

DR. IR. REINOUD LAVRIJSEN

LIST OF PUBLICATIONS, PRESENTATIONS, SUPERVISED STUDENTS (AS PER SEPT. 2020)

UNDER REVIEW

- i. All-Optical switching of magnetic domains in Co/Gd heterostructures with Dzyaloshinskii-Moriya interaction
A. Cao, Y.L.W. van Hees, R. Lavrijsen, W. Zhao, B. Koopmans.
@Physical Review B (2020)

PUBLICATIONS

FIRST-AUTHOR AND/OR LAST-AUTHOR

1. [Stabilizing chiral spin-structures via an alternating Dzyaloshinskii-Moriya interaction](#)
J. Lucassen, M.J. Meijer, M.C.H. de Jong, R.A. Duine, H.J.M. Swagten, B. Koopmans, R. Lavrijsen
Physical Review B 102, 014451 (2020)
2. [Deterministic single pulse all-optical magnetization writing facilitated by non-local transfer of spin angular momentum](#)
Y.L.W. van Hees, P. van de Meughevel, B. Koopmans, R. Lavrijsen
Nature Communications 11, 3835 (2020)
3. [Magnetic chirality controlled by the interlayer exchange interaction](#)
M.J. Meijer, J. Lucassen, F. Kloodt-Twesten, R. Frompter, O. Kurnosikov, R.A. Duine, H.J.M. Swagten, B. Koopmans, R. Lavrijsen
Physical Review Letters 124, 207203 (2020)
4. [Extraction of Dzyaloshinskii-Moriya interaction from propagating spin waves validated](#)
J. Lucassen, C.F. Schippers, M.A. Verheijen, P. Fritsch, E.J. Geluk, B. Barcones, R.A. Duine, S. Wurmehl, H.J.M. Swagten, B. Koopmans, R. Lavrijsen
Physical Review B 101, 064432 (2020)
5. [Tuning magnetic chirality by dipolar interactions](#)
J. Lucassen, M.J. Meijer, F. Kloodt-Twesten, R. Frömter, O. Kurnosikov, R.A. Duine, H.J.M. Swagten, B. Koopmans, R. Lavrijsen
Physical Review Letters 123, 157201 (2019)
6. [Creep of Chiral Domain Walls](#)
D.M.F. Hartmann, R.A. Duine, M.J. Meijer, H.J.M. Swagten, R. Lavrijsen
Physical Review B 100, 094417 (2019)
7. [A new twist for spin torques in antiferromagnets](#)
R. Lavrijsen
Nature Electronics 2, 372-373 (2019)
8. [Optimizing propagating spin wave spectroscopy](#)
J. Lucassen, C.F. Schippers, L. Rutten, R.A. Duine, H.J.M. Swagten, B. Koopmans, R. Lavrijsen
Applied Physics Letters 115, 012403 (2019)

