



Dr. DENNIS DOUROUMIS
Professor in Pharmaceutical Technology & Process Engineering

Work: **University of Nicosia**
29th Street, No 17,
Elliniko 167 77, Athens, Greece

Positions

2025- to date: Professor in Pharmaceutical Technology and Process Engineering, University of Nicosia
2015 - 2025: Professor in Pharmaceutical Technology and Process Engineering, University of Greenwich
2018 – 2019: Head of Medway School of Pharmacy
2012 – 2015: Reader in School of Science, University of Greenwich.
2012 – 2014: Board member of Academy of Pharmaceutical Sciences (APS)
2007 – 2012: Senior Lecturer in School of Science, University of Greenwich.
2005–2007: R&D Project Manager, Product Development Department, Phoqus Pharmaceuticals Plc.
2004 -2005: Team Leader, Biolitec Pharma AG, Jena, Germany
2002-2004: Postdoctoral Research Fellow, School of Pharmacy, Friedrich-Schiller-University, Germany
2001 - 2002: Military Services, Army Transportation Division

Education

2007–2008: Postgraduate Certificate in Higher Education (PGCert), University of Greenwich
1996–2000: PhD, School of Pharmacy, University of Patras, Greece.
1991-1996: BSc (Chem), Department of Chemistry, University of Patras, Greece.

Awards

2024: Molecular Pharmaceutics (ACS) early career best paper award (Tabriz et.al.)
2020: MedFit Fostering Innovation in MedTech: “Award of the most promising technology”, 7 – 10th December, France
2020: AAPS Pharmaceutical Research Meritorious Manuscript Award, 2020 PharmSci 360 Meeting
2019: Eminent Fellowship of the Academy of Pharmaceutical Sciences, 10th UK-PharmSci., Pharmaceutical Science in a Changing World, 11th – 13th September
2017: Award Lecture “Outstanding Scientific Contribution” sponsored by AstraZeneca, 8th UK-PharmSci., The Science of Medicines, 5th – 7th September
2010: Poster award for “Size Tunable Conjugated CdS Quantum Dots with High Photoluminescence Yield”. UK-PharmSci 2010, The Science of Medicines, 1 – 3 September, UK

Member of Scientific Societies

- Academy of Pharmaceutical Sciences (APS – UK)
- American Association of Pharmaceutical Sciences (AAPS)
- The Higher Education Academy (UK)
- Greek Chemists Association (Greece)

External Examiner

2018– 2023: MSc in Drug Delivery for the SIPBS, University of Strathclyde
2015 – 2023: MSc in Continuous Manufacturing and Crystallization course for the SIPBS, University of Strathclyde

Management & administration

- **2018 – to date:** Interim Head of Medway School of Pharmacy
- **2015 – to date:** Director of Pharmaceutical Sciences and Medicinal Chemistry group
- **2013 – to date:** Director of the Centre for Innovation and Process Engineering Research
- **2010– to date:** Member of the Research & Enterprise Investment Programme of UoG

Book Editions

1. 3D Printing of Pharmaceuticals and Drug Delivery Devices: Progress from Bench to Bedside D Lamprou, D Douroumis, S Qi (2023)
2. John Wiley & Sons Inc. Hot Melt Extrusion: Pharmaceutical Applications, Wiley – Blackwell (2012)
3. Solubility strategies of water insoluble drugs, Wiley – Blackwell (2012)

Editions of Special Issues

1. “Nanotechnology Advances in Cancer Treatment”. **Pharmaceutics** 2024. Editors: D Lamprou, D. Douroumis
2. “3D printing in Pharmacological and Pharmaceutical Sciences in the **Journal of Pharmacy and Pharmacology**. Editors: D. Douroumis, D. Lamprou, D. Jones, G. Andrews.
3. “Microneedles” in **Micromachines** (MDPI), Editors: Prof Douroumis and Prof Donnelly (2020)
4. “3D printing of pharmaceutical and medical applications: a new era” in **Pharmaceutical Research** (2018)
5. “Engineering of pharmaceutical cocrystals, salts and polymorphs: Advances and Challenges” in **Advanced Drug Delivery Reviews** (with Prof. Ali Nokhodchi, 2017)
6. “Microneedles for Drug & Vaccine Delivery and Patient Monitoring” in **Drug Delivery and Translational Research** (with Prof. Ryan Donnelly, 2015)
7. “Extrusion Applications: Continuous Manufacturing” in the **International Journal of Pharmaceutics** (2015)

Publications (Google Scholar h-index: 62)

