



DIFFER

Dutch Institute for
Fundamental Energy Research



APPENDIX 2018

WE ARE DIFFER. **SCIENCE FOR FUTURE ENERGY**

*This appendix to the DIFFER annual report 2018 lists the scientific output at DIFFER.
The annual report and appendices can be found at www.differ.nl/about-us/annual-reports*

APPENDIX - Index

Output DIFFER	4
Output Fusion Energy theme	4
Output Solar Fuels theme.....	16

Output

DIFFER

Media appearances: 2

1. *Er is nog meer onder de zon*, oneworld.nl, 2018/02/14, General coverage
2. *DIFFER geeft een kijkje in de toekomst*, Eindhovens Dagblad, ed.nl, 2018/10/07, Interview with M.C.M. van de Sanden

Fusion Energy theme

PhD theses: 3

1. *D.U.B. Aussems, Nanostructured microparticle synthesis by high-flux plasma processing*, PhD thesis at the Eindhoven University of Technology, 2018/05/23, Promotor: M.C.M. van de Sanden
2. *G.G. van Eden, Vapour shielding of liquid metal walls in nuclear fusion devices*, PhD thesis at the Eindhoven University of Technology, 2018/05/15, Promotor: M.C.M. van de Sanden, N.J. Lopes Cardozo
3. *V. Kvon, Alternative target concepts for power and particle exhaust in fusion application*, PhD thesis at the Eindhoven University of Technology, 2018/12/19, Promotor: M.C.M. van de Sanden, M.R. de Baar

BSc theses: 3

1. *J.R. Andrade Lopes, (Master thesis Tecnico Lisboa (IST):) Effects of Shear Flow on the Stability of Tokamak Plasmas*, 2018, Mentor: E. Westerhof
2. *J.A. Rosas Saad, (Master thesis Delft University:) Tungsten Recrystallization Behavior Under Steady and Transient Hydrogen Plasma Loading*, 2018, Mentor: T. Morgan
3. *N. Sebastian, (Master thesis Eindhoven University of Technology:) Neural Network Regression for the Warm Plasma Dispersion Relation in Electron Cyclotron Ray Tracing*, 2018, Mentor: E. Westerhof, J. Citrin

Publications in peer-reviewed scientific journals: 55

1. *D.U.B. Aussems, T.W. Morgan, M.C.M. van de Sanden, E. Neyts, Mechanisms of elementary hydrogen ion-surface interactions during multilayer graphene etching at high surface temperature as a function of flux*, Carbon 137 (2018) 527-532
2. *A. Bakaeva, D. Terentyev, T.W. Morgan, A. Dubinko, W. van Renterghem, L. Tanure, K. Verbeken, Impact of plastic deformation on retention under pure D or He high flux plasma expose*, Nucl. Mater. Energy 15 (2018) 48-54
3. *O. Baranov, I. Levchenko, J.M. Bell, M. Lim, S.Y. Huang, L.X. Xu, B.B. Wang, D. Aussems, S.Y. Xu, K. Bazaka, From nanometre to millimetre: A range of capabilities for plasma-enabled surface functionalization and nanostructuring*, Mater. Horiz. 5 (2018) 765-798
4. *M. van Berkel, G. Vandersteen, H.J. Zwart, G.M.D. Hogeweij, J. Citrin, E. Westerhof, D. Peumans, M.R. de Baar, Separation of transport in slow and fast time-scales using modulated heat pulse experiments (hysteresis in flux explained)*, Nucl. Fusion 58 (2018) 106042
5. *M. van Berkel, A. De Cock, T. Ravensbergen, G.M.D. Hogeweij, H.J. Zwart, G. Vandersteen, A systematic approach to optimize excitations for perturbative transport experiments*, Phys. Plasmas 25 (2018) 082510

6. M. van Berkel, T. Kobayashi, G. Vandersteen, H.J. Zwart, H. Igami, S. Kubo, N. Tamura, H. Tsuchiya, M.R. de Baar, LHD Experiment Group, Heat flux reconstruction and effective diffusion estimation from perturbative experiments using advanced filtering and confidence analysis, *Nucl. Fusion* 58 (2018) 096036
7. T.C. Blanken, F. Felici, C.J. Rapson, M.R. de Baar, W.P.M.H. Heemels, Control-oriented modeling of the plasma particle density in tokamaks and application to real-time density profile reconstruction, *Fusion Eng. Des.* 126 (2018) 87-103
8. H. Boessenkool, J.G.W. Wildenbeest, C.J.M. Heemskerck, M.R. de Baar, M. Steinbuch, D.A. Abbink, A task analysis approach to quantify bottlenecks in task completion time of telemanipulated maintenance, *Fusion Eng. Des.* 129 (2018) 300-308
9. H. Boessenkool, J. Thomas, J.G.W. Wildenbeest, C.J.M. Heemskerck, M.R. de Baar, M. Steinbuch, D.A. Abbink, JET Contributors, Where to improve in human-in-the-loop tele-operated maintenance? A phased task analysis based on video data of maintenance at JET, *Fusion Eng. Des.* 129 (2018) 309-319
10. N. Bonanomi, P. Mantica, J. Citrin, C. Giroud, E. Lerche, C. Sozzi, D. Taylor, M. Tsalas, D. van Eester, JET Contributors, Effects of nitrogen seeding on core ion thermal transport in JET ILW L-mode plasmas, *Nucl. Fusion* 58 (2018) 026028
11. N. Bonanomi, P. Mantica, J. Citrin, T. Görler, B. Teaca, JET Contributors, Impact of electron-scale turbulence and multi-scale interactions in the JET tokamak, *Nucl. Fusion* 58 (2018) 124003
12. N. Bonanomi, P. Mantica, A. Di Siena, E. Delabie, C. Giroud, T. Johnson, E. Lerche, S. Menmuir, M. Tsalas, D. van Eester et al., Turbulent transport stabilization by ICRH minority fast ions in low rotating JET ILW L-mode plasmas, *Nucl. Fusion* 58 (2018) 056025
13. C. Bourdelle, Y. Camenen, J. Citrin, M. Marin, F.J. Casson, F. Köchl, M. Maslov, JET Contributors, Fast H isotope and impurity mixing in ion-temperature-gradient turbulence, *Nucl. Fusion* 58 (2018) 076028
14. S. Breton, F. Casson, C. Bourdelle, J. Citrin, Y. Baranov, Y. Camenen, C. Challis, G. Corrigan, J. Garcia, L. Garzotti et al., First principle integrated modeling of multi-channel transport including Tungsten in JET, *Nucl. Fusion* 58 (2018) 096003
15. S. Breton, F.J. Casson, C. Bourdelle, C. Angioni, E. Belli, Y. Camenen, J. Citrin, X. Garbet, Y. Sarazin, M. Sertoli et al., High Z neoclassical transport: Application and limitation of analytical formulae for modelling JET experimental parameters, *Phys. Plasmas* 25 (2018) 012303
16. Y. Bu, S. Er, J.W. Niemantsverdriet, H.O.A. Fredriksson, Preferential oxidation of CO in H₂ on Cu and Cu/CeO_x catalysts studied by in situ UV-Vis and mass spectrometry and DFT, *J. Catal.* 357 (2018) 176-187
17. S.S. Denk, R. Fischer, H.M. Smith, P. Helander, O. Maj, E. Poli, J. Stober, U. Stroth, W. Suttrop, E. Westerhof et al., Analysis of electron cyclotron emission with extended electron cyclotron forward modeling, *Plasma Phys. Control. Fusion* 60 (2018) 105010
18. P. Diomede, M.C.M. van de Sanden, S. Longo, Vibrational Kinetics in Plasma as a Functional Problem: a Flux-Matching Approach, *J. Phys. Chem. A* 122 (2018) 7918-7923
19. R.J. Dumont, J. Mailloux, V. Aslanyan, M. Baruzzo, C.D. Challis, I. Coffey, A. Czarnecka, E. Delabie, J. Eriksson, M. Tsalas et al., Scenario development for the observation of alpha-driven instabilities in JET DT plasmas, *Nucl. Fusion* 58 (2018) 082005
20. H.J.N. van Eck, H.H.J. Ten Kate, A.V. Dudarev, T. Mulder, A. Hervé, A 2.5 T, 1.25 m Free Bore Superconducting Magnet for the Magnum-PSI Linear Plasma Generator, *IEEE Trans. Appl. Supercond.* 28 (2018) 4203305
21. G.G. van Eden, M.L. Reinke, S. Brons, G. van der Bijl, B.J.M. Krijger, R. Lavrijsen, S.P. Huber, R. Perillo, M.C.M. van de Sanden, T.W. Morgan, Plasma radiation studies in Magnum-PSI using resistive bolometry, *Nucl. Fusion* 58 (2018) 106006
22. F. Felici, J. Citrin, A.A. Teplukhina, J. Redondo, C. Bourdelle, F. Imbeaux, O. Sauter, JET Contributors, EUROfusion MST1 Team, Real-time-capable prediction of temperature and density profiles in a tokamak using RAPTOR and a first-principle-based transport model, *Nucl. Fusion* 58 (2018) 096006
23. G. Fuchsel, K. Cao, S. Er, E.W.F. Smeets, A.W. Kleyn, L.B.F. Juurlink, G.J. Kroes, Anomalous Dependence of the Reactivity on the Presence of Steps: Dissociation of D-2 on Cu(211), *J. Phys. Chem. Lett.* 9 (2018) 170-175
24. D. Gallart, M.J. Mantsinen, C. Challis, D. Frigione, J. Graves, E. Belonohy, F. Casson, A. Czarnecka, J. Eriksson, M. Tsalas et al., Modelling of JET hybrid plasmas with emphasis on performance of combined ICRF and NBI heating, *Nucl. Fusion* 58 (2018) 106037
25. J.P. Goedbloed, MHD instabilities in astrophysical plasmas: very different from MHD instabilities in tokamaks!, *Plasma Phys. Control. Fusion* 60 (2018) 014001
26. J.P. Goedbloed, The Spectral Web of stationary plasma equilibria. I. General theory, *Phys. Plasmas* 25 (2018) 032109
27. J.P. Goedbloed, The Spectral Web of stationary plasma equilibria. II. Internal modes, *Phys. Plasmas* 25 (2018) 032110
28. M. Hoelzl, G.T.A. Huijsmans, F. Orain, F.J. Artola, S. Pamela, M. Bécoulet, D. van Vugt, F. Liu, S. Futatani, B. Vanovac et al., Insights into type-I edge localized modes and edge localized mode control from JOREK non-linear magneto-hydrodynamic simulations, *Contrib. Plasma Phys.* 58 (2018) 518-528

29. K. Jesko, Y. Marandet, H. Bufferand, J.P. Gunn, H.J. van der Meiden, G. Ciraolo, Studying divertor relevant plasmas in the Pilot-PSI linear plasma device: experiments versus modelling, *Plasma Phys. Control. Fusion* 60 (2018) 125009
30. K. Jesko, Y. Marandet, H. Bufferand, J.P. Gunn, H.J. van der Meiden, G. Ciraolo, Soledge2D-Eirene simulations of the Pilot-PSI linear plasma device compared to experimental data, *Contrib. Plasma Phys.* 58 (2018) 798-804
31. J.K. Jiang, C.K. Onwudinanti, R.A. Hatton, P.A. Bobbert, S.X. Tao, Stabilizing Lead-Free All-Inorganic Tin Halide Perovskites by Ion Exchange, *J. Phys. Chem. C* 122 (2018) 17660-17667
32. A. Kappatou, R.M. McDermott, T. Pütterich, R. Dux, B. Geiger, R.J.E. Jaspers, A.J.H. Donné, E. Viezzer, M. Cavedon, ASDEX Upgrade team, A forward model for the helium plume effect and the interpretation of helium charge exchange measurements at ASDEX Upgrade, *Plasma Phys. Control. Fusion* 60 (2018) 055006
33. D. Kogut, D. Aussems, N. Ning, K. Bystrov, A. Gicquel, J. Achard, O. Brinza, Y. Addab, C. Martin, C. Pardanaud et al., Single-crystal and polycrystalline diamond erosion studies in Pilot-PSI, *J. Nucl. Mater.* 500 (2018) 110-118
34. Z. Liu, L. Xiong, J. Li, S. Liu, S. Er, Effects of alloying elements (Al, Mn, Ru) on desorption plateau pressures of vanadium hydrides: An experimental and first-principles study, *Int. J. Hydrogen Energy* 43 (2018) 21441-21450
35. M. Maslov, D. King, E. Viezzer, D.L. Keeling, C. Giroud, T. Tala, A. Salmi, M. Marin, J. Citrin, C. Bourdelle et al., Observation of enhanced ion particle transport in mixed H/D isotope plasmas on JET, *Nucl. Fusion* 58 (2018) 076022
36. R. Maurizio, S. Elmore, N. Fedorczak, A. Gallo, H. Reimerdes, B. Labit, C. Theiler, C.K. Tsui, W.A.J. Vijvers, TCV team et al., Divertor power load studies for attached L-mode single-null plasmas in TCV, *Nucl. Fusion* 58 (2018) 016052
37. T.W. Morgan, P. Rindt, G.G. van Eden, V. Kvon, M.A. Jaworski, N.J. Lopes Cardozo, Liquid metals as a divertor plasma facing material explored using the Pilot-PSI and Magnum-PSI linear devices, *Plasma Phys. Control. Fusion* 60 (2018) 014025
38. H. Ohshima, S. Kajita, H. Tanaka, N. Ohno, H.J. van der Meiden, Thomson Scattering Measurement of Two Electron Temperature Components in Transition to Detached Plasmas, *Plasma Fusion Res.* 13 (2018) 1201099
39. J. van Oosterhout, C.J.M. Heemskerk, M.R. de Baar, F.C.T. van der Helm, D.A. Abbink, Haptic Shared Control in Tele-Manipulation: Effects of Inaccuracies in Guidance on Task Execution, *IEEE Trans. Haptics* 11 (2018) 128-139
40. R. Perillo, R. Chandra, G. Akkermans, W.A.J. Vijvers, W. Graef, I.G.J. Classen, J. van Dijk, M. de Baar, Studying the influence of nitrogen seeding in a detached-like hydrogen plasma by means of numerical simulations, *Plasma Phys. Control. Fusion* 60 (2018) 105004
41. M.J. van de Pol, S. Alonso van der Westen, D.U.B. Aussems, M.A. van den Berg, S. Brons, H.J.N. van Eck, G.G. van Eden, J.W. Genuit, H.J. van der Meiden, T.W. Morgan et al., Operational characteristics of the superconducting high flux plasma generator Magnum-PSI, *Fusion Eng. Des.* 136 (2018) 597-601
42. E. Poli, A. Bock, M. Lochbrunner, O. Maj, M. Reich, A. Snicker, A. Stegmeir, F. Volpe, N. Bertelli, E. Westerhof et al., TORBEAM 2.0, a paraxial beam tracing code for electron-cyclotron beams in fusion plasmas for extended physics applications, *Comput. Phys. Commun.* 225 (2018) 36-46
43. S. Ratynskaia, P. Toliás, M. de Angeli, D. Ripamonti, G. Riva, D. Aussems, T. Morgan, Interaction of adhered beryllium proxy dust with transient and stationary plasmas, *Nucl. Mater. Energy* 17 (2018) 222-227
44. T. Ravensbergen, P.C. de Vries, F. Felici, T.C. Blanken, R. Nouailletas, L. Zabeo, Density control in ITER: an iterative learning control and robust control approach, *Nucl. Fusion* 58 (2018) 016048
45. M.L. Reinke, J.L. Terry, G.G. van Eden, B.J. Peterson, K. Mukai, T.K. Gray, B.C. Stratton, Experimental tests of an infrared video bolometer on Alcator C-Mod, *Rev. Sci. Instrum.* 89 (2018) 103507
46. P. Rindt, T.W. Morgan, M.A. Jaworski, N.J. Lopes Cardozo, Power handling limit of liquid lithium divertor targets, *Nucl. Fusion* 58 (2018) 104002
47. S.E. Sharapov, M. Garcia-Munoz, M.A. van Zeeland, V. Bobkov, I.G.J. Classen, J. Ferreira, A.C.A. Figueiredo, M. Fitzgerald, J. Galdon-Quiroga, D. Gallart et al., The effects of electron cyclotron heating and current drive on toroidal Alfvén eigenmodes in tokamak plasmas, *Plasma Phys. Control. Fusion* 60 (2018) 014026
48. A. Di Siena, T. Görler, H. Doerk, R. Bilato, J. Citrin, T. Johnson, M. Schneider, E. Poli, JET Contributors, Non-Maxwellian fast particle effects in gyrokinetic GENE simulations, *Phys. Plasmas* 25 (2018) 042304
49. P. Spaeh, G. Aiello, R. Chavan, M. Gagliardi, G. Grossetti, C.J.M. Heemskerk, J.D. Landis, A. Meier, J. Pacheco, D. Ronden et al., Status of the Final Design of the EC UPP Launcher, *Fusion Eng. Des.* 136 (2018) 1058-1062
50. L. Tanure, A. Bakaeva, L. Lapeire, D. Terentyev, M. Vilémová, J. Matějček, K. Verbeken, Nano-hardness, EBSD analysis and mechanical behavior of ultra-fine grain tungsten for fusion applications as plasma facing material, *Surf. Coat. Technol.* 355 (2018) 252-258