9. [Scanning electron microscopy with polarization analysis for multi-layered chiral spin textures](#)
J. Lucassen, F. Kloodt-Twesten, R. Frompter, H.P. Oepen, R.A. Duine, H. J. M. Swagten, B. Koopmans, R. Lavrijsen
Applied Physics Letters **111**, 132403 (2017)
10. [Periodically modulated ferromagnetic waveguide claddings with perpendicular magnetic anisotropy for enhanced mode conversion](#)
Y.L.W. van Hees, J.J.G.M. van der Tol, B. Koopmans, R. Lavrijsen
IEEE Photonics Proceedings (2017)
11. [Asymmetric magnetic bubble expansion under in-plane field in Pt/Co/Pt: Effect of interface engineering](#)
R. Lavrijsen, D.M.F. Harmann, A. van den Brink, Y. Yin, M. Verheijen, B. Barcones, R.A. Duine, H. J. M. Swagten, B. Koopmans
Physical Review B **91**, 104414 (2015)
12. [Multi-bit operations in vertical spintronic shift registers](#)
R. Lavrijsen, J-H. Lee, A. Fernandez-Pacheco, D. Petit, R. Mansell, R.P. Cowburn
Nanotechnology **25**, 105201 (2014)
13. [Magnetic ratchet for 3-dimensional spintronics memory and logic](#)
R. Lavrijsen, J-H. Lee, A. Fernandez-Pacheco, D. Petit, R. Mansell, R.P. Cowburn
Nature **494**, 647-650 (2013)
14. [Asymmetric Pt/Co/Pt-stack induced sign-control of current-induced magnetic domain-wall creep](#)
R. Lavrijsen, P.P.J. Haazen, E. Mure, J.H. Franken, J.T. Kohlhepp, H.J.M. Swagten and B. Koopmans
Applied Physics Letters, **100**, 262408 (2012)
15. [Tuning the RKKY-interlayer exchange coupling between single perpendicularly magnetized CoFeB layers](#)
R. Lavrijsen, A. Fernandez-Pacheco, D. Petit, R. Mansell, J.H. Lee, R.P. Cowburn
Applied Physics Letters, **100**, 052411 (2012)
16. [Magnetism in \$\text{Co}_{80-x}\text{Fe}_x\text{B}_{20}\$; effect of crystallization](#)
R. Lavrijsen, P.V. Paluskar, C.T.J. Loermans, P.A. van Kruisbergen, J.T. Kohlhepp, H.J.M. Swagten and B. Koopmans.
Journal of Applied Physics, **109**, 093905 (2011)
17. [Enhanced –field driven domain-wall motion in Pt/Co₆₈B₃₂/Pt strips](#)
R. Lavrijsen, J.T. Kohlhepp, H.J.M. Swagten and B. Koopmans.
Applied Physics Letters, **98**, 132502 (2011)
18. [Fe:O:C grown by focused-electron-beam-induced deposition: magnetic and electric properties](#)
R. Lavrijsen, R. Cordoba, F. J. Schoenaker, T. Ellis, B. Barcones-Campo, J.T. Kohlhepp, H.J.M. Swagten, B. Koopmans, J.M. De Teresa, C. Magen, M.R. Ibarra, P. Trompenaars and J.J.L. Mulders.
Nanotechnology, **22**, 025302 (2011).
19. [Controlled domain wall injection in perpendicularly magnetized strips](#)
R. Lavrijsen, J.H. Franken, J. T. Kohlhepp, H. J. M. Swagten, B. Koopmans
Applied Physics Letters **96**, 222502 (2010)
20. [Reduced domain wall pinning in ultrathin Pt/Co_{100-x}B_x/Pt with perpendicular magnetic anisotropy](#)
R. Lavrijsen, G.Malinowski, J.H. Franken, J. T. Kohlhepp, H. J. M. Swagten, B.

Koopmans, M. Czapkiewicz, T. Stobiecki
Applied Physics Letters **96**, 022501 (2010)

CO-AUTHOR

21. [Enhanced all-optical switching and domain wall velocity in annealed synthetic-ferrimagnetic multilayers](#)
 L. Wang, Y.L.W. van Hees, R. Lavrijsen, W. Zhao, B. Koopmans
Applied Physics Letters **117**, 022408 (2020)
22. [Magnetic domain wall curvature induced by wire edge pinning](#)
 L. Herrera Diaz, F. Ummelen, V. Jeudy, G. Durin, R. Diaz-Pardo, A. Casiraghi, G. Agnus, D. Bouville, J. Langer, B. Ocker, R. Lavrijsen, H.J.M. Swagten, D. Ravelosona
Applied Physics Letters **117**, 062406 (2020)
23. [Structural transitions of skyrmion lattices in synthetic antiferromagnets](#)
 E. van Walsum, R.A. Duine, J. Lucassen, R. Lavrijsen, H.J.M. Swagten,
Physical Review B **100**, 064402 (2019)
24. [Long-range chiral exchange interaction in synthetic antiferromagnets](#)
 D.S. Han, K. Lee, J.P. Hanke, K.W. Kim, Y. Mokrousov, W. Yoo, Y. van Hees, T.W. Kim, R. Lavrijsen, C.Y. You, H.J.M. Swagten, M.H. Jung, M. Klauwi
Nature Materials **18**, 703-709 (2019)
25. [Investigating optically excited terahertz standing spin waves using noncollinear magnetic bilayers](#)
 M.L.M. Laliou, R. Lavrijsen, R.A. Duine, B. Koopmans
Physical Review B **99**, 184439 (2019)
26. [Boosting the Performance of WO₃/n-Si Heterostructures for Photo-electrochemical Water Splitting: from the Role of Si to Interface Engineering](#)
 Y. Zhao, G. Brocks, H. Genuit, R. Lavrijsen, M.A. Verheijen, A. Bieberle-Huetter
Advanced Energy Materials **4**, 9262–9270 (2019)
27. [Electrochemistry of Sputtered Hematite Photoanodes: A Comparison of Metallic DC versus Reactive RF Sputtering](#)
 R. Sinha, R. Lavrijsen, M.A. Verheijen, E. Zoethout, H. Genuit, M.C.M. van de Sanden, A. Bieberle-Huetter
ACS Omega **4**, 5, 9262-9270 (2019)
28. [Integrating all-optical switching with spintronics](#)
 M.L.M. Laliou, R. Lavrijsen, B. Koopmans
Nature Communications **10**, 110 (2019)
29. [Physical and chemical defects in WO₃ thin films and their impact on photoelectrochemical water splitting](#)
 Y. Zhao, S. Balasubramanyam, R. Sinha, R. Lavrijsen, M.A. Verheijen, A.A. Bol, A. Bieberle-Huetter
ACS Applied Energy Materials **1**, 5887-5895 (2018)
30. [Plasma radiation studies in Magnum-PSI using resistive bolometry](#)
 G.G. van Eden, M.L. Reinke, S. Brons, G. van der Bijl, R. Lavrijsen, S.P. Huber, R.

