

Professor Kostas Kostarelos, FRSM, FRSA, FRSC

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PRESENT APPOINTMENTS (*fte* is full time employment)

Since November 2019 have a split 80:20 appointment between the two Institutions.

- July 2013 – today (0.8 fte) **Professor and Chair of Nanomedicine**
Faculty of Biology, Medicine & Health and National Graphene Institute, University of Manchester
- Nov 2019 – today (0.2 fte) **Severo Ochoa Distinguished Professor**
Catalan Institute of Nanoscience and Nanotechnology (ICN2), Barcelona, Spain

EDUCATION

- Oct.1992 – Dec.1996 PhD, Department of Chemical Engineering, Imperial College London, UK
- Oct.1992 – Oct.1993 Diploma of Chemical Engineering, Imperial College London, UK
- Oct.1989 – June 1992 BSc in Chemistry, University of Leeds, UK

AWARDS & FELLOWSHIPS

- 2017 Fellow, Royal Society of Chemistry (FRSC)
- 2013 Honorary Professor, Faculty of Life Sciences, University College London, UK
- 2010 Japanese Society for the Promotion of Science (JSPS) Professorial Fellow, Japan
- 2010 Fellow, Royal Society of the Arts (FRSA)
- 2007 Fellow Royal Society of Medicine (FRSM)

METRICS

Highly Cited Researcher 2018 (<https://hcr.clarivate.com>) in Cross-Field category

Google Scholar total number of citations: **33,743**; h-index **87**.

Web of Science total number of citations: **24,498**; h-index of **76**; with **69.6** citations per paper.

JCR publications: **>370** JCR publications and **14** book chapters

Co-inventor of **12** patents [3 licensed]

Co-Founder of *INBRAIN Neuroelectronics* (<https://www.inbrain-neuroelectronics.com>) and its subsidiary *INNERVIA Bioelectronics*

Total number of doctoral theses directed: **26** (+5 in progress); Supervisor of **>42** postdocs and **>35** visiting researchers

Invited lectures in conferences: **>250**; Invited seminars: **>120**

Organizer of **14** international conferences and symposia

PREVIOUS APPOINTMENTS

- July 2007 – June 2013 **Professor & Chair of Nanomedicine**
UCL School of Pharmacy, University College London (UCL), UK
- Oct. 2005 – June 2013 **Head, Centre for Drug Delivery Research**
UCL School of Pharmacy, University College London (UCL), UK
- Oct. 2003 – June 2007 **Lecturer & Senior Lecturer**
UCL School of Pharmacy, University College London (UCL), UK
- Oct. 2002 – Oct. 2003 **Deputy Director**, Imperial College Genetic Therapies Centre
Imperial College London, UK
- Oct 1999 – Jan. 2001 **Assistant Professor of Genetic Medicine & Chemical Engineering in Medicine**
Institute of Genetic Medicine, Weill Medical College Cornell University New York, NY, USA
- Jan. 2000 – Dec. 2000 **Director, Bioengineering Core**, Arthur & Rochelle Belfer GeneTherapy Core
Facility, Weill Medical College Cornell University New York, NY, USA
- Oct. 1998 – May 2000 **Instructor of Genetic Medicine & Chemical Engineering in Medicine**,
Division of Pulmonary & Critical Care Medicine, Weill Medical College Cornell University,
New York-Presbyterian Hospital, USA
- March 1998 – Dec. 1998 **Research Associate**, Department of Medical Physics
Memorial Sloan-Kettering Cancer Center, New York, USA
- Jan. 1996 – Mar. 1997 **Research Associate**, Department of Cellular and Molecular Pharmacology &
Cancer Research Institute, University of California at San Francisco (UCSF), San Francisco, USA

EDITORIAL ACTIVITY

- Founding and Senior Editor: *Nanomedicine* (Future Medicine, UK)
- Editorial Board Member: *ACS Nano* (ACS, USA); *Cell Reports Physical Sciences* (Cell Press, USA); *Applied Materials Today* (Elsevier, USA); *Nanoscale Horizons* (RSC, UK); *Archives in Toxicology* (Springer).