1. Printability of Pharmaceutical-Grade Polymers using Selective Laser Sintering with a CO₂ Laser. Tabriz A, Junqueira LA, Kolipaka SS, Hui HW, Boersen N, Roberts S, Jones J, Douroumis D. **AAPS PharmSciTech**. 2025, 26(5):144
2. Quality by Design (QbD) Liposomes engineering using 3D printed Tesla microfluidic arrays. Rahali K., Tabriz AG., Douroumis D. **J. Liposome Res**, 2025, (accepted)
3. Tabriz A., Junqueira LA., Kolipaka SK., Hui HW., Boersen N., Roberts S., Jones J, Douroumis D. Printability of Pharmaceutical-Grade Polymers using Selective Laser Sintering with a CO₂ Laser. **AAPS PharmSciTech**, 2025 (accepted)
4. Fabrication and characterization of dissolving microneedles combining Digital Light Processing and vacuum compression molding technique for the transdermal delivery of rivastigmine. Monou PK, Saropoulou E, Junqueira LA, Kolipaka SS, Andriotis EG, Tzimtzimis E, Tzetzis D, Bekiari C, Bouropoulos N, Harding B, Katsamenis OL, Bramböck A, Treffer D, Douroumis D, Fatouros DG. **Eur J Pharm Biopharm**. 2025, 114687
5. Selective laser sintering for printing bilayer tablets. Junqueira LA, Tabriz AG, Garg V, Kolipaka SS, Hui HW, Boersen N, Roberts S, Jones J, Douroumis D. **Int J Pharm**. 2025 670:12511
6. A quality by design strategy for cocrystal design based on novel computational and experimental screening strategies: part A. Ross SA, Ward A, Basford P, McAllister M, Douroumis D. **Drug Deliv Transl Res**. 2024
7. Islet cell spheroids produced by a thermally sensitive scaffold: a new diabetes treatment. Yao X, Gong Z, Yin W, Li H, Douroumis D, Huang L, Li H. **J Nanobiotechnology**. 2024, 22(1):657
8. Sustained release of 3D printed bupropion hydrochloride tablets bearing Braille imprints for the visually impaired. Protopapa C, Siamidi A, Junqueira LA, Kolipaka S, Tabriz AG, Douroumis D, Vlachou M. **Int J Pharm**. 2024, 663:124594
9. 3D-Printed Melatonin Tablets with Braille Motifs for the Visually Impaired. Protopapa C, Siamidi A, Sakellaropoulou A, Kolipaka S, Junqueira LA, Tabriz AG, Douroumis D, Vlachou M. **Pharmaceutics** (Basel). 2024, 17(8):1017
10. Monoclonal Antibody Delivery Using 3D Printed Biobased Hollow μ Needle Arrays for the Treatment of Osteoporosis. Uddin MJ, Economidou SN, Guiraud L, Kazi M, Alanazi FK, Douroumis D. **Mol Pharm**. 2024, 21(9):4465-447
11. An Advanced Twin-Screw Granulation Technology: The use of Non-Volatile Solvents with High Solubilizing Capacity. Kolipaka SS, Junqueira LA, Ross S, Garg V, Mithu MSH, Bhatt S, Douroumis D. **AAPS PharmSciTech**. 2024, 25(6):174
12. Screening, Synthesis, and Characterization of a More Rapidly Dissolving Celecoxib Crystal Form. O'Sullivan A, Spoletti E, Ross SA, Lusi M, Douroumis D, Ryan KM, Padrela L. **ACS Omega**. 2024, 9(27):29710-29722
13. In Vitro Profile of Hydrocortisone Release from Three-Dimensionally Printed Paediatric Mini-Tablets. Protopapa C, Siamidi A, Kolipaka SS, Junqueira LA, Douroumis D, Vlachou M. **Pharmaceutics**. 2024, 16(3):385
14. Personalised oral dosage forms using an ultra-compact tablet press at the point of care. Krause I, Manigk R, Lopez EA, Douroumis D. **Eur J Pharm Biopharm**. 2024, 197:114220
15. Exosome-like genistein-loaded nanoparticles developed by thin-film hydration and 3D-printed Tesla microfluidic chip: A comparative study. Tsakiri M, Ghanizadeh Tabriz A, Naziris N, Rahali K, Douroumis D, Demetzos C. **Int J Pharm**. 2024, 651:123788