- Perillo, M.C.M. van de Sanden, T.W. Morgan
Nuclear Fusion **58**, 106006 (2018)
31. [Fabrication of Scaffold-Based 3D Magnetic Nanowires for Domain Wall Applications](#)
D. Sanz-Hernandez, R.F. Hamans, J. Osterrieth, J.W. Liao, L. Skoric, J.D. Fowlkes, P.D. Rack, A. Lippert, S.F. Lee, R. Lavrijsen, A. Fernandez-Pacheco
Nanomaterials **8-7**, 483 (2018)
 32. [Versatile microfluidic flow generated by moulded magnetic artificial cilia](#),
S.Z. Zhang, Y. Wang, R. Lavrijsen, P.R. Onck, J.M.J. den Toonder
Sensors and Actuators B – Chemical (2017)
 33. [Chiral Magnetoresistance in Pt/Co/Pt zigzag wires](#)
Y.X. Yin, D.S. Han, J.S. Kim, R. Lavrijsen, K.J. Lee, S.W. Lee, K.W. Kim, H.W. Lee, H.J.M. Swagten, B. Koopmans
Applied Physics Letters **112**, 249901 (2018)
 34. [Synthesis of Ni Nanoparticles with Controllable Magnetic Properties by Atmospheric Pressure Microplasma Assisted Process](#)
L. Liu, S. Li, S.A. Starostin, R. lavrijsen, W. Wang, V. Hessel
American Society of Chemical Engineers (AIChE) (2017)
 35. [Deterministic all-optical switching of synthetic ferrimagnets using single femtosecond laser pulses](#)
M.L.M. Lalieu, M.J.G. Peeters, S.R.R. Haenen, R. Lavrijsen, B. Koopmans
Physical Review B, **96**, 220411 (2017)
 36. [Sputter grown Fe and Cr/Fe multilayers with fourfold magnetic anisotropy on GaAs](#),
R.H. Mansell, D.C.M.C. Petit, A. Fernandez-Pacheco, R. Lavrijsen, J.H. Lee, R.P. Cowburn
IEEE transactions on magnetics, **54**, 2000105 (2018)
 37. [Thickness dependence of unidirectional spin-Hall magnetoresistance in metallic bilayers](#)
Y.Yin, D.-S. Han, M.C.H. de Jong, R. Lavrijsen, R.A. Duine, H.J.M. Swagten, Bert Koopmans
Applied Physics Letters, **111**, 232405 (2017)
 38. [Fabrication, Detection, and Operation of a Three-Dimensional Nanomagnetic Conduit](#),
D. Sanz-Hernández, R.F. Hamans, J.-W. Liao, A. Welbourne, R. Lavrijsen, and Amalio Fernández-Pacheco
ACS Nano (2017)
 39. [Visible-light-promoted gas-phase water splitting using porous WO₃/BiVO₄ photoanodes](#)
T. Stoll, G. Zafeiropoulos, I. Dogan, H. Genuit, R. Lavrijsen, B. Koopmans, M.N. Tsampas
Electrochemistry Communications **82**, 47-51 (2017)
 40. [Nanostructuring of iron thin films by high flux low energy helium plasma](#)
A. Bieberle-Hutter, I. Tanyeli, R. Lavrijsen, B. Koopmans, R. Sinha, M.C.M. van de Sanden
Thin Solid Films **631**, 50-56 (2017)

