CURRICULUM VITAE

THEO J. DINGEMANS

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CURRENT POSITIONS

2016 –	Professor of Applied Physical Sciences, University of North Carolina at Chapel Hill
2011 –	Co-founder and CTO of Allotropica Technologies Inc. A technology accelerator for high-performance polymers in Chapel Hill, North Carolina

PREVIOUS POSITIONS

2009 – 2016	Antoni van Leeuwenhoek Professor of Chemistry and Aerospace Engineering, Delft University of Technology (The Netherlands)
2014 – 2015	Sabbatical leave, University of North Carolina at Chapel Hill, Department of Chemistry, with Professor Edward T. Samulski
2012– 2016	Adjunct professor University of North Carolina at Chapel Hill, Department of Chemistry
2007	Sabbatical leave, Cavendish Laboratories, Cambridge University (GB) with Professor Sir Richard Friend
2003 – 2009	Associate professor (UHD) at the Delft University of Technology, Faculty of Aerospace Engineering and Faculty of Applied Sciences, Department of Chemical Engineering
2000 – 2003	Staff Scientist (ICASE) NASA Langley Research Center
2000 – 2003	Adjunct professor at the University of William and Mary, Williamsburg (VA)
1998 – 2000	National Academy of Sciences–National Research Council Postdoctoral Fellowship with dr. T. L. StClair, NASA Langley Research Center

EDUCATION

1993 – 1998	Doctoral Thesis with Edward T. Samulski, University of North Carolina at Chapel Hill (NC), U.S.A. *PhD in polymer chemistry (1998)* "Nonlinear geometries in liquid crystals and liquid crystalline polymers"
1988 – 1992	Chemical Engineering, Technische Hogeschool Eindhoven

FELLOWSHIPS, HONORS, AWARDS

2013	Luckhurst–Samulski prize (best paper published in "*Liquid Crystals*" in 2012)
2009	First Dutch Polymer Institute (DPI) Fellow (1 mil €/$1.3 mil)
2006	VIDI grant from the Dutch Science Council (NWO) "All-aromatic aerospace composites: an integral approach towards the design and synthesis of fiber and resin chemistries" (600 k€/$800k)
2005	Paul F. Holloway Non-Aerospace Technology Transfer Award for the development of "Liquid

Crystalline Thermoset Resins, NASA
2004 Materials International Space Station Experiment (MISSE) Award (Materials Development for Aerospace Applications), NASA
2000 Exception Contribution Award (Development of Liquid Crystalline Polymers for Aerospace Applications), NASA
1999 Outstanding Achievement Award (Design of Organic/Inorganic Hybrid Materials for Thermal Shielding of Aerospace Vehicles), NASA
'98- '00 American National Academy of Sciences–National Research Council (NRC) Postdoctoral Fellowship
1997 BIMF graduate fellowship (Bayreuth Institute for Macromolecular Research), Germany
1991 Erasmus fellowship (Dutch Ministry of Education), The Netherlands

GRADUATE LEVEL TEACHING

Polymer Science (AE4ASM101TU) Lecturer and course coordinator at TU-Delft. This course was developed by me to introduce aerospace engineers to polymer science. As aerospace applications are making more and more use of fiber reinforced polymer composites it is important that young aerospace engineers learn about the role of polymers in their structural designs but without having to deal with the synthetic aspects. The course concentrated on polymer selection (which polymer resin do I select to design a composite structure?), polymer (mechanical) behavior, fatigue and polymer processing.

UNDERGRADUATE TEACHING

CHEM/APPL420 Introduction to Polymers at UNC (spring semester 2017). Undergraduate students are introduced to all aspects of polymer sciences. Where are polymers used, how are they synthesized, why do they behave the way they do, how we process them.

Design Synthesis exercise (DSE) Project-based education in which students work in groups of 10 on an assigned aerospace related design problem for 10 weeks. The DSE concludes their Bachelor training.

