PROF. DR. PAUL DALTON

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SUMMARY

- Scopus H-Index: 38; Citations: 4,073|Google Scholar H-Index: 42; citations: 5,599.
- Pioneered melt electrospinning writing as a new class of additive manufacturing (3D printing).
- Unique experience combining biofabrication, experimental spinal cord surgery, advanced *in vitro* systems, tissue engineering and nanomaterials.
- Invented a novel approach for biomedical hydrogel processing– a start-up company (matRegen) resulted.
- Five years' experience as part of a team taking an artificial cornea to clinical trials.

EMPLOYMENT HISTORY

Dept. of Functional Materials in Medicine and Dentistry, University of Würzburg, Germany **since 2014**
W2 *Professor (Biofabrication)*, Neural Tissue Engineering, 3D Printing, Additive Biomanufacturing*;*

IHBI, Queensland University of Technology, Brisbane, Australia **2009–2015**
Adjunct Associate Professor / Adjunct Professor– Biofabrication; 3D Printing; Nanomedicine;

Tissue Engineering Consulting (based in Hong Kong/Singapore) **2012–2013**

Med-X Research Institute, Shanghai Jiao Tong University, China **2008–2011**
Adjunct Special Senior Research Scientist – Experimental Spinal Cord Surgery;

Nanoear Scientific Consortium, Tampere, Finland **2009**
Project Manager – Nanotherapeutics for the Inner Ear (part-time)

Post-doctoral Experience

University of Southampton, United Kingdom *(w Hugh Perry)* **2005–2008**
Melt Electrospinning; Neuroimmunology; Experimental Spinal Cord Surgery;

RWTH Aachen, Germany *(w Doris Klee/Martin Möller)* **2003–2005**
Nanofibers for Neural Applications; Advanced Hydrogels; Surface Chemistry

University of Toronto, Canada *(w Molly Shoichet)* **1999–2002**
Neural Tissue Engineering; Hydrogel Processing to make Nerve Guides;

Other Experience

Lions Eye Research Institute, Perth, Western Australia *(w Traian Chirila)* **1993–1998**
Research Assistant - Clinical Trials of Artificial Cornea; Hydrogel Synthesis and Chemistry; Ocular Biomaterials;

EDUCATION

Doctor of Philosophy *(supervisor: Traian Chirila)* **1995–1998**
Thesis Title: Poly(vinyl alcohol) as a Potential Vitreous Substitute
Curtin University of Technology, Perth, Australia (Research performed at Lions Eye Research Institute)

Bachelor of Applied Chemistry (Honours – 1st Class) **1994**
Curtin University of Technology, Perth, Australia (Research thesis performed at Lions Eye Research Institute)

Bachelor of Science (Multidisciplinary Science; Materials Science & Applied Chemistry) **1989–1992**
Curtin University of Technology, Perth, Australia

PERSONAL DETAILS

Nationality:	Australian	Date of Birth:	9th February 1971
Marital Status:	Married	Languages:	Native English speaker; Intermediate German; Basic Spoken Mandarin

PERSONAL FELLOWSHIPS

Alexander Von Humboldt Foundation	Postdoctoral Fellowship, Sep 2003-Apr 2005
International Campaign to Cure Paralysis (ICCP)	Outstanding Young Investigator Award, 2005
Wellcome Trust Foundation	Advanced Training Fellowship, Aug 2006-Jul 2008
Hofvijver Visiting Scientist	University Medical Center Utrecht, 2016

PUBLICATIONS (85 published in total)