16. Twin-screw melt granulation for high-dose paracetamol tablets SA Ross, MS Mithu, D Douroumis. **RPS Pharm. and Pharmac.** Reports. 2024 3 (1)
17. Optimization of Hot-Melt Extrusion Processing for the Synthesis of Ionic Cocrystals D Šilić, B Cetina-Čizmek, SA Ross, A Hurt, M Antonijevic, D. Douroumis **Crystal Growth & Design**.
18. One-step synthesis of a drug-drug cocrystal hydrate using Hot Melt Extrusion Dunja Šilić, Biserka Cetina-Čizmek, Milan Antonijevic, Dennis Douroumis. **Cryst. Growth Des.** 2024, 24, 19, 8044–8055
19. Three-Dimensionally Printed Vaginal Rings: Perceptions of Women and Gynecologists in a Cross-Sectional Survey LA Junqueira, FJ Raposo, GSF Vitral, AG Tabriz, D Douroumis, **Pharmaceutics** 15 (9), 230
20. 3D printing of personalised Carvedilol tablets using selective laser sintering. AG Tabriz, Q Gonot-Munck, A Baudoux, V Garg, R Farnish, D Douroumis. **Pharmaceutics** 15 (9), 2230
21. Solid lipid nanoparticles: An effective lipid-based technology for cancer treatment M Akanda, MDSH Mithu, D Douroumis **J. Drug Deliv. Sci. and Techn.**, 104709
22. Selective Laser Sintering for printing pharmaceutical dosage forms AG Tabriz, H Kuofie, J Scoble, S Boulton, D Douroumis **J. Drug Deliv. Sci. and Techn.**, 104699
23. 3D printed composite dressings loaded with human epidermal growth factor for potential chronic wound healing applications JS Boateng, F Hafezi, AG Tabriz, D Douroumis **J. Drug Deliv. Sci. and Techn.**, 104684
24. 3D Printed Flavor-Rich Chewable Pediatric Tablets Fabricated Using Microextrusion for Point of Care Applications. AG Tabriz, HW Hui, N Boersen, S Roberts, J Jones, D Douroumis. **Molecular Pharmaceutics**
25. 3D printing of LEGO® like designs with tailored release profiles for treatment of sleep disorder AG Tabriz, MS Mithu, MD Antonijevic, L Vilain, Y Derrar, C Grau, ... **Int. J. Pharm.** 632, 122574
26. Development of printable inks for 3D printing of personalized dosage forms: Coupling of fused deposition modelling and jet dispensing. LA Junqueira, AG Tabriz, F Rousseau, NRB Raposo, MAF Brandão, D Douroumis. **J. Drug Deliv. Sci. and Techn** 80, 104108
27. Development of 3D printable bioresorbable drug eluting coronary stents: An experimental and computational investigation. MI Okereke, R Khalaj, AG Tabriz, U Nandi, N Scoutaris, D Douroumis. **J. Drug Deliv. Sci. and Techn** 79, 103952
28. Thermal Inkjet Printing: Prospects and Applications in the Development of Medicine MJ Uddin, J Hassan, D Douroumis. **Technologies** 10 (5), 108
29. Personalised paediatric chewable Ibuprofen tablets fabricated using 3D micro-extrusion printing technology AG Tabriz, U Nandi, N Scoutaris, K Sanfo, B Alexander, Y Gong, HW Hui, **Int. J. Pharm.**, 626, 12213
30. Evaluation of 3D printability and biocompatibility of microfluidic resin for fabrication of solid microneedles
31. AG Tabriz, B Viegas, M Okereke, MJ Uddin, EA Lopez, N Zand, D Douroumis. **Micromachines**, 2022 13 (9), 1368
32. Recent advances in 3D printing for wound healing: A systematic review. A.G. Tabriz, D. Douroumis. **J. Drug Del. Sci. Tech., (accepted, 2022)**
33. Coupling of Fused Deposition Modeling and Inkjet Printing to produce Drug loaded 3D printed tablets. L.A. Junqueira, A.G. Tabriz, F.J. Raposo, L.R. Carobini, U.P. Vaz, M.A.F. Brandão, D. Douroumis, N.R.B. Raposo. **Pharmaceutics** 2022, 14(1):159.
34. Three-dimensional printing of stents for medical Applications. R. Khalaj, A. G. Tabriz, M. I. Okereke, D. Douroumis. **Int. J. Pharm.** 2021, 609:121153.
35. Preparation of Solid Dispersions of Simvastatin and Soluplus Using a Single-Step Organic Solvent-Free Supercritical Fluid Process for the Drug Solubility and Dissolution Rate Enhancement. U. Nandi, A.L. Ajiboye, P. Patel, D. Douroumis, V. Trivedi. **Pharmaceutics** 2021, 14(9):846
36. *In vivo* evaluation of nanostructured lipid carrier systems (NLCs) in mice bearing prostate cancer tumours. Akanda M., Getti G., I, Douroumis D. **Drug Del. Transl. Res** 2021
37. Development of 3D printed Drug Eluting Contact lenses. Y.M.G. Mohamdeen, A.G. Tabriz, M. Tighsazzadeh, U. Nandi, R. Khalaj, I. Andreadis, J. Boateng, D. Douroumis. **J. Pharm. Pharmacol.**
38. A virtual testing framework for assessment of the structural response of 3D printable coronary artery polymeric stents. Okereke I.M., Khalaj R., Tabriz A.G., Douroumis D. **Mech. Mater.**, 2021
39. Transferrin Conjugated Stealth Liposomes for Sirolimus Active Targeting in Breast Cancer. Nandi U., Onyesom I., Douroumis D. **J. Drug Del. Sci. Tech., 2021 (accepted)**
40. Personalised Tasted Masked Chewable 3D Printed Fruit-Chews for Paediatric Patients. Tabriz AG, Fullbrook DHG, Vilain L, Derrar Y, Nandi U, Grau C, Morales A, Hooper G, Hiezl Z, Douroumis D. **Pharmaceutics**. 2021 13(8):1301
41. Ultrahigh nanostructured drug payloads from degradable mesoporous silicon aerocrystals. Nadarassan D, Loni A, Canham LT, Scoutaris N, Trivedi V, Douroumis D. **Int J Pharm.** 2021, 607:120840
42. Investigation on hot melt extrusion and prediction on 3D printability of pharmaceutical grade polymers. Tabriz AG, Scoutaris N, Gong Y, Hui HW, Kumar S, Douroumis D. **Int J Pharm.** 2021, 604:120755