ACADEMIC PEER-REVIEWED PUBLICATIONS

1. "High-Temperature Shape Memory Behavior of Novel All-Aromatic (AB)n-Multiblock Copoly(esterimide)s," Guan, Q.; Picken, S.J.; Sheiko, S.S.; **Dingemans, T.J.** *Macromolecules*, **2017**, *50(10),* 3903–3910.
2. "Synthesis and Characterization of Semi-Crystalline Poly(decamethylene terephthalamide) Thermosets," Li, M.; **Dingemans, T.J.** *Polymer*, **2017**, *108*, 372–382.
3. "Flexible All-aromatic Polyesterimide Films with High Glass Transition Temperatures," Guan, Q.; Norder, B.; **Dingemans, T.J.** *J. Appl. Polym. Sci.*, **2017**, DOI: 10.1002/app.44774.
4. "All-Aromatic (AB)n-Multiblock Copolymers via Simple One-Step Melt Condensation Chemistry," Guan, Q.; Norder, B.; Chu, L.; Besseling, N.A.M.; Picken, S.J.; **Dingemans, T.J.** *Macromolecules*, **2016**, *49(22),* 8549–8562.
5. "Charge Transport Through Conjugated Azomethine-based Single Molecules for Optoelectronic Applications," Koole, M.; Frisenda, R.; Petrus, M.L.; Perrin, M.L.; van der Zant, H.S.J.; **Dingemans, T.J.** *Organic Electronics*, **2016**, *34*, 38–41.
6. "Multiple Scattering in Grazing-incidence X-ray Diffraction: Impact on Lattice Constant Determination in Thin Films," Resel, R.; Bainschab, M.; Pichler, A.; **Dingemans, T.J.**; Simbrunner, C.; Stangl, J.; Salzmann, I. *J. Synchrotron Rad.,* **2016**, *23(3)*, 729–734.
7. "High-pressure Sorption of Carbon Dioxide and Methane in All-aromatic Poly(etherimide)-based Membranes," Ogieglo, W.; Madzarevic, Z.P.; Raaijmakers, M.J.T.; **Dingemans, T.J.**; Benes, N.E. *J. Polym. Sci. Part B Polym. Phys.,* **2016**, *54*, 986–993.

