

## Prof MAYA THANOU

### **2022-: Professor in Pharmaceutical Nanotechnology**

2018-2022 :Reader in Nanotechnology (promoted on innovation)

2009 –2018 Senior Lecturer

King's College London, Life Science and Medicine, School of Cancer and Pharmaceutical Sciences, Institute of Pharmaceutical Science.

2009-2011-Honorary researcher Imperial College London

2004-2008, Royal Society, UK (Dorothy Hodgkin), Imperial College London, Dept Chemistry,.

2003 June-July Visiting Lecturer Bioorganic Chemistry University of Nijmegen, The Netherlands

2002-2004 Lecturer, in Drug Delivery Welsh School of Pharmacy, Cardiff University

2002-2006 Project manager Kytogenics Inc. and the Dalhousie University Canada.

2000-2002 Post Doctoral Fellow, Kytogenics Inc., Nova Scotia, Canada. .

1999-2000 Post Doctoral Fellow, Div. Pharm. Technology Leiden/Amsterdam Centre for Drug Research (LACDR), Leiden University,

1995-2000 Ph. D., Div. of Pharmaceutical Technology, LACDR, Leiden University, The Netherlands

### **Education**

2006: Imperial College London Business School-**Royal Society UK Leadership in Science course** (mini-MBA on science and innovation),

1993-1994 Clinical training, University Hospital of Thessaloniki,

1988-1993 MPharm, Aristotle University of Thessaloniki, Greece.

### **Awards**

**I. K. Y.** State Scholarship Foundation of Greece (PhD fellowship), **LACDR**, (Leiden University) **AAPS** Graduate award

1999 -For Excellence in Graduate Research in Pharmaceutical Technology and Drug Delivery **Royal Society** Dorothy Hodgkin Research Fellowship 2004, **MIT entrepreneurship forum GR 2021** Best project in the general track and overall.

### **Commercial activities**

Key inventor of the following patents WO2016198864 FOCUSED ULTRASOUND HYPERTHERMIA/ WO2016198862 NANOPARTICLES/, WO2016198859 , PRECISION THERAPEUTICS / HK1170437 (A1) LIPOSOME NANOPARTICLES FOR TUMOUR MAGING /US2010297023 Liposome composition/ WO2010082008 NANONEEDLES / US2008076704 Methods of drug delivery.

Co-founder of i) AJM-med-i-caps (Nicosia, Cyprus 03 2017) ii) CEO and co-founder Apeikon Therapeutics (KCL spinout London, UK 12 2020)

Teaching activities Module Leader (two modules) of PGT course, Exam Board member, PhD Theses committee chair.

### **Research grants (last 10 y)**

Royal Society UK Fellowship for research in the area of nanotechnology for biomedical applications 2004, (£300,000)

EPSRC: Enzyme-Triggerable Stealth Release (ETSR) of targeted nanoparticles for cancer gene therapy, PI, 2008

(£450,000) EPSRC Healthcare partners MRI guided focused ultrasound triggered drug release 2011 (£1.300,000 PI for KCL) King's Business funds: Development of Enzyme triggered Doxil type nanoparticles, PI, 2011 (£10K)

BBSRC and BBSRC LIDO icase studentships x5 ( £580,000) Innovate UK Biomedical catalyst 2022 (PI £ 830K) MRC

Equipment Fund (PI £800K), City of London CRUK (£150K 2022) City of London CRUK (£150K 2024) MRC IAA (£80K

2023) Co-I: FUS Foundation (£80K 2022) Little Princess Trust (£850K 2023) BBSRC Mission Hub Bioeng (£1,5M 2024).

APEIKON therapeutics: King's commercialisation Institute: Development of theranostic nanoparticles, PI,

2014(£308,000) and Innovate UK (UKRI) i) Nov 2021 ICURe (£35K) and ii) March 2022 Biomedical Catalyst (£0.83M)

**Current scientific appointments:** **i.** Vice Chair British Society for Nanomedicine **ii)** Steering Committee London Centre for Nanotechnology **iii)** Selected reviewer/panel for funding decisions for: Royal Society, European Innovation Council and European Research Council. **iv)** KCL School of Cancer and Pharmaceutical Sciences **Lead for Innovation and Impact**

**h-index 40** Author of approximately 100 peer-reviewed papers chapters. Editor of the RSC book: Theranostics and Image guided Drug Delivery.