51. C.K. Tsui, J.A. Boedo, J.R. Myra, B. Duval, B. Labit, C. Theiler, N. Vianello, W.A.J. Vijvers, H. Reimerdes, S. Coda et al., *Filamentary velocity scaling validation in the TCV tokamak*, *Phys. Plasmas* 25 (2018) 072506
52. B. Vanovac, E. Wolfrum, S.S. Denk, F. Mink, F.M. Laggner, G. Birkenmeier, M. Willensdorfer, E. Viezzer, M. Hoelzl, S.J. Freethy et al., *Effects of density gradients and fluctuations at the plasma edge on ECEI measurements at ASDEX Upgrade*, *Plasma Phys. Control. Fusion* 60 (2018) 045002
53. B. Vanovac, E. Wolfrum, M. Hoelzl, M. Willensdorfer, M. Cavedon, G. Harrer, F. Mink, S.S. Denk, S. Freethy, M.G. Dunne et al., *Characterization of low-frequency inter-ELM modes of H-mode discharges at ASDEX Upgrade*, *Nucl. Fusion* 58 (2018) 112011
54. L. Vignitchouk, S. Ratynskaia, M. Kantor, P. Talias, M. de Angeli, H. van der Meiden, J. Vernimmen, F. Brochard, A. Shalpegin, E. Thorén et al., *Validating heat balance models for tungsten dust in cold dense plasmas*, *Plasma Phys. Control. Fusion* 60 (2018) 115002
55. J. Zhang, J. Huang, J.F. Chang, C.R. Wu, W.W. Heidbrink, M. Salewski, J. Madsen, Y.B. Zhu, M.G. von Hellermann, W. Gao et al., *Fast ion D-alpha measurements using a bandpass-filtered system on EAST*, *Rev. Sci. Instrum.* 89 (2018) 10D121

Books: 1

1. R. Keppens, O. Porth, J.P. Goedbloed, *The Role of Magnetic Fields in AGN Activity and Feedback*, *Cosmic Magnetic Fields*, Cambridge University Press, 2018, p. 87–122

Invited lectures at conferences and meetings: 42

1. 35th Meeting of the ITPA Diagnostics Topical Group, 2018/10/08, Cadarache, France, M.R. de Baar, Report by the new chair of the sub-group on real-time analysis
2. Seminar Astronomical Institute Anton Pannekoek University of Amsterdam, 2018/05/24, Amsterdam, Netherlands, M.R. de Baar, "Line of sight", techniek voor het observeren en controleren van magnetische instabiliteiten in een kernfusie reactor
3. Lecture Studium Generale University of Twente, 2018/05/15, Enschede, Netherlands, M.R. de Baar, Nuclear fusion: pushing the boundary
4. Department Colloquium, Reactor Institute Delft TU Delft, 2018/05/03, Delft, Netherlands, M.R. de Baar, Model based plasma control for nuclear fusion reactors: Pushing anything, including the (plasma)boundary
5. Lecture in Haptics Course, Technical University Eindhoven, 2018/05/03, Eindhoven, Netherlands, M.R. de Baar, Control Systems Technology
6. Symposium 'Nuclear Power' Technisch Fysische Vereniging Prof. Francken, 2018/05/02, Groningen, Netherlands, M.R. de Baar, Active control for plasma performance and stability in tokamaks
7. Seminar Wigner Research Centre for Physics, 2018/04/03, Budapest, Hungary, M.R. de Baar, Model based plasma control for nuclear fusion reactors: Pushing anything, including the (plasma) boundary
8. Lecture DeustoTech, host E. Zuazua, 2018/09/17, Bilbao, Spain, M. van Berkel, Frequency Domain Estimation of Physical Parameters in Parabolic Partial Differential Equations
9. Theory of fusion plasmas Joint Varenna-Lausanne international workshop, 2018/08/27 - 2018/08/31, Varenna, Italy, N. Bonanomi, P. Mantica, J. Citrin, T. Görler, A. Di Siena, E. Delabie, C. Giroud, T. Johnson, E. Lerche, S. Menmuir et al., Multi-scale interactions and role of fast ions and isotope mass in JET plasmas
10. 60th Annual Meeting of the APS Division of Plasma Physics, 2018/11/05 - 2018/11/09, Portland, OR, USA, C. Bourdelle, J. Citrin, F. Casson, S. Breton, Y. Camenen, F. Felici, A. Ho, F. Koechl, O. Linder, P. Manas et al., Predict first: turbulent transport validation within integrated modeling on JET and ASDEX Upgrade, PI2.1
11. Joint EU-US Transport Task Force Meeting (TTF 2018), 2018/09/11 - 2018/09/14, Seville, Spain, F.J. Casson, J. Citrin, et al., The challenge and reward of predictive multi-channel modelling
12. 2nd Asia-Pacific Conference on Plasma Physics (AAPPs-DPP2018), 2018/11/12 - 2018/11/17, Kanazawa, Japan, J. Citrin, et al., First-principle-based and tractable flux-driven turbulent tokamak transport modelling

13. *1st International Conference on Data-Driven Plasma Science 2018, 2018/07/11 - 2018/07/13, York, UK, J. Citrin, et al., First-principle-based and tractable flux-driven turbulent tokamak transport modelling*
14. *Fusion Frontiers and Interfaces Workshop, 2018/04/30 - 2018/05/04, York, UK, J. Citrin, Gyrokinetic turbulence model reduction for fast tokamak simulation*
15. *PREMIERE Workshop, 2018/11/22 - 2018/11/23, Ericeira, Portugal, P. Diomede, M.C.M. van de Sanden, S. Longo, Diffusion model for CO₂ vibrational kinetics in low temperature plasmas*
16. *Seminar Institute of Solid State Physics University of Latvia (ISSP-UL), 2018/12/14, Riga, Latvia, A.J.H. Donné, Nuclear fusion: from science fiction to science fact*
17. *Seminar Latvian Academy of Sciences, 2018/12/13, Riga, Latvia, A.J.H. Donné, Status and prospects of European fusion research*
18. *Seminar National Institute for Fusion Sciences, 2018/11/12, Tajimi, Japan, A.J.H. Donné, Status and prospects of European fusion research*
19. *Int. Multidisciplinary Conference Frontiers of 21st Century Physics and Ioffe Institute, 2018/10/29 - 2018/11/01, Saint-Petersburg, Russia, A.J.H. Donné, Status and prospects of European Fusion Research*
20. *ITER Media Days 2018, 2018/10/10 - 2018/10/11, Cadarache, France, A.J.H. Donné, European Research Roadmap to the Realisation of Fusion Energy*
21. *30th Symposium on Fusion Technology SOFT 2018, 2018/09/16 - 2018/09/21, Messina, Sicily, Italy, A.J.H. Donné, European roadmap to fusion energy, I2.2*
22. *Int. Conf. and School on Plasma Physics and Controlled Fusion ICPPCF-2018, 2018/09/10 - 2018/09/13, Kharkiv, Ukraine, A.J.H. Donné, Progress in European fusion research*
23. *13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, A.J.H. Donné, EUROfusion*
24. *13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, A.J.H. Donné, Plasma diagnostics in view of ITER and DEMO*
25. *European Sustainable Energy Week, 2018/06/05 - 2018/06/07, Brussels, Belgium, A.J.H. Donné, EUROfusion and the European fusion roadmap*
26. *14th Kudowa Summer School "Towards Fusion Energy", 2018/06/04 - 2018/06/08, Kudowa Zdroj, Poland, A.J.H. Donné, Fusion roadmap - where are we now?*
27. *Seminar Lithuanian Academy of Sciences, 2018/05/24, Vilnius, Lithuania, A.J.H. Donné, The European Fusion Roadmap towards fusion electricity*
28. *15th International Conference of Young Scientists on Energy Issues, 2018/05/23 - 2018/05/25, Kaunas, Lithuania, A.J.H. Donné, Challenges on the European roadmap towards fusion electricity*
29. *Seminar Kyoto University, 2018/04/27, Kyoto, Japan, A.J.H. Donné, The European Fusion Roadmap towards fusion electricity; progress and challenges*
30. *Seminar Kyushu University, 2018/04/23, Kyushu, Japan, A.J.H. Donné, The European Fusion Roadmap towards fusion electricity; progress and challenges*
31. *Royal Society Workshop Fusion energy using tokamaks: can development be accelerated?, 2018/03/26 - 2018/03/27, London, UK, A.J.H. Donné, The European Roadmap towards fusion electricity*
32. *UK Parliament Meeting on effect of Brexit on the development of fusion, 2018/03/06, London, UK, A.J.H. Donné, European Future Fusion Development*
33. *European Parliament Meeting on effect of Brexit on the development of fusion, 2018/02/20, Brussels, Belgium, A.J.H. Donné, European Future Fusion Development*
34. *Seminar Institute for Nuclear Research and Nuclear Energy, 2018/02/15, Sofia, Bulgaria, A.J.H. Donné, Progress and challenges on the path towards fusion electricity*
35. *Romanian Fusion Association Day, 2018/02/05, Bucharest, Romania, A.J.H. Donné, The European fusion endeavour: progress and plans*
36. *Meeting Eurofusion - US National Academy of Science panel, 2018/02/01, Cadarache, France, A.J.H. Donné, On the functioning of EUROfusion and the revision of the European fusion roadmap*
37. *Seminar South-Western Institute of Physics, 2018/01/22, Chengdu, China, A.J.H. Donné, Recent progress and perspectives of the European fusion research*

38. 23rd Topical Meeting on the Technology of Fusion Energy (TOFE) 2018, 2018/11/11 - 2018/11/15, Orlando, FL, USA, H.J.N. van Eck, S. Alonso van der Westen, S. Brons, I.G.J. Classen, H.J. van der Meiden, T.W. Morgan, M.J. van de Pol, J. Scholten, J.W.M. Vernimmen, E.G.P. Vos et al., *Status and Recent Results From the Linear Plasma Facility Magnum-PSI for Fusion Materials Research*
39. *Classical and Quantum Plasmas: Matter under Extreme Conditions*, International conference, 2018/04/05 - 2018/04/06, Rome, Italy, S. Longo, M.C.M. van de Sanden, P. Diomede, *Fokker-Planck equation for chemical reactions in plasmas*
40. AVS 65th International Symposium and Exhibition, 2018/10/21 - 2018/10/26, Long Beach, CA, USA, T.W. Morgan, D.U.B. Aussems, G.G. van Eden, K.M. Bal, E. Neyts, V. Kvon, K. Bystrov, I. Dogan, C. Arnas, M. Cabié et al., *Plasma-surface interactions in the strongly coupled regime*
41. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, N. Ohno, Y. Hayashi, S. Kajita, H. Tanaka, H. Oshima, M. Seki, K. Sawada, M. Aramaki, M. Yoshikawa, H.J. van der Meiden, *Influence of recombination front region on plasma detachment in a linear divertor plasma simulator*, June 19th
42. 42^e Forum d'ORAP: AI for HPC and HPC for AI, 2018/11/06, Paris, France, K.L. van de Plassche, J. Citrin, C. Bourdelle, F. Felici, *Realtime capable first-principle-based fusion reactor turbulence modeling using neural networks*

Other oral and poster presentations at (international) conferences and meetings: 103

1. 13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, G. Akkermans, *Investigating hydrogen plasma-chemical processes using Optical Emission Spectroscopy in detached Magnum-PSI scenarios*, Poster, P1.1
2. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, G.R.A. Akkermans, R. Barrois, R. Perillo, I.G.J. Classen, W.A.J. Vijvers, *Investigating hydrogen plasma-chemical processes using Optical Emission Spectroscopy in detached Magnum-PSI scenarios*, Poster, 427
3. 13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, M.R. de Baar, *Flying a tokamak*, Oral
4. 37th Benelux Meeting on Systems and Control, 2018/03/27 - 2018/03/29, Soesterberg, Netherlands, M. de Baar, *Ten years of control for nuclear fusion in the Netherlands*, Oral, WeM07-2
5. 30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, M.Y. Barel, B.J.M. Krijger, D.M.S. Ronden, E.G.P. Vos, J. Scholten, J.W.M. Vernimmen, M.J. van de Pol, P.H.M. Smeets, R.S. Al, S. Alonso van der Westen et al., *Building UPP, real time ion beam analysis during plasma exposure*, Poster, A1
6. 60th Annual Meeting of the APS Division of Plasma Physics, 2018/11/05 - 2018/11/09, Portland, OR, USA, C. Berg Smiet, T. de Jong, D. Kok, H. de Blank, D. Bouwmeester, *Resistively untangling plasma knots*, Oral, YO8.2
7. Joint EU-US Transport Task Force Meeting (TTF 2018), 2018/09/11 - 2018/09/14, Seville, Spain, M. van Berkel, G. Vandersteen, H.J. Zwart, G.M.D. Hogewei, J. Citrin, E. Westerhof, D. Peumans, M.R. de Baar, *Can "hysteresis in flux" be reproduced by broadened power deposition profiles?*, Poster
8. 45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, M. van Berkel, T. Kobayashi, G. Vandersteen, H.J. Zwart, H. Igami, S. Kubo, N. Tamura, M.R. de Baar, *LHD Experiment Group, Determining the electron transport mechanisms from direct heat flux reconstructions*, Poster, P5.1086
9. 37th Benelux Meeting on Systems and Control, 2018/03/27 - 2018/03/29, Soesterberg, Netherlands, M. van Berkel, T. Kobayashi, *Identification of heat flux components in fusion plasmas*, Oral, WeM01-6
10. 13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, H.J. de Blank, *Guiding center motion*, Oral
11. 13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, H.J. de Blank, *Plasma equilibrium in tokamaks*, Oral
12. 13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, H.J. de Blank, *Plasma instabilities in tokamaks*, Oral
13. 27th IAEA Fusion Energy Conference (FEC 2018), 2018/10/22 - 2018/10/27, Gandhinagar, India, F.J. Casson, H. Patten, C. Bourdelle, S. Breton, J. Citrin, F. Köchl, C. Angioni, Y. Baranov, R. Bilato, E. Belli et al., *Predictive multi-channel flux-driven modelling to optimise ICRH tungsten control in JET*, Oral, TH/3-2

14. 13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, R. Chandra, Numerical modelling of detached plasma experiments with differential pumping in Magnum-PSI, Poster, P1.8
15. 45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, R. Chandra, G.R.A. Akkermans, I.G.J. Classen, R. Perillo, H.J. de Blank, P. Diomede, E. Westerhof, Numerical modelling of detached plasma experiments with differential pumping in Magnum-PSI, Poster, P1.1030
16. 30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, R. Chandra, H.J. de Blank, P. Diomede, E. Westerhof, Numerical modelling of particle and energy exhaust in linear plasma experiments and tokamak fusion reactors, Poster, A5
17. Joint ICTP-IAEA College on Plasma Physics 2018, 2018/10/29 - 2018/11/09, Trieste, Italy, J. Citrin, Core turbulence transport modelling in tokamaks, Oral
18. Applied Computational Sciences (ACOS) symposium 2018, 2018/10/10, Eindhoven, Netherlands, J. Citrin, Fast and accurate fusion plasma turbulence modelling with neural networks, Oral
19. Joint EU-US Transport Task Force Meeting (TTF 2018), 2018/09/11 - 2018/09/14, Seville, Spain, J. Citrin, C. Bourdelle, Y. Camenen, M. Marin, F.J. Casson, F. Köchl, M. Maslov, JET Contributors, Fast isotope mixing in Ion Temperature Gradient driven turbulence, Poster
20. 13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, J. Citrin, Degraded confinement and turbulence in tokamaks, Oral
21. 45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, J. Citrin, C. Bourdelle, Y. Camenen, M. Marin, F.J. Casson, F. Koechl, M. Maslov, JET Contributors, Fast isotope mixing in Ion Temperature Gradient driven turbulence, Poster, P5.1075
22. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, I.G.J. Classen, G.R.A. Akkermans, R. Perillo, W.A.J. Vijvers, R. Barrois, H.J. van der Meiden, H.J.N. van Eck, T.W. Morgan, Magnum PSI team, Detachment studies in the Magnum-PSI linear device during both steady state and transient plasma operation, Poster, 438
23. Joint EU-US Transport Task Force Meeting (TTF 2018), 2018/09/11 - 2018/09/14, Seville, Spain, A. Di Siena, T. Görler, H. Doerk, R. Bilato, J. Citrin, T. Johnson, M. Schneider, E. Poli, JET Contributors, New insights into fast ion induced turbulence stabilization, Oral
24. 24th ESCAMPIG (Europhysics Conference on Atomic and Molecular Physics of Ionized Gases), 2018/07/17 - 2018/07/21, Glasgow, UK, P. Diomede, M.C.M. van de Sanden, S. Longo, Fokker-Planck equation for chemical reactions in plasmas, Poster, P128
25. 2nd Asia-Pacific Conference on Plasma Physics (AAPPs-DPP2018), 2018/11/12 - 2018/11/17, Kanazawa, Japan, A.J.H. Donné, Strategy and challenges of the revised European Fusion Roadmap, Poster
26. 30th Symposium on Fusion Technology SOFT 2018, 2018/09/16 - 2018/09/21, Messina, Sicily, Italy, A.J.H. Donné, EUROfusion: Industrial involvement, Oral
27. 6th Energy Research Meet (TUIe), 2018/09/28, Eindhoven, Netherlands, H.J.N. van Eck, Overview of DIFFER's Plasma Surface Interaction Facilities, Oral
28. 30th Symposium on Fusion Technology SOFT 2018, 2018/09/16 - 2018/09/21, Messina, Sicily, Italy, H.J.N. van Eck, S. Alonso van der Westen, S. Brons, I.G.J. Classen, H.J. van der Meiden, T.W. Morgan, M.J. van de Pol, J. Scholten, J.W.M. Vernimmen, E.G.P. Vos et al., High particle fluence over 10^{29} D⁺m⁻² achieved in linear plasma generator Magnum-PSI, Oral, O3A.7
29. 45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, F. Felici, J. Citrin, K. van de Plassche, A. Teplukhina, A. Ho, C. Bourdelle, O. Sauter, EUROfusion MST1 Team, JET Contributors, Real-time multichannel tokamak plasma profile simulations using the RAPTOR code and the QLK-NN first-principle transport model, Poster, P4.1091
30. 45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, J. Ferreira, F. Nabais, P. Rodrigues, R. Coelho, A. Figueiredo, M. Garcia-Munoz, T. Johnson, P. Lauber, S.E. Sharapov, I.G.J. Classen et al., Effects of electron cyclotron resonance heating on toroidal Alfvén eigenmodes in tokamak plasmas, Poster, P1.1057
31. 27th IAEA Fusion Energy Conference (FEC 2018), 2018/10/22 - 2018/10/27, Gandhinagar, India, D. Frigione, M. Romanelli, C.D. Challis, J. Citrin, L. Frassinetti, J.P. Graves, J. Hobirk, F. Köchl, M. Mantsinen, M. Marin et al., Impact of Neon Injection on Electron Density Peaking in JET Hybrid Plasmas, Poster, EXIP1-3
32. 27th IAEA Fusion Energy Conference (FEC 2018), 2018/10/22 - 2018/10/27, Gandhinagar, India, J. Garcia, L. Garzotti, M. Nocente, A. Banon Navarro, Y. Baranov, F.J. Casson, C.D. Challis, J. Citrin, R. Dumont, A. Ho et al., First Principles and Integrated Modelling Achievements Towards Trustful Fusion Power Predictions for JET and ITER, Oral, TH/3-1