1. de Ruijter M, Hrynevich A, Haigh JN, Hochleitner G, Castilho M, Groll J, Malda J, **Dalton PD**. Out-of-plane 3D-Printed Microfibers Improve the Shear Properties of Hydrogel Composites. *Small* (accepted).
2. Wang S, **Dalton PD**, Dargaville TR. Spatial Patterning of Hydrogels via 3D Covalent Transfer Stamping from a Fugitive Ink. *Macromol Rapid Comm* (accepted).
3. Bolle E, Nicdao D, **Dalton PD**, Dargaville TR. Production of Scaffolds Using Melt Electrospinning Writing and Cell Seeding. In: *Methods in Molecular Biology*, Springer (accepted).
4. Wunner FM, Onur B, Saidy, NT, **Dalton PD**, Pardo EM, Hutmacher DW (2017) Melt Electrospinning Writing of Three-dimensional Poly(ε-caprolactone) Scaffolds with Controllable Morphologies for Tissue Engineering Applications. *Journal of Visual Experiments* e56289, doi:10.3791/56289.
5. **Dalton PD** (2017) Melt Electrowriting with Additive Manufacturing Principles. *Curr Opin Biomed Eng*, **2**, 49–57.
6. Lühmann TC., Meinel L, Groll J, **Dalton PD** (2017) Electrospun Fibers for Drug Delivery. In: *Comprehensive Biomaterials II*. Ducheyne P, Grainger DW, Healy KE, Hutmacher DW, and Kirkpatrick, C.J. (Eds), Oxford: Elsevier. Vol. 4, 527–548.
7. Haigh JN, Dargaville TD, **Dalton PD**. (2017) Additive Manufacturing with Polypropylene Microfibers. *Mat Sci Eng C,* **77**, 883–887.
8. Muerza-Cascante ML, Shokoomand A, Khosrotehrani K, Haylock D, **Dalton PD**, Hutmacher DW, Lössner D. (2017) Endosteal-like extracellular matrix expression on melt electrospun written scaffolds, *Acta Biomaterialia*, **52**, 145-158.
9. Martine L, Holzapfel BM, Wagner F, Quent VM, Hesami P, Wunner FM, Vaquette C, Juan Pardo E, Brown TD, Nowlan B, L Lévesque JP, **Dalton PD**, Taubenberger AV, Hutmacher DW (2017) Engineering a humanized bone organ in mice to study bone-related malignancies. *Nature Protocols*, **12**, 639-663.
10. Youssef A, Hollister S, **Dalton PD**. (2017) Additive manufacturing of polymer melts for implantable devices and scaffolds. *Biofabrication*, **9**, 012002.
11. Hochleitner G, Youssef A, Hrynevich A, Haigh J, Jüngst T, Groll J, **Dalton PD** (2016) Fibre Pulsing During Melt Electrospinning Writing. *Bionanomaterials*, DOI 10.1515/bnm-2015-0022.
12. Brown TD, **Dalton PD**, Hutmacher DW (2016) Melt Electrospinning Today- An Opportune Time for an Emerging Polymer Process. *Prog Polym Sci, **56**,* 116–166.
13. Weigand A, Boos AM, Tasbihi K, Beier JP, **Dalton PD**, Schrauder M, Horch RE, Beckmann MW, Strissel PL, Strick R. (2016) Selective isolation and characterization of primary cells from control breast and tumors reveal plasticity of adipose derived stem cells. *Breast Cancer Research,* 18:32.