RESEARCH FUNDING [only direct Nanomedicine Lab income noted in bold]

Total grant income (directly to Lab) raised during my whole career: >€28million

Current total grant income directly to Nanomedicine Lab: €10.3 million

CURRENTLY ACTIVE GRANTS (only grants >€100k are described below)

2D Materials for Next Generation Healthcare Technologies (2D-Health); 10/2016 to 06/2023; £5.3 million

EPSRC (UK) Healthcare Technologies Programme Grant

Role: Coordinator & Principal Investigator

Graphene Flagship Project (CORE3) 04/2020 to 09/2023; €1.8 million

FP7-ICT/ FET (European Commission Horizon 2020) [WP5: €7.3 million as WP Leader]

Role: Principal Investigator; WP5 Biomedical Technologies Work Package Leader; Health, Medicine and Sensors Division Leader; Member of the Graphene Flagship Management Panel

Cancer Research UK (CRUK) Pioneer Award; 06/2018 to 03/2022; £195k

Role: Principal Investigator

EPSRC International Centre-to-Centre; 07/2019 to 09/2023; £350k

Manchester and Harvard Van der Waals Heterostructures of 2D Materials

Role: Co-I

Cancer Research UK (CRUK) RadNet; 11/2019-10/2024; £330k

MANchester REsearch Transforming Radiation Oncology (MAESTRO) Programme

Role: Co-I

Cancer Precision Medicine Theme, NIHR Biomedical Research Centre; 04/2018 to 03/2022; £240k

National Institute of Health Research (NIHR, NHS, UK)

Role: Co-I

BIORIMA; 11/2017 to 01/2022; €217k

European Commission Horizon 2020

Role: Co-I

PLASTICHEAL 04/2021 to 03/2024; €750k

European Commission Horizon 2020

Role: Co-I

COMPLETED GRANTS AS COORDINATOR

ANTICARB - Monoclonal ANTibody-targeted CARBOn nanotubes against cancer; 03/08-08/11; €3 million

European Commission FP7-HEALTH (2007-2.4.1-7)

Role: Coordinator & Principal Investigator

COMPLETED GRANTS AS PRINCIPAL INVESTIGATOR

Graphene Flagship Project (CORE2) 04/2018 to 03/2020; €1.02 million

European Commission Horizon 2020 [WP5: €4.5 million as WP Leader]

Role: Principal Investigator; WP5 Biomedical Technologies Work Package Leader; Health, Medicine and Sensors Division Leader; Graphene Flagship Management Panel Member

Graphene Flagship Project (CORE1) 04/2016 to 03/2018; €1.2 million

European Commission FP7-ICT/ FET [WP5: €4.5 million as WP Leader]

Role: Principal Investigator; WP5 Biomedical Technologies Work Package Leader; Graphene Flagship Executive Board Member

PATHCHOOSE - Strategies for delivery of therapeutic macromolecules across cellular and biological barriers; 10/13-09/17; €390k

European Commission FP7-PEOPLE (2013-ITN - Marie-Curie Action: "Initial Training Networks") [total budget €3.85million]

Role: Principal Investigator

NANOSOLUTIONS - Biological Foundation for the Safety Classification of Engineered Nanomaterials (ENM); 04/13-03/17; €580k

European Commission FP7-NMP (NMP.2012.1.3-1) [total budget € 13.8million]

Role: Principal Investigator

RADDEL - Targeted radioactivity against cancer; 02/12-01/16; €340k

European Commission FP7-PEOPLE (2007-4.0-4) [total budget €3.85million]

Role: Principal Investigator

Graphene Flagship Project (Rump-up Phase) 04/2013 to 03/2016; €1.2 million

European Commission FP7-ICT/FET

Role: Principal Investigator; WP4 Health & Safety

SONODRUGS - Image-controlled Ultrasound-induced Drug Delivery; 11/08-10/12; €920k

European Commission FP7-NMP (2007-4.0-4) [total budget €10.8million]

Role: Principal Investigator & WorkPackage Leader

NINIVE - Non-invasive nanotransducer for in vivo gene therapy; 12/06-01/10; €450k

European Commission FP6-NMP (2004-3.4.1.1-1) [total budget €1.75million]