33. 27th IAEA Fusion Energy Conference (FEC 2018), 2018/10/22 - 2018/10/27, Gandhinagar, India, T. Görler, A. Di Siena, H. Doerk, T. Happel, S.J. Freethy, I.G. Farcas, A. Banon Navarro, R. Bilato, A. Bock, J. Citrin et al., *En Route to High-Performance Discharges: Insights and Guidance from High-Realism Gyrokinetics*, Poster, TH/P6-5
34. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, P. Hennequin, E. Trier, T. Happel, M. Bernert, G. Birkenmeier, D. Carralero, G.D. Conway, T. Eich, G. Fuchert, B. Vanovac et al., *Fluctuation behaviour associated with the different phases of the ELM cycle in ASDEX Upgrade*, Poster, 39
35. 2nd Asia-Pacific Conference on Plasma Physics (AAPPs-DPP2018), 2018/11/12 - 2018/11/17, Kanazawa, Japan, A. Ho, J. Citrin, F.J. Casson, F. Auriemma, C. Bourdelle, P. Manas, G. Szepesi, H. Weisen, JET Contributors, *Turbulent transport model validation at JET using integrated modelling enhanced by Gaussian process regression*, Poster
36. Joint EU-US Transport Task Force Meeting (TTF 2018), 2018/09/11 - 2018/09/14, Seville, Spain, A. Ho, J. Citrin, F. Auriemma, C. Bourdelle, F.J. Casson, H.T. Kim, P. Manas, G. Szepesi, H. Weisen, JET Contributors, *Turbulent transport model validation at JET using integrated modelling enhanced by Gaussian process regression*, Poster
37. 45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, A. Ho, J. Citrin, F.J. Casson, F. Auriemma, C. Bourdelle, P. Manas, G. Szepesi, H. Weisen, JET Contributors, *Turbulent transport model validation at JET using integrated modelling enhanced by Gaussian process regression*, Poster, P4.1088
38. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, A. Ho, et al., *Advanced data workflows for tokamak transport model verification and validation*, Poster
39. 45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, F. Jaulmes, S.Y.F. Cats, T. Markovič, E. Westerhof, H.J. de Blank, J. Urban, COMPASS team, *Particles simulations of RMP fields effects in the COMPASS tokamak*, Poster, P5.1023
40. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, K. Jesko, Y. Marandet, R. Perillo, I. Classen, H. Bufferand, J.P. Gunn, H.J. van der Meiden, T.W. Morgan, *Simulating Magnum-PSI target gas puff experiments with the SolEdge2D-Eirene transport code*, Poster, 452
41. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, K. Jesko, H. Bufferand, Y. Marandet, J.P. Gunn, H.J. van der Meiden, C. Guido, *SolEdge2D-Eirene simulations of the Pilot-PSI linear plasma device compared with experimental data*, Oral, PW4.2
42. 27th IAEA Fusion Energy Conference (FEC 2018), 2018/10/22 - 2018/10/27, Gandhinagar, India, F. Köchl, S.D. Pinches, F.J. Casson, J. Citrin, G. Corrigan, M. Dubrov, Y.V. Gribov, D. Harting, A.A. Kavin, M. Marin et al., *Optimizing the ITER 15 MA DT Baseline Scenario by Exploiting a Self-Consistent Free-Boundary Core-Edge-SOL Workflow in IMAS*, Poster, EXIP7-25
43. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, M. Laki, H.J. van der Meiden, J. Vernimmen, T.W. Morgan, M.R. de Baar, *Advanced diagnosis of electron and ion properties in low temperature high density plasma*, Poster, P8.005
44. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, K.L. Li, D.Z. Wang, W.Q. Chen, S.L. Qu, T.W. Morgan, Z.J. Shen, W. Liu, *Impact of plasma irradiation on selective laser melted tungsten and tungsten alloys*, Poster, 330
45. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, Y. Li, T.W. Morgan, J.P.M. Hoefnagels, D. Terentyev, G. De Temmerman, *Experimental assessment and simulation of stress distribution in tungsten exposed to ITER-like steady-state and transient plasma*, Poster, 332
46. 30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, Y. Li, T.W. Morgan, J.P.M. Hoefnagels, S. Antusch, G. De Temmerman, *Thermal-mechanical response of tungsten based composites manufactured via powder injection molding exposed to ITER-like steady-state and transient plasma close to recrystallization temperature*, Poster, A17
47. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, Y. Li, T. Morgan, D. Terentyev, G. De Temmerman, M.C.M. van de Sanden, J.M. Noterdaeme, *Surface morphology modifications of tungsten induced by ELMs-like transient hydrogen plasma*, Poster, P8.016
48. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, W. Liu, B. Xu, S.L. Qu, W. Chen, A. Kreter, T.W. Morgan, K. Li, Y. Yuan, X. Liu, *Thermal and mechanical properties characterization of the surface damaged layer of tungsten*, Poster, 333
49. 30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, M. Machielsen, H.J. de Blank, P. Rindt, *Modelling lithium transport in fusion relevant plasmas*, Poster, A18
50. Joint EU-US Transport Task Force Meeting (TTF 2018), 2018/09/11 - 2018/09/14, Seville, Spain, P. Manas, E. Fable, C. Angioni, C. Bourdelle, J.F. Artaud, J. Citrin, ASDEX Upgrade team, *Integrated modelling of tungsten accumulation in AUG plasmas*, Poster

51. 2nd Asia-Pacific Conference on Plasma Physics (AAPPs-DPP2018), 2018/11/12 - 2018/11/17, Kanazawa, Japan, M. Marin, C. Bourdelle, Y. Camenen, F.J. Casson, J. Citrin, A. Ho, F. Köchl, M. Maslov, JET Contributors, Fast isotope mixing at JET, experiments and modelling, Poster
52. 45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, M. Marin, J. Citrin, A. Ho, C. Bourdelle, Y. Camenen, F.J. Casson, F. Koechl, M. Maslov, JET Contributors, Isotope-mixing at JET: experiments and modelling, Oral, O2.102
53. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, M. Marin, J. Citrin, Fast turbulent core mixing of multi-ion fusion plasma, Poster, P8.024
54. 30th Symposium on Fusion Technology SOFT 2018, 2018/09/16 - 2018/09/21, Messina, Sicily, Italy, G. Matthews, T.W. Morgan, et al., Testing of a high temperature radiatively cooled Li/Ta heat pipe in Magnum-PSI, Poster, P4.121
55. 27th IAEA Fusion Energy Conference (FEC 2018), 2018/10/22 - 2018/10/27, Gandhinagar, India, O. Meneghini, G. Snoep, S.P. Smith, A. Tema, B.A. Grierson, E. Belli, J. Candy, P.B. Snyder, A. Stäbler, S. Mordijck et al., Neural-Network Accelerated Coupled Core-Pedestal Simulations with Self-Consistent Transport of Impurities, Poster, THIP6-16
56. 45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, F. Mink, E. Wolfrum, M. Hoelzl, E. Trier, M.G. Dunne, M. Maraschek, M. Cavedon, E. Trier, G. Harrer, B. Vanovac et al., Scaling of ELM Crash Parameters, Poster
57. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, T.W. Morgan, V. Kvon, E. Zoethout, P. Rindt, W. Arnold Bik, J.W. Genuit, S.W.M. Camp, J. Wang, High re-deposition ratio of high-Z metals under plasma exposure in Magnum-PSI, Oral, June 21st
58. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, T.W. Morgan, V. Kvon, E. Zoethout, P. Rindt, W. Arnold Bik, J.W. Genuit, S.W.M. Camp, J. Wang, High re-deposition ratio of high-Z metals under plasma exposure in Magnum-PSI, Poster, 137
59. 30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, T.W. Morgan, P. Rindt, G.G. van Eden, V. Kvon, M.A. Jaworski, N.J. Lopes Cardozo, Liquid metals for DEMO divertor applications explored using linear plasma devices, Oral, M4
60. 30th Symposium on Fusion Technology SOFT 2018, 2018/09/16 - 2018/09/21, Messina, Sicily, Italy, R. Nygren, T.W. Morgan, et al., Post-test examination of a Li-Ta heat pipe exposed to H plasma in Magnum PSI, Poster, P1.104
61. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, N. Ohno, Y. Hayashi, S. Kajita, H. Tanaka, H. Oshima, M. Seki, K. Sawada, M. Aramaki, M. Yoshikawa, H.J. van der Meiden, Influence of recombination front region on plasma detachment in a linear divertor plasma simulator, Poster, 66
62. Applied Computational Sciences (ACOS) symposium 2018, 2018/10/10, Eindhoven, Netherlands, C. Onwudinanti, T.W. Morgan, Tin, the enabler - hydrogen diffusion into ruthenium, Poster, P32
63. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, C. Onwudinanti, S. Tao, T.W. Morgan, Atomistic modelling of optical material behaviour under hydrogen and tin plasma loading, Poster, P5.019
64. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, W. Ou, J.W.M. Vernimmen, R.S. Al, S. Brons, P. Rindt, T.W. Morgan, Deuterium retention in tin exposed to fusion-relevant flux plasmas, Poster, 399
65. 30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, W. Ou, R.S. Al, J.W.M. Vernimmen, T.W. Morgan, Deuterium retention in free liquid tin surface samples under steady-state plasma, Poster, B7
66. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, W. Ou, T. Morgan, N.J. Lopes Cardozo, R.S. Al, J.W.M. Vernimmen, Mechanisms of surface instability of liquid Sn exposed to different plasmas, Poster, P8.006
67. 23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, R. Perillo, I.G.J. Classen, W.A.J. Vijvers, G.R.A. Akkermans, G.G. van Eden, R. Chandra, M.R. de Baar, The influence of N₂ seeding in a detached-like H₂ plasma by means of linear machine Magnum-PSI and numerical simulations, Poster, 473
68. 2nd Asia-Pacific Conference on Plasma Physics (AAPPs-DPP2018), 2018/11/12 - 2018/11/17, Kanazawa, Japan, K.L. van de Plassche, J. Citrin, C. Bourdelle, V.I. Dagnelie, F. Felici, A. Ho, Using neural networks for realtime capable turbulent transport modelling, Poster
69. Applied Computational Sciences (ACOS) symposium 2018, 2018/10/10, Eindhoven, Netherlands, K. van de Plassche, J. Citrin, Surrogate modelling using feed forward neural networks for turbulent transport in fusion plasmas, Poster, P29
70. Joint EU-US Transport Task Force Meeting (TTF 2018), 2018/09/11 - 2018/09/14, Seville, Spain, K.L. van de Plassche, J. Citrin, C. Bourdelle, V. Dagnelie, F. Felici, A. Ho, Real time capable turbulent transport modelling using the 10D QuaLiKiz Neural Network, Poster
71. 45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, K.L. van de Plassche, J. Citrin, C. Bourdelle, V. Dagnelie, F. Felici, A. Ho, Real time capable turbulent transport modelling using neural networks, Poster, P2.1086

72. *Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, K. van de Plassche, J. Citrin, C. Bourdelle, N. Chennakeshava, V. Dagnelie, Using feed-forward neural networks in real-time capable turbulent transport modelling, Poster, P8.008*
73. *Applied Computational Sciences (ACOS) symposium 2018, 2018/10/10, Eindhoven, Netherlands, S. Ramhit, M.C. Sorkun, S. Er, A data driven approach to electronic properties of 2D materials, Poster, P11*
74. *23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, S. Ratynskaia, P. Toliás, M. de Angeli, D. Ripamonti, G. Riva, T.W. Morgan, Interaction of adhered beryllium-proxy dust with transient plasma heat loads, Poster, 187*
75. *13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, T. Ravensbergen, M. van Berkel, I.G.J. Classen, Divertor detachment control using multispectral imaging, Poster, P2.12*
76. *37th Benelux Meeting on Systems and Control, 2018/03/27 - 2018/03/29, Soesterberg, Netherlands, T. Ravensbergen, M. van Berkel, Divertor detachment control in nuclear fusion devices, Oral, TuA04-1*
77. *Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, T. Ravensbergen, M. van Berkel, I.G.J. Classen, Divertor detachment control in nuclear fusion devices, Poster*
78. *23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, P. Rindt, J. Mata Gonzalez, N.J. Lopes Cardozo, M. Wirtz, D. Terentyev, P. Hoogerhuis, P. van den Bosch, T.W. Morgan, Two order of magnitude stress reduction in a 3D-printed tungsten/liquid lithium divertor target, Poster, 343*
79. *30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, P. Rindt, T.W. Morgan, M.A. Jaworski, N.J. Lopes Cardozo, Power Handling of Liquid Lithium Heat Shields for Fusion, Oral, O8*
80. *60th Annual Meeting of the APS Division of Plasma Physics, 2018/11/05 - 2018/11/09, Portland, OR, USA, P. Rodriguez-Fernandez, A.E. White, A.J. Creely, M.J. Greenwald, N.T. Howard, F. Sciortino, J.C. Wright, C. Angioni, J. Citrin, E. Fable et al., VITALS: Surrogate Models and Genetic Algorithms to Accelerate Transport Model Validation, Oral, GM10.4*
81. *255th ACS National Meeting & Exposition, 2018/03/18 - 2018/03/22, New Orleans, LA, USA, M.C.M. van de Sanden, S. Longo, P. Diomede, A new computational approach to determine the role of vibrational kinetics in low temperature plasmas used for CO₂ dissociation, Oral, ENFL 114*
82. *45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, S.A. Silburn, G.F. Matthews, T.W. Morgan, R.E. Nygren, Magnum PSI team, Development of webcam-based near-infrared thermography in support of high temperature heat pipe experiments on Magnum PSI, Poster, P5.1008*
83. *Applied Computational Sciences (ACOS) symposium 2018, 2018/10/10, Eindhoven, Netherlands, M.C. Sorkun, N. Viswanathan, C.B. Aksoy, S. Er, Impact of featurizers and machine learning methods on molecular aqueous solubility prediction, Poster, P37*
84. *27th IAEA Fusion Energy Conference (FEC 2018), 2018/10/22 - 2018/10/27, Gandhinagar, India, T. Tala, J.W. Hughes, S. Mordijck, H. Nordman, A. Salmi, C. Bourdelle, J. Citrin, C. Agatha, C. Giroud, J.C. Hillesheim et al., Core Density Peaking Experiments in JET, DIII-D and C-Mod in Various Operational Scenarios Driven by Fuelling or Transport?, Oral, EX/4-4*
85. *Applied Computational Sciences (ACOS) symposium 2018, 2018/10/10, Eindhoven, Netherlands, I. Tezsevin, S. Er, Computational study on catalytic activity of metal surfaces during reverse water gas shift reaction, Poster, P43*
86. *27th IAEA Fusion Energy Conference (FEC 2018), 2018/10/22 - 2018/10/27, Gandhinagar, India, C. Theiler, J.A. Boedo, B.P. Duval, N. Fedorczak, O. Fevrier, A. Fil, A. Gallo, J.R. Harrison, P. Innocente, W. Vijvers et al., SOL Transport and Detachment in Alternative Divertor Configurations in TCV L- and H-Mode Plasmas, Poster, EXIP1-19*
87. *45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, E. Trier, P. Hennequin, M. Hoelzl, C. Lechte, M. Cavedon, G. Conway, T. Happel, B. Kurzan, F. Mink, B. Vanovac et al., Studying ELM filaments with Doppler reflectometry in ASDEX upgrade, Poster, P1.1023*
88. *45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, M. Valisa, L. Carraro, F.J. Casson, J. Citrin, L. Frassinetti, F. Koechl, M. Romanelli, M.E. Puiatti, I. Coffey, E. Delabie et al., On the penetration of heavy impurities in the JET ELMy H-mode plasmas, Poster, P2.1096*
89. *FuseNet 2018 PhD Event, 2018/11/06 - 2018/11/09, St. Paul-lez-Durance, France, B. Vanovac, (PechaKucha Talk:) Pedestal modes during the ELM cycle, Oral*
90. *45th EPS Conference on Plasma Physics, 2018/07/02 - 2018/07/06, Prague, Czech Republic, B. Vanovac, E. Wolfrum, M. Willensdorfer, M. Cavedon, M. Griener, F. Mink, S.S. Denk, S.J. Freethy, M. Hoelzl, N.C. Luhmann, Jr. et al., Parameter space of low frequency inter-ELM modes, Poster, P2.1085*
91. *20th Joint Workshop on Electron Cyclotron Emission (ECE) and Electron Cyclotron Resonance Heating (ECRH) (EC-20), 2018/05/14 - 2018/05/17, Greifswald, Germany, B. Vanovac, S.S. Denk, E. Wolfrum, F. Fischer, F. Mink, M. Hoelzl, W. Suttrop, M. Willensdorfer,*