43. Advances in Twin-Screw Granulation Processing. Nandi U, Trivedi V, Ross SA, Douroumis D. **Pharmaceutics**. **2021**, 13(5):624
44. Comparative taste-masking evaluation of microencapsulated bitter drugs using Smartseal 30D and ReadyMix for paediatric dosage forms. Muoka LC, Ross SA, Mithu MSH, Nandi U, Douroumis D. **AAPS PharmSciTech**. **2021**, 22(4):141
45. Continuous Manufacture and Scale-Up of Theophylline-Nicotinamide Cocrystals. Ross SA, Hurt AP, Antonijevic M, Bouropoulos N, Ward A, Basford P, McAllister M, Douroumis D. **Pharmaceutics**. **2021**, 13(3):419
46. Advanced Methodologies for Pharmaceutical Salt Synthesis Md S.H. Mithu, S. Economidou, V. Trivedi, S. Bhatt, D. Douroumis. **Cryst. Growth Des.** **2021**, 21, 2, 1358
47. 3D printing as a transformative tool for microneedle systems: Recent advances, manufacturing considerations and market potential. Economidou SN, Douroumis D. **Adv Drug Deliv Rev.** **2021**, 173:60-69
48. Bioconjugated solid lipid nanoparticles (SLNs) for targeted prostate cancer therapy. Akanda M, Getti G, Nandi U, Mithu MS, Douroumis D. **Int J Pharm.** **2021**, 599:120416
49. Optimisation of design and manufacturing parameters of 3D printed solid microneedles for improved strength, sharpness and drug delivery S.N. Economidou *, Cristiane Patricia Pissinato Pere, Michael Okereke, Dennis Douroumis. **Micromachines** **2021**, (accepted)
50. An in vitro evaluation of antitumor effects of sirolimus-loaded liposomes against human breast cancer cells. U. Nandi, I. Onyesom, D. Douroumis. **J. Pharm. Pharmacol.** **2021**
51. 3D Printed Bilayer Tablet with Dual Controlled Drug Release for Tuberculosis Treatment. **Int. J. Pharm**
52. Anti-cancer activity of sirolimus loaded liposomes in prostate cancer cell lines. U. Nandi, I. Onyesom, D. Douroumis. **J. Drug. Deliv. Sci. Technol.** **2021**
53. A Novel 3D Printed Hollow Microneedle Microelectromechanical System for Controlled, Personalised Transdermal Drug Delivery. S.N. Economidou, Md. J. Uddin, M.J. Marques, W.T. Sow, H. Li, A. Reid, J. F.C. Windmill, A. Podoleanu, D. Douroumis. **Add Manufact.**
54. Effect of mechanochemical grinding conditions on the formation of pharmaceutical cocrystals and co-amorphous solid forms of ketoconazole – dicarboxylic acid. MD Sadeque Mithu, Steven Ross, A. Hurt, Dennis Douroumis. **Drug. Deliv. Sci. Technol.** **2021**, (accepted)
55. Drug – smectite clay amorphous solid dispersions processed by Hot Melt Extrusion. U. Nandi, Md. S.H. Mithu, A.P. Hurt, V. Trivedi, D. Douroumis. **AAPS PharmSciTech** (accepted)
56. An investigation into the formations of the internal microstructures of solid dispersions prepared by hot melt extrusion. F. Alqahtani, P. Belton, B. Zhang, M. Al-Sharabi, S.A. Ross, M.S.H. Mithu, D. Douroumis, J.A. Zeitler, S. Qi. **Eur J Pharm Biopharm.** **2020** 155:147-16
57. Layered silicate-alginate composite particles for the pH-mediated release of theophylline. U. Nandi, V. Trivedi, D. Douroumis, A. Mendham, N. Coleman. **Pharmaceutics** (accepted)
58. Investigation of bone reconstruction using an attenuated immunogenicity xenogenic composite scaffold fabricated by 3D printing. Q. Pan, C. Gao, Y. Wang, Y. Wang, C. Mao, Q. Wang, S.N. Economidou, D. Douroumis, F. Wen, L.P. Tan, H. Li. **Bio-Design and Manufacturing**, (accepted)
59. Bioprinting and Preliminary Testing of Highly Reproducible Novel Bioink for Potential Skin Regeneration. D. Douroumis, F. Hafezi, A. Tabriz, A. Hurt, V. Elmes, S. Shorter, J. Boateng. **Pharmaceutics** **2020**, 12(6): 550
60. Solid State Thermomechanical Engineering of High-Quality Pharmaceutical Salts via Solvent Free Continuous Processing. Md Mithu, S.A. Ross, B.D. Alexander, D. Douroumis. **Green. Chem.** **2020**, 22, 540-549
61. Md.J. Uddin, N. Scoutaris, C. Giraud, S. N. Economidou, B. Z. Chowdhry, R.F. Donnelly, D. Douroumis. 3D printed microneedles for anticancer therapy of skin tumours. **Materials Science & Engineering C**, **2020**, 107, 110248.
62. 3D printed microneedle patches using stereolithography (SLA) for intradermal insulin delivery. Economidou SN, Pere CPP, Reid A, Uddin MJ, Windmill JFC, Lamprou DA, Douroumis D. **Mater Sci Eng C Mater Biol Appl.** **2019**, 02:743-755
63. Co – processing of pharmaceutical cocrystals for high quality and enhanced physicochemical stability. SA. Ross, A. Ward, P. Basford, M. McAllister, D. Douroumis. **Cryst. Growth Des.** **2019** 19(2), 876-888
64. 3D printed chitosan dressing crosslinked with genipin for potential healing of chronic wounds. F. Hafezi, D. Douroumis, J. Boateng. **Int. J. Pharm** **560**:406-415.
65. Controlled release of microencapsulated Docosahexaenoic acid (DHA) by spray-drying processing. E. Loughrill, S. Thompson, S. Owusu-Ware, MJ. Snowden, D. Douroumis, N. Zand. **Food Chemistry**, **286**:368-375
66. Hot-melt extruded lipidic pellets for pediatric applications: An investigation of the effects and stability on drug dissolution. K. Vithani, D. Douroumis. **J. Drug Deliv. Sci. Tech.** **2019**, 49, 43 – 49.
67. 3D printed microneedles for insulin skin delivery. Pere CPP, Economidou SN, Lall G, Ziraud C, Boateng JS, Alexander BD, Lamprou DA, Douroumis D. **Int J Pharm.** **2018 Jun** 15;544(2):425-432