14. Chen F; Hochleitner G, Woodfield T, Groll J, **Dalton PD**, Amsden B (2016) Additive Manufacturing of a Photo-Cross-Linkable Polymer via Direct Melt Electrospinning Writing for Producing High Strength Structures. *Biomacromolecules*, 17, 208–214.
15. Groll J, Boland T, Burdick J, Blunk T, Choo D-W, **Dalton PD**, Derby B, Forgacs G, Li Q, Mironov VA, Moroni L, Nakamura M, Shu W, Takeuchi S, Vozzi G, Woodfield TBF, Xu T, Yoo JJ, Malda J (2016) Biofabrication: Reappraising the definition in an evolving field. *Biofabrication*, **8**, 013001.
16. Haigh JN, Chuang Y-M, Farrugia B, Hoogenboom R, **Dalton PD**, Dargaville TR. (2016) Hierarchically Structured Porous Poly(2-oxazoline) Hydrogels. *Macromol Rapid Comm*, **37**, 93–99.
17. Führmann T, Mousumi G, Otero A, Goss B, Dargaville TR, Pearse DD, **Dalton PD**. (2015) Peptide-functionalized polymeric nanoparticles for active targeting of damaged tissue in animals with experimental autoimmune encephalomyelitis. *Neuroscience Letters*, 602, 126–132.
18. Hochleitner G, Jüngst T, Brown TD, Hahn K, Moseke C, **Dalton PD**, Groll J (2015) Additive Manufacturing with Sub-Micron Melt Electrospun Filaments. *Biofabrication.* **7**, 035002.
19. Jüngst T, Muerza-Cascante ML, Brown TD, Standfest M, Hutmacher DW, Groll J, **Dalton PD**. (2015) Melt Electrospinning onto Cylinders: Effects of Rotational Velocity and Collector Diameter on the Morphology of Tubular Structures. *Polym Int.*, **64,** 1086–1095.
20. Visser J, Melchels FPW, Jeon JE, van Bussel EM, Kimpton LS, Byrne HM, Dhert WJA, **Dalton PD**, Hutmacher DW, Malda J. (2015) Strengthening hydrogels using three-dimensionally printed microfibers. *Nature Communications*, DOI: 10.1038/ncomms7933.
21. **Dalton PD,** Muerza-Cascante ML, Hutmacher DW. (2015) Tissue Engineering Scaffold Design and Fabrication via Melt Electrospinning. In *Electrospinning: Principles, Practice and Possibilities*. GR Mitchell, RCS Publishing, ISBN: 978-1-84973-556-8, pp 100-120.
22. Muerza-Cascante ML, Haylock D, Hutmacher DW, **Dalton PD**. (2015) Melt Electrospinning and Its Technologization in Tissue Engineering. *Tissue Engineering B Rev*. **21**, 187-202.
23. **Dalton PD**, Harvey AR, Oudega M, Plant GW (2015) Chapter 17: Tissue Engineering of the Nervous System, in Tissue Engineering. 2nd Edition, De Boer & Van Blitterswijk, Academic Press. ISBN 9780124201453, pp 583-625.
24. Hutmacher DW, Woodfield T, **Dalton PD** (2015) Chapter 10: Scaffold Design and Fabrication. In *Tissue Engineering*. 2nd Edition, De Boer & Van Blitterswijk, Academic Press. ISBN 9780124201453, pp 311-346.
25. Brown TD, Edin F, Detta N, Skelton AD, Hutmacher DW, **Dalton PD**. (2014) Melt electrospinning of poly(ε-caprolactone) scaffolds: phenomenological observations associated with collection and direct writing. *Mater Sci Eng C,* **45**, 698–708.
26. Thibaudeau L, Taubenberger AV, Holzapfel BM, Quent VM, Führmann T, Hesami P, Brown TD, **Dalton PD**, Power CA, Hollier B, Hutmacher DW. (2014) A tissue engineered humanized xenograft model of human breast cancer metastasis to bone, *Dis Mod Mech*, **7**, 299–309.
27. Li HY, Führmann T, Zhou Y, **Dalton PD**. (2013) Host reaction to poly(2-hydroxyethyl methacrylate) scaffolds in a small spinal cord injury model. *J Mat Sci Mater Med,* **24**, 2001-2011.
28. Volpatto F, Führmann T, Migliaresi C, Hutmacher DW, **Dalton PD**. (2013) Using extracellular matrix for regenerative medicine in the spinal cord. *Biomaterials,* **34**, 4945-55.
29. Farrugia B, Brown TD, Hutmacher DW, Upton Z, **Dalton PD**, Dargaville TR. (2013) Dermal fibroblast infiltration of poly(ε–caprolactone) scaffolds fabricated by melt electrospinning in a direct writing mode. *Biofabrication,* **5**, 025001.
30. Shulte VA, Alves DF, **Dalton PD**, Möller M, Lensen MC, Mela P (2013) Microengineered PEG hydrogels: 3D scaffolds for guided cell growth, *Macromol Biosci*, **13**, 562–572.
31. **Dalton PD**, Vaquette C, Farrugia B, Dargaville TR, Brown TD, Hutmacher DW. (2013) Electrospinning and Additive manufacturing: converging technologies. *Biomater Sci,* **1**, 171.
32. Garland P, Broom LJ, Quraishe S, **Dalton PD**, Newman TA, Perry VH. (2012) Soluble axoplasm enriched from injured CNS axons reveals the early modulation of the actin cytoskeleton. *PLoS ONE,* 7, e47552.