- N.C. Luhmann, Jr., ASDEX Upgrade team, Characterization of MHD modes with ECE(-I) and the influence of large density fluctuations, Oral, 95*
92. *Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, B. Vanovac, E. Wolfrum, F. Mink, S.S. Denk, M. Hölzl, M. Cavedon, P. Manz, M. Willensdorfer, N. Luhmann, Inter-ELM mode studies with the ECEI and magnetic measurements at ASDEX Upgrade, Oral, PW4.3*
 93. *23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, K. Verhaegh, B. Lipschultz, B.P. Duval, O. Fevrier, C. Theiler, A. Fil, J.R. Harrison, B. Labit, C. Marini, W.A.J. Vijvers et al., New insights into the physics of divertor ion current loss during TCV detachment, Poster, 487*
 94. *21st Workshop on the Exploration of Low-Temperature Plasma Physics (WELTPP-21), 2018/11/29 - 2018/11/30, Kerkrade, The Netherlands, L. Vialetto, S. Longo, P. Diomede, Monte Carlo flux simulation of electrons for plasma modelling, Oral, O13*
 95. *24th ESCAMPIG (Europhysics Conference on Atomic and Molecular Physics of Ionized Gases), 2018/07/17 - 2018/07/21, Glasgow, UK, L. Vialetto, S. Longo, P. Diomede, Monte Carlo Flux simulation of electrons for plasma modelling, Poster, P114*
 96. *30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, L. Vialetto, S. Longo, P. Diomede, Monte Carlo simulation of electrons for plasma modeling, Poster, B15*
 97. *21st Workshop on the Exploration of Low-Temperature Plasma Physics (WELTPP-21), 2018/11/29 - 2018/11/30, Kerkrade, The Netherlands, P. Viegas, M.C.M. van de Sanden, S. Longo, P. Diomede, Self-consistent diffusion approach to CO₂ vibrational kinetics, Poster, P27*
 98. *30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, J. Wang, L. Cheng, Y. Yuan, T.W. Morgan, G.H. Lu, Surface modification and D retention in tungsten after extremely high fluence D plasma irradiation, Poster, B18*
 99. *Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, S.C. Wang, M. van Kampen, T. Morgan, Plasma-induced hydrogen retention in Ru-capped materials, Poster, P8.001*
 100. *13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, E. Westerhof, Electron Cyclotron waves, Oral*
 101. *13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, E. Westerhof, Current drive, Oral*
 102. *23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, Y. Yuan, L. Cheng, J. Wang, W.G. Guo, Q.W. Fu, Y. Zhang, T.W. Morgan, G.H. Lu, Irradiation effect in tungsten resulting from ultra-high fluence deuterium plasma exposure in linear plasma devices STEP and Magnum-PSI, Poster, 420*
 103. *23rd PSI Conference 2018, 2018/06/18 - 2018/06/22, Princeton, NJ, USA, Y. Zhang, X.L. Zhu, L. Cheng, A. Kreter, G. De Temmerman, L.Q. Shi, Y. Yuan, T.W. Morgan, G.H. Lu, C. Linsmeier, Observation of suppressed and aggravated D-induced blistering on predamaged W with different-flux D plasma exposure, Poster, 423*

Public events & industry contacts: 2

1. *Seminar at Fontys Hogescholen Eindhoven, 2018/08/29, Eindhoven, Netherlands, M.R. de Baar, Sensors for fusion*
2. *Science Cafe Nijmegen, 2018/02/21, Nijmegen, Netherlands, M.R. de Baar, De zoektocht naar energiebronnen*

Awards: 4

1. *P. Diomede, B. Bruneau, S. Longo, E. Johnson, J.P. Booth, Highlight of 2017 article for the Plasma Sources Science and Technology journal: Plasma Sources Sci. Technol. 26 (2017) 075007, Capacitively coupled hydrogen plasmas sustained by tailored voltage waveforms: vibrational kinetics and negative ions control, 2018*
2. *O. Linder, Best TU/e Applied Physics Master thesis 2017, 2018*
3. *M. Marin, 2018 AAPPS Poster prize, 2018*
4. *L. Vialetto, 2018 EPS Poster prize, 2018*

Positions: 27

1. M.R. de Baar, Member executive board of ITER-NL consortium (since 2014), 2018
2. M.R. de Baar, Chair Realtime Specialists Working Group (RT-SWG) of ITPA framework for ITER (2018-2021), 2018
3. M.R. de Baar, Member of the Advisory Board FONTYS Applied Natural Sciences (since 2018), 2018
4. M.R. de Baar, Leader ITER-NL work package 2: ITER Upper port Electron Cyclotron Current Drive launcher (since 2007), 2018
5. M.R. de Baar, Professor at Eindhoven University of Technology (since 2012), 2018
6. M.R. de Baar, Lecturer Course series at Eindhoven University of Technology (since 2015), 2018
7. M.R. de Baar, Member of the Advisory Board FONTYS Applied Natural Sciences (since 2018), 2018
8. H.J. de Blank, Lecturer Course series at Eindhoven University of Technology (since 2015), 2018
9. H.J. de Blank, Member of the Organizing Committee of the Carolus Magnus Summer School on Plasma Physics (since 2014), 2018
10. J. Citrin, Chair ITPA Topical Group on Transport & Confinement (since 2017), 2018
11. J. Citrin, Member of the 2018 Programme Committee of the Physics@Veldhoven Conference, Veldhoven, 2018
12. A.J.H. Donné, Appointed EUROfusion Consortium Programme Manager (since 2014), 2018
13. A.J.H. Donné, Member of the Wendelstein 7-X Programme Committee (since 2016), 2018
14. A.J.H. Donné, Co-chair Mini-course on "New Directions in Plasma Diagnostics for High Energy Density and Burning Plasmas", Denver, Colorado, June 2018 (since 2017), 2018
15. A.J.H. Donné, Member of the International Scientific Advisory Board (Fachbeirat) of the Max-Planck-Institut for Plasma Physics (since 2014), 2018
16. A.J.H. Donné, Member of the Editorial Board of Nuclear Fusion (since 2011), Editorship, 2018
17. A.J.H. Donné, Member of Coordinating Committee of the International Tokamak Physics Activity (ITPA-CC) (since 2014), 2018
18. A.J.H. Donné, Co-chair of the DEMO Project Board (since 2018), 2018
19. A.J.H. Donné, Member ITER Science and Technology Advisory Committee (since 2016), 2018
20. A.J.H. Donné, Chair EIROforum Council from July 2018 to June 2019 (member since 2014), 2018
21. A.J.H. Donné, Chair IEA Technology Collaboration Programmes for Co-operation on Tokamak Programmes (since 2017), 2018
22. A.J.H. Donné, Chair Marconi-Fusion High Performance Computer Project Committee (since 2016), 2018
23. A.J.H. Donné, Member of the International Advisory Committee of EAST (Hefei, China) (since 2015), 2018
24. A.J.H. Donné, Member International Scientific Committee of the AAPPs-DPP Conference (Association of Asia Pacific Physical Societies) (since 2017), 2018
25. W.R. Koppers, Member of the Fusion for Energy (F4E) Governing Board (since 2014), 2018
26. T.W. Morgan, Leader Eurofusion Work Package on Liquid Metal Divertors (2017-2019), 2018
27. T.W. Morgan, Member Programme Committee Physics Veldhoven 2018, Netherlands, 2018

Media: 13

1. Een bezoek aan kernfusiereactor ITER, *De Ingenieur*, 2018/11/12, Interview with M.R. de Baar
2. Kernfusieproject ITER: komt het nog af?, *NemoKennislink.nl*, 2018/11/02, Interview with M.R. de Baar
3. Impressie perstrip ITER, *VWN.nu*, 2018/10/29, Interview with M.R. de Baar
4. Experimentele fusiereactor weer van start, *de Ingenieur*, 2018/07/20, Interview with M.R. de Baar
5. Kernfusie: Energiebron van de toekomst of interessante illusie?, *de Volkskrant*, 2018/05/25, Interview with M.R. de Baar
6. Bombardement van deeltjes, *de Ingenieur*, 2018/07/12, Interview with H.J.N. van Eck
7. Wereldrecord plasma-blootstelling in Magnum-PSI, *BNR Nieuwsradio*, 2018/04/11, Interview with H.J.N. van Eck
8. Van nul tot vijf biljoen kelvin: opvallende temperaturen, *de Volkskrant*, 2018/04/07, Interview with H.J.N. van Eck
9. Dit lab kan temperaturen zo heet als de zon aan, *De Morgen*, 2018/03/28, Interview with H.J.N. van Eck, G.C. De Temmerman
10. Opsteker voor jacht op kernfusie, *de Volkskrant*, 2018/03/28, Interview with H.J.N. van Eck, G.C. De Temmerman
11. Meten aan de warmste en koudste plek ter wereld, *TU/e Cursor*, 2018/11/14, General coverage
12. How to repair hot cannons for the fusion temple, *TU Delta*, 2018/10/25, General coverage
13. Koele zoonanbidder, *De Ingenieur*, 2018/09/01, Interview with T.W. Morgan

Solar Fuels theme

PhD theses: 4

1. *D.C.M. van den Bekerom, Vibrational excitation for efficient chemistry in CO₂ microwave plasmas, PhD thesis at the Eindhoven University of Technology, 2018/09/17, Promotor: G.J. van Rooij, M.C.M. van de Sanden*
2. *F.M. Elam, Atmospheric pressure-plasma enhanced chemical vapour deposition of silica. Characterisation and control of porosity in multi-layer encapsulation films, PhD thesis at the Eindhoven University of Technology, 2018/01/16, Promotor: M.C.M. van de Sanden*
3. *Y. Liu, Understanding atmospheric plasma for functional thin film deposition on polymeric substrate, PhD thesis at the Eindhoven University of Technology, 2018/10/08, Promotor: M.C.M. van de Sanden*
4. *A.S. Meshkova, Atmospheric pressure plasma enhanced chemical vapour deposition (AP-PECVD) of silica: Understanding the role of the local deposition rate in the surface and film morphology, PhD thesis at the Eindhoven University of Technology, 2018/12/04, Promotor: M.C.M. van de Sanden*

MSc theses: 1

1. *Q.Y. Xue, (Master thesis Eindhoven University:) System Identification on Impedance Spectra for Electro-chemical Cells, 2018, Mentor: M. van Berkel, A. Bieberle*

BSc theses: 10

1. *T. Bijsterbosch, (Bachelor thesis Fontys Hogeschool Eindhoven:) A novel method to study the water photo-oxidation reaction using infrared spectroscopy, 2018, Mentor: A.C. Bronneberg*
2. *M. Doudouh, (HBO scriptie Fontys Hogeschool, Eindhoven:) NO_x-synthesis with Solid Oxide Electrolysis Cells and reactive Plasma, 2018, Mentor: S. Welzel*
3. *S. Eizagirre Barker, (Bachelor thesis University of Edinburgh, UK:) Exciton Dynamics in Atomically-Thin Transition Metal Dichalcogenides, 2018, Mentor: S. Wang*
4. *C.A.S. Houtman, (Bachelor thesis Fontys Hogeschool Eindhoven:) Towards a photo-anode for infra-redoperando studies Measuring surface species in the oxygen evolution reaction mechanism, 2018, Mentor: A.C. Bronneberg*
5. *B. Lont, (Thesis Fontys Hogeschool, Eindhoven:) Polariton lasing using a highly doped dye-polymer complex as gain medium, 2018, Mentor: A. Halpin*
6. *K. de Mare, (Bachelor thesis Eindhoven University:) Exciting dark modes with terahertz near field, 2018, Mentor: N.J.J. van Hoof*
7. *D. Sayasilpi, (Bachelor thesis Fontys Hogeschool Eindhoven:) Synthesis and characterization of Au@SiO₂ core@shell nanocatalysts, 2018, Mentor: A. Baldi, R. Kamarudheen*
8. *L. Spiering, (Bachelor thesis Saxion Hogeschool, Enschede:) Fabrication of atomically thin two dimensional semiconductors, 2018, Mentor: S. Wang*
9. *D. Swinkels, (Bachelor thesis Eindhoven University:) Modeling of Exciton Transport in 2D Semiconductors, 2018, Mentor: S. Wang*
10. *R. Verbraekken, (Bachelor thesis Fontys Hogeschool Eindhoven:) Synthesis and characterisation of plasmonic nanostructures for energy conversion applications, 2018, Mentor: A. Baldi, M. Parente*