Role: Principal Investigator & WorkPackage Leader

MEMBERSHIPS

- Member and Fellow (2004-today) Royal Society of Chemistry (London, UK)
- Member (2000-2015) American Chemical Society (Washington DC, USA)
- Member (2000-2010) American Society of Gene & Cell Therapy (WI, USA)
- Senior Founding Member (2006-2010) of the American Society of Nanomedicine (Washington DC, USA)
- Treasurer (2006-2008) and Board Member (2002-2008) of the International Liposome Society (Vancouver, Canada)
- Advisory Board Member of the European Foundation for Clinical Nanomedicine (Basel, Switzerland)

INVITED TALKS AT INTERNATIONAL CONFERENCES, INSTITUTIONS

I have been invited to deliver lectures in more than 250 International Conferences during my career since 1994.

Plenary or Keynote Lecture invitations (selected out of a total of >100):

- Gordon Conference on Neuroelectronic Interfaces, Galveston, TX, USA, 2018
- Gordon Conference on Tissue Repair & Regeneration, Colby College ME, USA, 2014
- Korean Academy of Science & Technology, 5th Frontiers Scientists Workshop, London, UK, 2014.
- Graphene Week, Chalmers University, Sweden, 2014.
- 1st Herrenhausen Conference of the Volkswagen Foundation: Downscaling Science, Germany, 2012
- Gordon Conference on Cancer Nanotechnology, Colby College ME, USA, 2011
- GENNESYS International Congress on Nanotechnology & Research Infrastructures, Barcelona, 2010
- European Conference for Clinical Nanomedicine, Basel, Switzerland, 2008, 2009, 2010
- European Science Foundation (ESF) Conference on Nanocarbons, Maratea, Italy, 2009
- Nanotoxicology 2008, ETH Zurich, Switzerland, 2008
- Franco-British Nanomedicine Summit, British Embassy Paris, France, 2006

Keynote and Invited Lecture Invitations at other Institutions (selected out of a total of 88):

- Graphene Flagship's Science and Technology Forum - Gressy Paris, France, 2020.
- UK&Ireland Controlled Release Society Keynote, Liverpool, UK, 2019
- GrapheneWeek, Helsinki, Finland, 2019
- Graphene Connect, Medtech and Diagnostics Expo, Germany, 2019
- Nanobiomed, Bcelona, Spain, 2019
- Nanomedicine and Nanotechnology Explained, London, UK, 2019
- Cardiff School of Pharmacy and Pharmaceutical Sciences, Cardiff, UK, 2018
- Seminars in Cancer Nanotechnology@MSKCC, 2018
- GrapeheneForUS – NewYork,USA, 2018
- ACS National Meeting, New Orleans, USA, 2018
- Debugging NanoBio Interfaces to promote Clinical Translation, Mainz, Germany, 2018
- Center for Nanotechnology and Nanotoxicology, Harvard School of Public Health, Boston, 2019
- Breakthroughs in Healthcare Technologies, London, UK, 2018
- GrapheneWeek - Athens, Greece, 2017
- GRAPHENE CONNECT – Dusseldorf, Germany, 2017
- Korea-EU Graphene Workshop, Jeju, South Korea, 2017
- Liverpool Medical Insitution, Liverpool, UK, 2016
- NanoMedicine from discovery to clinical reality: therapeutics, delivery and imaging, UCLA, USA, 2016
- Graphene Connect Biosensor and Implants, Grenoble, 2016
- Nanotox, Boston, USA, 2016
- ICONaN – Paris, France, 2016
- Nanobiotechnology Seminar Series, Stanford School of Medicine, CA, USA 2011
- Institute of Environmental Medicine Invited Lecture, Karolinska Institutet, Stockholm, Sweden, 2010.
- Molecular & Integrative Physiological Sciences, Harvard School of Public Health, Boston, USA, 2009.
- Invited CNRS Institute Lecture, CNRS, Institute of Molecular Biology, Strasbourg, France, 2004.

Research Expeditions that I have led

- Harvard/MIT Lecture Tour, Boston, USA, 2019 [seminars and visits at Langer, Boyden, Strano, Bhatia laboratories]
- Seoul National University and POSTECH Lecture tour between 13/2/2012 - 28/2/2012.
- National Institute of Advanced Industrial Science and Technology (AIST) in Tsukuba, Japan in the context of the awarded JSPS Fellowship. Lecture Tour around 7 Japanese institutions between 4/7/2010 - 28/10/2010.