33. Brown TD, Vaquette C, Hutmacher DW, **Dalton PD** (2012) Electrospinning for Regenerative Medicine. In Dumitriu, S. and Popa, V. (Eds.), *Polymeric Biomaterials: Structure and Function,* Vol. 1, pp 539-592. Boca Raton, FL: CRC Press.
34. Brown TD, Slotosch A, Thibaudeau L, Taubenberger A, Loessner D, Vaquette C, **Dalton PD**, Hutmacher DW. (2012) Design and fabrication of tubular scaffolds by direct writing in a melt electrospinning mode. *Biointerphases*, **7**, 13, DOI 10.1007/s13758-011-0013-7.
35. Brown TD, **Dalton PD**, Hutmacher DW. (2011) Direct Writing by Way of Melt Electrospinning. *Adv Mater*, **23**, 5651-57.
36. Cui W, Chang J, **Dalton PD** (2011) Electrospun Fibers for Drug Delivery. In P.Ducheyne, K.E. Healy, D.W. Hutmacher, D.W. Grainger, C.J. Kirkpatrick (eds.). *Comprehensive Biomaterials* vol. 4, pp. 445-462 Elsevier.
37. Cipitria A, Skelton A, Dargaville TR, **Dalton PD,** Hutmacher DW. (2011) Design, Fabrication and Characterization of PCL Electrospun Scaffolds – A Review. *J Mater Chem*. DOI: 10.1039/c0jm04502k
38. Hutmacher DW & **Dalton PD** (2011) Melt Electrospinning. *Chem Asian J*, **6**, 44-56.
39. Detta N, Brown T, Edin FK, Albrecht K, Chiellini F, Chiellini E, **Dalton PD**, Hutmacher DW (2010) Melt electrospinning of poly(ε-caprolactone) and its blends with poly(ethylene glycol). *Polym Int*, **59**, 1558-62.
40. Grafahrend D, Heffels K-H, Beer M, Gasteier P, Möller M, Boehm G, **Dalton PD**, Groll J (2011) Degradable polyester scaffolds with controlled surface chemistry combining minimal protein adsorption with specific bioactivation. *Nature Mater,* **10**, 67-73.
41. Johnston AH, **Dalton PD**, Newman TA (2010) Polymersomes, smaller thank you think: ferrocene as a TEM probe to determine core structure*. J Nanopart Res*, DOI 10.1007/s11051-010-9886-5.
42. **Dalton PD,** Woodfield T, Hutmacher DW (2009) Snapshot: Polymer scaffolds for tissue engineering. *Biomaterials*, **30**, 701-702.
43. Klinkhammer K, Seiler N, Grafahrend D, Gerardo Nava J, Mey J, Brook GA, Möller M, **Dalton PD**, Klee D (2009) Deposition of electrospun fibers on reactive substrates for *in vitro* investigations. *Tissue Eng Part C*, **15**, 77-85.
44. Gerardo Nava J, Klinkhammer K, Seiler N, Mey J, Klee D, Möller M, **Dalton PD**, Brook GA (2009) Neural and glial interactions with electrospun nanofibers *in vitro. Nanomedicine*, **4**, 11-30.
45. **Dalton PD** & Mey J (2009) Neural interactions with materials. *Front Biosci*, **14**, 769-795.
46. **Dalton PD**, Jörgensen N, Groll J, Möller M (2008) Patterning of melt electrospun substrates for tissue engineering. *Biomed Mater,* **3**, 034139.
47. **Dalton PD**, Hostert C, Albrecht K, Möller M, Groll J (2008) Structure and properties of urea crosslinked star poly(ethylene glycol-ran-propylene oxide) hydrogels. *Macromol Biosci,* **8**, 923-931.
48. Grafahrend D, Lleixa Calvet J, Klinkhammer K, Salber J, **Dalton PD**, Möller M, Klee D (2008) Control of protein adsorption on functionalized electrospun fibers. *Biotech Bioeng,* **101***,* 609-621.
49. Anderson M, Johnston AH, Newman TA, **Dalton PD**, Rask-Andersen H (2008) Internalization of nanoparticles into spiral ganglion cells. *J Nanoneurosci,* **1**, 1-10.
50. Hutmacher DW, Woodfield T, **Dalton PD**, Lewis JA (2008) Scaffold Design and Fabrication in *Tissue Engineering.* J De Boer, C Van Blitterswijk, P Thomsen, A Lindahl, J Hubbell, D Williams, R Cancedda, J de Bruijn and J Sohier (Ed.) Academic Press. p403-450.
51. **Dalton PD,** Harvey AR, Oudega M, Plant GW (2008) Tissue Engineering of the Nervous System, in *Tissue Engineering.* J De Boer, C Van Blitterswijk, P Thomsen, A Lindahl, J Hubbell, D Williams, R Cancedda, J de Bruijn and J Sohier (Ed.) Academic Press. p611-647.
52. Grafahrend D, Lleixa Calvet J, Salber J, **Dalton PD**, Möller M, Klee D (2008) Biofunctionalised nanofibers based on resorbable poly(ethylene glycol)-*b*-polyesters for tissue engineering. *J Mater Sci Mater Med,* **19**, 1479-1484.
53. Schnell E, Klinkhammer K, Balzer S, Brook G, Klee D, **Dalton PD**, Mey J (2007) Guidance of glial cell migration and axonal growth on electrospun nanofibers of poly(ε-caprolactone) and a collagen/poly(ε-caprolactone) blend. *Biomaterials*, **28**, 3012-3025.