Publications in peer-reviewed scientific journals: 52

1. U. Agarwal, F.O. Alpak, J.M.V.A. Koelman, *Permeability from 3D Porous Media Images: a Fast Two-Step Approach*, *Transp. Porous Med.* 124 (2018) 1017-1033
2. K. Arts, R.H.J. Vervuurt, A. Bhattacharya, J. Gomez Rivas, J.W. Oosterbeek, A.A. Bol, *Broadband optical response of graphene measured by terahertz time-domain spectroscopy and FTIR spectroscopy*, *J. Appl. Phys.* 124 (2018) 073105
3. A. Baldi, L. Mooij, V. Palmisano, H. Schreuders, G. Krishnan, B.J. Kooij, B. Dam, R. Griessen, *Elastic versus alloying effects in Mg-based hydride films*, *Phys. Rev. Lett.* 121 (2018) 255503
4. A.M. Banerjee, J. Billinger, K.J. Nordheden, F.J.J. Peeters, *Conversion of CO₂ in a packed-bed dielectric barrier discharge reactor*, *J. Vac. Sci. Technol. A* 36 (2018) 04F403
5. D.C.M. van den Bekerom, J.M. Palomares-Linares, E.M. van Veldhuizen, S. Nijdam, M.C.M. van de Sanden, G.J. van Rooij, *How the alternating degeneracy in rotational Raman spectra of CO₂ and C₂H₂ reveals the vibrational temperature*, *Appl. Opt.* 57 (2018) 5694-5702
6. H. Bildirir, D. Di Carlo Rasi, M.M. Wienk, R.A.J. Janssen, A. Avgeropoulos, V.G. Gregoriou, S. Allard, U. Scherf, C.L. Chochos, *New n-Type Solution Processable All Conjugated Polymer Network: Synthesis, Optoelectronic Characterization, and Application in Organic Solar Cells*, *Macromol. Rapid Commun.* 39 (2018) 1700629
7. B.J. Bruijnaers, E. Schiepers, C.H.L. Weijtens, S.C.J. Meskers, M.M. Wienk, R.A.J. Janssen, *The effect of oxygen on the efficiency of planar p-i-n metal halide perovskite solar cells with a PEDOT:PSS hole transport layer*, *J. Mater. Chem. A* 6 (2018) 6882-6890
8. T. Chervy, S. Azzini, E. Lorchat, S.J. Wang, Y. Gorodetski, J.A. Hutchison, S. Berciaud, T.W. Ebbesen, C. Genet, *Room Temperature Chiral Coupling of Valley Excitons with Spin-Momentum Locked Surface Plasmons*, *ACS Photonics* 5 (2018) 1281-1287
9. C. Cochard, M. Guennou, T. Spielmann, N. van Hoof, A. Halpin, T. Granzow, *Effect of optical damage resistant dopants on the dielectric properties of LiNbO₃: Insight from broadband impedance spectroscopy and Raman scattering*, *J. Appl. Phys.* 123 (2018) 154105
10. F.J.M. Colberts, M.M. Wienk, R. Heuvel, W.W. Li, V.M. le Corre, L.J.A. Koster, R.A.J. Janssen, *Bilayer-Ternary Polymer Solar Cells Fabricated Using Spontaneous Spreading on Water*, *Adv. Energy Mater.* 8 (2018) 1802197
11. D. Di Carlo Rasi, K.H. Hendriks, M.M. Wienk, R.A.J. Janssen, *Quadruple Junction Polymer Solar Cells with Four Complementary Absorber Layers*, *Adv. Mater.* 30 (2018) 1803836
12. D. Di Carlo Rasi, K.H. Hendriks, G.H.L. Heintges, G. Simone, G.H. Gelinck, V.S. Gevaerts, R. Andriessen, G. Pirotte, W. Maes, W. Li et al., *A Universal Route to Fabricate n-i-p Multi-Junction Polymer Solar Cells via Solution Processing*, *Sol. RRL* 2 (2018) 1800018
13. C. Duan, Z. Li, S. Pang, Y.L. Zhu, B. Lin, F.J.M. Colberts, P.J. Leenaers, E. Wang, Z.Y. Sun, W. Ma et al., *Improving performance of all-polymer solar cells through backbone engineering of both donors and acceptors*, *Sol. RRL* 2 (2018) 1800247
14. F. Elam, Y. Liu, B.C.A.M. van der Velden-Schuermans, S.A. Starostin, M.C.M. van de Sanden, H. de Vries, *Visible detection of performance controlling pinholes in silica encapsulation*, *J. Phys. D: Appl. Phys.* 51 (2018) 43LT01
15. M. Escriba-Gelonch, A. Halpin, T. Noël, V. Hessel, *Laser-Mediated Photo-High-p,T Intensification of Vitamin D3 Synthesis in Continuous Flow*, *ChemPhotoChem* 2 (2018) 922-930
16. N. Gatti, S. Ponduri, F.J.J. Peeters, D.C.M. van den Bekerom, T. Minea, P. Tosi, M.C.M. van de Sanden, G.J. van Rooij, *Preferential vibrational excitation in microwave nitrogen plasma assessed by Raman scattering*, *Plasma Sources Sci. Technol.* 27 (2018) 055006
17. M. di Giorgi, M. Ramezani, F. Todisco, A. Halpin, D. Caputo, A. Fieramosca, J. Gomez Rivas, D. Sanvitto, *Interaction and coherence of a plasmon-exciton polariton condensate*, *ACS Photonics* 5 (2018) 3666-3672
18. A.P.H. Goede, *CO₂-neutral fuels*, *EPJ Web Conf.* 189 (2018) 00010
19. F. Hayee, T.C. Narayan, N. Nadkarni, A. Baldi, A. Leen Koh, M.Z. Bazant, R. Sinclair, J.A. Dionne, *In-situ visualization of solute-driven phase coexistence within individual nanorods*, *Nat. Commun.* 9 (2018) 1775
20. R. Heuvel, F.J.M. Colberts, M.M. Wienk, R.A.J. Janssen, *Thermal behaviour of dicarboxylic ester bithiophene polymers exhibiting a high open-circuit voltage*, *J. Mater. Chem. C* 6 (2018) 3731-3742
21. R. Heuvel, F.J.M. Colberts, J.Y. Li, M.M. Wienk, R.A.J. Janssen, *The effect of side-chain substitution on the aggregation and photovoltaic performance of diketopyrrolopyrrole-alt-dicarboxylic ester bithiophene polymers*, *J. Mater. Chem. A* 6 (2018) 20904-20915
22. N.J.J. van Hoof, S.E.T. ter Huurne, J. Gomez Rivas, A. Halpin, *Time-resolved terahertz time-domain near-field microscopy*, *Opt. Express* 26 (2018) 32118-32129

23. Y.A. Hugo, W. Kout, F. Sikkema, Z. Borneman, K. Nijmeijer, Performance mapping of cation exchange membranes for hydrogen-bromine flow batteries for energy storage, *J. Membr. Sci.* 566 (2018) 406-414
24. R. Kamarudheen, G. Castellanos, L.P.J. Kamp, H.J.H. Clercx, A. Baldi, Quantifying Photothermal and Hot Charge Carrier Effects in Plasmon-Driven Nanoparticle Syntheses, *ACS Nano* 12 (2018) 8447-8455
25. B.L.M. Klarenaar, M. Grovulovic, A.S. Morillo, D.C.M. van den Bekerom, M. Damen, R. van de Sanden, O. Guaitella, R. Engeln, A rotational Raman study under non-thermal conditions in a pulsed CO₂ glow discharge, *Plasma Sources Sci. Technol.* 27 (2018) 045009
26. Y. Li, X. Lu, Y.F. Li, X.Q. Zhang, Oxygen evolution reaction in nanoconfined carbon nanotubes, *Physica E* 99 (2018) 1-5
27. M. Li, J. Li, D. Di Carlo Rasi, F.J.M. Colberts, J. Wang, G.H.L. Heintges, B. Lin, W. Li, W. Ma, M.M. Wienk et al., The Impact of Device Polarity on the Performance of Polymer-Fullerene Solar Cells, *Adv. Energy Mater.* 8 (2018) 1800550
28. Y. Liu, S. Starostin, F. Peeters, M.C.M. van de Sanden, H. de Vries, Atmospheric-pressure diffuse dielectric barrier discharges in Ar-O₂ gas mixture using 200 kHz / 13.56 MHz dual frequency excitation, *J. Phys. D: Appl. Phys.* 51 (2018) 114002
29. Y. Liu, K. van 't Veer, F.J.J. Peeters, D. Mihailova, J. van Dijk, S. Starostin, M.C.M. van de Sanden, H.W. de Vries, Numerical simulation of atmospheric-pressure 200 kHz / 13.56 MHz dual-frequency dielectric barrier discharges, *Plasma Sources Sci. Technol.* 27 (2018) 105016
30. Y. Liu, F.J.J. Peeters, S.A. Starostin, M.C.M. van de Sanden, H.W. de Vries, Improving uniformity of atmospheric-pressure dielectric barrier discharges using dual frequency excitation, *Plasma Sources Sci. Technol.* 27 (2018) 01LT01
31. L.M. Martini, N. Gatti, G. Dilecce, M. Scotoni, P. Tosi, Laser induced fluorescence in nanosecond repetitively pulsed discharges for CO₂ conversion, *Plasma Phys. Control. Fusion* 60 (2018) 014016
32. M. Mas-Montoya, J.Y. Li, M.M. Wienk, S.C.J. Meskers, R.A.J. Janssen, Effects of fluorination and thermal annealing on charge recombination processes in polymer bulk-heterojunction solar cells, *J. Mater. Chem. A* 6 (2018) 19520-19531
33. A.S. Meshkova, F.M. Elam, S.A. Starostin, M.C.M. van de Sanden, H.W. de Vries, The role of carrier gas flow in roll-to-roll AP-PECVD synthesized silica moisture barrier films, *Surf. Coat. Technol.* 339 (2018) 20-26
34. A. Meshkova, S.A. Starostin, M.C.M. van de Sanden, H. de Vries, Variable roughness development in statically deposited SiO₂ thin films: a spatially resolved surface morphology analysis, *J. Phys. D: Appl. Phys.* 51 (2018) 285303
35. A.S. Meshkova, Y. Liu, F.M. Elam, S.A. Starostin, M.C.M. van de Sanden, H.W. de Vries, The role of the gradient film properties in silica moisture barriers synthesized in a roll-to-roll atmospheric pressure plasma enhanced CVD reactor, *Plasma Process. Polym.* 15 (2018) 1700093
36. T. Minea, D.C.M. van den Bekerom, F.J.J. Peeters, E. Zoethout, M.F. Graswinckel, M.C.M. van de Sanden, A.H.G. Cents, L. Lefferts, G.J. van Rooij, Non-oxidative methane coupling to C₂ hydrocarbons in a microwave plasma reactor, *Plasma Process. Polym.* 15 (2018) 1800087
37. D. Mulder, T. Liang, Y. Xu, J. ter Schiphorst, L.M.W. Scheres, B.M. Oosterlaken, Z. Borneman, K. Nijmeijer, A.P.H.J. Schenning, Proton conductive cationic nanoporous polymers based on smectic liquid crystal hydrogen-bonded heterodimers, *J. Mater. Chem. C* 6 (2018) 5018-5024
38. N. Nair, J.M.V.A. Koelman, An Ising-Based Simulator for Capillary Action in Porous Media, *Transp. Porous Med.* 124 (2018) 413-437
39. M. Parente, S. Sheikholeslami, G.V. Naik, J.A. Dionne, A. Baldi, Equilibration of Photogenerated Charge Carriers in Plasmonic Core@Shell Nanoparticles, *J. Phys. Chem. C* 122 (2018) 23631-23638
40. B.S. Patil, F.J.J. Peeters, G.J. van Rooij, J.A. Medrano, F. Gallucci, J. Lang, Q. Wang, V. Hessel, Plasma assisted nitrogen oxide production from air: Using pulsed powered gliding arc reactor for a containerized plant, *AIChE J.* 64 (2018) 526-537
41. F.J.J. Peeters, R.F. Rumphorst, M.C.M. van de Sanden, Plasma conductivity as a probe for ambient air admixture in an atmospheric pressure plasma jet, *Plasma Chem. Plasma Process.* 38 (2018) 63-74
42. J. Perez-Carbajo, I. Matito-Martos, S.R.G. Balestra, M.N. Tsampas, M.C.M. van de Sanden, J.A. Delgado, V.I. Águeda, P.J. Merklings, S. Calero, Zeolites for CO₂-CO-O₂ Separation to Obtain CO₂-Neutral Fuels, *ACS Appl. Mater. Interfaces* 10 (2018) 20512-20520
43. M. Ramezani, Q. Le-Van, A. Halpin, J. Gomez Rivas, Nonlinear Emission of Molecular Ensembles Strongly Coupled to Plasmonic Lattices with Structural Imperfections, *Phys. Rev. Lett.* 121 (2018) 243904
44. M. Ramezani, A. Halpin, J. Feist, N. van Hoof, A.I. Fernández-Domínguez, F.J. García-Vidal, J. Gomez Rivas, Dispersion Anisotropy of Plasmon-Exciton-Polaritons in Lattices of Metallic Nanoparticles, *ACS Photonics* 5 (2018) 233-239
45. G.J. van Rooij, H. Akse, W. Bongers, M.C.M. van de Sanden, Plasma for Electrification of Chemical Industry: a Case Study on CO₂ Reduction, *Plasma Phys. Control. Fusion* 60 (2018) 014019

46. G. Simone, D. Di Carlo Rasi, X. de Vries, G.H.L. Heintges, S.C.J. Meskers, R.A.J. Janssen, Near-Infrared Tandem Organic Photodiodes for Future Application in Artificial Retinal Implants, *Adv. Mater.* 30 (2018) 1804678
47. A.N. Tabish, H.C. Patel, J. Schoonman, P.V. Aravind, A detailed look into hydrogen electrochemical oxidation on ceria anodes, *Electrochim. Acta* 283 (2018) 789-797
48. W. Wang, M. Ramezani, A.I. Väkeväinen, P. Törmä, J. Gomez Rivas, T.W. Odom, The rich photonic world of plasmonic nanoparticle arrays, *Mater. Today* 21 (2018) 303-314
49. S.J. Wang, Q. Le-Van, T. Peyronel, M. Ramezani, N. van Hoof, T.G. Tiedecke, J. Gomez Rivas, Plasmonic Nanoantenna Arrays as Efficient Etendue Reducers for Optical Detection, *ACS Photonics* 5 (2018) 2478-2485
50. G. Zafeiropoulos, T. Stoll, I. Dogan, M. Mamlouk, M.C.M. van de Sanden, M.N. Tsampas, Porous titania photoelectrodes built on a Ti-web of microfibers for polymeric electrolyte membrane photoelectrochemical (PEM-PEC) cell applications, *Solar Energy Mater. Solar Cells* 180 (2018) 184-195
51. D. Zhang, Q. Huang, E.J. Devid, E. Schuler, N. Raveendran Shiju, G. Rothenberg, G. van Rooij, R. Yang, K. Liu, A.W. Kleijn, Tuning of conversion and optical emission by electron temperature in inductively coupled CO₂ Plasma, *J. Phys. Chem. C* 122 (2018) 19338-19347
52. Y. Zhao, S. Balasubramanyam, R. Sinha, R. Lavrijsen, M.A. Verheijen, A.A. Bol, A. Bieberle, Physical and Chemical Defects in WO₃ Thin Films and Their Impact on Photoelectrochemical Water Splitting, *ACS Appl. Energy Mater.* 1 (2018) 5887-5895

Publications in other journals and conference proceedings: 2

1. A.G. Curto, J. Gomez Rivas, Confining light to the atomic scale, *Nature Nanotechnology* 13 (2018) 442-443
2. N. van Hoof, S.E.T. ter Huurne, J. Gomez Rivas, A. Halpin, THz Transient Photoconductivity with Near-Field Detection, 2018 43rd International Conference on Infrared, Millimeter, and Terahertz waves (IRMMW-THz) (2018) 8510369

Book chapters: 1

1. A.P.H. Goede, CO₂-neutral fuels, *Energy: Basic concepts and forefront ideas - Lecture notes Joint EPS-SIF international school on energy 2017, EPS-SIF, 9788874380947, 2018, p. 153-183*

Invited lectures at conferences and meetings: 37

1. Lecture at Max-Planck-Institut für Eisenforschung GmbH, 2018/11/29, Düsseldorf, Germany, A. Baldi, Hydrogen storage in single metal nanocrystals
2. Materials Science Colloquium University of Stuttgart, 2018/11/12, Stuttgart, Germany, A. Baldi, Hydrogen storage in individual metal nanoparticles
3. CIMTEC 2018, 2018/06/10 - 2018/06/14, Perugia, Italy, A. Baldi, Hydrogen storage in individual nanoparticles
4. AMOLF LMPV Quarterly Meeting, 2018/05/23, Amsterdam, Netherlands, A. Baldi, Plasmonics for Chemistry: sensing and controlling chemical reactions using plasmons
5. Seminar Helmholtz Zentrum Berlin, 2018/03/14, Berlin, Germany, A. Baldi, Plasmonics for Chemistry: sensing and controlling chemical reactions using plasmons
6. 2018 DPG Meeting, 2018/03/11 - 2018/03/16, Berlin, Germany, A. Baldi, Hydrogen storage in individual metal nanoparticles
7. E-MRS Fall Meeting 2018, 2018/09/17 - 2018/09/20, Warsaw, Poland, A. Bieberle, Y. Zhao, S. Balasubramanyam, R. Kishore, X. Cao, X. Zhang, R. Sinha, R. Lavrijsen, A.A. Bol, Defects in WO₃ Thin Films and Their Impact on Photoelectrochemical Water Splitting: A Combined Experimental and Computational Study
8. Seminar at CDT Metamaterials (University of Exeter), 2018/10/12, Exeter, UK, J. Gomez Rivas, Surface Lattice Resonances in Arrays of Metallic Particles: From Enhanced Emission to Induced Transparency