Organization of Conferences/Meetings (membership steering/programme committees – selected examples)

- NanoKorea, KINTEX, Seoul, S.Korea, 2011 [Role: Programme Committee]
- BioNanotech Conference & Expo 2010, Anaheim CA, USA [Role: Symposium Chair]
- Carbon Nanotubes in Medicine, Biology & Toxicology Satellite Symposium series, NT09, Beijing, China, 2009 [Role: Symposium Chair]
- 2nd European Science Foundation (ESF) Summer School in Nanomedicine, Lisbon, Portugal, 2009 [Role: International Advisory Board & Programme Committee]
- American Chemical Society National Meeting, Advances in Nanomedicine Symposium, Philadelphia USA, 2008 [Role: Symposium Co-Chair with Prof.A.Wei, Purdue University]
- International Liposome Society Annual Meeting, London, UK, 2007 [Conference Co-Chair]
- American Chemical Society National Meeting, Advances in Nanomedicine Symposium, Washington DC, USA, 2006 [Role: Symposium Co-Chair]

MASS MEDIA / PUBLIC SCIENCE COMMUNICATION

- Interviewed by the BBC (UK), CNN (USA), NHK (Japan), nationwide TV channels in UK, Greece, Korea.
- Dozens of articles in many wide circulation newspapers around the world have featured Nanomedicine Lab results (all can be found here: <https://nanomedicinelab.com/news-media/>)
- Small World Nanotech – The Guardian blog on Nanotechnology (main contributor), 2013-2014
- Reuters commissioned photographic gallery of the Nanomedicine Lab, 2013
- Permanent exhibition at Gothenburg Universeum, titled: Graphene: A New Age (advisor), 2013

PUBLIC OUTREACH ACTIVITIES

The Nanomedicine Lab is annually fund-raising and participating in the *NanoWhales Project* (<https://nanomedicinelab.com/nanowhales-2/>). A collaboration between the Nanomedicine Lab scientists with marine biologists and oceanographers for the scientific study, monitoring and protection of sea mammals (sperm whales, Cuvier's beaked whales and dolphins) in the Mediterranean Sea.

MENTORSHIP OF EARLY CAREER RESEARCHERS

Of the numerous students, postdoctoral and clinical fellows that have worked and been trained in the Nanomedicine Lab, many have established successful careers in senior academic and industry positions (only a few examples include):

C.B. Poor (Research Associate 2002-2006) Senior Scientist, Cargill, Minneapolis, MI, USA
R.Singh (PhD student, 2002-2007) Associate Professor of Cancer Biology, Wake Forest University School of Medicine, NC, USA;
L.Lacerda (PhD student, 2004-2008) Director, Research Operations, Baylor College of Medicine, Texas, USA;
C.Guo (Research Fellow, 2008-2010) Senior Scientist, Health Protection Agency, UK;
T. Nakajima (Surgical Research Fellow, 2009-2011) Assistant Professor of Neurosurgery, Jichi Medical University, Japan;
A.Nunes (PhD student 2008-2012) Head of Research & Innovation, Bluepharma, Coimbra, Portugal;
K.T.Al-Jamal (Research Fellow, 2005-2010) Professor of Drug Delivery & Nanomedicine, King's College London, UK;
A.Yilmazer (PhD student 2008-2012) Associate Professor at University of Ankara, Turkey;
W.Al-Jamal (PhD student & Research Fellow, 2004-2012) Reader in Nanomedicine & Drug Delivery, Queen's University Belfast, UK;
H.Ali-Boucetta (PhD student & Research Fellow 2007-2012) Lecturer Drug Delivery, University of Birmingham Medical School, UK.
H.Lee (Research Fellow, 2016-2017) Prize Fellow and Lecturer at University of Bath, UK;
M.Mazza (Research Fellow, 2013-2017) Associate Principal Scientist at AstraZeneca, Cambridge, UK;
Z.Al-Ahmady (PhD student, 2009-2013 and Research Fellow, 2013-2018) Senior Lecturer in Pharmacy, Nottingham Trent University, Nottingham, UK;

