (oral presentation)
- P63. Guvenir S, de Miguel P, Akyildiz AC; *Ex-vivo local plaque rupture analysis of atherosclerotic human carotid arteries through nano-indentation, tensile testing and digital image correlation*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C) 2021, online (oral presentation)
- P62. Minderhoud SCS, Hirsch A, Marin F, Kardys I, Roos-Heselink JW, Wentzel J, Helbing WA, Akyildiz AC; *Seven-year clinical and mechanical follow-up of a Tetralogy of Fallot patient with severe pulmonary regurgitation*, European Association of Cardiovascular Imaging Conference 2020, Barcelona, Spain (oral presentation)
- P61. Wang T, Pfeiffer T, Akyildiz AC, Wieser W, van Beusekom H, Wieser W, van der Steen AF, Huber R, van Soest G; *Intravascular optical coherence elastography: simultaneous mechanical and morphological imaging of atherosclerotic plaques*, SPIE Photonics 2020, San Francisco, USA (oral presentation)
- P60. Guvenir S, Torun HM, Hansen HHG, Akyildiz AC; *Heterogenous Material Properties of Atherosclerotic Carotid Arteries: A Bayesian Optimization Based Inverse Finite Element Approach*, Virtual Physiological Human Conference, 2020, online (poster presentation)

- P59. Hartman EMJ, de Nisco G, Kok AM, van der Steen AFW, [Akyildiz AC](#), Gijsen FJH, Wentzel JJ; *Shear Stress Related Plaque Progression of Lipid Rich Plaques in Human Coronary Arteries*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C) 2020, online (oral presentation)
- P58. Guvenir S, Torun HM, Hansen HHG, [Akyildiz AC](#); *Mechanical Characterization of Atherosclerotic Human Carotid Arteries: A Bayesian Optimization Based Inverse Finite Element Approach*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C) 2020, online (oral presentation)
- P57. [Akyildiz AC](#), Rutten D, Gijsen FJH; *Mechanical Predictors of Atherosclerotic Plaque Rupture*, International Conference on Biomedical Technology, 2019, Hannover, Germany (oral presentation)
- P56. Rutten D, Gijsen FJH, [Akyildiz AC](#); *Mechanical Predictors of Rupture in Atherosclerotic Plaque: Beyond "Where Stress, There Rupture"*, International Symposium on Computer Methods in Biomechanics and Biomedical Engineering 2019, New York, USA (oral presentation)
- P55. van den Berg R, Avril S, Gijsen FJH, [Akyildiz AC](#); *Characterization of Heterogeneous Material Properties of Atherosclerotic Plaques with Virtual Fields Method*, Congress of the European Society of Biomechanics 2019, Vienna, Austria (oral presentation)
- P54. Guvenir S, Gandini G, Berselli I, Codazzi V, Migliavacca F, Chiastra C, Gijsen FJH, [Akyildiz AC](#); *Assessment of Heterogeneous Stiffness Properties of Atherosclerotic Human Coronary Arteries*, Congress of the European Society of Biomechanics 2019, Vienna, Austria (oral presentation)
- P53. Rutten D, Gijsen FJH, [Akyildiz AC](#); *Mechanical Predictors of Atherosclerotic Plaque Rupture*, Congress of the European Society of Biomechanics 2019, Vienna, Austria (oral presentation)
- P52. Vis B, Barrett H, Moerman A, Gijsen FJH, [Akyildiz AC](#); *Effect of Calcification & Fibrous Tissue Features on Rupture Risk in Atherosclerotic Plaques*, Congress of the European Society of Biomechanics 2019, Vienna, Austria (oral presentation)
- P51. van den Berg R, Avril S, Gijsen FJH, [Akyildiz AC](#); *Material Characterization of Atherosclerotic Plaques with Virtual Fields Method*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C) 2019, Pittsburgh, USA (poster presentation)
- P50. Guvenir S, Gandini G, Berselli I, Codazzi V, Migliavacca F, Chiastra C, Gijsen FJH, [Akyildiz AC](#); *Mechanical Characterization of Atherosclerotic Coronary Arteries by Ex-Vivo Inflation Testing and Inverse Finite Element Modelling*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C) 2019, Pittsburgh, USA (oral presentation)