68. 3D printing applications for transdermal drug delivery. Economidou SN, Lamprou DA, Douroumis D. **Int J Pharm.** 2018, 544(2):415-424
69. Pharmaceutical nanocrystals: production by wet milling and applications. Malamataris M, Taylor KMG, Malamataris S, Douroumis D, Kachrimanis K. **Drug Discov Today.** 2018, S1359-6446(17)30412-9
70. Development and characterisation of semi-crystalline composite granules: The effect of particle chemistry and the electrostatic charging. Haque, Syed N.; Hussain, Tariq; Chowdhry, Babur Z.; N. Scoutaris, D. Douroumis. **J. Phys. Chem. Solids.** 2017, 111, 167-175
71. Jet dispensing of multi-layered films for the co-delivery of three antihypertensive agents. N. Scoutaris, M. Malamataris, M.J. Snowden, D. Douroumis. **Drug Deliv Transl Res.** 2018, 8(1):32-42
72. 3D printed "Starmix" drug loaded dosage forms for paediatric applications. N. Scoutaris, S.A. Ross, M.J. Snowden, D. Douroumis. **Pharm. Res.** 2018, 35(2):34
73. Development and characterisation of semi-crystalline composite granules: The effect of particle chemistry and the electrostatic charging. S.N.Haque, T. Hussain, B.Z.Chowdhry, D. Douroumis. N. Scoutaris, A. Nokhodchi, M. Maniruzzaman. **J. Phys. Chem. Solids** 2017, 111:167-175
74. Experimental cocrystal screening and solution-based scale-up cocrystallization methods. Malamataris M, Ross SA, Douroumis D, Velaga SP. **Adv Drug Deliv Rev.** 2017 Aug 12. pii: S0169-409X
75. Advanced methodologies for cocrystal synthesis. Douroumis D, Ross SA, Nokhodchi A. **Adv Drug Deliv Rev.** 2017 pii: S0169-409X(17)30105-9
76. A quality by design (QbD) twin-Screw extrusion wet granulation approach for processing water insoluble drugs. Maniruzzaman M, Ross SA, Dey T, Nair A, Snowden MJ, Douroumis D. **Int J Pharm.** 2017 30;526(1-2):496-505
77. Increased dissolution rates of tranilast solid dispersions extruded with inorganic excipients. Maniruzzaman M, Ross SA, Islam MT, Scoutaris N, Nair A, Douroumis D. **Drug Dev Ind Pharm.** 2017 43(6):947-957
78. Continuous Manufacturing of High Quality Pharmaceutical Cocrystals Integrated with Process Analytical Tools for In-Line Process Control. H.G. Moradiya, M.T. Islam¹, N. Scoutaris, S.A. Halsey, B.Z. Chowdhry, D. Douroumis. **Crys. Growth Des.** 2016
79. Jet dispensing as a high throughput method for rapid screening and manufacturing of cocrystals N. Scoutaris, A. Anion. A. Hurt, D. Douroumis. **CrystEngComm.**, 2016
80. Engineering and manufacturing of pharmaceutical co-crystals: A review on solvent-free manufacturing technologies. S. Ross, D. Lamprou, D. Douroumis, **Chem. Comm.**, 2016
81. Development and optimization of ketoconazole oral strips by means of continuous hot-melt extrusion processing. Maniruzzaman M, Farias S, Slipper IJ, Boateng JS, Chowdhry BZ, Nair A, Douroumis D. **J Pharm Pharmacol.** 2016, doi: 10.1111/jphp
82. Current Trends on Medical and Pharmaceutical Applications of Inkjet Printing Technology. Scoutaris N, Ross S, Douroumis D. **Pharm Res.** 2016, 33(8):1799-816.
83. Novel Controlled Release Polymer-Lipid Formulations Processed by Hot Melt Extrusion. Maniruzzaman M, Islam MT, Halsey S, Amin D, Douroumis D. **AAPS PharmSciTech.** 2016, 17(1):191-9
84. Development and Biological Evaluation of Inkjet Printed Drug Coatings on Intravascular Stent. Scoutaris N, Chai F, Maurel B, Sobocinski J, Zhao M, Moffat JG, Craig DQ, Martel B, Blanchemain N, Douroumis D. **Mol Pharm.** 2016, 13(1):125-33
85. One-step continuous extrusion process for the manufacturing of solid dispersions. Maniruzzaman M, Nair A, Scoutaris N, Bradley MS, Snowden MJ, Douroumis D. **Int J Pharm.** 2015, S0378-5173(15)30249-0
86. Continuous twin-screw granulation for enhancing the dissolution of poorly water-soluble drug. Maniruzzaman M, Nair A, Renault M, Nandi U, Scoutaris N, Farnish R, Bradley MS, Snowden MJ, Douroumis D. **Int J Pharm.** 2015, S0378-5173(15)30223-4
87. Inkjet printing of insulin microneedles for transdermal delivery. Ross S, Scoutaris N, Lamprou D, Mallinson D, Douroumis D. **Drug Deliv Transl Res.** 2015 Aug;5(4):451-61
88. Studies of intermolecular interactions in solid dispersions using advanced surface chemical analysis M. Maniruzzaman, M.J. Snowden, M.S. Bradley, D. Douroumis **RSC Adv.**, 2015, 5, 74212-74219
89. Implementation of transmission NIR as a PAT tool for monitoring drug transformation during HME processing. Islam MT, Scoutaris N, Maniruzzaman M, Moradiya HG, Halsey SA, Bradley M, Chowdhry BZ, Snowden MJ, Douroumis D. **Eur J Pharm Biopharm.** 2015, 106-16

90. Delivery of retinoic acid to LNCap human prostate cancer cells using solid lipid nanoparticles. Akanda MH, Rai R, Slipper IJ, Chowdhry BZ, Lamprou D, Getti G, Douroumis D. **Int J Pharm.** 2015 30;493(1-2):161-71
91. Bioinspired Titanium Drug Eluting Platforms Based on a Poly- β -cyclodextrin-Chitosan Layer-by-Layer Self-Assembly Targeting Infections. Pérez-Anes A, Gargouri M, Laure W, Van Den Berghe H, Courcot E, Sobocinski J, Tabary N, Chai F, Blach JF, Addad A, Woisel P, Douroumis D, Martel B, Blanchemain N, Lyskawa J. **ACS Appl Mater Interfaces.** 2015, 7(23):12882-93
92. Taste masked thin films printed by jet dispensing. Scoutaris N, Snowden M, Douroumis D. **Int J Pharm.** 2015, pii: S0378-5173(15), 428-7
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95. Inkjet printing of transdermal microneedles for the delivery of anticancer agents. Uddin J, Scoutaris N, Klepetsanis P, Prausnitz M., Chowdhry B, Douroumis D. **Int. J. Pharm.** S0378-5173(15), 62-9
96. Increased dissolution rates of carbamazepine – gluconolactone binary blends processed by Hot Melt Extrusion. Moradiya H, Nokhodchi A, Douroumis D. **Pharm Dev Technol.** 2015, 20, 1-8
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101. Employing HME as a cost-effective method of increasing solubility of water insoluble APIs. Douroumis D, **BioPharm Asia**, 2014, 50 - 57
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143. Practical approaches of taste masking technologies in oral solid forms (Review). D. Douroumis. **Expert Opinion on Drug Delivery**, 4 (2007), 417 – 426.
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Patents