8. "Highly Conductive and Thermally Stable Ion Gels with Tunable Anisotropy and Modulus," Wang, Y.; Gao, J.; Yoon, H.G.; Jin, L.; Forsyth, M.; **Dingemans, T.J.**; Madsen, L.A. *Adv. Matter.* **2016**, *28(13),* 2571–2578.
9. "Molecular Ordering in the High-temperature Nematic Phase of an All-aromatic Liquid Crystal," Vita, F.; Hegde, M.; Portale, G.; Bras, W.; Ferrero, C.; Samulski, E.T.; Francescangeli, O.; **Dingemans, T.J.** *Soft Matter*, **2016**, *12(8),* 2309–2314.
10. "Gas Transport in Metal Organic Framework–Polyetherimide Mixed Matrix Membranes: The Role of the Polyetherimide Backbone Structure," Hegde, M.; Shahid, S.; Norder, B.; **Dingemans, T.J.**; Nijmeijer, K. *Polymer,* **2015**, *81*, 87–98.
11. "A Low Cost Azomethine-Based Hole Transporting Material for Perovskite Photovoltaics," Petrus, M.L.; Bein, T.; **Dingemans, T.J.**; Docampo, P. *J. Mater. Chem. A.,* **2015**, *3*, 12159–12162.
12. "Device Performance of Small-Molecule Azomethine-Based Bulk Heterojunction Solar Cells," Petrus, M.L.; Morgenstern, F.S.F.; Sadhanala, A.; Friend, R.H.; Greenham, N.C.; **Dingemans, T.J.**, *Chem. Mater.,* **2015**, *27(8)*, 2990–2997.
13. "Molecular Engineering Room-Temperature Bent-Core Nematics," Glebowska, A.; Vita, F.; Francescangeli, O.; **Dingemans, T.J.**; Samulski, E.T. *Liq. Cryst.,* **2015**, *42(6-6),* 829–839.
14. "Water and Sodium Transport and Liquid Crystalline Alignment in a Sulfonated Aramid Membrane," Gao, J.; Wang, Y.; Norder, B.; Garcia, S.J.; Picken, S.J.; Madsen, L.A.; **Dingemans, T.J.** *J. Membr. Sci.* **2015**, *489*, 194–203.
15. "The Role of Crystallinity in SWCNT-Polyetherimide Nanocomposites," Hegde, M.; Samulski, E.T.; Rubinstein, M.; **Dingemans, T.J.** *Compos. Sci. Technol.* **2015**, *110*, 176–187.
16. "Heteroepitaxy of Organic Nanofibers: Example of Ternaphthalene on *p*-Hexaphenyl," Simbrunner, C.; Schwabegger, G.; Resel, R.; **Dingemans, T.J.**; Quochi, F.; Saba, M.; Mura, A.; Bongiovanni, G.; Sitter, H. *Cryst. Growth Des.,* **2014**, *14(11)*, 5719–5728.
17. "Correlating On-substrate Prepared Electrochromes with their Solution Processed Counterparts – Towards Validating Polyazomethines as Electrochromes in Functional Devices," Mulholland, M.E.; Navarathne, D.; Petrus, M.L.; **Dingemans, T.J.**; Skene, W.G., *J. Mater. Chem. C.,* **2014**, *2(43)*, 9099–9108.
18. "SWCNT Induced Crystallization in Amorphous and Semi-crystalline Poly(etherimide)s and Thermo-mechanical Properties," Hegde, M.; Lafont, U.; Norder, B.; Samulski, E.T.; Rubinstein, M.; **Dingemans, T.J.** *Polymer,* **2014**, *55*, 3746–3757.
19. "Small-molecule Azomethines: Organic Photovoltaics via Schiff Base Condensation Chemistry," Petrus, M.L.; Bouwer, R.K.M.; Lafont, U.; Athanasopoulos, S.; Greenham, N.C.; **Dingemans, T.J.**, *J. Mater. Chem. A.,* **2014**, *2*, 9474–9477.
20. "Non-doped, Blue-emitting, Color-stable, Organic Light-emitting Diode Based on 2,2':6',2"-Ternaphthalene," Schwabegger, G.; **Dingemans, T.J.**; Resel, R.; Sitter, H.; Simbrunner, C., *Appl. Phys. A.,* **2014**, *115*, 731–735.
21. "Molecular Alignment and Ion Transport in Rigid Rod Polyelectrolyte Solutions," Wang, Y.; Gao, J.; **Dingemans, T.J.**; Madsen, L. *Macromolecules,* **2014**, *(47)9*, 2984–2992.
22. "Crystal Structure Determination of Organic Thin-films: the Example of 2,2':6',2"-Ternaphthalene," Resel, R.; Pichler, A.; Neuhold, A.; **Dingemans, T.J.**; Schwabegger, G.; Simbrunner, C.; Moret, M.; Salzmann, I. *Zeitschrift für Kristallographie-Crystalline Materials,* **2014**, *229(5)*, 385–393.
23. "Copper-based Coordination Polymers from Thiophene and Furan Dicarboxylates with High Isosteric Heats of Hydrogen Absorption," Yang, J.; Lutz, M.; Grzech, A.; Mulder, F.M.; **Dingemans, T.J.**, *CrystEngComm.*, **2014**, *16*, 5121–5127.
24. "The Epitaxial Growth of Self-Assembled Ternaphthalene Fibers on Muscovite Mica," Simbrunner, C.; Schwabegger, G.; Resel, R.; **Dingemans, T.J.**; Sitter, H., *Cryst. Growth Des.,* **2014**, *14(2)*, 442–449.
25. "Effect of Long Range van der Waals Interactions on Hydrogen Storage Capacity and Heat of Adsorption in Large Pore Silica's," Grech, A.; Yang, J.; **Dingemans, T.J.**; Mulder, F.M., *Int. J. Hydrogen Energ.,* **2014**, *39(9)*, 4367–4372.