54. **Dalton PD**, Grafahrend D, Klinkhammer K, Klee D, Möller M (2007) Electrospinning of polymer melts: phenomenological observations. *Polymer*, **48**, 6823-6833.
55. Schäfer K, Thomas H, **Dalton PD**, Möller M (2007) Nanofibres for filter materials in Multifunctional Barriers for Flexible Materials, S Duquesne, C Magniez & G Camino (Eds.) Springer-Verlag, Heidelberg, Vol 97, Chapter 7, S. 125-138.
56. **Dalton PD**, Calvet J-L, Mourran A, Klee D, Möller M (2006) Melt Electrospinning of poly(ethylene oxide-*block*-ε-caprolactone). *Biotechnol J*, **1**, 998-1006.
57. Tsai E, **Dalton PD**, Shoichet MS, Tator CH (2006) Matrix inclusion within synthetic hydrogel guidance channels improves specific supraspinal and local axonal regeneration after complete spinal cord transaction. *Biomaterials,* **27**, 519-533.
58. **Dalton PD,** Klinkhammer K, Salber J, Klee D, Möller M (2006) Direct in vitro electrospinning with polymer melts. *Biomacromol*, **7**, 686-690.
59. **Dalton PD**, Klee D, Möller M (2005) Electrospinning with dual collection rings. *Polymer*, 46, 611-614.
60. Tsai E, **Dalton PD**, Shoichet MS, Tator CH (2004) Synthetic guidance channels facilitate regeneration of adult rat brainstem motor axons after complete spinal cord transection. *J Neurotrauma*, **21**, 789-804.
61. Midha, R, Munroe CA, **Dalton PD**, Shoichet MS, Tator CH (2003) Growth factor enhancement of peripheral nerve regeneration through a novel synthetic hydrogel tube**.** *J Neurosurg,* **99**, 555-565.
62. Flynn L, **Dalton PD**, Shoichet MS (2003) Fiber templating of poly(2-hydroxyethyl methacrylate) for neural tissue engineering. *Biomaterials,* **23**, 4265-4272.
63. Karp, JM, **Dalton PD,** Shoichet MS: "Scaffolds for Tissue Engineering" MRS Bulletin on Cellular Solids, 28: 301-306, 2003.
64. **Dalton PD**, Flynn L, Shoichet MS (2002) Manufacture of poly(2-hydroxyethyl-co-methyl methacrylate) hydrogel tubes for use as nerve guidance channels. *Biomaterials*, **22**, 3843-3851.
65. Luo Y, **Dalton PD**, Shoichet MS (2001) Novel poly(HEMA-MMA) hydrogel hollow fiber membranes: morphology and properties. *Chem Mater,* **13**, 4087-4093.
66. **Dalton PD**, Vijayasekaran S, Shoichet MS: Processing of Polymer Scaffolds: Polymerization. In *Methods of Tissue Engineering*, Academic Press, San Diego, CA, 725-731, 2001.
67. **Dalton PD**, Shoichet MS (2001) Creating porous tubes by centrifugal forces for soft tissue applications. *Biomaterials*, **21**, 2661-2669.
68. Midha R, Shoichet MS, **Dalton PD**, Cao X, Munro CA, Noble J, Wong MKK (2001) Tissue engineered alternatives to nerve transplantation for repair of peripheral nervous system injuries. *Transplant Proc*, **33**, 612-615.
69. Lou X, **Dalton PD**, Chirila TV (2000) Hydrophilic sponges based on 2-hydroxyethyl methacrylate. VII. Modification of sponge characteristics by changes in reactivity and hydrophilicity of crosslinking agents*. J Mater Sci Mater Med*, **11**, 319-325.
70. Hicks CR, Crawford G, Chirila TV, Wiffen S, Vijayasekaran S, Lou X, Fitton JH, Maley M, Clayton AB, **Dalton PD**, Platten S, Ziegelaar B, Hong Y, Russo A, Constable IJ (2000) Development and clinical assessment of an artificial cornea. *Prog Retin Eye Res*, **19**, 149-170.
71. Chirila TV, Higgins B, **Dalton PD** (1998) The effect of synthesis conditions on the properties of poly(2-hydroxyethyl methacrylate) sponges. *Cell Polym*, **17**, 141-162**.**
72. Chirila TV, Hicks CR, **Dalton PD**, Vijayasekaran S, Lou X, Hong Y, Clayton AB, Ziegelaar BW, Fitton JH, Platten S, Crawford G, Constable IJ (1998) Artificial cornea. *Prog Polym Sci*, **23**, 447-473.
73. Chirila TV, Hong Y, **Dalton PD**, Constable IJ, Refojo MF (1998) The use of hydrophilic polymers as artificial vitreous. *Prog Polym Sci,* **23**, 475-508.
74. Hong Y, Chirila TV, Vijayasekaran S, Shen W, Lou X, **Dalton PD** (1998) Biodegradation *in vitro* and retention in the rabbit eye of crosslinked poly(1-vinyl-2-pyrrolidinone) hydrogel as a vitreous substitute. *J Mater Sci Mater Med*, **39**, 650-659.