1. Method of preparing an extruded composition. WO2016128727 (A1) — 2016

2. Method of producing a granulated composition. WO2016128726 (A1) — 2016
3. A method of manufacturing a stent using a 3D printer. WO2016GB50119 2016
4. Method of coating microneedle devices. WO2013038137 (A1) — 2013
5. Methods for Producing Salts of Pharmaceutical Compounds (submitted 2021)
6. Methods for Producing Co-Crystals of Pharmaceutical Compounds (submitted 2021)

Editorials

1. Advances and Trends in Microneedle-Assisted Transdermal Drug Delivery. Douroumis D, Lamprou DA, Narayan RJ. **Mol Pharm.** 2025, 22(7):3519-3520.
2. 3D printing of pharmaceutical and medical applications: a new era. Douroumis D. **Pharm. Res.** 2019
3. Engineering of pharmaceutical cocrystals, salts and polymorphs: Advances and Challenges. Douroumis D, Nokhodchi A. **Adv Drug Deliv Rev.** 2017 Aug 1;117:1-2
4. Continuous manufacturing and process analytical tools. Maniruzzaman M, Douroumis D. **Int J Pharm.** 2015 Dec 30;496(1):1-2.
5. Microneedles for drug and vaccine delivery and patient monitoring. R. Donnelly, D. Douroumis. **Drug Deliv. and Transl. Res.** (2015) 5:311–312
6. Mesoporous silica Nanoparticles as Drug Delivery System. Dennis Douroumis. **J. Nanomedic Nanotechnol** 2011
7. AFM in Advanced Pharmaceutical Technology. **Pharm. Anal. Acta**, 2013, 3 – 6

Book Chapters

1. Continuous Twin-Screw Granulation Processing. Uttom Nandi, Tumpa Dey & Dennis Douroumis, in Optimization of Pharmaceutical processes, models and methods. (Editors: Editors Antonios Fytopoulos, Rohit Ramachandran, Panos M. Pardalos (Wiley, 2022)
2. Applications of long lasting and implantable drug delivery systems for cardiovascular disease treatment. Roxanne Khalaj, Dennis Douroumis, in Long-Acting Drug Delivery Systems (Editors: Ryan F. Donnelly, Eneko Larrañeta and Thakur Raghu Raj Singh) Elsevier, 2021
3. 3D Printed Scaffolds for Wound Healing and Tissue Regeneration. A.G. Tabriz, D Douroumis, J. Boateng. In *Therapeutic Dressing and Wound Healing Applications* Wiley – Blackwell, 2019
4. Polymeric coatings and their fabrication for medical devices. D.A. Lamprou, N. Scoutaris, S.A. Ross, D. Douroumis. (2018) Section 1: Biomaterials, Part II Biomedical Materials On: Encyclopedia of Biomedical Engineering. 1st Edition. R.J. Narayan (ed. in-chief). Elsevier. ISBN: 978-0-12-804829-0
5. Nanosuspensions with enhanced drug dissolution rates of poorly water-soluble drugs D. Douroumis in “Drug delivery strategies of poorly water-soluble drugs” Wiley – Blackwell
6. Taste Masking of bitter APIs using Hot Melt Extrusion, D. Douroumis, M. Bonnefille, A. Aranyos in “Hot Melt Extrusion: Pharmaceutical Applications, pp: 179, Wiley – Blackwell
7. Bioadhesion properties of polymeric films produced by hot melt extrusion. J. Boateng, D. Douroumis, in “Hot Melt Extrusion: Pharmaceutical Applications, pp: 154, Wiley – Blackwell
8. Novel Coating Technologies of Drug-Eluting Stents in "Biomaterials and nanostructures for Active Implants", Wiley & Sons (invited by Prof. Meital Zilberman)
9. Mesoporous silica nanoparticles as a drug delivery system. M. Maniruzzaman, I. Onyesom, M. Edwards, D. Douroumis in Silica Nanoparticles: Preparation, Properties and Uses (Nova Publishers)

Public involvement

- **2022:** Pint of Science, 3D Printing for Personalised Treatment and Point of Care Applications
- **2018:** Future trends in personalized healthcare (public lecture, Medway Campus)
- **2012:** Drug eluting stents for the treatment of coronary artery diseases (Public lecture, Medway Campus)

Plenary Presentations (invited >40)

1. 3D printed microfluidic arrays for the development of liposomes, in Advances in Lipid and LNP Development and Manufacturing Symposium, 5ht June 2024
2. Continuous Extrusion Granulation of Water Insoluble Drugs, Making Pharmaceuticals, 23-24, April 2024, Coventry