41. [Vector magnetometry of Fe/Cr/Fe trilayers with biquadratic coupling](#)
R. Mansell, D.C.M.C. Petit, A. Fernandez-Pacheco, J.H. Lee, S.L. Chin, R. Lavrijsen,
R.P. Cowburn
Journal of Physics D-Applied Physics **50**, 19LT02 (2017)
42. [Zigzag Domain Wall Mediated Reversal in Antiferromagnetically Coupled Layers](#)
R. Mansell, A. Fernandez-Pacheco, D.C.M.C. Petit, N.J. Steinke, J.H. Lee, R.
Lavrijsen, R.P. Cowburn
IEEE Magnetics Letters **8**, 4102304 (2017)
43. [Chiral Magnetoresistance in Pt/Co/Pt zigzag wires](#)
Y. Yin, D-S. Han, J-S. Kim, R. Lavrijsen, K-J. Lee, S-W. Lee, K-W. Kim, H-W. Lee,
H.J.M. Swagten, B. Koopmans
Applied Physics Letters **110**, 122401 (2017)
44. [Systematic layer-by-layer characterisation of multilayers for three-dimensional data storage and logic](#)
D. Petit, R. Lavrijsen, J. H. Lee, R. Mansell, A. Fernandez-Pacheco, R. P. Cowburn
Nanotechnology **27**, 155203 (2016)
45. [Thickness dependence of the interfacial Dzyaloshinskii-Moriya interaction in inversion symmetry broken systems](#)
J. Cho, N-H. Kim, S. Lee, J-S. Kim, R. Lavrijsen, A. Solignac, Y. Yin, D-S. Han, N. J.
J. van Hoof, H. J. M. Swagten, B. Koopmans, C-Y. You
Nature Communications **6**, 7635 (2015)
46. [A robust soliton ratchet using combined antiferromagnetic and ferromagnetic interlayer couplings](#)
R. Mansell, R. Lavrijsen, A. Fernandez-Pacheco, D. C. M. C. Petit, J. H. Lee, B.
Koopmans, H. J. M. Swagten, R. P. Cowburn
Applied Physics Letters **106**, 092404 (2015)
47. [Magnetic properties and interlayer coupling of epitaxial Co/Cu films on Si](#)
R. Mansell, D. Petit, A. Fernandez-Pacheco, R. Lavrijsen, J.H. Lee, R. P. Cowburn
Journal of Applied Physics, **116**, 063906 (2014)
48. [Soliton propagation in micron-sized magnetic ratchet elements](#)
J.-H. Lee, D. Petit, R. Lavrijsen, A. Fernandez-Pacheco, R. Mansell, R.P. Cowburn
Applied Physics Letters, **104**, 232404 (2014)
49. [Beam-Induced Fe Nanopillars as Tunable Domain-Wall pinning Sites](#)
J.H. Franken, M.A.J. van der Heijden, T.H. Ellis, R. Lavrijsen, C. Daniels, D.
McGrouther, H.J.M. Swagten, B. Koopmans
Advanced Functional Materials **24**, **23**, 3508-3514 (2014)
50. [Domain Imaging during soliton propagation in a 3D magnetic ratchet](#)
J.-H. Lee, R. Mansell, D. Petit, A. Fernandez-Pacheco, R. Lavrijsen, R. P. Cowburn
SPIN, Vol 3, No. 4, 134001 (2013)
51. [Domain wall depinning governed by the spin Hall effect](#)
P.P.J. Haazen, E. Mure, J.H. Franken, R. Lavrijsen, H.J.M. Swagten, B. Koopmans
Nature Materials **12**, 299-303 (2013)
52. [Magnetic states in low-pinning high-anisotropy magnetic nanostructures suitable for dynamic imaging](#)
F. Buttner, C. Moutafis, A. Bisig, P. Wohlhuter, C.M. Gunther, J. Mohanty, J.
Guilhufe, M. Schneider, C.V. Schmising, S. Schaffert, B. Pfau, M. Hantschmann, M.
Riemeier, M. Emmel, S. Finizio, G. Jakob, M. Weigand, J. Rhensius, J.H. Franken, R.
Lavrijsen, H.J.M Swagten, H. Stoll, S. Eisebitt, M. Klau
Physical Review B, **87**, 134422 (2013)