## Recent Publications

- Vlatakis, S., Zhang, W., Thomas, S., Cressey, P., Moldovan, A. C., Metzger, H., Prentice, P., Cochran, S. & Thanou, M., Effect of Phase-Change Nanodroplets and Ultrasound on Blood–Brain Barrier Permeability In Vitro Jan 2024, In: *Pharmaceutics*. 16, 1, 51.
- Zhang, Y., Luo, C., Belaid, M., Thanou, M. & Vllasaliu, D. Hybrid Milk Extracellular Vesicles as Potential Systems for Oral Delivery of siRNA , Mar 2024, In: *Advanced Therapeutics*. 7, 3, 2300335.
- Zhang W, Metzger H, Vlatakis S, Claxton A, Carbajal MA, Fung LF, Mason J, Chan KLA, Pouliopoulos AN, Fleck RA, Prentice P, Thanou M. Characterising the chemical and physical properties of phase-change nanodroplets *Ultrason Sonochem* . 2023 Jul;97:106445
- Abuhelal S, Centelles MN, Wright M, Mason AJ, Thanou M. Development of Cationic Lipid LAH4-L1 siRNA Complexes for Focused Ultrasound Enhanced Tumor Uptake *Mol Pharm*. 2023 May 1;20(5):2341-2351
- Y. Zhang, M. Thanou, D. Vllasaliu, Exploiting disease-induced changes for targeted oral delivery of biologics and nanomedicines in inflammatory bowel disease, *Eur. J. Pharm. Biopharm.* 155 (2020) 128–138.
- W. Zhang, Y. Shi, S.A. Shukor, A. Vijayakumaran, S. Vlatakis, M. Wright, M. Thanou, Phase-shift nanodroplets as an emerging sonoresponsive nanomaterial for imaging and drug delivery applications, *Nanoscale*. 14 (2022) 2943–2965.
- A.J. Wilson, M. Rahman, P. Kosmas, M. Thanou, Nanomaterials responding to microwaves: an emerging field for imaging and therapy, *Nanoscale Adv.* 3 (2021) 3417.
- Amrahli M, Centelles M, Cressey P, Prusevicius M, Gedroyc W, Xu XY, So PW, Wright M, Thanou M. MR-labelled liposomes and focused ultrasound for spatiotemporally controlled drug release in triple negative breast cancers in mice *Nanotheranostics*. 2021 Jan 1;5(2):125-142.
- D. Vllasaliu, M. Thanou, Of devices and drugs – Ingestible bots for diagnosis and therapy, *Adv. Drug Deliv. Rev.* 183 (2022) 114174.
- Cressey P, Amrahli M, So PW, Gedroyc W, Wright M, Thanou M. Image-guided thermosensitive liposomes for focused ultrasound enhanced co-delivery of carboplatin and SN-38 against triple negative breast cancer in mice *Biomaterials*. 2021 Apr;271:120758.
- Centelles MN, Wright M, So PW, Amrahli M, Xu XY, Stebbing J, Miller AD, Gedroyc W, Thanou M. Image-guided thermosensitive liposomes for focused ultrasound drug delivery: Using NIRF-labelled lipids and topotecan to visualise the effects of hyperthermia in tumours *J Control Release*. 2018 Jun 28;280:87-98
- F. Stewart, G. Cummins, M. V. Turcanu, B.F. Cox, A. Prescott, E. Clutton, I.P. Newton, M.P.Y. Desmulliez, M. Thanou, H. Mulvana, S. Cochran, I. N  thke, Ultrasound mediated delivery of quantum dots from a proof of concept capsule endoscope to the gastrointestinal wall, *Sci. Rep.* 11 (2021). <https://doi.org/10.1038/s41598-021-82240-1>.
- E. V. Rosca, M. Wright, R. Gonitel, W. Gedroyc, A.D. Miller, M. Thanou, Thermosensitive, near-infrared-labeled nanoparticles for topotecan delivery to tumors, *Mol. Pharm.* 12 (2015) 1335–1346.
- M. Rahman, R. Lahri, S. Ahsan, M. Thanou, P. Kosmas, Assessing changes in dielectric properties due to nanomaterials using a two-port microwave system, *Sensors (Switzerland)*. 20 (2020) 1–20.
- M. Rahman, S. Ahsan, R. Lahri, M. Thanou, P. Kosmas, Preliminary Assessment of a Microwave System to Detect Contrast Enhancing Agents, in: *Proc. Annu. Int. Conf. IEEE Eng. Med. Biol. Soc. EMBS, Institute of Electrical and Electronics Engineers Inc.*, 2018: pp. 937–940.
- Lahri R, Rahman M, Wright M, Kosmas P, Thanou M. Zinc oxide nanoparticles as contrast-enhancing agents for microwave imaging. *Med Phys*. 2018 Jun 25.
- Centelles MN, Wright M, Gedroyc W, Thanou M. Focused ultrasound induced hyperthermia accelerates and increases the uptake of anti-HER-2 antibodies in a xenograft model. *Pharmacol Res*. 2016 Dec;114:144-151
- Rosca EV, Wright M, Gonitel R, Gedroyc W, Miller AD, Thanou M. Thermosensitive, near-infrared-labeled nanoparticles for topotecan delivery to tumors *Mol Pharm*. 2015 May 4;12(5):1335-46