- P49. Vis B, Barrett H, Moerman A, Gijsen FJH, [Akyildiz AC](#); *Effect of Calcification & Fibrous Tissue Features on Rupture Risk in Atherosclerotic Plaques*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C) 2019, Pittsburgh, USA (oral presentation)
- P48. Rutten D, Hatsukami T, Gijsen FJH, [Akyildiz AC](#); *Colocalization of Mechanical Stress and Plaque Rupture*, Vulnerable Patient Meeting 2019, Stresa, Italy
- P47. van den Berg R, Avril S, Gijsen FJH, [Akyildiz AC](#); *Material Characterization of Atherosclerotic Plaques with Virtual Fields Method*, International Conference on Computational and Mathematical Biomedical Engineering 2019, Sendai City, Japan (oral presentation)
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- P45. Rutten D, Hatsukami T, Gijsen FJH, [Akyildiz AC](#); *Mechanical Predictors of Atherosclerotic Plaque Failure*, Biomechanics in Vascular Biology and Cardiovascular Disease 2019, London, England (oral presentation)
- P44. Vis B, Barrett H, Gijsen FJH, [Akyildiz AC](#); *Effect of Calcification & Fibrous Tissue Features on Rupture Risk in Atherosclerotic Plaques*, Biomechanics in Vascular Biology and Cardiovascular Disease 2019, London, England (poster presentation)
- P43. van den Berg R, Avril S, Gijsen FJH, [Akyildiz AC](#); *Virtual Fields Method for Material Properties Estimation of Atherosclerotic Plaques*, Biomechanics in Vascular Biology and Cardiovascular Disease 2019, London, England (poster presentation)
- P42. van den Berg R, Avril S, Gijsen FJH, [Akyildiz AC](#); *Novel Approach for Material Properties Estimation of Atherosclerotic Plaques*, 7th Dutch Bio-Medical Engineering Conference 2019, Egmond aan Zee, NL (oral presentation)
- P41. Rutten D, Hatsukami T, Gijsen FJH, [Akyildiz AC](#); *Mechanical Predictors of Rupture in Atherosclerotic Plaque: Beyond "Where Stress, There Rupture"*, 7th Dutch Bio-Medical Engineering Conference 2019, Egmond aan Zee, NL (poster presentation)

- P40. Vis B, Barrett H, Gijsen FJH, [Akyildiz AC](#); *Effect of Calcification & Fibrous Tissue Features on Rupture Risk in Atherosclerotic Plaques*, 7th Dutch Bio-Medical Engineering Conference 2019, Egmond aan Zee, NL (poster presentation)
- P39. Wang T, Pfeiffer T, [Akyildiz AC](#), Wieser W, van Beusekom H, Springeling G, Mastik F, van der Steen AF, Huber R, van Soest G; *Tissue elasticity investigation using intravascular optical coherence elastography, Optical Elastography and Tissue Biomechanics*, SPIE BiOS 2019, San Francisco, USA (poster presentation)
- P38. Wang T, Pfeiffer T, [Akyildiz AC](#), Wieser W, van Beusekom H, Springeling G, Mastik F, van der Steen AF, Huber R, van Soest G; *High-speed phase-resolved intravascular optical coherence elastography, Optical Elastography and Tissue Biomechanics*, SPIE BiOS 2019, San Francisco, USA (oral presentation)
- P37. [Akyildiz AC](#), Rutten D, van der Berg R, Hatsukami T, Gijsen FJH; *Biomechanical Identification of Atherosclerotic Plaque Rupture Initiation and Propagation*, World Congress of Biomechanics 2018, Dublin, Ireland (oral presentation)
- P36. [Akyildiz AC](#), Vis B, Barrett H, Gijsen FJH; *Multiscale Imaging Based Calcification Modeling and Stress Computations in Atherosclerotic Plaques*, World Congress of Biomechanics 2018, Dublin, Ireland (oral presentation)
- P35. Bassiouny HS, [Akyildiz AC](#), van Dam-Nolen H, van Dijk A, van der Steen AFW, van der Lugt A, Bos D, Wentzel JJ; *CTA Structural Analysis of Carotid Plaque Burden, Juxtalumenal Dark Matter, and Calcification in Symptomatic and Contralateral Asymptomatic Stenosis (30-70%); What Can Be Learned?*, Society for Vascular Surgery – Vascular Annual Meeting 2018, Boston, USA (oral presentation)