SELECTED PEER-REVIEW PUBLICATION LIST (recent to past – out of a total of >350)

1. Advanced Science, 2022, 2104559
Innate but not adaptive immunity regulates lung recovery from chronic exposure to graphene oxide nanosheets
Thomas Loret[^], Luis Luna[^], Alexander Fordham, Atta Arshad, Katharine Barr, Neus Lozano, Kostas Kostarelos, Cyrill Bussy**
2. Nanotheranostics, 2022, 6(3): 230-242
Mild hyperthermia accelerates doxorubicin clearance from tumour-extravasated temperature-sensitive liposomes
Wafa' T. Al-Jamal and Kostas Kostarelos*
3. ACS Nano, 2021, 15 (4), 7357-7369
Nanoparticle-enabled enrichment of longitudinal blood proteomic fingerprints in Alzheimer's disease
Marilena Hadjidemetriou, Jack Rivers-Auty, Lana Papafilippou, James Eales, Katherine A.B. Kellett, Nigel M. Hooper, Catherine B. Lawrence, Kostas Kostarelos**
4. Nature Nanotechnology, 2021, 1-9 **[ONE OF FIVE MOST RELEVANT PUBLICATIONS SELECTED]**
Full bandwidth electrophysiology of seizures and epileptiform activity enabled by flexible graphene micro-transistor depth neural probes
Andrea Bonaccini Calia, Eduard Masvidal-Codina, Trevor Smith, Nathan Schäfer, Daman Rathore, Elisa Rodríguez-Lucas, Xavi Illa, Jose De la Cruz, Elena Del Corro, Elisabet Prats-Alfonso, Damià Viana, Jessica Bousquet, Clement Hébert, Javier Martínez-Aguilar, Justin R. Sperling, Matthew Drummond, Arnab Halder, Abbie Dodd, Katharine Barr, Sinead Savage, Jordina Fornell, Jordi Sort, Christoph Guger, Rosa Villa, Kostas Kostarelos, Rob Wykes, Anton Guimerà-Brunet*, and Jose Garrido**
5. Journal of Controlled Release, 2021, 338, 330-340
The impact of graphene oxide sheet lateral dimensions on their pharmacokinetic and tissue distribution profiles in mice
*Dhifaf Jasim, Leon Newman, Artur Filipe Rodrigues, Isabella A. Vacchi, Matteo A. Lucherelli, Neus Lozano, Cécilia Ménard-Moyon, Alberto Bianco, Kostas Kostarelos**
6. Nature Nanotechnology, 2021, 16: 843–850
Reasons for success and lessons learnt from nanoscale vaccines against COVID-19
*Thomas Kisby, Açelya Yilmazer & Kostas Kostarelos**
7. 2D Materials, 2021, 8 (3): 035044