9. *Ad70 Symposium, 2018/06/27, Enschede, Netherlands, J. Gomez Rivas, Extended open cavities for polaritonic devices*
10. *Summer School Prospects of Plasmonics for Quantum Technologies, 2018/06/25, Göteborg, Sweden, J. Gomez Rivas, Extended open cavities for polaritonic devices*
11. *Symposium Collège de France QED-M2 'New Landscapes for Molecules and Materials', 2018/06/18 - 2018/06/19, Paris, France, J. Gomez Rivas, Strong light-matter coupling in extended open cavities*
12. *SPSI-MACRO 2018, International Conference on Polymer Science and Technology, 2018/12/19 - 2018/12/22, Pune, India, R.A.J. Janssen, Material, morphology and device design for efficient polymer solar cells, Plenary*
13. *Seminar Andlinger Center for Energy and the Environment, 2018/12/06, Princeton, USA, R.A.J. Janssen, Polymer photovoltaics: status and challenges*
14. *Seminar IAPP, TU Dresden, 2018/11/09, Dresden, Germany, R.A.J. Janssen, Multi-junction polymer solar cells: status and challenges*
15. *Woodschoten Chemie conferentie 2018, 2018/11/02 - 2018/11/03, Zeist, Netherlands, R.A.J. Janssen, Zonlicht, kleurrijke moleculen en energie, Opening lecture*
16. *ORZEL Summer School on OPVs, 2018/08/27 - 2018/08/29, Eindhoven, Netherlands, R.A.J. Janssen, Tutorial: Materials for organic solar cells*
17. *SPIE 2018, 2018/08/19 - 2018/08/23, San Diego, CA, USA, R.A.J. Janssen, Multi-junction polymer solar cells: status and challenges*
18. *Organic Photovoltaics, Spectroscopy and Degradation, 2018/07/19, Nurnberg, Germany, R.A.J. Janssen, Challenges for Multi-Junction Organic Solar Cells*
19. *ICSM 2018, 2018/07/01 - 2018/07/06, Busan, Korea, R.A.J. Janssen, Multi-junction polymer solar cells: status and challenges*
20. *E-MRS Spring Meeting 2018, 2018/04/02 - 2018/04/06, Phoenix, AZ, USA, R.A.J. Janssen, Optimizing light absorption, morphology, device polarity, and recombination layers for multi-junction polymer solar cells*
21. *Stability of Emerging Photovoltaics from Fundamental to Applications Congress, SEPV 2018, 2018/02/20 - 2018/02/23, Barcelona, Spain, R.A.J. Janssen, Optimizing light absorption, morphology, device polarity, and recombination layers for multi-junction polymer solar cells*
22. *9th International Conference on Spontaneous Coherence in Excitonic Systems 2018 (ICSCE9), 2018/07/16 - 2018/07/20, Montreal, Canada, M. Ramezani, M. di Giorgi, F. Todisco, D. Caputo, A. Halpin, A. Fieramosca, D. Sanvitto, J. Gomez Rivas, Plasmon-exciton polariton condensation set by quasi-long range order and nonlinearities, TTU7*
23. *PREMIERE Workshop, 2018/11/22 - 2018/11/23, Ericeira, Portugal, G. van Rooij, An integrated view on microwave plasma based CO₂ utilization*
24. *AVS 65th International Symposium and Exhibition, 2018/10/21 - 2018/10/26, Long Beach, CA, USA, G.J. van Rooij, Microwave Plasma Enabling Efficient Power-to-X Conversion*
25. *Japie-Octave Symposium 2018 Sustainability in Chemical Industry Challenges and Solutions, 2018/10/05, Eindhoven, Netherlands, G.J. van Rooij, Storage of Sustainable Energy and Plasmolysis*
26. *Xth International Workshop on Microwave Discharges: Fundamentals and Applications, 2018/09/03 - 2018/09/07, Zvenigorod, Russia, G.J. van Rooij, Microwave Plasma Enabling an Electrified Future*
27. *29th Symposium on Plasma Physics and Technology SPPT 2018, 2018/06/18 - 2018/06/22, Prague, Czech Republic, G. van Rooij, D. van den Bekerom, T. Butterworth, N. Gatti, T. Minea, Q. Ong, A.W. van de Steeg, W.A. Bongers, M.C.M. van de Sanden, Conversion of sustainable electricity into chemical potential energy - a plasma perspective*
28. *40th International Symposium on Dry Process (DPS 2018), 2018/11/13 - 2018/11/15, Nagoya, Japan, M.C.M. van de Sanden, Renewable Energy Driven Non-Equilibrium Chemistry: Plasma Chemistry as the Special Case*
29. *E-Refinery Lunch Lecture Delft University, 2018/09/04, Delft, Netherlands, M.C.M. van de Sanden, The DIFFER Solar Fuels Programme: fundamental research into renewable energy driven chemistry*
30. *GRC Plasma Processing Science 2018 Fundamental Insights in Plasma Processes, 2018/08/05 - 2018/08/10, Smithfield, RI, USA, M.C.M. van de Sanden, Renewable Energy Driven Non-Equilibrium Chemistry: Plasma Chemistry as the Special Case*
31. *Lloyd Thomas Lecture / 31st International Symposium on Rarefied Gas Dynamics 2018, 2018/07/24, Glasgow, UK, M.C.M. van de Sanden, Plasma dissociation of CO₂ using a vortex stabilized microwave plasma flow reactor: new insights in the plasma chemistry*
32. *ACHEMA, Joint German-Dutch Lunch 'Shaping the future of power-to-X', 2018/06/11 - 2018/06/15, Frankfurt am Main, Germany, M.C.M. van de Sanden, The Dutch Landscape on Electrification and Power-to-X*
33. *Executive Programme Energy Transition and Innovation, University Nyenrode, 2018/03/29, Stichtse Vecht, Netherlands, M.C.M. van de Sanden, Crucial innovations and the eternal promise*

34. Seminar University of Notre Dame, 2018/03/16, Notre Dame, IN, USA, M.C.M. van de Sanden, Renewable energy driven non-equilibrium chemistry: plasma chemistry as the special case
35. Seminar Twente University, 2018/02/12, Enschede, Netherlands, M.C.M. van de Sanden, Renewable energy driven non-thermal chemistry for the production of fuels and chemicals
36. Seminar Technical University of Denmark (DTU), 2018/05/07, Denmark, M.N. Tsampas, The role of ionic conductors in energy applications
37. 5th International workshop Plasma Science & Interfaces 2018, 2018/10/18 - 2018/10/19, St. Gallen, Switzerland, A.J. Wolf, F.J.J. Peeters, M.C.M. van de Sanden, W.A. Bongers, CO₂ microwave plasma conversion - efficient production of CO at moderate pressures

Other oral and poster presentations at (international) conferences and meetings: 110

1. 30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, D.C.M. van den Bekerom, D.A.C.M. Hage, N. Gatti, T. Minea, Q. Ong, T. Butterworth, W.A. Bongers, M.C.M. van de Sanden, G.J. van Rooij, Strong vibrational excitation in N₂ by us-pulsing in microwave plasma, Oral, O11
2. Netherlands conference on Electrochemical Conversion & Materials (ECCM), 2018/06/29, The Hague, Netherlands, A. Bieberle, K. George, M. van Berkel, X. Zhang, A new approach to identify the limiting processes at electrochemical interfaces, Oral, 12:20
3. GRC Renewable Energy: Solar Fuels 2018, 2018/01/28 - 2018/02/02, Ventura, CA, USA, A. Bieberle, R. Sinha, I. Tanyeli, R. Lavrijsen, M.C.M. van de Sanden, High Ion Flux Plasma Nanostructures for Photo-Electrochemical Water Splitting, Poster
4. Netherlands conference on Electrochemical Conversion & Materials (ECCM), 2018/06/29, The Hague, Netherlands, W.A. Bongers, Towards electrification of the chemical industry: Synergistic integration of plasmolysis and electrolysis, Oral, 15:20
5. 30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, T. Butterworth, N. Gatti, B. Amyay, C.J.M. Hessels, T. Minea, D.C.M. van den Bekerom, R. Doddema, F.J.J. Peeters, Q. Ong, C. Richard et al., Temperature measurement in CH₄ plasma by Raman scattering, Poster, A4
6. XXV INC Summer School Manipulating Light and Matter at the Nanoscale, 2018/09/10 - 2018/09/14, Madrid, Spain, G.W. Castellanos, et al., Excitation enhancement and directional emission of 2D semiconductors coupled to nanoantenna arrays, Poster
7. 2nd international workshop on Strong Coupling in Organic Materials SCOM 2018, 2018/04/16 - 2018/04/18, Eindhoven, Netherlands, T. Chervy, S. Azzini, E. Lorchat, S.J. Wang, Y. Gorodetski, S. Berciaud, T.W. Ebbesen, C. Genet, Chiral coupling of valley excitons in a transition metal dichalcogenide monolayer with plasmonic resonators, Poster, P56
8. 2nd international workshop on Strong Coupling in Organic Materials SCOM 2018, 2018/04/16 - 2018/04/18, Eindhoven, Netherlands, S. Eizagirre Barker, S.J. Wang, L. Spiering, R. Hjelmgar, A. Curto, J. Gomez Rivas, Exciton dynamics in atomically thin transition metaldichalcogenides, Poster, P25
9. International Forum for Young Scholars, Sun Yat-sen University of China, 2018/12/21 - 2018/12/23, Shenzhen, China, J. Gao, Studying the Molecular Inventory with Free Electron Laser (FELIX), Oral
10. 30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, J. Gao, F.J.J. Peeters, H.J.M. Bouwmeester, A.J. Wolf, P.W.C. Groen, T. Verreycken, M.C.M. van de Sanden, W.A. Bongers, Investigation of Synergistic Integration of Plasmolysis and Electrolysis, Poster, A10
11. Power-to-Gas (P2G) TTW kick-off meeting, 2018/02/20, Eindhoven, Netherlands, J. Gao, P. Diomedea, M.N. Tsampas, F.J.J. Peeters, A.J. Wolf, T. Verreycken, A.P.H. Goede, P.W.C. Groen, T.W.H. Righart, S. Welzel et al., Enhancing the conversion and energy-efficiency of electrically-driven dissociation of CO₂ for fuel synthesis by synergistic integration of plasmolysis, electrolysis and membrane separation, Oral
12. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, J. Gao, H. Bouwmeester, A.J. Wolf, F.J.J. Peeters, M.C.M. van de Sanden, W.A. Bongers, Investigation of synergistic integration of plasmolysis and electrolysis, Poster, P8.018
13. 34th European Conference on Surface Science (ECOSS 34) 2018, 2018/08/26 - 2018/08/31, Aarhus, Denmark, D. Garcia Rodriguez, D. Sharma, C.J. Weststrate, J.W. Niemantsverdriet, Preparation of single crystalline iron carbide model catalysts for syngas conversion via the Fischer-Tropsch synthesis, Oral, I 39

14. 19th Netherlands' Catalysis and Chemistry Conference NCCC 2018, 2018/03/05 - 2018/03/07, Noordwijkerhout, Netherlands, D. Garcia Rodriguez, D. Sharma, C.J. Weststrate, J.W. Niemantsverdriet, Fe evaporation on Cu(100) for iron carbide model catalysts for syngas conversion for FTS, Poster
15. CHAINS: Chemistry matters for the future, 2018/12/03 - 2018/12/05, Veldhoven, Netherlands, K. George, M. van Berkel, X.Q. Zhang, R. Sinha, A. Bieberle, Modeling electrochemical impedance spectra by combining DFT and non-linear state space approach, Poster
16. Applied Computational Sciences (ACOS) symposium 2018, 2018/10/10, Eindhoven, Netherlands, K. George, M. van Berkel, X.Q. Zhang, A. Bieberle, Simulating photo-electrochemical interface data by combining DFT and state-space modeling, Poster, P46
17. Energy transmission technology summit, 2018/09/04 - 2018/09/07, Bangalore, India, K. George, M. van Berkel, X. Zhang, A. Bieberle, Predicting surface coverage and impedance spectra for electrochemical applications using a nonlinear state-space approach, Poster
18. International Workshop on Computational Electrochemistry IWCE 2018, 2018/07/09 - 2018/07/12, Helsinki, Finland, K. George, M. van Berkel, X. Zhang, A. Bieberle, Integrated modeling of multistep reactions at photo-electrochemical interfaces by combining DFT and non-linear state-space modeling, Oral, session 5
19. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, K. George, M. van Berkel, X. Zhang, A. Bieberle, Modeling oxygen evolution: state-space modeling in combination with density functional theory, Poster, P5.022
20. 12th EERA JP Energy Storage Meeting (hosted by DIFFER), 2018/05/03 - 2018/05/04, Eindhoven, Netherlands, M.A. Gleeson, Carbon Capture - Plasma-Assisted Desorption, Oral
21. 12th International Symposium Hydrogen & Energy LATSIS 2018, 2018/02/11 - 2018/02/16, Lausanne, Switzerland, A. Goede, M. Tsampas, S. Er, R. Dittmeyer, P. Pfeiffer, A. Patyk, V. Middelkoop, S. Labonnote, M.C.M. van de Sanden, P. Diomedea et al., Kerogreen - CO₂ Neutral Aviation Fuel, Oral
22. Heraeus-Seminar Condensates of Light, 2018/01/14, Bad Honnef, Germany, J. Gomez Rivas, Condensation of Plasmon Exciton Polaritons in Lattices of Metallic Nanoparticles, Oral
23. APS March Meeting 2018, 2018/03/05 - 2018/03/09, Los Angeles, CA, USA, A. Halpin, Strong-light matter coupling in arrays of metallic nanoantennas, Oral
24. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, A. Halpin, M. Ramezani, Q. Le Van, S. Wang, J. Gomez Rivas, Strong light-matter coupling using arrays of nanoantennas, Oral, PT2.5
25. CHAINS: Chemistry matters for the future, 2018/12/03 - 2018/12/05, Veldhoven, Netherlands, R. Hamans, M. Parente, A. Baldi, Super-resolution mapping of plasmonic hot electrons, Poster
26. XXV International Summer School Nicolas Cabrera 2018, 2018/09/10 - 2018/09/14, Madrid, Spain, R.F. Hamans, M. Parente, M. Ramezani, G. Castellanos Gonzalez, J. Gomez Rivas, A. Baldi, Super-resolution mapping of plasmon-enhanced processes, Poster
27. 2nd international workshop on Strong Coupling in Organic Materials SCOM 2018, 2018/04/16 - 2018/04/18, Eindhoven, Netherlands, R.F. Hamans, M. Parente, M. Ramezani, J. Gomez Rivas, A. Baldi, Super-resolution microscopy on single molecules for plasmon-activated catalysis and LDOS mapping, Poster, P36
28. 24th PAC Symposium 2018, 2018/03/08, Utrecht, The Netherlands, R.F. Hamans, M. Parente, A. Baldi, Super-resolution mapping of plasmonic hot electrons, Poster
29. 2018 43rd International Conference on Infrared, Millimeter, and Terahertz waves (IRMMW-THz), 2018/09/09 - 2018/09/14, Nagoya, Japan, N. van Hoof, S.E.T. ter Huurne, J. Gomez Rivas, A. Halpin, THz Transient Photoconductivity with Near-Field Detection, Oral
30. 15th international conference of Near-field Optics and Nanophotonics NFO15, 2018/08/26 - 2018/08/31, Troyes, France, N.J.J. van Hoof, et al., Near-field mapping of THz transient photoconductivity, Poster
31. 2nd international workshop on Strong Coupling in Organic Materials SCOM 2018, 2018/04/16 - 2018/04/18, Eindhoven, Netherlands, N. van Hoof, S. ter Huurne, A. Halpin, J. Gomez Rivas, Control of THz induced transparency with a monolayer of graphene, Poster, P26
32. 19th Netherlands' Catalysis and Chemistry Conference NCCC 2018, 2018/03/05 - 2018/03/07, Noordwijkerhout, Netherlands, N. van Hoof, et al., Restructuring of silver nanoparticles during ethylene epoxidation, Poster, II 49
33. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, N. van Hoof, S. ter Huurne, A. Halpin, J. Gomez Rivas, Time-resolved THz near-field microscopy, Poster, P1.025
34. 2018 43rd International Conference on Infrared, Millimeter, and Terahertz waves (IRMMW-THz), 2018/09/09 - 2018/09/14, Nagoya, Japan, S.E.T. ter Huurne, et al., Diffraction Enhanced Transparency in a Hybrid Gold-Graphene THz Metasurface, Oral