- P34. Hartman EMJ, Hoogendoorn A, [Akyildiz AC](#), van der Steen AFW, Daemen J, Wentzel JJ; *Calcifications as an indicator for NIRS-based risk profiling of coronary atherosclerotic plaques*, European Society of Cardiology Congress, 2018, Munich, Germany (poster presentation)
- P33. [Akyildiz AC](#), Speelman L, van Velzen B, Dankelman J, Gijsen FJH; *Effects of intima heterogeneity on atherosclerotic plaque stress computations*, Virtual Physiological Human Conference 2016, Amsterdam, NL (oral presentation)
- P32. [Akyildiz AC](#), Strijkers G, Chai C-K, Oomens CWJ, Gijsen FJH, *3D fiber architecture in atherosclerotic plaques*, Virtual Physiological Human Conference 2016, Amsterdam, NL (poster presentation)
- P31. [Akyildiz AC](#), Speelman L, Chai C-K, Oomens CWJ, Strijkers G, Gijsen FJH; *Imaging and quantifying the 3D collagen architecture in atherosclerotic plaques*, Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C) 2016, National Harbor, MD, USA (oral presentation)
- P30. [Akyildiz AC](#), Speelman L, Chai C-K, Oomens CWJ, Strijkers G, Gijsen FJH; *3D collagen architecture in atherosclerotic plaques*, Biomechanics in Vascular Biology and Cardiovascular Disease 2016, Atlanta, USA (oral presentation)
- P29. [Akyildiz AC](#), Speelman L, van Velzen B, van der Steen AF, Wentzel JJ, Gijsen FJ; *Influence of intima heterogeneity on atherosclerotic plaque stresses*, Biomechanics in Vascular Biology and Cardiovascular Disease 2016, Atlanta, USA (poster presentation)
- P28. Dargar S, [Akyildiz AC](#), De; *Development of a Soft Tissue Elastography Robotic Arm (STiERA)*, Medicine Meets Virtual Reality 2016, USA (oral presentation)
- P27. Karaki W, [Akyildiz AC](#), Borca Tasciuc DA, De S; 2017, *Measurement of Temperature Dependent Apparent Specific Heat Capacity in Electrosurgery*, Medicine Meets Virtual Reality 2016, USA (oral presentation)
- P26. [Akyildiz AC](#), Speelman L, Gijsen FJ; *Mechanical properties of human atherosclerotic intima tissue*, World Congress of Biomechanics 2014, Boston, MA, USA (oral presentation)
- P25. Speelman L, [Akyildiz AC](#), Hansen HHG, Nieuwstadt HA, van der Steen AF, Wentzel JJ, de Korte CL, Gijsen FJ; *Plaque-Specific Material Properties Improves Biomechanical Plaque Risk Assessment*, World Congress of Biomechanics 2014, Boston, MA, USA (oral presentation)
- P24. Chai C-K, [Akyildiz AC](#), Speelman L, Gijsen FJH, Oomens CWJ, van Sambeek MRHM, van der Lugt A, Baaijens FPT; *Using inverse FE analysis to test the local anisotropic mechanical behavior of human carotid atherosclerotic plaques*, World Congress of Biomechanics 2014, Boston, MA, USA (oral presentation)
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- P22. Speelman L, [Akyildiz AC](#), Hansen HG, Nieuwstadt HA, van der Steen AF, Wentzel JJ, de Korte CL, Gijsen FJ; *Estimation of Atherosclerotic Plaque Material Properties from Ultrasound by Inverse Finite Element*

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- P21. Speelman L, Akyildiz AC, Hansen HHG, Nieuwstadt HA, van der Steen AF, Wentzel JJ, de Korte CL, Gijsen FJ; *Plaque-Specific Material Properties Improves Biomechanical Plaque Risk Assessment*, Biomechanics in Vascular Biology and Cardiovascular Disease 2014, Montreal, QC, Canada (oral presentation)
- P20. Akyildiz AC, Nieuwstadt HA, Hansen HHG, de Korte CL, van der Steen AF, Wentzel JJ, Gijsen FJ; *Estimation of Atherosclerotic Plaque Material Properties: A Mixed Method of Strain Imaging and Inverse Finite Element Analysis*, ASME Summer Bioengineering Conference 2013, Sunriver, OR, USA (oral presentation)
- P19. Speelman L, Akyildiz AC, Hansen HHG, Nieuwstadt HA, van der Steen AF, Wentzel JJ, de Korte CL, Gijsen FJ; *Estimation of Atherosclerotic Plaque Material Properties*, 5th Asia Pacific Congress on Computational Mechanics 2013, Singapore (oral presentation)