75. Hicks CR, Chirila TV, Clayton AB, Fitton H, Vijayasekaran S, **Dalton PD**, Lou X, Platten S, Ziegelaar BW, Hong Y, Crawford GJ, Constable IJ (1998) Clinical results of implantation of the Chirila keratoprosthesis in rabbits. *Br J Ophthalmol*, **82**, 18-25.
76. Clayton AB, Chirila TV, **Dalton PD** (1997) Hydrophilic sponges based on 2-hydroxyethyl methacrylate. III. Effect of incorporating a hydrophilic crosslinking agent on the equilibrium water content and pore structure. *Polym Int*, **42**, 45-56.
77. Hicks CR, Chirila TV, **Dalton PD**, Clayton AB, Vijayasekaran S, Crawford GJ, Constable IJ (1996) Keratoprosthesis: preliminary results of an artificial corneal button as a full-thickness implant in the rabbit model. *Aust NZ J Ophthalmol*, **24**, 297-303.
78. Chirila TV, Hong Y, **Dalton PD**, Artificial Vitreous Body in *The Polymeric Materials Encyclopedia: Synthesis, Properties and Applications*, J.C. Salamone (Ed.), CRC Press, Boca Raton, FL, 8619-26, 1996.
79. Crawford GJ, Chirila TV, Vijayasekaran S, **Dalton PD**, Constable IJ (1996) Preliminary evaluation of a hydrogel core-and-skirt keratoprosthesis in the rabbit cornea. *J Refract Surg,* **12**, 525-529.
80. Hong Y, Chirila TV, Vijayasekaran S, **Dalton PD**, Tahija SG, Cuypers MJH, Constable IJ (1996) Crosslinked poly(1-vinyl-2-pyrrolidinone) as a vitreous substitute. *J Biomed Mater Res*, **30**, 441-448.
81. Vijayasekaran S, Chirila TV, Hong Y, Tahija S, **Dalton PD**, Constable IJ, McAllister I (1996) Poly(1-vinyl-2-pyrrolidinone) hydrogels as vitreous substitutes: Histopathological evaluation in the animal eye, *J Biomater Sci Polym Ed.,* **7**, 685-696.
82. **Dalton PD**, Jefferson A, Hong Y, Chirila TV, Vijayasekaran S, Tahija S (1995) Fourier transform infrared spectrometry as a tool to assess the retention of polymeric vitreous substitutes. *Bio-Med Mater Eng*, **5**, 185-193.
83. **Dalton PD**, Chirila TV, Hong Y, Jefferson A (1995) Oscillatory shear experiments as criteria for potential vitreous substitutes. *Polym Gels & Netw*, **3**, 429-444.
84. Chirila TV, Constable IJ, Hong Y, Vijayasekaran S, Humphrey M, **Dalton PD**, Tahija SG, Maley ML, Cuypers MH, Sharp C, Moore SR, Vague MJ (1995) Synthetic hydrogel as an artificial vitreous body - A one year animal study of its effects on the retina. *Cell Mater*, **5**, 83-96.
85. Chirila TV, Vijayasekaran S, Horne R, Chen Y-C, **Dalton PD**, Constable IJ, and Crawford GJ (1994) Interpenetrating polymer network (IPN) as a permanent joint between the elements of a new type of artificial cornea. *J Biomed Mater Res*, **28**, 745-753.