3. Innovations in encapsulation of pharmaceuticals using 3D printing technologies, in 20th April, 2024, Royal Chemical Society.
4. Emerging technologies for making pharmaceuticals at the point of care,, Making Pharmaceuticals, 25-26, April 2023, Coventry
5. 3D printing in pharmacy and pharmaceutical sciences, in Bioavailability-Bioequivalence 22-23 May 2023.
6. Increasing drug solubility by suing twin-screw granulation, 49th Interpharm Conference, 10-12th May 2023.
7. 3D printing of flavour-rich chewable paediatric tablets fabricates using micro-extrusion for point of care applications, 20-21 March 2023, 4th European Conference in Pharmaceutics
8. Advances 3D printed bioresorbable drug eluting scaffolds, MedFIT: Fostering Innovation in MedTech, France December 7th - 10th, 2020
9. 3D Printed Bioresorbable Drug-Eluting Stents, Industrial Pitch Session MedFIT: Fostering Innovation in MedTech, France December 7th - 10th, 2020
10. 3D printing for the fabrication of transdermal microneedles: In vitro and in vivo evaluation. 11th DDF Summit 9 – 11, 2020, March Berlin, Germany.
11. 3D printing of bioabsorbable polymeric stents by fused deposition modelling. Khalaj, Douroumis, ICS3M 15-16 July, 2019, London, UK
12. Digital image analysis and methods to quantify 3D printed stents. Tabriz, Douroumis, ICS3M 15-16 July 2019, London, UK
13. 3D Printed Bioresorbable Drug-Eluting Stents. Medfit, 24-26 June 2019, Lille, France
14. 3D-printing of bioabsorbable drug eluting stents for the treatment of coronary
15. artery diseases – The magic disappearing stents, Medfit, 24-26 June 2019, Lille, France
16. HME lipidic Pellets for Paediatric Application. An Investigation of the Effect and Stability on Drug Dissolutions. BioPharma Asia, 11th June 2019
17. Employing Hot Melt Extrusion As a Cost Effective Method of Increasing Solubility Of Water Insoluble API's. (webinar) BioPharma Asia, 7th May 2019
18. QbD approaches for continuous manufacturing of pharmaceutical products. 5th Annual Formulation & Drug Delivery, 1 – 2nd May 2019
19. QbD Approaches for Continuous Manufacturing Of Pharmaceutical Products, Formulation & Delivery Series UK 2019 - Formulation & Drug Delivery, 29 - 30 April 2019 |
20. Continuous Manufacturing Processes ff Small Molecules For Oral Delivery (webinar), 4th Annual Formulation & Drug Delivery Congress 8th - 9th May 2018
21. 3D printing of miniature medical devices for drug delivery. 3rd Annual 3D Printing and Bio-Printing in Healthcare Conference, 11-12 October 2018, Brussels
22. 3D printing for transdermal delivery. 2018 CRS Annual Meeting & Exposition, New York, USA.
23. 3D printed medical devices for personalized treatment. 46th Interpharm Conference 9-11th May 2018, Stratford-upon-Avon
24. 3D Printed Microneedle Patches for Transdermal Delivery. 4th Annual Formulation & Drug Delivery Congress, 8th May 2018, London
25. Bioconjugated Solid Lipid Nanoparticles for Cancer Treatment. 4th Annual Formulation & Drug Delivery Congress, 8th May 2018, London
26. QbD cases studies at lab scale. 6th Quality by Design Symposium, 21st March 2018, Leicester.
27. Some like it hot – an extrusion solution to advance drug delivery. 8th UK-PharmSci., 5th – 7th September 2017, APS the science of medicine
28. 3D printing applications for medical devices. 2nd BIOMAT Congress & 3rd annual meeting of the materials for health mixed commission. Ambleteuse (France) - June 12-16th, 2017
29. Pharmaceutical and Biomedical 3D Printing Applications. 8th DDF Summit Drug Delivery & Formulation, 27-29 March 2017, Berlin
30. Inkjet printing approaches. Dennis Douroumis. 7th UK-PharmSci., 5th – 7th September 2016
31. Jet dispensing as a high throughput method for rapid screening and manufacturing of cocrystals, CRS, Annual Meeting, 17-20 July 2016, Seattle, USA
32. Jet dispensing as a high throughput method for rapid screening and manufacturing of cocrystals. Dennis Douroumis. CRS Annual Meeting, 17-20th July 2016, Seattle USA
33. Mesoporous silica nanoparticles as a drug delivery system for anticancer therapy. Nanotechnologies in Drug Delivery Congress, 27 – 28 April 2015
34. HME drug delivery applications and PAT integrated tools. Dennis Douroumis. Pharma meets Polymer Congress, 11-12.th, November 2015, Festung Marienberg, Würzburg
35. Continuous extrusion cocrystallization processing of pharmaceutical cocrystals. 6th Annual, Global Drug Delivery and Formulation Summit, 9-11th Dusseldorf, Germany 2015.

36. PAT tools for Hot Melt Extrusion processing: In-line and off-line approaches. 6th Annual, Global Drug Delivery and Formulation Summit, 9-11th Dusseldorf, Germany 2015.
37. "Continuous CocrySTALLization of Pharmaceutical products via Hot Melt Extrusion Processing" in Advanced Materials & Pharmaceutical TEChnologies Conference. INTERREG IVA "2 Mers Seas Zeeën", July 9-11th, 2014 Villeneuve d'Ascq France
38. PAT tools for HME processing: In – line and off-line approaches. D. Douroumis UK-PharmSci., 8nd – 10th September 2014
39. Continuous cocrySTALLization of pharmaceutical products via Hot Melt Extrusion processing. Advanced Materials & Pharmaceutical Technologies - meeting 9-11 July 2014
40. Hot Melt Extrusion processing: A rising star for dissolution enhancement of water insoluble drugs. D Douroumis, 5th World Drug Delivery & Formulation Summit, 2014, 17-19 February, Berlin, Germany
41. Microneedles for transdermal drug delivery. D. Douroumis, «Successful R&I in Europe 2013: Takeoff for Horizon 2020", Duesseldorf, Germany, 7-8 March 2013
42. BASF's polymers for water insoluble API, BASF Chemtrade Technical Seminar, 2013, Nottingham, UK
43. A new multifunctional drug eluting stent (MultiDES). N. Scoutaris, D. Douroumis, SciTech Europe - Broadening Horizons, 22 November 2012, Brussels, Belgium
44. A New Multifunctional Drug Eluting Stent. D. Douroumis. 2nd Annual Symposium of Drug Delivery System 2012 (SDDS-2012) in Nanjing, China during November 8-10, 2012
45. Antitumor Effect of Sirolimus Using Functionalized PEGylated Liposomes against Human Breast Cancer Cells. I. Onyesom, D. Douroumis. 1st SDDS, 3 – 5 November 2011 Zhenzhen, China
46. Taste masking of bitter APIs by using Hot Melt Extrusion (HME). Douroumis. 38th Annual Meeting & Exposition of the Controlled Release Society (CRS), 2011, National Harbor, Maryland, USA
47. Inclusion of water insoluble active molecules in mesoporous silica nanoparticles. Mike J. Thomas, Dennis Douroumis. 36th CRS, July 18-22, 2009, Copenhagen, Denmark.