A method for the measurement of mass and number of graphene oxide sheets in suspension based on non-spherical approximations
*Livia Crica, Thomas Dennison, Elise Guerini, Kostas Kostarelos**
8. PLoS One, 2021, 16(5): e0251054
Transient reprogramming of postnatal cardiomyocytes to a dedifferentiated state
*Thomas Kisby, Irene de Lázaro, Maria Stylianou, Giulio Cossu, Kostas Kostarelos**
9. Nanoscale Advances, 2021, 3, 4166-4185
Dynamic interactions and intracellular fate of label-free, thin graphene oxide sheets within mammalian cells: role of lateral sheet size
Yingxian Chen, Jack Rivers-Auty, Livia Crică, Katie Barr, Vinicio Rosano, Adrian Arranz, Thomas Loret, Cyrill Bussy, David Spiller, Kostas Kostarelos, Sandra Vranic**
10. Small, 2021, 2101483
Graphene oxide nanosheets interact and interfere with SARS-CoV-2 surface proteins and cell receptors to inhibit infectivity
*Mehmet Altay Unal, Fatma Bayrakdar, Hasan Nazir, Omur Besbinar, Cansu Gurcan, Neus Lozano, Luis Arellano, Süleyman Yalcin, Oguzhan Panatli, Dogantan Celik, Damla Alkaya, Aydan Agan, Laura Fusco, Serap Yildiz, Lucia Delogu, Kamil Akcali, Kostas Kostarelos, * Açelya Yilmazer**
11. Nature Nanotechnology, 2021, 16, 1019–1029 **[ONE OF FIVE MOST RELEVANT PUBLICATIONS SELECTED]**
Viscoelastic surface electrode arrays to interface with viscoelastic tissues
*Christina Tringides, Nicolas Vachicouras, Irene de Lázaro, Hua Wang, Alix Trouillet, Bo Ri Seo, Alberto Elosegui-Artola, Florian Fallegger, Yuyoung Shin, Cinzia Casiraghi, Kostas Kostarelos, Stéphanie Lacour, David Mooney**
12. ACS Nano, 2021, 15 (4), 7357-7369
Nanoparticle-enabled enrichment of longitudinal blood proteomic fingerprints in Alzheimer's disease
Marilena Hadjidemetriou, Jack Rivers-Auty, Lana Papafilippou, James Eales, Katherine A.B. Kellett, Nigel M. Hooper, Catherine B. Lawrence, Kostas Kostarelos**
13. Biomaterials, 2021, 271, 120749
Graphene oxide prevents lateral amygdala dysfunctional synaptic plasticity and reverts long lasting anxiety behavior in rats
*Audrey F. Biagioni, Giada Cellot, Elisa Pati, Neus Lozano, Belén Ballesteros, Raffaele Casani, Norberto C. Coimbra, Kostas Kostarelos, Laura Ballerini**