- P18. Chai C-K, Akyildiz AC, Speelman L, Gijsen FJ, Oomens CWJ, van Sambeek MRHM, van der Lugt A, Baaijens FPT; *Local Anisotropic Mechanical Behavior of Human Carotid Atherosclerotic Plaques - Characterization Using Indentation Test And Inverse FEA*, ASME Summer Bioengineering Conference 2013, Sunriver, OR, USA (oral presentation)
- P17. Akyildiz AC, Speelman L, Goffi M, Nieuwstadt H, van der Heiden K, van der Steen AF, Wentzel JJ, Gijsen FJ; *Plaque Deformation in Atherosclerotic Porcine Iliacs*, ASME Summer Bioengineering Conference 2012, Fajardo, Puerto Rico (oral presentation)
- P16. Speelman L, Akyildiz AC, Gijsen FJ, Wentzel JJ, van der Steen AF; *Biomechanics of Atherosclerotic Plaques*, World Congress on Computational Mechanics 2012, Sao Paulo, Brazil (oral presentation)
- P15. Akyildiz AC, Speelman L, Nieuwstadt H, van der Steen AF, Wentzel JJ, Gijsen FJ; *Influence of Plaque Geometry on Peak Cap Stresses*; Biomechanics in Vascular Biology and Cardiovascular Disease 2012, Rotterdam, NL (poster presentation)
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- P13. Chai C-K, Akyildiz AC, Speelman L, Gijsen FJH, van Sambeek MRHM, Oomens CWJ, Baaijens FPT; *Characterization of Local Mechanical Properties of Atherosclerotic Plaque Tissue Using an Indentation Test and Inverse Analysis*; EUROMECH: Advanced Experimental Approaches and Inverse Problems in Tissue Biomechanics, 2012, St. Etienne, France (oral presentation)
- P12. Akyildiz AC, Speelman L, Nieuwstadt H, Wentzel JJ, Gijsen FJ; *Influence of Plaque Geometry on Peak Cap Stresses*, ASME Summer Bioengineering Conference 2011, Farmington, PA, USA (poster presentation)
- P11. Speelman L, Akyildiz AC, Wentzel JJ, van der Steen AF, den Adel B, Virmani R, van der Weerd L, Jukema JW, Poelmann RE, van Brummelen H, Gijsen FJ; *Initial Stress in Atherosclerotic Plaque Biomechanical Models*, ASME Summer Bioengineering Conference 2011, Farmington, PA, USA (poster presentation)
- P10. Nieuwstadt H, Akyildiz AC, Speelman L, Wentzel JJ, Virmani R, van der Steen AF, Gijsen FJ; *Stress Calculations in 3D Reconstructions of Arteries: The Influence of Axial Image Resolution*; Artery 11 Conference 2011, Paris, France (poster presentation)
- P9. Speelman L, Akyildiz AC, den Adel B, Wentzel JJ, van der Steen AF, Virmani R, van der Weerd L, Jukema JW, Poelmann RE, Brummelen EH, Gijsen FJ; *The Role of Initial Stress in Atherosclerotic Plaque Modeling*, Biomechanics in Vascular Biology and Cardiovascular Disease 2011, Rotterdam, NL (poster presentation)
- P8. Akyildiz AC, Speelman L, van Brummelen H, Gutiérrez MA, Virmani R, van der Lugt A, van der Steen AF, Wentzel JJ, Gijsen FJ; *Influence of Intima Material Properties and Plaque Geometry on Cap Stresses in Vulnerable Plaques*; World Congress on Biomechanics 2010, Singapore (oral presentation)
- P7. Speelman L, Akyildiz AC, Wentzel JJ, van der Steen AF, Gijsen FJ; *Initial Stress in Atherosclerotic Plaque Stress Analysis*, World Congress on Biomechanics 2010, Singapore (oral presentation)
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- P5. Akyildiz AC, Speelman L, van Brummelen H, Gutiérrez MA, Virmani R, van der Lugt A, van der Steen AF, Wentzel JJ, Gijsen FJ. *Intima Stiffness Determines the Effects of Geometric Plaque Features on Cap Stresses*. ASME Summer Bioengineering Conference 2010, Naples, FL, USA (poster presentation)
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- P1. Jaspers RT, Yucesoy CA, Akyildiz AC, Testering J, van der Laarse W, Huijing PA; *Adaptation of muscle size and force by mechanical stimuli*, International Fascia Research Congress, 2009, Amsterdam, NL (oral presentation)