Chairs

1. Microneedles: Applications, advances and clinical translation. 8th DDF Summit Drug Delivery & Formulation, 27-29 March 2017, Berlin
2. "Targeting and Biofunctionalisation" in 2nd BIOMAT Congress & 3rd annual meeting of the materials for health mixed commission. Ambleuse (France) - June 12-16th, 2017
3. Case Studies and Applications in Medical Research, 2nd Microfluidics Congress, 19 – 20th October 2016
4. Keynote panel: Controlled release of nanomedicines - current trends and advances in carrier systems (including polymers), Nanotechnologies in Drug Delivery Congress, 27 – 28 April 2015
5. Keynote panel: strengthening partnership: IDA Ireland. 6th Annual, Global Drug Delivery and Formulation Summit, 9-11th Dusseldorf, Germany 2015.
6. 6th Annual, Global Drug Delivery and Formulation Summit, 9-11th Dusseldorf, Germany 2015.
7. "PAT tools for Hot Melt Extrusion processing" In Advanced Materials & Pharmaceutical TEChnologies Conference. INTERREG IVA "2 Mers Seas Zeeën", May 20th, 2015, Villeneuve d'Ascq France
8. Advanced Materials & Pharmaceutical TEChnologies Conference. INTERREG IVA "2 Mers Seas Zeeën", July 9-11th, 2014 Villeneuve d'Ascq France
9. Drug Eluting Stent Technologies, in Annual Symposium of Drug Delivery Systems, 8–10 November 2012, Nanjing, China
10. Injectable or Parenteral Drug Delivery in PBIT's 1st Annual Symposium of Drug Delivery Systems (SDDS-2011), 3 – 5 November 2011, Zhenzhen, China
11. Tip-enhanced Optical Techniques in Scanning Probe Microscopy Conference, 22–23 June 2011, Edinburg, UK

Member of Editorial Boards

- Journal of Chemistry (Wiley)
- International Journal of Nano Studies & Technology (IJNT)
- Current reviews in Clinical and Experimental Pharmacology (Bentham)
- Coatings (MDPI AG)
- Micromachines (MDPI AG)
- Technologies (MDPI AG)
- Journal of Functional Biomaterials (MDPI AG)
- Pharmaceutical Frontiers
- Frontiers in Nano-Based Drug Delivery
- Frontiers in Chemistry

- Frontiers in Molecular Biosciences
- Frontiers in Medical Technology
- Frontiers in Bioengineering and Biotechnology
- Journal of Pharmacy and Pharmacology
- Current Clinical Pharmacology
- Editor in the series on “Advances in Pharmaceutical Technology” (Wiley, UK)

Funding

2025: Engineering Thermostable Dissolving Microneedles for Vaccine Delivery in Challenging Low-Resource Environments (**Schlumberger Foundation, \$150,000**)

2024: Continuous extrusion co-processing of inorganic excipients and water insoluble Active Pharmaceutical Ingredients for the development of pharmaceutical drug delivery systems (**PQ Silicas, £95,000**)

2023: Coupling of HME and 3D printing for continuous manufacturing of personalised dosage forms (**Cubic Pharmaceuticals, £75,000**)

2020: Development of novel pharmaceutical formulations via continuous manufacturing (**KTP- Innovate UK, & Cubic Pharmaceuticals £150,000**)

2019: Development of a 3D printing platform technology for manufacturing medicines – Celgene Corporation, US (**£86,580 PI**)

2019: Innovative Multicomponent Drug dDesign (IMODE) for enhancing regional strategic advantages in pharmaceutical and biomedical applications – INTERREG VA “2 Mers Seas Zeeen”, (**co-I, Part II: €310,560**)

2016: Innovative Multicomponent Drug dDesign (IMODE) for enhancing regional strategic advantages in pharmaceutical and biomedical applications – INTERREG VA “2 Mers Seas Zeeen” (**co-I, Part I: €880,891**)

2015: Advanced materials and Pharmaceutical Technologies, INTERREG IVA “2 Mers Seas Zeeen”, (**co-I, €104,000**)

2015: Development of Pharmaceutical Cocrystals, (Pliva-TEVA, Croatia, (**PI, £12,500**)

2015: Transdermal microneedles for insulin delivery (Science without Borders, Brazil, (**PI, £180,500**)

2015: Self-funded PhD students (**PI, £130,500**)

2014: Synthesis of pharmaceutical cocrystals by means of hot melt extrusion, (Pfizer UK, **PI, £88,500**)

2014: Predicting tablet compaction behaviour using material properties (Gamlen Tableting Lt., **PI, £12,500**)

2013– 14: AAPS – UK Student Chapter (**£3,450**)

2013: Development of hot melt extruded water insoluble drugs by using co-processed excipients (Fuji Chemicals Ltd., **PI, £60,000**)

2012: Development of a multifunctional stent. INTERREG IVA “2 Mers Seas Zeeen” (**PI, £776,000**)

2011: Self-funded PhD students (**£217,500**)