14. Faraday Discuss, 2021, 227, 46-60
Enhanced liquid phase exfoliation of graphene in water using an insoluble bis-pyrene stabiliser
Yuyoung Shin, Xavier Just-Baringo, Matthew Boyes, Adyasha Panigrahi, Marco Zarattini, Yingxian Chen, Xinyun Liu, Gareth Morris, Eric Prestat, Kostas Kostarelos, Sandra Vranic, Igor Larrosa, Cinzia Casiraghi**
15. Advanced Therapeutics, 2021, 4 (1), 2000109
Deep tissue translocation of graphene oxide sheets in human glioblastoma 3D spheroids and an orthotopic xenograft model
Irene de Lázaro, Paul Sharp, Cansu Gurcan, Ahmet Ceylan, Maria Stylianou, Thomas Kisby, Yingxian Chen, Sandra Vranic, Katharine Barr, Hadiseh Taheri, Asuman Ozen, Cyrill Bussy, Acelya Yilmazer, Kostas Kostarelos**
16. Advanced Materials, 2021, 33 (4), 2002047
Trends in micro-/nano-robotics: Materials development, actuation, localization, and system integration for biomedical applications
*Ben Wang, Kostas Kostarelos, Bradley J. Nelson, Li Zhang**
17. Advanced Healthcare Materials, 2021, 10 (1), 2001378
Nanotools for Sepsis Diagnosis and Treatment
*Lana Papafilippou, Andrew Claxton, Paul Dark, Kostas Kostarelos, Marilena Hadjidemetriou**
18. Nature Communications, 2021, 12, 211
Graphene active sensor arrays for long-term and wireless mapping of wide frequency band epicortical brain activity
R. Garcia-Cortadella[^], G. Schwesig^{2^}, C. Jeschke, X. Illa, A. Gray, S. Savage, E. Stamatidou, I. Schiessl, E. Masvidal-Codina, K. Kostarelos, A. Guimerà-Brunet, A. Sirota, J. A. Garrido**
19. Small, 2020, 16(48): 2004029
Intracerebral injection of graphene oxide nanosheets mitigates microglial activation without inducing acute neurotoxicity: a pilot comparison to other nanomaterials
Corinne Portoli, Cyrill Bussy, Mariarosa Mazza, Neus Lozano, Dhifaf A. Jasim, Maurizio Prato, Alberto Bianco, Marina Bentivoglio, Kostas Kostarelos**
20. Advanced Therapeutics, 2020, 2000141
Adenoviral mediated delivery of OSKM factors induces partial reprogramming of mouse cardiac cells in vivo
Thomas Kisby, Irene de Lázaro, Sudeshna Fisch, Elizabeth J Cartwright, Giulio Cossu, Kostas Kostarelos**
21. Nanoscale Horizons, 2020, 5 (11), 1476-1486
The biomolecule corona of lipid nanoparticles contains circulating cell-free DNA
Lois Gardner, Jessica Warrington, Jane Rogan, Dominic G. Rothwell, Ged Brady, Caroline Dive, Kostas Kostarelos, Marilena Hadjidemetriou**
22. Advanced Materials, 2020, 2002047
Trends in micro-/nano-robotics: Materials development, actuation, localization, and system integration for biomedical applications
*Ben Wang, Kostas Kostarelos, Bradley J. Nelson, Li Zhang**
23. Advanced Therapeutics, 2020, 2000109
Deep tissue translocation of graphene oxide sheets in human glioblastoma 3D spheroids and an orthotopic xenograft model
Irene de Lázaro, Paul Sharp, Cansu Gurcan, Ahmet Ceylan, Maria Stylianou, Thomas Kisby, Yingxian Chen, Sandra Vranic, Katharine Barr, Hadiseh Taheri, Asuman Ozen, Cyrill Bussy, Acelya Yilmazer, Kostas Kostarelos**
24. Cell Reports Physical Science, 2020, 1 (9), 100176
Nose-to-Brain translocation and cerebral biodegradation of thin graphene oxide nanosheets
Leon Newman, Artur Filipe Rodrigues, Dhifaf Jasim, Isabella Anna Vacchi, Alberto Bianco, Cyrill Bussy, Kostas Kostarelos**
25. ACS Nano, 2020, 14 (8), 10168-10186
Splenic capture and in vivo intracellular biodegradation of biological-grade graphene oxide sheets
Leon Newman[^], Dhifaf A. Jasim[^], Eric Prestat, Neus Lozano, Irene de Lázaro, Yein Nam, Bakri M. Assas, Joanne Pennock, Sarah J. Haigh, Cyrill Bussy, Kostas Kostarelos**
26. Faraday Discussions, 2020
Enhanced liquid phase exfoliation of graphene in water using an insoluble bis-pyrene stabiliser
Yuyoung Shin, Xavier Just-Baringo, Matthew Boyes, Adyasha Panigrahi, Marco Zarattini, Yingxian Chen, Xinyun Liu, Gareth Morris, Eric Prestat, Kostas Kostarelos, Sandra Vranic, Igor Larrosa, Cinzia Casiraghi**
27. Nanoscale, 2020, 12 (23), 12383-12394
Stable, concentrated, biocompatible, and defect-free graphene dispersions with positive charge
Yuyoung Shin, Sandra Vranic, Xavier Just-Baringo, Manoj Gali, Thomas Kisby, Yingxian Chen, Alexandra Gkoutzidou, Eric Prestat, David Beljonne, Igor Larrosa, Kostas Kostarelos*, Cinzia Casiraghi**