53. [Controllable nucleation and propagation of topological magnetic solitons in CoFeB/Ru ferrimagnetic superlattices](#)
A. Fernandez-Pacheco, D. Petit, R. Mansell, R. Lavrijsen, J.H. Lee, R.P. Cowburn
Physical Review B, **86**, 104422 (2012)
54. [Giant anomalous Hall effect in Fe-based microwires grown by focused-electron-beam-induced deposition](#)
R. Cordoba, R. Lavrijsen, A. Fernandez-Pacheco, M.R. Ibarra, F. J. Schoenaker, T. Ellis, B. Barcones-Campo, J.T. Kohlhepp, H.J.M. Swagten, B. Koopmans, J.J.L. Mulders and J.M. De Teresa
Journal of Physics D: Applied Physics, **45**, 035001 (2012)
55. [Domain-Wall pinning by local control of anisotropy in Pt/Co/Pt strips](#)
J.H. Franken, M. Hoeijmakers, R. Lavrijsen, H.J.M. Swagten
Journal of Physics: Condensed matter, **24**, 024216 (2012)
56. [Precise control of domain wall injection and pinning using helium and gallium focused ion beams](#)
J.H. Franken, M. Hoeijmakers, R. Lavrijsen, J. T. Kohlhepp, H. J. M. Swagten, B. Koopmans
Journal of Applied Physics, **109**, 07D504 (2011)
57. [Tunable magnetic domain wall oscillator at an anisotropy boundary](#)
J.H. Franken, R. Lavrijsen, J. T. Kohlhepp, H. J. M. Swagten, B. Koopmans
Applied Physics Letters, **98**, 102512 (2011)
58. [Spin motive forces due to magnetic vortices and domain walls](#)
M.E. Lucassen, G.C.F.L. Kruis, R. Lavrijsen, H.J.M. Swagten, B. Koopmans and R.A. Duine
Physical Review B, **84**, 014414 (2011)
59. [Correlation between Magnetism and Spin-Dependent Transport in CoFeB Alloys](#)
P.V. Paluskar, R. Lavrijsen, M. Sicot, J. T. Kohlhepp, H.J.M. Swagten, and B. Koopmans
Physical Review Letters **102**, 016602 (2009)
60. [Magnetization Dynamics and Gilbert damping in ultrathin Co₄₈Fe₃₂B₂₀ films with out-of-plane anisotropy](#)
G. Malinowski, K.C. Kuiper, R. Lavrijsen, H.J.M. Swagten, B. Koopmans
Applied Physics Letters **94**, 102501 (2009)
61. [Tunneling spin polarization and annealing of Co₇₂Fe₈B₂₀](#)
H.J.M. Swagten, P.V. Paluskar, R. Lavrijsen, J.T. Kohlhepp, B. Koopmans
Journal of Magnetism and Magnetic Materials **310** (2, Pt. 3), 2012-2014 (2007)

PRESENTATIONS

- i. **Ferrimagnetic Co/Gd bilayers for combining All-Optical-Switching and Spintronics**,
R. Lavrijsen, M. Peeters, M.L.M. Laliou, Y. van Hees, K. Poissonnier, B. Koopmans
10th International Symposium on Metallic Multilayers, Madrid, Spain
(June 2019)
- ii. **(Invited) All-optical switching in Co/Gd bilayers and chirality determination using SEMPA**, R. Lavrijsen, et al.
M-SNOWS, Nancy, France
(September 2018)