26. "Synthesis and Characterization of New Sulfur Containing Epoxy Networks," Vogel, W.; **Dingemans, T.J.**; Varley, R.J.; Tian, W.; Dao, B.; Tucker, S.; Christensen, S., *High. Perform. Polym.,* **2014**, *26*, 420–435.
27. "Synthesis and Properties of Aligned All-aromatic Liquid Crystal Networks," Iqbal, M.; Picken, S.J.; **Dingemans, T.J.** *High. Perform. Polym.,* **2014**, *26*, 381–391.
28. "The Biaxial Nematic Phase of Oxadiazole Biphenol Mesogens," **Dingemans, T.J.**; Madsen, L.A.; Francescangeli, O.; Vita, F.; Photinos, D.J.; Poon, C.D.; Samulski, E.T., *Liq. Cryst.*, **2013**, *40(12)*, 1655–1677.
29. "On the Tertiary Structure of Poly-Carbenes; Self-assembly of sp3-Carbon-Based Polymers into Liquid Crystalline Aggregates," Franssen, N.M.G.; Ensing, B.; Hegde, M.; **Dingemans, T.J.**; Norder, B.; Picken, S.J.; Alberda van Ekenstein, G.O.R.; van Eck, E.R.H.; Elemans, J.A.A.W.; Vis, M.; Reek, J.N.H., de Bruin, B. *Chemistry–A European Journal*, **2013**, *19(35)*, 11577–11589.
30. "Conjugated Poly(azomethine)s via Simple One-step Polycondensation Chemistry: Synthesis, Thermal and Optoelectronic Properties," Petrus, M.; Bouwer, R.; Lafont, U.; Murthy, K.; Kist, R.; Böhm, M.; Olivier, Y.; Savenije, T.J.; Siebbeles, L.; Greenham, N.C.; **Dingemans, T.J.** *Polym. Chem.,* **2013**, *4,* 4182–4191.
31. "SWCNT Induced Crystallization in an Amorphous All-Aromatic Polyetherimide," Hegde, M.; Lafont, U.; Norder, B.; Picken, S.J.; Samulski, E.T.; Rubinstein, M.; **Dingemans, T.J.** *Macromolecules,* **2013**, *(46)4*, 1492–1503.
32. "The Hydrogen Storage Capacity of Mono-substituted MOF-5 Derivatives: an Experimental and Computational Approach," Yang, J.; Grzech, A.; Mulder, F.; **Dingemans, T.J.** *Micropor. Mesopor. Mat.,* **2013**, *171,* 65–71.
33. "Methoxy-modified MOF-5: a New MOF-5 Framework Prepared via a Mixed Ligand Approach," Yang, J.; Grzech, A.; Mulder, F.; **Dingemans, T.J.** *Eur. J. Inorg. Chem.*, **2013**, *13*, 2336–2341.
34. "All-aromatic Polyetherimide and Polyamide-imide Thin Films Deposited by Infrared Laser Ablation," Dygert, N.L.; Pickel, J.M.; **Dingemans, T.J**.; Haglund, R.F. *High. Perform. Polym.,* **2012**, *24(8)*, 775.
35. "Uniaxial to Biaxial Nematic Phase Transition in a Bent-core Thermotropic Liquid Crystal by Optical Microscopy," Picken, S.J.; **Dingemans, T.J**.; Madsen, L.; Francescangeli, O.; Samulski, E.T. *Liq. Cryst.* **2012**, *39(1)*, 19.
36. "Liquid Crystal Main-chain polymers for High-performance Fiber Applications," Picken, S.J.; Sikkema, D.J.; Boerstoel, H.; **Dingemans, T.J.**; van der Zwaag, S. *Liq. Cryst.* **2011**, *38(11-12)*, 1591.
37. "Irreversible High-temperature Hydrogen Interaction with the Metal Organic Framework Cu3(BTC)2," Grzech, A.; Yang, J.; **Dingemans, T.J**.; Subramanian, S.; Magusin, P.C.M.M.; Mulder, F. *J. Phys. Chem.C.,* **2011**, *115(43)*, 21521.
38. "Thermotropic Liquid Crystalline Polymers as Protective Coatings for Aerospace," Guerriero, G.; Alderliesten, R.; **Dingemans, T.J**.; Benedictus, R. *Progress in Org. Coatings* **2011**, *70(4)*, 245.
39. "High-performance Composites Based on All-aromatic Liquid Crystal Thermosets," Iqbal, M.; **Dingemans, T.J.** *Comp. Sci and Techn.,* **2011**, *71(6)*, 863.
40. "Elucidation of the Orientational Order and the Phase Diagram of p-Quinquephenyl," Kuiper, S.; Norder, B.; Jager, W.; **Dingemans, T.J.**; Picken, S.J. *J. Phys. Chem. B.,* **2011**, *115(6)*, 1416.
41. "Methyl Modified MOF-5: a Water Stable Hydrogen Storage Material," Yang, J.; Grzech, A.; Mulder, F.M.; **Dingemans, T.J.** *Chem. Com.,* **2011**, *47(18)*, 5244.
42. "Sulfonated Liquid Crystalline Polyesters as Resin Matrix for Single Wall Carbon Nanotube and Nanodiamonds," Sordi, D.; de Ruijter, C.; Orlanducci, S.; Picken, S.J.; Sudhölter, E.J.R.; Terranova, M.L., de Smet, L.C.P.M.; **Dingemans, T.J.** *J. Polym. Sci.: Part A: Polym. Chem.* **2011**, *49(5)*, 1079.
43. "Cybotaxis Dominates the Nematic Phase of Bent-core Mesogens: a Small-angle Diffuse X-ray Diffraction Study,"Francescangeli, O.; Vita, F.; Ferrero, C.; **Dingemans, T.J.**; Samulski, E.T. *Soft Matter,* **2011**, *7(3)*, 895.