28. *Nano Today*, 2020, 34, 100901
Nano-scavengers for blood biomarker discovery in ovarian carcinoma
*Marilena Hadjidemetriou**, *Lana Papafilippou*, *Richard D. Unwin*, *Jane Rogan*, *Andrew Clamp*, *Kostas Kostarelos**
29. *Nanoscale Horizons*, 2020, 5, 1250
Graphene oxide nanosheets modulate spinal glutamatergic transmission and modify locomotor behaviour in an in vivo zebrafish model
*Giada Cellot**, *Sandra Vranic*, *Yu Young Shin*, *Robyn Worsley*, *Artur Filipe Rodrigues*, *Cyrill Bussy*, *Cinzia Casiraghi*, *Kostas Kostarelos*, *Jonathan McDermid*
30. *Nanoscale*, 2020, 12 (18), 10240-10253
Protein corona-enabled biomarker discovery to differentiate bacterial sepsis from non-infectious acute systemic inflammation
Lana Papafilippou, *Andrew Claxton*, *Paul Dark*, *Kostas Kostarelos**, *Marilena Hadjidemetriou**
31. *Nature Nanotechnology*, 2020, 15, 343–344
Nanoscale nights of COVID-19
Kostas Kostarelos
32. *Advanced Science*, 2020, 7(12), 1903200
Size-dependent pulmonary impact of thin graphene oxide sheets in mice: towards safe-by-design
Artur Filipe Rodrigues, *Leon Newman*, *Dhifaf Jasim*, *Sourav P. Mukherjee*, *Jun Wang*, *Isabella Vacchi*, *Cécilia Ménard-Moyon*, *Alberto Bianco*, *Bengt Fadeel**, *Kostas Kostarelos**, *Cyrill Bussy**
33. *Small*, 2020, 16(21), 1907686
Next-generation sequencing reveals differential responses to acute versus long-term exposures to graphene oxide in human lung cells
Sourav Mukherjee, *Govind Gupta*, *Katharina Klödtz*, *Jun Wang*, *Artur F. Rodrigues*, *Kostas Kostarelos*, *Bengt Fadeel**
34. *Nanomedicine: Nanotechnology, Biology, and Medicine*, 2020, 26, 102174
Thin graphene oxide nanoflakes modulate glutamatergic synapses in the amygdala cultured circuits: exploiting synaptic approaches to anxiety disorders
Nicola Secomandi, *Audrey F. Biagoni*, *Kostas Kostarelos*, *Giada Cellot**, *Laura Ballerini**
35. *Nature Nanotechnology*, 2020, 15, 164–166
Banning carbon nanotubes would be scientifically unjustified and damaging to innovation
*Daniel A. Heller**, *Prakrit V. Jena*, *Matteo Pasquali*, *Kostas Kostarelos*, *Lucia G. Delogu*, *Rachel E. Meidl*, *Slava V. Rotkin*, *David A. Scheinberg*, *Robert E. Schwartz*, *Mauricio Terrones*, *Yuhuang Wang*, *Alberto Bianco*, *Sofie Cambré*, *Laurent Cognet*, *Simon R. Corrie*, *Silvia Giordani*, *Tobias Hertel*, *Tetyana Ignatova*, *Mohammad F. Islam*, *Nicole Iverson*, *Anand Jagota*, *Dawid Janas*, *Junichiro Kono*, *Sebastian Kruss*, *Markita P. Landry*, *Yan Li*, *Richard Martel*, *Shigeo Maruyama*, *Yudasaka Masako*, *Anton V. Naumov*, *Maurizio Prato*, *Daniel Roxbury*, *Michael S. Strano*, *James M. Tour*, *R. Bruce Weisman*, *Wim Wenseleers*
36. *Nature Nanotechnology*, 2020, 15, 164
Grouping all carbon nanotubes into a single substance category is scientifically unjustified
*Bengt Fadeel** and *Kostas Kostarelos*
37. *Chemical Science*, 2020, 11 (9), 2472-2478
Palladium catalysed C–H arylation of pyrenes: access to a new class of exfoliating agents for water-based graphene dispersions
Xavier Just-Baringo, *Yuyoung Shin*, *Adyasha Panigrahi*, *Marco Zarattini*, *Vaiva Nagyte*, *Ling Zhao*, *Kostas Kostarelos*, *Cinzia Casiraghi**, *Igor Larrosa**
38. *Theranostics*, 2019, 9 (24): 7298-7312
Thermal monitoring during photothermal: hybrid probes for simultaneous plasmonic heating and near-infrared optical nanothermometry
*Marta Quintanilla**, *Isabel García*, *Irene de Lázaro*, *Rafaela García-Alvarez*, *Malou Henriksen-Lacey*, *Sandra Vranic*, *Kostas Kostarelos*, *Luis M. Liz-Marzán**
39. *Nanomedicine*, 2019, 14 (24): 3127-3142
Hampering brain tumor proliferation and migration using peptide nanofiber:siPLK1/MMP2 complexes
Mariarosa Mazza, *Hassan Ahmad*, *Marilena Hadjidemetriou*, *Giulia Agliardi*, *Omar N. Pathmanaban*, *Andrew T. King*, *Brian W. Bigger*, *Sandra Vranic**, *Kostas Kostarelos**
40. *Scientific Reports*, 2019, 9 (1): 1-10
Exposure to graphene oxide sheets alters the expression of reference genes used for real-time RT-qPCR normalization
*Irene de Lázaro** and *Kostas Kostarelos*

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