- iii. ***(Invited)* On spin-orbit torques, chiral magnetization textures and e-control of magnetization in ultrathin multilayers**
R. Lavrijsen, H.J.M. Swagten, B. Koopmans
 International Conference on Nanoscale Magnetism, Turkey
(September 2016) cancelled due to political situation in Turkey
- iv. **Manipulating the RKKY coupling strength by electric fields**
R. Lavrijsen, M. Laliou, R. Raijmakers, H.J.M. Swagten, B. Koopmans
 IEEE 2016 International Symposium On Metallic Multilayers, Uppsala, Sweden
(June 2016)
- v. ***(Invited)* Asymmetric exchange in Pt/Co/Ir/Pt multilayers**
R. Lavrijsen, R. Duine, H.J.M. Swagten, B. Koopmans
 Wiesendanger group Symposium, Hamburg, Germany
(June 2015)
- vi. ***(Invited)* Domain-walls, magnetic bubbles, and the Dzyaloshinskii-Moriya interaction?**
R. Lavrijsen, D. Hartmann, R. Duine, H.J.M. Swagten, B. Koopmans
 SPRING2015, Spring meeting EMRS, Lille, France
(May 2015)
- vii. ***(Invited)* Symmetric exchange and charging the interlayer exchange coupling**
R. Lavrijsen, D. Hartmann, R. Duine, H.J.M. Swagten, B. Koopmans
 Thin Film Magnetization Group Symposium, Cambridge, UK
(March 2015)
- viii. **Tuning asymmetric exchange: towards an ideal racetrack memory?**
R. Lavrijsen, H.J.M. Swagten, B. Koopmans
 COBRA symposium, TU/e, Eindhoven, The Netherlands
(February 2015)
- ix. ***(Invited)* Domain-wall depinning governed by the spin Hall effect and Dzyaloshinskii-Moriya interaction**
R. Lavrijsen, J.H. Franken, D. Hartmann, R. Duine, H.J.M. Swagten, B. Koopmans
 59th Annual Magnetism & Magnetic Materials Conference, Honolulu, Hawaii
(November 2014)
- x. ***(Invited)* On domain-walls and spin-orbit torques**
R. Lavrijsen, H.J.M. Swagten, P.J. Haazen, E. Mure, J.H. Franken, B. Koopmans
 Deutsche Physikalische Gesellschaft Spring Meeting, Dresden, Germany
(April 2014)
- xi. **On spin-orbitronics and 3D soliton ratchets**
R. Lavrijsen, H.J.M. Swagten, P.J. Haazen, E. Mure, J.H. Franken, B. Koopmans, J-H. Lee, A. Fernandez-Pacheco, D. Petit, R. Mansell, R.P. Cowburn
 Physics@FOM Meeting, Veldhoven, The Netherlands
(January 2014)
- xii. ***(Invited)* On spin-orbitronics, soliton ratchets and domain walls**
R. Lavrijsen; Workshop: Spintronics: Its Frontiers, Challenges and Opportunities
 Nanyang Technological University Singapore, Singapore
(January 2014)
- xiii. ***(Invited)* Domain-wall depinning governed by the spin Hall effect**

- R. Lavrijsen, H.J.M. Swagten, P.J. Haazen, E. Mure, J.H. Franken, B. Koopmans
Joint European Magnetism Symposia, Rhodes, Greece
(August 2013)
- xiv. **(Invited) Multiple soliton propagation through a magnetic superlattice**
R. Lavrijsen, J-H. Lee, A. Fernandez-Pacheco, D. Petit, R. Mansell, R.P. Cowburn
IEEE 2013 International Symposium On Metallic Multilayers, Kyoto, Japan
(May 2013)
- xv. **(Invited) Towards fully 3-dimensional spintronics - MRAM**
R. Lavrijsen, J-H. Lee, A. Fernandez-Pacheco, D. Petit, R. Mansell, R.P. Cowburn
IMEC, Leuven, Belgium
(December 2012)
- xvi. **3D spintronics: Perpendicularly magnetized soliton ratchet**
R. Lavrijsen, J-H. Lee, A. Fernandez-Pacheco, D. Petit, R. Mansell, R.P. Cowburn
Joint European Magnetic Symposia, Parma, Italy
(September 2012)
- xvii. **Single perpendicularly magnetized CoFeB layers for 3D spintronics**
R. Lavrijsen, A. Fernandez-Pacheco, D. Petit, J-H. Lee, R. Mansell, R.P. Cowburn
Intermag, IEEE International Magnetism Conference, Vancouver, Canada
(May 2012)
- xviii. **Domain walls in perpendicularly magnetized stripes violating spin-transfer torque?**
R. Lavrijsen, J.T. Kohlhepp, H.J.M. Swagten, B. Koopmans
55th Annual Conference on Magnetism & Magnetic Materials, Atlanta, USA
(November 2010)
- xix. **(Invited) Domain walls in perpendicularly magnetized stripes violating spin-transfer torque?**
R. Lavrijsen, J.T. Kohlhepp, H.J.M. Swagten, B. Koopmans
IEEE 2010 International Symposium On Metallic Multilayers, Berkeley, USA
(September 2010)
- xx. **Perpendicular Pt / CoFeB / Pt, a tunable system for domain wall dynamics**
R. Lavrijsen, G. Malinowski, J.T. Kohlhepp, H.J.M. Swagten, B. Koopmans
53rd Annual Conference on Magnetism & Magnetic Materials, Austin, Texas, USA
(November 2008)