44. "Synthesis, Characterization and Properties of Branched All-aromatic Liquid Crystal Thermosets," Iqbal, M.; **Dingemans, T.J.** *High. Perform. Polym.,* **2010**, *22(8)*, 891.
45. "High Tg Nematic Thermosets: Synthesis, Characterization and Thermo-mechanical Properties," Iqbal, M.; **Dingemans, T.J.** *Eur. Polym. J.,* **2010**, *46,* 2174.
46. "Rhodium-Mediated Stereospecific Carbene Polymerization: From Homopolymers to Random and Block Copolymers," Jellema, E.; Jongerius, A.L.; van Ekenstein, G.A.; Mookhoek, S.D.; **Dingemans, T.J.**; Reingruber, E.M.; Chojnacka, A.; Schoenmakers, P.J.; Sprenkels, R.; van Eck, E.R.H.; Reek, J.N.H.; de Bruin, B. *Macromolecules*, **2010**, *44(21)*, 8892.
47. "All-aromatic Liquid Crystal Triphenylamine-based Poly(azomethine)s as Hole-transport Materials for Opto-electronic Applications," Hindson, J.C.; Ulgut, B.; Friend, R.H.; Greenham, N.C.; Norder, B.; Kotlewski, A.; **Dingemans, T.J.** *J. Mater. Chem.,* **2010**, *20(5),* 937.
48. "The Synthesis and Characterization of Reactive Poly(*p*-Phenylene terephthalamide)s: a Route Towards Compression Stable Aramid Fibers," Knijnenberg, A.; Bos, J.; **Dingemans, T.J.** *Polymer*, **2010**, *51(9)*, 1887.
49. "All-aromatic Liquid Crystalline Thermosets as High Temperature Adhesives," Iqbal, M.; Knijnenberg, A.; Poulis, H.; **Dingemans, T.J.** *Int. J. Adhesion and Adhesives,* **2010**, *30(8)*, 682.
50. "Liquid Crystal Thermoset Resins for High-temperature Composites and Adhesives," **Dingemans, T.J**.; Iqbal, M. *Plast, Rubber and Compos,* **2010**, *39(3-5)*, 189.
51. "Hydrogen in the Metal-Organic Framework Cr MIL-53," Mulder, F.M.; Assfour, B.; Huot, J.; **Dingemans, T.J.**; Wagemaker, M.; Ramirez-Cuesta, A.J. *J. Phys. Chem.C.,* **2010**, *114(23)*, 10648.
52. "CO_2 Sorption and Transport Behavior of ODPA-based Polyetherimide Polymer Films," Simons, K.; Nijmeijer, K.; Sala, J.G.; van der Werf, H.; Benes, N.E.; **Dingemans, T.J**.; Wessling, M.M. *Polymer*, **2010**, *51(17)*, 3907.
