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Date of birth: July 8th, 1987

Jannis Teunissen

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Ars longa, vita brevis

Education

2009–2011	**Master**, *University of Amsterdam*. Computational Science *(cum laude)*
2005–2008	**Bachelor**, *University of Amsterdam*. Physics & Astronomy *(cum laude)*
1999–2005	**Secondary education**, *Barlaeus Gymnasium*. Nature & Technology

Academic experience

2015–2016	**Postdoc**, *Centrum Wiskunde & Informatica (CWI)*. Stayed for four months as a postdoc
2011–2015	**PhD**, *CWI & Eindhoven University of Technology*. 3D Simulations and Analysis of Pulsed Discharges *(cum laude)* Supervisor: Ute Ebert

Other experience

2015–2016	**Member of works council**, *Centrum Wiskunde & Informatica*.
2008–2009	**Student assistant**, *University of Amsterdam*. Physics Lab Courses 1 & 2
2008–2008	**IT support**, *Tele2 Netherlands*, Amsterdam. First line IT support, internal help desk
2004–2008	**Tutor**, *Several high school students*. Physics & Mathematics

Honors & Awards

2015	Student Award of Excellence at the joint meeting of 68th Gaseous Electronics Conference (GEC), 9th Int. Conf. on Reactive Plasmas (ICRP), and 33th Symposium on Plasma Processing, Honolulu, Hawaii, USA.

Interests

Sports	I play football at DVVA and maintain the web page www.dvva.nl.
Go	The ancient 19×19 board game, my level is around 1 dan.
Technology	I like to read about GNU/Linux, programming languages and other computer technology.

Selected talks

2016 *Understanding streamer paths through experiments and 3D simulations*, 28th NNV-Symposium on Plasma Physics and Radiation Technology, Lunteren, The Netherlands

2015 *Advances in the 3D Simulation of Streamer Discharges*, 68th Gaseous Electronics Conference (GEC), Honolulu, Hawaii, USA

2015 **invited** *3D Models for nanosecond pulsed discharges: with new codes to quantitative understanding*, XXXII International Conference on Phenomena In Ionized Gases (ICPIG), Iași, Romania

2015 **invited** *Streamer simulations in 3D with adaptive grids*, Meeting of ESF network TEA-IS, Vienna, Austria

2014 *Investigating the guiding of streamers in N_2/O_2 mixtures with 3D simulations*, 67th Gaseous Electronics Conference (GEC), Raleigh, North Carolina, USA

2013 *Simulating the inception of pulsed discharges near positive electrodes*, 66th Gaseous Electronics Conference (GEC), Princeton, New Jersey, USA

Journal publications

[1] Chao Li, Jannis Teunissen, Margreet Nool, Willem Hundsdorfer, and Ute Ebert. A comparison of 3D particle, fluid and hybrid simulations for negative streamers. *Plasma Sources Sci. Technol.*, 21(5):055019, Sep 2012.

[2] A. B. Sun, J. Teunissen, and U. Ebert. Why isolated streamer discharges hardly exist above the breakdown field in atmospheric air. *Geophys. Res. Lett.*, 40(10):2417–2422, May 2013.

[3] Jannis Teunissen and Ute Ebert. Controlling the weights of simulation particles: adaptive particle management using k-d trees. *Journal of Computational Physics*, 259:318–330, Feb 2014.

[4] Jannis Teunissen, Anbang Sun, and Ute Ebert. A time scale for electrical screening in pulsed gas discharges. *J. Phys. D: Appl. Phys.*, 47(36):365203, Aug 2014.

[5] Anbang Sun, Jannis Teunissen, and Ute Ebert. The inception of pulsed discharges in air: simulations in background fields above and below breakdown. *J. Phys. D: Appl. Phys.*, 47(44):445205, Oct 2014.

[6] Anbang Sun, Jannis Teunissen, and Ute Ebert. 3D particle modeling of positive streamer inception from a needle electrode in supercritical nitrogen. *IEEE Trans. Plasma Sci.*, 42(10):2416–2417, Oct 2014.

[7] Anna Dubinova, Jannis Teunissen, and Ute Ebert. Propagation of a positive streamer toward a dielectric tip in pure nitrogen and in air under voltage pulses with subnanosecond rise time. *IEEE Transactions on Plasma Science*, 42(10):2392–2393, Oct 2014.

[8] S Nijdam, E Takahashi, J Teunissen, and U Ebert. Streamer discharges can move perpendicularly to the electric field. *New Journal of Physics*, 16(10):103038, Oct 2014.

[9] Aram H Markosyan, Jannis Teunissen, Saša Dujko, and Ute Ebert. Comparing plasma fluid models of different order for 1d streamer ionization fronts. *Plasma Sources Science and Technology*, 24(6):065002, Oct 2015.

Submitted / in preparation

submitted S. Nijdam, J. Teunissen, E. Takahashi, U. Ebert. The role of free electrons in the guiding of positive streamers (Plasma Sources Science and Technology)

submitted J. Teunissen, U. Ebert. 3D PIC-MCC simulations of discharge inception around a sharp anode in nitrogen/oxygen mixtures (Plasma Sources Science and Technology)

revision N. Mascini, J. Teunissen, R. Noorlag, S. Willems, R. Heeren. Using MALDI-MSI data to predict head and neck cancer metastasis and disease-specific survival (Anal. and Bioanal. Chemistry)

in prep. J. Teunissen, U. Ebert. A Monte Carlo approach for photoionization in discharge simulations

in prep. J. Teunissen, U. Ebert. Afivo: a simulation framework with multigrid routines for quadtree and octree grids