SUPERVISION PHD/PD

1. Dr. Ir. Jeroen Franken (2014)
2. Dr. Ir. Sjors Schellekens (2014)
3. Dr. Ir. Arno van de Brink (2016)
4. PD Dr. MSc, Dong-Soo Han (2014-2016)
5. PD Dr. Jung-Woo Koo (2016-2017)
6. Dr. Ir. Yuxiang Yin (2018) Co-Promotor
7. Dr. Ir. Mark Lalieu (2019) Co-Promotor
8. Dr. Ir. Fanny Ummelen (2020) Co-Promotor
9. Dr. Ir. Juriaan Lucassen (2020) Co-Promotor / Cum-Laude
10. M.Sc. Anni Cao (Expected 2020) Co-Promotor

11. M.Sc. Marielle Meijer (Expected 2021) Co-Promotor
12. M.Sc. Ece Demirer (Expected 2021)
13. Ir. Youri van Hees (Expected 2022) Co-Promotor
14. Ir. Tom Lichtenberg (Expected 2022)
15. M.Sc. Jianing Li (Expected 2023) Co-Promotor / 1st promotor*
16. M.Sc. Pingzhi Li (Expected 2023) Co-Promotor / 2nd promotor*
17. M.Sc. Adrien Petrillo (Expected 2024) Co-Promotor / 1st promotor*
18. M. Sc. Thomas Kools (Expected 2024) Co-Promotor / 1st promotor*
19. M.Sc. Mark de Jong (Expected 2024) Co-Promotor / 1st promotor*

*When received Ius-Promovendi

SUPERVISED MASTER/BACHELOR PROJECTS

1. M.Sc. Michael Beljaars (2008), *Electron beam induced deposition of Iron*
2. B.Sc. Joris Jongen (2008), *Quantitative Magnetic Force Microscopy*
3. B.Sc. Rik Paesen (2008), *Field driven and current induced domain wall motion*
4. M.Sc. Coen Loermans (2009), *Magnetic properties of perpendicularly magnetized ultrathin Pt/CoFeB/Pt films*
5. M.Sc. Paul Janssen (2009), *The nanostencil process*
6. B.Sc. Tim Weekenstro (2009), *Ion Beam Milling*
7. B.Sc. Roger Bosch (2009), *Determination of the magnetic properties of EBID-deposited Fe nanowires through the AMR effect*
8. B.Sc. Can Avci (2009), *Magnetic characterization of Co/Pt single layer with perpendicular magnetization*
9. M.Sc. Frank Schoenaker (2010), *Exploring the fabrication of ferromagnetic nanostructures by Electron Beam Induced Deposition*
10. M.Sc. Jeroen Franken (2010), *Domain wall motion in perpendicularly magnetized ultrathin Pt/CoFeB/Pt films*
11. M.Sc. Paul Soto (2010), *Nano-stencil fabrication for spin-torque devices*
12. M.Sc. Geerit Kruis (2011), *Racing domain walls*
13. M.Sc. Tim Ellis (2011), *Novel Deposition of Magnetic Nanostructures*
14. B.Sc. Mark Lalieu (2012), *Towards a working 3D data storage device*
15. B.Sc. Dion Hartmann UU (2014), *Domain-wall motion in materials with perpendicularly magnetic anisotropy*
16. M.Sc. Mark Lalieu (2014), *Charging the interlayer exchange coupling*
17. M.Sc. Juriaan Lucassen (2015), *Determining the Spin Hall Effect using superconducting tunnelling spectroscopy*
18. M.Sc. Dorris Slapak (2016), *Growing BaTiO₃ for future magnetic memory devices*
19. M.Sc. Guido Hendriks (2016), *Synthetic-Multiferroic heterostructures with the Spin Hall Effect*
20. M.Sc. Pim van Nispen (2017), *Characterising the Dzyaloshinskii-Moriya effect by magnetic bubble expansion*
21. M.Sc. Rens Raijmakers (2016), *Tunable interlayer exchange coupling*
22. M.Sc. Paul de Brouwer (2017), *Tunable interlayer exchange coupling*
23. B.Sc. Jelte Schlatmann (2017) *3D vector magnet for anisotropy mapping*
24. Ext. Internship @Cambridge UK (2017), Ruben Hamans, *3D scaffolds for magnetic injection*
25. Ext. Internship @Cambridge UK (2017), Kaylee Hakkel, *Synthetic Antiferromagnets*