53. "Development of Flexible LEO-Resistant PI Films for Space Applications Using a Self-Healing Mechanism by Surface-Directed Phase Separation of Block Copolymers," Fischer, H.R.; Tempelaars, K.; Kerpershoek, A.; **Dingemans, T.J.**; Iqbal, M.; van Lonkhuyzen, H.; Iwanowsky, B.; Semprimoschnig, C. *ACS Appl. Mater. Interfaces* **2010**, *2(8)*, 2218.
54. "Liquid Crystalline Matrix Polymers for Aramid Ballistic Composites," De Ruijter, C.; van der Zwaag, S.; Stolze, R.; **Dingemans, T.J**. *Polym. Comp.* **2010**, *31(4),* 612.
55. "All-aromatic Liquid Crystalline Thermosets with High Glass Transition Temperatures," Iqbal, M.; Mendes, E.; **Dingemans, T.J.** *J. Polym. Sci.: Part A: Polym. Chem.* **2009**, *47(5)*, 1368.
56. "Liquid Crystalline Properties of all Symmetric *p*-Phenylene and 2,5-Thiophene Pentamers," Kuiper, S.; Jager, W.F.; **Dingemans, T.J.**, Picken, S.J. *Liq. Cryst.* **2009**, *36(4)*, 389.
57. "Asymmetric Oxadiazole Mesogens as Candidates for Low-temperature Biaxial Nematics," Zafiropoulos, N.A.; Lin, W.B.; Samulski, E.T.; **Dingemans, T.J.**; Picken, S.J. *Liq. Cryst.* **2009**, *36(6-7)*, 649.
58. "Kinetics of Fast and Slow Transitions in a Liquid Crystalline Polyimide," van Mourik, P.; Norder, B.; Mendes, E.; **Dingemans, T.J.**; Picken, S.J. *High Perform. Polym.* **2009**, *21(1)*, 16.
59. "Novel Thermotropic Ester-based Polymers with Broad Nematic Processing Windows," De Ruijter, C.; Bos, J.; Boerstoel, H.; **Dingemans, T.J.** *J. Polym. Sci.: Part A: Polym. Chem.* **2008**, *46(19)*, 6565.
60. "The Performance of Novel Polyetherimides in a Low Earth Environment," Stienstra, M.M.; **Dingemans, T.J**.; van Eesbeek, M.; Rohr, T. *High Perform. Polym.* **2008**, *20(4-5)*, 461.
61. "New All-Aromatic Liquid Crystal Architectures." Zafiropoulos, N.; Choi, E-.J.; **Dingemans, T.J.**; Lin, W.; Samulski, E.T. *Chem. Mater.*, **2008**, *20*, 3821.
62. "Hydrogen Adsorption Strength and Sites in the Metal Organic Framework MOF5," Mulder, F.M.; **Dingemans, T.J**.; Kearley, G.J., *Chem. Phys.,* **2008**, *351*, 72.
63. "Poly(ether imide)s from Diamines with *Para*-, *Meta*-, and *Ortho*-Arylene Substitutions: Synthesis, Characterization, and Liquid Crystalline Properties," **Dingemans, T.J.**; Hinkley, J.J.; StClair, T.L. *Macromolecules*, **2008**, *41*, 2474.