PATENTS

1) European Patent WO/2004/071736 **Dalton PD**, Shoichet MS, Levesque SG, Freier T, Chung W. "Method of producing structures using centrifugal forces." 2004.
2) US Patent 6969480 **Dalton PD**, Shoichet MS, Levesque S, Freier T. "Method of producing structures using centrifugal forces." 2004.
3) US Patent 6787090 **Dalton PD** and Shoichet MS. "Method of producing structures using centrifugal forces." 2004.
4) European Patent WO/2001/085417 **Dalton PD** and Shoichet MS. "Method of producing structures using centrifugal forces." 2001.

DEPARTMENTAL SEMINARS (External)

- "High Resolution Electrohydrodynamic Additive Manufacturing Technologies", ETH Zurich, Switzerland, Feb 2017.
- "Materials and the Neurosciences: New Directions with Old Challenges", University of Utrecht Medical School, Netherlands, Jan 2016.
- "The Writing is on the Wall: How Three-Dimensional Printing Could Affect Medicine". National University of Health Singapore, March 2013.

- "Melt Electrospinning Using Additive Manufacturing Principles to Produce Tissue Engineering Scaffolds" NUS, Singapore, October 2012.
- "Melt Electrospinning New Medical Products using Additive Manufacturing Principles" CSIRO, Melbourne, Australia, October 2012.
- "Additive Manufacturing and Electrospinning – Complex Materials for Medical Challenges" Chinese University of Hong Kong, Hong Kong, March 2012.
- "Materials and the Neurosciences: Building Bridges between Disciplines" Hong Kong University of Science and Technology, Hong Kong, February 2012.
- "Keeping Promises: How Electrospinning will Aid Tissue Engineering in the 21st Century". Hong Kong University, Hong Kong, February 2012.
- "Bioactive and Protein Resistant Electrospun Fibers for Tissue Engineering", Department of Medicine, University of Otago, Christchurch, New Zealand, November 2010.
- "Advancing Electrospun Fibers for Tissue Engineering", University of Ottawa, Canada, May 2010.
- "Functional and Protein Resistant Electrospun Fibers as Three-Dimensional Tissue Engineering Scaffolds", University of Toronto, Canada, May 2010.
- "Controlled Surface Interactions of Nanoscale Objects for Neural Tissue Engineering" University of Jyväskylä, Finland, March 2009.
- "Inflammatory Reactions to Tissue Engineering Scaffolds within the Spinal Cord" IHBI, Queensland University of Technology, Australia, August 2008.
- "Electrospun Substrates for Tissue Engineering" Donghua University, Shanghai, China, August 2008.
- "Regenerative Capacities for Materials in the Central Nervous System" Shanghai Jiao Tong University, Shanghai, China, February 2008.
- "Melt and Solution Electrospinning for Tissue Engineering", Mahidol University, Bangkok, Thailand, February 2008.
- "Materials for Tissue Engineering and Regenerative Medicine" Open University, Milton Keynes, United Kingdom, January 2007.
- "Tissue Engineering Scaffolds for Spinal Cord Injury", Miami Project to Cure Paralysis, Miami, USA, April 2002.
- "Designing Medical Devices and Models for the Nervous System", Dept of Chemical Engineering, McMaster University, Canada, April 2002.