26. B.Sc. Amber Heskens (2018) *Theory for 3D magnonics (together with Rembert Duine)*
27. M.Sc. Youri van Hees (2018) *Magnetic claddings for photonic integrated circuits*
28. B.Sc. Jan van Mastrigt (2018) *Characterising Magnetic NanoPlatelets*
29. M.Sc. Rick Ernst (2018), *Magnetic SAF nanoparticles or bio and cancer treatment*
30. B.Sc. Huub van der Veecken (2018), *Characterising Co/Gd Ferrimagnetic systems*
31. B.Sc. Stef van den Hoek (2019), *Simulating the behaviour of synthetic anti-ferromagnetic NanoPlatelets using COMSOL*
32. B.Sc. Jasper van Tongeren (2019), *Simulating the attraction and repulsion of superparamagnetic beads using thin films*
33. B.Sc. Floris van Riel (2019), *MFM imaging of magnetic skyrmions*
34. B.Sc. Paul van de Meugheuvel (2019), *Spin-current assisted All-Optical-Switching?*
35. Kenneth Poissonnier (2019), *Co/Gd ferrimagnets for AOS*
36. Ext. MSc. @AMS, Eindhoven, NL, Kelvin van Hoorn (2020), *Magnetically functionalized pressure sensor membranes*
37. Ext. Internship @ASML, Veldhoven, NL 2019, Jan van Mastrigt; *Ultrasensitive current sensors*
38. Ext. Internship @SCIL, Eindhoven, NL 2019, Huub van der Veecken, *Characterizing the imprint wetting process*
39. Ext. Internship @MIT, Boston USA, 2019 Don van Elst, *SOT's in Co/Gd multilayers*
40. Ext. Internship @Argonne, Chicago USA, 2019 Arthur Hendriks, *MOKE using plasmonics ultrajets*
41. Ext. Internship @Singapore, 2020 Bennert Smit, *Magneto resistance setup build and characterisation*
42. M.Sc. Gyan van der Jagt (2020), *Focused Ion Beam magnetic patterning for SEMPA*
43. M.Sc. Mark de Jong (2020), *MFM for Skyrmion injections*
44. Ext. Master. @ASML, Eindhoven, NL, Huub van der Veecken (M.Sc. expected 2020), *Magneto-Optical cladding based current sensor*
45. Ext. Internship @ETH Zurich, 2020 Floris van Riel, *Spin-Orbit torque quantification*
46. B.Sc Pim Lueb, (2020), *Characterising the anisotropy of Anti-Ferromagnets*
47. B.Sc. Gijs Simons, (2020), *Modeling of s-d interaction in RKKY coupled stacks for All Optical Switching*
48. B.Sc. Sara Tjon (2020), *Modeling of mechanical respons of mNPLs*
49. B.Sc. Max van der Schans (2020), *Literature survey and modelling for mNPLs characterisation methods*
50. B.Sc. Wouter Kuyper (expected 2020), *Co/Gd bilayer characterization*
51. M.Sc. Bennert Smit (expected 2021), *FIB irradiation for Skyrmion Nucleation*
52. M.Sc. Axel Deenen (expected 2021), *MUMAX simulations for Propagating spin wave spectroscopy*
53. M.Sc. Moos Muller (expected 2021), *Simulation the effective parameters of Co/Gd ferrimagnetic multilayers.*
54. Ext. Internship @Pro-Drive, 2020 Tamar Cromwijk, *Laser-beam steering*