64. "All-Aromatic Liquid Crystal Thermosets: New High-Performance Materials for Structural Applications," **Dingemans, T.J.**; Knijnenberg, A.; Iqbal, M. *Liquid Crystals Today*, **2006**, *15(4)*, 19.
65. "Uniaxial and Biaxial Nematic Liquid Crystals," **Dingemans, T.J**.; Madsen, L.A.; Zafiropoulos, N.A.; Samulski, E.T. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences,* **2006***, 364,* 2681.
66. "Synthesis and Characterization of Aryl Ethynyl Terminated Liquid Crystalline Oligomers and their Cured Polymers," Knijnenberg, A.; Weiser, E.S.; StClair, T.L.; **Dingemans, T.J.** *Macromolecules,* **2006***, 39(20)*, 6936.
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68. "Modelling of Hydrogen Absorption in the Metal Organic Framework MOF5," Mulder, F.M.; **Dingemans, T.J**.; Kearley, G.J. *J. Chem. Phys.* **2005**, *317*, 113.
69. "Optical Properties of N,N'-bis (3-phenoxy-3-phenoxy-phenoxy)-1,4,5,8-naphthalenetetra-carboxylic diimide by Spectroscopic Ellipsometry," Yang, D.; Shrestha, R.P.; **Dingemans, T.J**.; Samulski, E.T.; Irene, E.A. *Thin Solid Films,* **2005**, *500 (1-2)*, 9.
70. "The Origin of Heterogeneous Relaxation in a Random Liquid Crystal Thermoset Copolyester," Kearley, G.J.; **Dingemans, T.J**.; Kruglova, O.; Stride, J.; Mulder, F.M. *Macromolecules*, **2004**, *37*, 9855.
71. "Thermotropic Biaxial Nematic Liquid Crystals," Madsen, L.A.; **Dingemans, T.J.**; Nakata, M.; Samulski, E.T. *Phys. Rev. Lett.* **2004**, *42(14)*, 145505.
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75. "The Elusive Thermotropic Biaxial Nematic Phase in Rigid Bent-Core Molecules," Acharya, B.R.; Primak, A.; Kumar, S.; **Dingemans, T.J.**; Samulski, E.T. *Pramana–J. of Physics* **2003**, *61(2)*, 231.
76. "Liquid Crystals Derived from 2-Phenyl-Isoindoles. Synthesis and Characterization," Jow, K.G.; **Dingemans T.J**. *Liquid Crystals*, **2002**, *29*, 573.
77. "Javelins, Hockey Sticks and Boomerang-Shaped Liquid Crystals. Structural Variations on *p*-Quinquephenyl," **Dingemans, T.J**.; Samulski, E.T. *J. Phys. Chem. B.*, **2001**, *105*, 8845.
78. "Nonlinear Boomerang-Shaped Liquid Crystals Derived from 2,5-Bis(*p*-hydroxyphenyl)-1,3,4-oxadiazole," **Dingemans, T.J**.; Samulski, E.T. *Liquid Crystals*, **2000**, *27*, 131.
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80. "Biaxial Smectic Phases in Non-Linear Mesogens: Optical Properties and Phase Behavior of an Oxadiazole Liquid Crystal," Semmler, K.J.K.; **Dingemans, T.J**.; Samulski, E.T. *Liquid Crystals*, **1998**, *24*, 799.
81. "Ferroelectric Liquid Crystals Derived from Isoleucine II. Orientational Ordering by Carbon-13 Separated Local Field Spectroscopy," Chen, A.; Poon, C.-D.; **Dingemans, T.J**.; Samulski, E.T. *Liquid Crystals*, **1998**, *24*, 255.
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BOOK CHAPTERS

- Photinos, D.J.; Terzis, A.F.; Samulski, E.T.; **Dingemans, T.J**.; Chen, A.; Poon, C.-D. Spontaneous

Polarization in Tilted Smectics. In *Dynamics and Defects in Liquid Crystals*; Cladis, P.E., Palffy-Muhoray, P., Eds; Gordon and Breach: Canada, 1998; p 293.

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PATENTS

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