35. 15th international conference of Near-field Optics and Nanophotonics NFO15, 2018/08/26 - 2018/08/31, Troyes, France, S.E.T. ter Huurne, et al., *Diffraction Enhanced Transparency in a Hybrid Gold-Graphene THz Metasurface*, Oral
36. CHAINS: Chemistry matters for the future, 2018/12/03 - 2018/12/05, Veldhoven, Netherlands, R. Kamarudheen, G. Castellanos Gonzalez, L. Kamp, H.J.H. Clercx, A. Baldi, *Photothermal vs hot charge carrier effects in plasmon-driven syntheses of nanoparticles*, Oral
37. GRC Plasmonics and Nanophotonics 2018, 2018/07/08 - 2018/07/13, Newry, ME, USA, R. Kamarudheen, G.W. Castellanos, L.P.J. Kamp, H.J.H. Clercx, A. Baldi, *Photothermal vs hot charge carrier effects in plasmon-driven syntheses of nanoparticles*, Poster
38. 2nd international workshop on Strong Coupling in Organic Materials SCOM 2018, 2018/04/16 - 2018/04/18, Eindhoven, Netherlands, R. Kamarudheen, G. Castellanos, L.P.J. Kamp, H.J.H. Clercx, A. Baldi, *Photothermal vs electromagnetic effects in plasmon-driven syntheses of nanoparticles*, Poster, P37
39. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, R. Kamarudheen, G. Castellanos, A. Baldi, *Plasmon induced synthesis of Au@Ag core@shell nanostructures*, Poster, P3.056
40. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, B. Klarenaar, R. Engeln, M.A. Damen, D. van den Bekerom, M.C.M. van de Sanden, M. Grofulovic, A.S. Morillo, O. Guaitella, *Vibrationally exciting CO₂ for renewable energy storage*, Poster, P8.014
41. CHAINS: Chemistry matters for the future, 2018/12/03 - 2018/12/05, Veldhoven, Netherlands, G. Kumari, E. Zoethout, A. Baldi, *Visualizing photocatalysis driven structural changes in silver nanoparticles*, Poster
42. CHAINS : Chemistry matters for the future, 2018/12/03 - 2018/12/05, Veldhoven, Netherlands, V. Kyriakou, D. Neagu, E.I. Papaioannou, M. Tsampas, *Co-electrolysis of Steam and Carbon Dioxide on A-site deficient perovskites with exsolution of metal nanoparticles*, Poster
43. 4th International Symposium on Electrocatalysis: Recent Advances in Electrocatalysis and Photoelectrocatalysis ECAT, 2018/08/29 - 2018/09/01, Warsaw, Poland, V. Kyriakou, D. Neagu, E.I. Papaioannou, M. Tsampas, *Co-electrolysis of CO₂ and H₂O on Perovskite Fuel Electrodes with Exsolution of Transition Metal Nano-particles*, Oral
44. 19th Netherlands' Catalysis and Chemistry Conference NCCC 2018, 2018/03/05 - 2018/03/07, Noordwijkerhout, Netherlands, V. Kyriakou, et al., *Electrochemical promotion on Pt-nanoparticles deposited by atomic layer deposition*, Poster, I 67
45. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, V. Kyriakou, V. di Palma, Y. Hajar, M.A. Verheijen, E.A. Baranova, P. Vernoux, W.M.M. Kessels, M. Creatore, M.C.M. van de Sanden, M.N. Tsampas, *Atomic layer deposition of Pt-nanoparticles for electrochemical promotion of catalysis*, Poster, P3.099
46. Summer Session 'Intensify for profit and safety' Dutch Process Intensification Network (PIN-NL), 2018/06/27, Eindhoven, Nederland, E. Langereis, *DIFFER - Science for Future Energy*, Oral
47. HRSMC Symposium 2018, 2018/11/15, Leiden, Netherlands, R. van Lent, S.V. Auras, K. Cao, A.J. Walsh, M.A. Gleeson, L.B.F. Juurlink, *Resolving an old problem: how does H₂ dissociate on Pt?*, Oral
48. AVS 65th International Symposium and Exhibition, 2018/10/21 - 2018/10/26, Long Beach, CA, USA, R. van Lent, A.J. Walsh, M.A. Gleeson, L.B.F. Juurlink, *Surface reactivity of activated CO₂*, Oral
49. CHAINS: Chemistry matters for the future, 2018/12/03 - 2018/12/05, Veldhoven, Netherlands, Q. Liang, A. Bieberle, *First-Principles study of transition metal doped monolayer nitrides as catalysts for water oxidation*, Poster
50. Applied Computational Sciences (ACOS) symposium 2018, 2018/10/10, Eindhoven, Netherlands, Q. Liang, A. Bieberle, *First-Principles study of transition metal doped monolayer nitrides as catalysts for water oxidation*, Poster, P30
51. SurfCat Summer School 2018 on The Science of Sustainable Fuels and Chemicals, 2018/08/05 - 2018/08/10, Gilleleje, Denmark, Q. Liang, A. Bieberle, *First-Principles Investigations of Transition Metal Doped Monolayer Nitrides as Efficient Catalysts for the Oxygen Evolution Reaction*, Poster
52. GRC Plasma Processing Science 2018 Fundamental Insights in Plasma Processes, 2018/08/05 - 2018/08/10, Smithfield, RI, USA, Y. Liu, K. van 't Veer, F.M. Elam, F.J.J. Peeters, E. Zoethout, S.A. Starostin, M.C.M. van de Sanden, H.W. de Vries, *Atmospheric-Pressure Dual-Frequency Dielectric Barrier Discharge Characterization for Thin Film Deposition*, Poster, P47
53. Gordon Research Seminar Plasma Processing Science 2018, 2018/08/04 - 2018/08/05, Smithfield, RI, USA, Y. Liu, K. van 't Veer, F.M. Elam, F.J.J. Peeters, E. Zoethout, S.A. Starostin, M.C.M. van de Sanden, H.W. de Vries, *Atmospheric-Pressure Dual-Frequency Dielectric Barrier Discharge Characterization for Thin Film Deposition*, Oral

54. *Gordon Research Seminar Plasma Processing Science 2018, 2018/08/04 - 2018/08/05, Smithfield, RI, USA, Y. Liu, K. van 't Veer, F.M. Elam, F.J.J. Peeters, E. Zoethout, S.A. Starostin, M.C.M. van de Sanden, H.W. de Vries, Atmospheric-Pressure Dual-Frequency Dielectric Barrier Discharge Characterization for Thin Film Deposition, Poster, P26*
55. *Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, A. Meshkova, F. Elam, S.A. Starostin, M.C.M. van de Sanden, H.W. de Vries, The role of the carrier gas flow in the synthesis of silica moisture barrier films by AP-PECVD, Poster, P5.031*
56. *30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, T. Minea, D.C.M. van den Bekerom, T. Butterworth, F.J.J. Peeters, E. Zoethout, M.F. Graswinckel, M.C.M. van de Sanden, A.H.G. Cents, L. Lefferts, G.J. van Rooij, Non-oxidative methane coupling to higher hydrocarbons via plasma catalysis in a microwave reactor, Poster, B3*
57. *Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, T. Minea, F. Peeters, D. van den Bekerom, N. Gatti, E. Zoethout, M.F. Graswinckel, M.C.M. van de Sanden, A.H.G. Cents, L. Lefferts, G.J. van Rooij, Plasma as an efficient radical source for catalytic coupling to higher hydrocarbons, Oral, PW4.8*
58. *CHAINS : Chemistry matters for the future, 2018/12/03 - 2018/12/05, Veldhoven, Netherlands, G. Nikiforidis, M.C.M. van de Sanden, M. Tsampas, Challenges and perspectives of the intermediate NaS battery, Poster*
59. *21st Workshop on the Exploration of Low-Temperature Plasma Physics (WELTPP-21), 2018/11/29 - 2018/11/30, Kerkrade, The Netherlands, Q. Ong, D.C.M. van den Bekerom, M.A. Gleeson, C.J. Weststrate, G.J. van Rooij, Plasma Catalysis as Vibrational Activation of Surface Interactions, Poster, P21*
60. *GRC Plasma Processing Science 2018 Fundamental Insights in Plasma Processes, 2018/08/05 - 2018/08/10, Smithfield, RI, USA, Q. Ong, D.C.M. van den Bekerom, M.A. Gleeson, C.J. Weststrate, G.J. van Rooij, Plasma Catalysis as Vibrational Activation of Surface Interact, Poster, P12*
61. *Gordon Research Seminar Plasma Processing Science 2018, 2018/08/04 - 2018/08/05, Smithfield, RI, USA, Q. Ong, D.C.M. van den Bekerom, M.A. Gleeson, C.J. Weststrate, G.J. van Rooij, Plasma Catalysis as Vibrational Activation of Surface Interactions, Poster, P34*
62. *30th Symposium Plasma Physics and Radiation Technology, 2018/03/07 - 2018/03/09, Lunteren, The Netherlands, Q. Ong, D.C.M. van den Bekerom, N. Gatti, W. Wang, D.A.C.M. Hage, S. Ponduri, M.A. Gleeson, C.J. Weststrate, G.J. van Rooij, Plasma Catalysis as Vibrational Activation of Surface Interactions, Poster, B6*
63. *Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, Q. Ong, D.C.M. van den Bekerom, M.A. Gleeson, S. Ponduri, K.J. Weststrate, G.J. van Rooij, Plasma catalysis as vibrational activation of surface interactions, Poster, P8.004*
64. *CHAINS : Chemistry matters for the future, 2018/12/03 - 2018/12/05, Veldhoven, Netherlands, V. di Palma, G. Zafeiropoulos, T. Goldsweer, W.M.M. Kessels, M.C.M. van de Sanden, M. Tsampas, M. Creatore, Atomic layer deposition of cobalt phosphate thin films for the oxygen evolution reaction, Poster*
65. *CHAINS: Chemistry matters for the future, 2018/12/03 - 2018/12/05, Veldhoven, Netherlands, M. Parente, R. Hamans, A. Baldi, Plasmonic sensing via Chemical Interface Damping, Poster*
66. *GRC Plasmonics and Nanophotonics 2018, 2018/07/08 - 2018/07/13, Newry, ME, USA, M. Parente, S. Sheikholeslami, G.V. Naik, J.A. Dionne, A. Baldi, Probing charge equilibration with plasmonic core@shell metal@semiconductor nanoparticles, Poster*
67. *Gordon Research Seminar Plasmonics and Nanophotonics 2018, 2018/07/07 - 2018/07/08, Newry, ME, USA, M. Parente, S. Sheikholeslami, G.V. Naik, J.A. Dionne, A. Baldi, Probing charge equilibration with plasmonic core@shell metal@semiconductor nanoparticles, Oral, Sunday 10:00*
68. *Gordon Research Seminar Plasmonics and Nanophotonics 2018, 2018/07/07 - 2018/07/08, Newry, ME, USA, M. Parente, S. Sheikholeslami, G.V. Naik, J.A. Dionne, A. Baldi, Probing charge equilibration with plasmonic core@shell metal@semiconductor nanoparticles, Poster*
69. *Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, M. Parente, A. Baldi, Photogenerated charge equilibration in core@shell metal@semiconductor nanoparticles, Poster, P3.058*
70. *Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, H.C. Patel, V. Kyriakou, S. Welzel, M.C.M. van de Sanden, M.N. Tsampas, Plasma Assisted Electrochemical Ammonia Synthesis, Poster, P8.009*
71. *Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, F. Peeters, H. Hendrickx, A.J. Wolf, M.C.M. van de Sanden, W. Bongers, Continuum emission in the afterglow of CO₂ microwave plasma: determining CO loss rates, Oral, PW4.6*
72. *9th International Conference on Spontaneous Coherence in Excitonic Systems 2018 (ICSCE9), 2018/07/16 - 2018/07/20, Montreal, Canada, M. Ramezani, A. Halpin, Q. Le Van, J. Gomez Rivas, The role of vibronic relaxation on the superradiant emission of organic-based exciton polaritons, Poster, P01*

73. 2nd international workshop on Strong Coupling in Organic Materials SCOM 2018, 2018/04/16 - 2018/04/18, Eindhoven, Netherlands, M. Ramezani, A. Halpin, J. Feist, N. van Hoof, A.I. Fernandez, F.J. Garcia-Vidal, J. Gomez Rivas, Strong light-matter coupling using arrays of nanoantennas, Poster, P27
74. 2nd international workshop on Strong Coupling in Organic Materials SCOM 2018, 2018/04/16 - 2018/04/18, Eindhoven, Netherlands, M. Ramezani, Q. Le Van, A. Halpin, J. Gomez Rivas, Surperradiance of molecular ensembles strongly coupled toplasmonic lattices, Poster, P38
75. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, M. Ramezani, M. di Giorgi, F. Todisco, D. Caputo, A. Halpin, D. Sanvitto, J. Gomez Rivas, Plasmon-exciton polariton condensation set by quasi-long range order and nonlinearities, Poster, P1.050
76. 71st Gaseous Electronics Conference (GEC 2018), 2018/11/05 - 2018/11/09, Portland, OR, USA, G.J. van Rooij, Strong Vibrational Non-Equilibrium in N₂ and CO₂ by Microsecond Pulsed Microwave Plasma, Oral
77. 13th Carolus Magnus Summer School on Plasma Physics, 2018/09/03 - 2018/09/14, Weert, Netherlands, G.J. van Rooij, Laboratory experiments to study plasma surface interaction, Oral
78. GRC Renewable Energy 2018 Solar Fuels, 2018/01/28 - 2018/02/02, Ventura, CA, USA, G.J. van Rooij, D.C.M. van den Bekerom, W.A. Bongers, R. Engeln, N. Gatti, T. Minea, Q. Ong, T. Butterworth, M.C.M. van de Sanden, Conversion of sustainable electricity into chemical potential energy a plasma perspective, Poster
79. PREMIERE Workshop, 2018/11/22 - 2018/11/23, Ericeira, Portugal, M.C.M. van de Sanden, Plasma-membrane interaction. Some reflections on MW plasma dissociation of CO₂, Oral
80. 69th Annual Meeting of International Society of Electrochemistry, 2018/09/02 - 2018/09/07, Bologna, Italy, F.M. Sapountzi, V. di Palma, G. Zafeiropoulos, H. Penchev, M.A. Verheijen, M. Creatore, F. Ublekov, V. Sinigersky, W. Arnold Bik, H.O.A. Fredriksson et al., Material considerations for making alcohol electrolysis more efficient: acidic vs alkaline polymer electrolytes and novel anode architectures, Oral
81. 19th Netherlands' Catalysis and Chemistry Conference NCCC 2018, 2018/03/05 - 2018/03/07, Noordwijkerhout, Netherlands, F.M. Sapountzi, V. di Palma, G. Zafeiropoulos, H. Penchev, M.A. Verheijen, M. Creatore, F. Ublekov, V. Sinigersky, H.O.A. Fredriksson, M.N. Tsampas et al., H₂ production via electrochemical reforming of alcohols, Poster, I 75
82. 34th European Conference on Surface Science (ECOSS 34) 2018, 2018/08/26 - 2018/08/31, Aarhus, Denmark, D. Sharma, C.J. Weststrate, Comparison of CO adsorption and dissociation on flat, stepped and kinked Co surface, Poster
83. 19th Netherlands' Catalysis and Chemistry Conference NCCC 2018, 2018/03/05 - 2018/03/07, Noordwijkerhout, Netherlands, D. Sharma, D. Garcia Rodriguez, J.W. Niemantsverdriet, C.J. Weststrate, Comparison of CO adsorption and dissociation on flat, stepped and kinked Co surface, Poster
84. 233rd Electrochemical Society Meeting, 2018/05/13 - 2018/05/17, Seattle, WA, USA, R. Sinha, V. di Palma, R. Lavrijsen, M. Creatore, A. Bieberle, Improvement in the Water Splitting Activity of Hematite Thin Films with ZnO Underlayer, Oral
85. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, R. Sinha, R. Lavrijsen, M.C.M. van de Sanden, A. Bieberle, Study of the water splitting performance of hematite thin films prepared by DC and Reactive RF sputtering, Poster
86. 21st Workshop on the Exploration of Low-Temperature Plasma Physics (WELTPP-21), 2018/11/29 - 2018/11/30, Kerkrade, The Netherlands, A.W. van de Steeg, D.C.M. van den Bekerom, T. Butterworth, T. Minea, Q. Ong, M.C.M. van de Sanden, G.J. van Rooij, Optimizing the vibrational non-equilibrium of CO₂ microwave plasma by fast pulsing, Oral, O15
87. GRC Plasma Processing Science 2018 Fundamental Insights in Plasma Processes, 2018/08/05 - 2018/08/10, Smithfield, RI, USA, A.W. van de Steeg, D.C.M. van den Bekerom, T. Butterworth, G.J. van Rooij, Optimizing the vibrational nonequilibrium of CO₂ microwave plasma by fast pulsing, Poster, P33
88. Gordon Research Seminar Plasma Processing Science 2018, 2018/08/04 - 2018/08/05, Smithfield, RI, USA, A.W. van de Steeg, D.C.M. van den Bekerom, T. Butterworth, T. Minea, Q. Ong, M.C.M. van de Sanden, G.J. van Rooij, Optimizing the vibrational non-equilibrium in CO₂ microwave plasmas by fast pulsing, Poster, P41
89. Gordon Research Seminar Plasma Processing Science 2018, 2018/08/04 - 2018/08/05, Smithfield, RI, USA, A.W. van de Steeg, D. van den Bekerom, T. Butterworth, T. Minea, Q. Ong, M.C.M. van de Sanden, G. van Rooij, Optimizing the vibrational non-equilibrium in CO₂ microwave plasmas by fast pulsing, Oral
90. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, S. Tadayon Mousavi, A.J. Wolf, A. van Gils, P.M.J. Koelman, J. Janssen, W.A.A.D. Graef, D. Mihailova, W. Bongers, J. van Dijk, Toward validation of global model for He-H₂O mixture in microwave plasma, Oral, PW4.7