SELECTED CONFERENCE PRESENTATIONS

(Complete List available on Request - total 60 self-presenting; 114 total)

- **Dalton PD**. Melt Electrospinning Writing as a New Additive Biomanufacturing Technology. World Biomaterials Congress, Montreal, Canada, May 2016 (keynote).
- **Dalton PD**, Hochleitner G, Jüngst T, Brown TD Hutmacher DW Groll J. Accurate 3D Printing of Scaffolds Using Melt Electrospinning, TERMIS AP, Daegu, Korea, September 2014.
- **Dalton PD**. The New Kid on the Block: Melt Electrospinning Writing as a 3D Printing Technology, 3D Bioprinting Symposium, Dublin, May 2014 (invited)
- **Dalton PD**. 3D Printing using Melt Electrospinning. *Electrospinning, Principles, Possibilities and Practice 2013*, London, UK, December 2013 (invited).
- **Dalton PD**. Three-dimensional Writing of Polymeric Filaments for Tissue Engineering. *EMBC IEEE Meeting*, Osaka, Japan, July 2013 (keynote).
- Brown TD, Farrugia BL, Slotosch A, Thibaudeau L, Taubenberger A, Dargaville TR, Hutmacher DW, **Dalton PD**. Melt Electrospinning Writing: An Emerging Technology to Produce Scaffolds for Regenerative Medicine, *ICCBM3*, Singapore, November 2012.
- Brown TD, Slotosch A, Fuehrmann T, Hutmacher DW, **Dalton PD**. Electrospinning writing as a new method to produce complex microporous scaffolds for tissue engineering. 9th *World Biomaterials Congress*, Chengdu, China, June 2012.

- **Dalton PD**, Detta N, Brown T, Taubenberger A, Hutmacher DW. Melt Electrospinning for Tissue Engineering. *Australian Society for Biomaterials and Tissue Engineering*. Brisbane, Australia, February 2010 (keynote).
- **Dalton PD,** Mikailov A, Talvitie E, Rosenholm J, Paavilainen K, Kellomaki M, Lindén M, Pyykkö I. High throughput analysis of binding and internalization dynamics of nanoparticles. *Euronanomedicine 2009*, Lake Bled, Slovenia, September 2009.
- **Dalton PD**, Klinkhammer K, Schnell E, Mey J, Klee D, Brook G, Möller M. Electrospun nanofiber substrates for neuronal and glial guidance. *Regenerate 2007 – TERMIS North American Meeting*, Toronto, June 2007.
- **Dalton PD,** Hydrogel nerve guides for fully transected spinal cords. British Tissue Engineering Network – Tissue Engineering for Nerve Regeneration. London, June 2006 (co-organizer of meeting w John Priestley).
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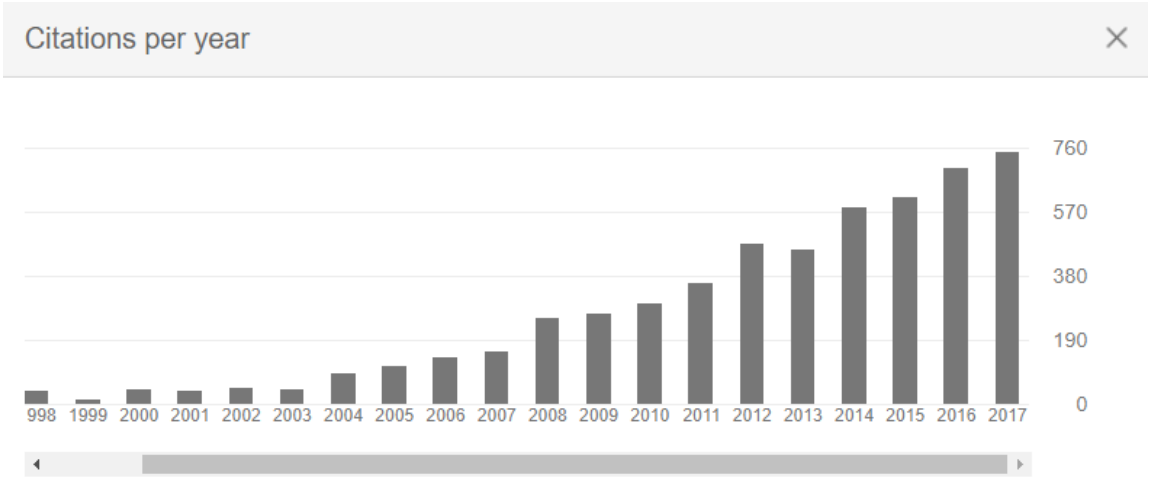

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