91. 4th International Symposium on Electrocatalysis: Recent Advances in Electrocatalysis and Photoelectrocatalysis ECAT, 2018/08/29 - 2018/09/01, Warsaw, Poland, M.N. Tsampas, G. Zafeiropoulos, T. Stoll, M.C.M. van de Sanden, H. Johnson, S. Kinge, New class of photoelectrochemical cells based on polymeric electrolyte membranes: Advantages and challenges, Oral
92. 4th International Symposium on the Catalysis for Clean Energy and Sustainable Chemistry CCESC 2018, 2018/07/09 - 2018/07/11, Bilbao, Spain, M.N. Tsampas, G. Zafeiropoulos, T. Stoll, M.C.M. van de Sanden, New class of photoelectrochemical cells based on polymeric electrolyte membranes: Advantages and challenges, Oral
93. 12th EERA JP Energy Storage Meeting (hosted by DIFFER), 2018/05/03 - 2018/05/04, Eindhoven, Netherlands, M.N. Tsampas, Plasma assisted ammonia synthesis, Oral
94. Conference Chiral modes in optics and electronics of 2D systems, 2018/11/26 - 2018/11/28, Aussois, France, S. Wang, et al., Screened Strong Coupling of Excitons in Multilayer WS₂ with Collective Plasmonic Resonances, Poster
95. 15th international conference of Near-field Optics and Nanophotonics NFO15, 2018/08/26 - 2018/08/31, Troyes, France, S. Wang, et al., Screened Strong Coupling of Excitons in Multilayer WS₂ with Collective Plasmonic Resonances, Oral
96. 19th International Conference on Physics of Light-Matter Coupling in Nanostructures PLMCN19, 2018/05/15 - 2018/05/19, Chengdu, China, S. Wang, et al., Fluorescence Lifetime Imaging of Exciton Dynamics and Transport in WS₂ Monolayers, Oral
97. 2nd international workshop on Strong Coupling in Organic Materials SCOM 2018, 2018/04/16 - 2018/04/18, Eindhoven, Netherlands, S. Wang, Q. Le Van, S. Eizagirre Barker, R. Hjelmkart, F. Vaianella, B. Maes, M. Berghuis, A. Curto, J. Gomez Rivas, Room temperature strong coupling of 2D semiconductors with plasmonic nanoantenna arrays, Poster, P20
98. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, S. Wang, Q. Le Van, A. Curto, R. Hjelmkart, F. Vaianella, B. Maes, M. Berghuis, S. Eizagirre Barker, J. Gomez Rivas, Room temperature strong coupling of 2D semiconductors with plasmonic nanoantenna arrays, Poster, P1.027
99. GRC Plasma Processing Science 2018 Fundamental Insights in Plasma Processes, 2018/08/05 - 2018/08/10, Smithfield, RI, USA, A.J. Wolf, F.J.J. Peeters, T.W.H. Righart, M.C.M. van de Sanden, W.A. Bongers, Experimental investigation of the electron properties in a moderate pressure CO₂ microwave plasma, Poster, P43
100. CHAINS : Chemistry matters for the future, 2018/12/03 - 2018/12/05, Veldhoven, Netherlands, G. Zafeiropoulos, L. Gomez, A. Labrada, D. Leurs, M.N. Tsampas, A new class of WO₃ photoanodes for photoelectrochemical H₂ production, Poster
101. 69th Annual Meeting of International Society of Electrochemistry, 2018/09/02 - 2018/09/07, Bologna, Italy, G. Zafeiropoulos, T. Stoll, M.C.M. van de Sanden, M. Tsampas, New class of photoelectrochemical cells based on polymeric electrolyte membranes: Opportunities and challenges, Poster
102. European Advanced Energy Material congress 2018, 2018/03/25 - 2018/03/28, Stockholm, Sweden, G. Zafeiropoulos, T. Stoll, M.N. Tsampas, Solid state photoelectrochemical cells for hydrogen production: Advantages and challenges, Oral
103. 19th Netherlands' Catalysis and Chemistry Conference NCCC 2018, 2018/03/05 - 2018/03/07, Noordwijkerhout, Netherlands, G. Zafeiropoulos, J. Zhou, F.M. Sapountzi, J.W. Niemantsverdriet, T. Stoll, M.N. Tsampas, CO₂ fixation by water in a novel (photo) electrochemical cell, Poster, II 75
104. Physics Veldhoven 2018, 2018/01/23 - 2018/01/24, Veldhoven, Netherlands, G. Zafeiropoulos, T. Stoll, I. Dogan, H. Genuit, M.N. Tsampas, Porous photoanodes built on a Ti-web of microfibers for photoelectrochemical hydrogen generation, Poster, P1.015
105. Annual Meeting 2018 TU Delft Process Technology Institute (DPTI), 2018/06/01, Delft, Netherlands, X. Zhang, T.J.H. Vlugt, A. Bieberle, Computational Design of Efficient Photoelectrodes for Water Oxidation, Poster
106. CHAINS: Chemistry matters for the future, 2018/12/03 - 2018/12/05, Veldhoven, Netherlands, Y. Zhao, S. Balasubramanyam, A.A. Bol, A. Bieberle, Relating 3D Geometry and Photoelectrochemical Activity of WO₃-loaded n⁺-Si Nanowires, Poster
107. GRC Pathways for Solar Energy Conversion and Storage: Electricity, Thermal and Fuel 2018, 2018/06/17 - 2018/06/22, Hongkong, China, Y. Zhao, S. Balasubramanyam, A.A. Bol, A. Bieberle, Efficient Photoelectrochemical Water Splitting with WO₃ Thin Film on n⁺-Si Nanowires, Poster
108. GRC Pathways for Solar Energy Conversion and Storage: Electricity, Thermal and Fuel 2018, 2018/06/17 - 2018/06/22, Hongkong, China, Y. Zhao, S. Balasubramanyam, A.A. Bol, A. Bieberle, Efficient Photoelectrochemical Water Splitting with WO₃ Thin Film on n⁺-Si Nanowires, Oral
109. GRC Renewable Energy: Solar Fuels 2018, 2018/01/28 - 2018/02/02, Ventura, CA, USA, Y. Zhao, P. Westerik, E. Zoethout, J.W. Genuit, H. Gardeniers, A. Bieberle, Efficient Photoelectrochemical Water Splitting with WO₃ Thin Film on Nano/Micro Three-Dimensional Structures, Poster

110. GRC Renewable Energy: Solar Fuels 2018, 2018/01/28 - 2018/02/02, Ventura, CA, USA, Y. Zhao, P. Westerik, E. Zoethout, J.W. Genuit, H. Gardeniers, A. Bieberle, Efficient Photoelectrochemical Water Splitting with WO₃ Thin Film on Nano/Micro Three-Dimensional Structures, Oral

Prizes: 1

1. R. Verbraekken, 2018 Fontys/TNW award for the best bachelor thesis, 2018

Public events and industry contacts: 9

1. Outreach lecture Young Brainport Summer School, 2018/08/14, Eindhoven, Netherlands, R.A.J. Janssen, Solar cells: how do they work?
2. Outreach lecture Energy Now 2018, 2018/05/17, Eindhoven, Netherlands, R.A.J. Janssen, Organic solar (fuel) cells
3. Chemische Kring Midden Nederland, 2018/04/18, Utrecht, Netherlands, R.A.J. Janssen, Organische en hybride zonnecellen
4. Triangulum Vereniging voor weer- en sterrenkunde Apeldoorn-Deventer-Zutphen, 2018/03/08, Apeldoorn, Netherlands, R.A.J. Janssen, Organische en hybride zonnecellen
5. Colloquium van studievereniging Planck, Fontys Hogeschool Eindhoven, 2018/12/03, Eindhoven, Netherlands, G.J. van Rooij, Storage of Sustainable Energy and Plasmolysis
6. Studium Generale TUe, Sustainable Energy Talks, 2018/03/28, Eindhoven, Netherlands, G.J. van Rooij, Solar fuels A plasma perspective
7. TU/e Energy Day on Storage and Conversion: the key to a sustainable energy system, 2018/05/17, Eindhoven, Netherlands, M.C.M. van de Sanden, Energy Conversion and Storage
8. Studium Generale Fontys Hogeschool, 2018/02/05, Eindhoven, Netherlands, M.C.M. van de Sanden, Renewable energy driven chemistry for the production of fuels and chemicals
9. TU/e Energy Day on Storage and Conversion: the key to a sustainable energy system, 2017/05/17, Eindhoven, Netherlands, M. Tsampas, Solid state electrochemical cells with external activation knobs for solar fuel production

Positions: 42

1. D.C.M. van den Bekerom, Discussion Leader evening session on Plasma, Gas Conversion and Combustion at Gordon Research Seminar Plasma Processing Science 2018, Aug., 2018
2. A. Bieberle, Member editorial board of the Dutch physics.org website (since 2018), Editorship, 2018
3. A.P.H. Goede, Coordinator European EERA Joint Programme Energy Storage, Subprogram 2 Chemical Energy Storage (since 2017), 2018
4. A.P.H. Goede, Fellow of European Physical Society (since 2011), 2018
5. A.P.H. Goede, Member Advisory Board of the EC Horizon 2020 ECRIA project BALANCE (since 2017), 2018
6. A.P.H. Goede, Member of the Science Advisory Board of the German BMBF KOPERNIKUS 10 year Programme P2X (since 2016), 2018
7. A.P.H. Goede, Coordinator European EU Horizon2020 project KEROGREEN (since 2017), 2018
8. A.P.H. Goede, Member Advisory Board of the EC Horizon 2020 ECRIA project BALANCE (since 2017), 2019
9. J. Gomez Rivas, Management team member of the TU/e research school COBRA, 2018
10. J. Gomez Rivas, Associate Editor of the Journal of Applied Physics (since 2015), Editorship, 2018
11. J. Gomez Rivas, Chair of 2nd International Conference on Strong Light-Matter Coupling with Organic Molecules (SCOM 2018), 2018
12. J. Gomez Rivas, Panel member ERC consolidator grant, 2017 (this information was under embargo and not reported in 2017), 2018
13. J. Gomez Rivas, Scientific committee member of 43rd International Conference on Infrared, Millimeter, and Terahertz waves (IRMMW-THz) 2018, 2018

14. A.W. Kleijn, Editorial board member *Journal Progress in Surface Science* (since 1997), Editorship, 2018
15. A.W. Kleijn, Advisor, Sichuan University, Chengdu, China, 2018
16. A.W. Kleijn, Member of the Royal Dutch Society of Science (Haarlem), 2018
17. A.W. Kleijn, Professor, Surface Physics and Chemistry Laboratory, CAEP, Jiangyou, China, 2018
18. A.W. Kleijn, Fellowship of the American Vacuum Society, 2018
19. A.W. Kleijn, Director, Center of Interface Dynamics for Sustainability, Institute of Materials, CAEP, Jiangyou, China (since 2014), 2018
20. A.W. Kleijn, Fellow of the Institute of Physics (UK) (since 2012), 2018
21. A.W. Kleijn, Professor, Leiden Institute of Chemistry, Gorlaeus Laboratories, Leiden University, 2018
22. A.W. Kleijn, Fellow of the Royal Society of Chemistry (UK) (since 2017), 2018
23. E. Langereis, Co-organizer TU/e Energy Days (since 2013), 2018
24. E. Langereis, Chair TU/e Energy Day on Renewable Fuels & Chemicals (March 22), 2018
25. E. Langereis, G.J. van Rooij, Member of the Editorial Board of *Nederlands Tijdschrift voor de Natuurkunde*, Editorship, 2018
26. E. Langereis, Member of NERA working group (Netherlands Energy Research Alliance), 2018
27. G.J. van Rooij, Lecturer Course series *Optical Diagnostics, techniques and applications* at Eindhoven University of Technology (since 2018), 2018
28. G.J. van Rooij, Lecturer Course series *Plasma Surface Interactions* at Eindhoven University of Technology (since 2009), 2018
29. G.J. van Rooij, Member Discussion panel on *Cleantech Forum Europe 2018*, May 14-16, 2018
30. G.J. van Rooij, Member of the Organisational Committee of the Annual Dutch Symposium on Plasma Physics & Radiation Technology, Lunteren, 2018
31. G.J. van Rooij, International Scientific Advisory Committee International Summer School on Vacuum, Electron and Ion Technologies VEIT (since 2015), 2018
32. M.C.M. van de Sanden, G.J. van Rooij, Member International Advisory Committee Summer school on Vacuum, electron and ion technologies, Sozopol, Bulgaria (since 2017), 2018
33. M.C.M. van de Sanden, KNAW committee member Evaluation elections new members (since 2014), 2018
34. M.C.M. van de Sanden, Editorial Board member of the journal *Global Transitions* (since 2018), Editorship, 2018
35. M.C.M. van de Sanden, Member of the Euratom Programme Committee (Fusion) (since 2014), 2018
36. M.C.M. van de Sanden, Organizer AVS Conference - Program: Plasma Science and Technology division (since 2012), 2018
37. M.C.M. van de Sanden, Member Advisory Board SAIAMC South African Institute for Advanced Materials Chemistry (2015-2018), 2018
38. M.C.M. van de Sanden, Member Koninklijke Hollandsche Maatschappij der Wetenschappen (since 2010), 2018
39. M.C.M. van de Sanden, Member WEST Governance Board in France (since 2014), 2018
40. M.C.M. van de Sanden, Member Advisory Committee of International Conference on Reactive Plasmas (ICRP) (since 2014), 2018
41. M.C.M. van de Sanden, Partime professorship in the Department of Applied Physics (since 2011 after fulltime since 2000), 2018
42. M.C.M. van de Sanden, Fellow of the International Plasma Chemistry Society (since 2017), 2018
43. M.C.M. van de Sanden, Chair Advisory Committee ECCM (Elektrochemische Conversie & Materialen) of Dutch Top Research Sections Energy, Chemistry and HTSM (since 2017), 2018
44. M.C.M. van de Sanden, Member of the Editorial Board of the Journal "Applied Sciences" (since 2016), Editorship, 2018
45. M.C.M. van de Sanden, Board member TKI Gas, Groningen (since 2014), 2018
46. M.C.M. van de Sanden, Member of the EASAC Energy Steering Panel (European Academies) (since 2014), 2018
47. M.C.M. van de Sanden, International Advisory Board for the journal *Plasma Processes and Polymers* (since 2002), 2018
48. M.C.M. van de Sanden, Member panel Discussion on Career Pathways in Plasma Physics at Gordon Research Seminar Plasma Processing Science 2018, Aug., 2018
49. M.C.M. van de Sanden, Chairman Scientific Board Netherlands Energy Research Alliance (NERA) (since 2017), 2018
50. M.C.M. van de Sanden, Member of the Royal Netherlands Academy of Arts and Sciences (KNAW) (since 2013), 2018
51. M.C.M. van de Sanden, Member of the Scientific Advisory Board of the CNR Institute of Nanotechnology, Salento (since 2018), 2018
52. M.C.M. van de Sanden, Nederlandse Natuurkundige Vereniging (NNV) vertegenwoordigend lid in de EPS divisie Energie, 2018
53. M.C.M. van de Sanden, KNAW committee member Raad voor Natuur- en Technische Wetenschappen (RNTW) (since 2017), 2018
54. M.C.M. van de Sanden, S. Welzel, Consultants to PREMIERE Project - CO₂ Plasmas: a fRiEndly MEdium for Renewable Energy (since 2016), 2018

55. *M.C.M. van de Sanden, KNAW committee member Jury new members Science Division (since 2014), 2018*
56. *M.C.M. van de Sanden, KNAW committee chair on advice Impact in kaart (2017-2018), 2018*
57. *M.C.M. van de Sanden, Scientific Advisory Board member Nanolab@TU/e TU Eindhoven (since 2013), 2018*
58. *M.C.M. van de Sanden, Member of the Scientific Advisory Council (SAC) of the Helmholtz Zentrum Berlin für Materialien und Energie (2011-2018), 2018*
59. *M.C.M. van de Sanden, Member Scientific Committee 2nd International Conference on Unconventional Catalysis, Reactors and Applications (UCRA 2019), Oct 16-18, 2019, Zaragoza, Spain, 2018*
60. *M.C.M. van de Sanden, Senior Advisory Board Member of Plasma Sources: Science and Technology (since 2005, Senior since 2014), Editorship, 2018*
61. *M.C.M. van de Sanden, Chair of the Summer school on Vacuum, electron and ion technologies, Sozopol, Bulgaria (2013-2018), 2018*
62. *S. Welzel, Lecturer Course series Optical Diagnostics, techniques and applications at Eindhoven University of Technology: Infrared Absorption Spectroscopy: Theory, techniques & applications (since 2014), Oral, 2018*
63. *S. Welzel, Member of the Organizing Committee of the Workshop on the Exploration of Low Temperature Plasma Physics, Kerkrade, Netherlands (since 2012), 2018*

Publications aimed at the general public: 3

1. *D.C.M. van den Bekerom, M.C.M. van de Sanden, G.J. van Rooij, Zonnebrandstoffen uit plasmolyse, Ned. Tijdschr. Natuurk. 84 (2018) 14-17, 2018/11/01*
2. *A.C. Bronneberg, A. Bieberle, Waterstof direct van de zon, Ned. Tijdschr. Natuurk. 84 (2018) 19-23, 2018/11/01*
3. *G.J. van Rooij, E. Langereis, M.C.M. van de Sanden, Zonnebrandstoffen, Ned. Tijdschr. Natuurk. 84 (2018) 10-12, 2018/11/01*

Media appearances: 6

1. *Grondstofdioxide, C₂W, 2018/07/27, Interview with General coverage*
2. *Zonnebrandstof; het kan, maar we zijn er nog lang niet, Eindhovens Dagblad, 2018/09/08, Interview with G.J. van Rooij*
3. *CO₂ is een grondstof, geen afval, de Volkskrant, 2018/04/09, Interview with M.C.M. van de Sanden*
4. *Hé, een windmolen kan ook gas maken!, Trouw, 2018/02/01, Interview with M.C.M. van de Sanden*
5. *Gronings gas kan weg, we maken het gewoon zelf!, NPO1 Langs de Lijn, 01/02/2018, Interview with M.C.M. van de Sanden*
6. *Koolstofdioxide in de magnetron, NRC Handelsblad, Interview with M.C.M. van de Sanden*