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Decreto Rettore Università di Roma “La Sapienza” D.R. n. 2016/2025 del 01.07.2025 ,

CODICE CONCORSO 2025POE003

London, U.K., 22/08/2025

Curriculum Vitae

Professor Matteo Palma

Professor of Physical Chemistry and Nanomaterials,

Department of Chemistry, School of Physical and Chemical Sciences, Queen Mary University of London

Web page: <https://research.sbcs.qmul.ac.uk/m.palma/matteos-cv.html>

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General Information

Full Name	Matteo Palma
Citizenship	Italian & Australian
Spoken Languages	Italian (madre lingua), English (mother tongue); French (intermediate)

EDUCATION

Type	Year	Institution	Degree
PhD	2007	University of Strasbourg (France), Institute of Supramolecular Science and Engineering	Physical Chemistry, supervisor Prof. Paolo Samorì
BSc & MSc	2004	Università di Roma “La Sapienza”	Laurea in Chimica (ordin. 1997, indirizzo Fisico). Voto: 110/110

ACADEMIC APOINTMENTS

Professor

(08/2022-present)

Queen Mary University of London (UK)

Department of Chemistry, School of Physical and Chemical Sciences

Reader

(09/2018-08/2022)

Queen Mary University of London (UK)

Department of Chemistry

Senior Lecturer

(10/2017-08/2018)

Queen Mary University of London (UK)

Department of Chemistry, School of Biological and Chemical Sciences

Lecturer

(09/2013-09/2017)

Associate Research Scientist

(04/2011-04/2013)

Columbia University (New York City, U.S.A.)

Department of Applied Physics and Applied Mathematics (Dr S. Wind)

Postdoctoral Researcher

(03/2008-03/2011)

Department of Mechanical Engineering (Prof. James Hone)

Summary of Current Research Activities: Since 2013 Principal Investigator at Queen Mary University of London leading a research group focusing on the use of (supra)molecular interactions -recently with a particular focus on DNA nanotechnology strategies- to control the formation of biofunctional nanohybrids of low-dimensional materials: carbon nanotubes, 2D nanomaterials and DNA nanostructures are employed to this end. Applications range from the fabrication of nanoscale biosensors and biomimicking platforms for single-molecule biological investigations, to optoelectronics.

TEACHING EXPERIENCE

As permanent Lecturer (“di ruolo”) and course organizer		
Years	Institution	Course
2014-present	<i>Queen Mary Univ. of London, UK</i>	CHE114 (1 st year undergraduates, “Fundamentals in Physical Chemistry”: classical thermodynamics) 30 hours per annum (p.a.), ca. 100 students, 15 credit module
2013-present	<i>Queen Mary Univ. of London, UK</i>	CHE304 (3 rd year, “Topics in Physical Chemistry”: surface science and statistical thermodynamics) 30 hours p.a., ca. 80 students, 15 credit module
2014-2019	<i>Queen Mary Univ. of London, UK</i>	CHE311 (3 rd year, “Advanced Practical Chemistry Laboratory”) 12 hours p.a., ca. 80 students, 15 credit module
2021-2023	<i>Queen Mary Univ. of London, UK</i>	CHE100 (1 st year, “Essential Skills for Chemists” : mathematics for Chemists) 12 hours p.a., ca. 100 students, 15 credit module
2015-2020	<i>Queen Mary Univ. of London, UK</i>	CHE404 (4 th year, “Advanced Topics in Physical Chemistry”) 30 hours p.a., ca. 20 students, 15 credit module
2025-present	<i>Queen Mary Univ. of London, UK</i>	CHE 411 (4 th year, “Nanomaterials”: nanotechnology and biotechnology) 30 hours p.a., ca. 20 students, 15 credit module
2013-present	<i>Queen Mary Univ. of London, UK</i>	1 st year and 2 nd year tutorials to group of 6 advisees per year, 12 hours p.a.
As non-permanent Lecturer		
09/2011-12/2011	<i>The Cooper Union (New York City, U.S.A.)</i>	Adjunct Professor: CH110 “General Chemistry” to 1 st year Engineering students, 26 hours, ca. 25 students. Course organizer
2017	<i>National University of Ireland, Galway</i>	Invited Lecturer: “Principles in Medical Device Design”, Postgraduate module, 4 hours, ca 20 students
2010 to 2012	<i>Columbia University (New York, U.S.A) Department of Applied Physics</i>	Guest Lecturer: “NanoBiotechnology” & “Nanoscale BioFabrication” 4 hours guest lectures p.a.
09/2025	<i>Università’ di Pisa, Information Engineering Department</i>	Visiting Scientist: “NanoBiotechnology strategies for smart materials systems and devices”, PhD course, 20 hours, Course organizer

Supervision experience

2013-present: Head of the Palma Research Group at Queen Mary Univ. of London. Supervised 11 PhD students to completion/graduation as primary supervisor (details below), 6 Masters and 30 BSc final year students; trained 7 postdocs. Currently supervising as primary supervisor 4 PhD students and one postdoc.

PhD students graduated as 1st Supervisor: eleven

1. Dr Da Huang (10/2013 to 10/2017), graduated Ph.D. student, now PostDoc at *UCL (UK)*
2. Dr Mark Freeley (10/2013 to 10/2017), graduated Ph.D. student, now at consultant *BY (Dublin, Eire)*
3. Dr Jingyuan Zhu, (10/2013 to 10/2017) graduated Ph.D. student, now Assoc. Prof. *Univ. of Shanghai*
4. Dr Joseph McMorro (10/2013 10/2017), graduated Ph.D. student, now at *Unilever (UK)*
5. Dr Antonio Attanzio (10/2014-10/2018) graduated Ph.D. student, now at *Cambridge DT (UK)*
6. Dr Xinzha Xu, (10/2016 -2020) graduated Ph.D. student, now Postdoc *University College London*
7. Dr Giuseppe Amoroso (10/2016- 2020) graduated Ph.D. student, now at *Claim Capital (UK)*
8. Dr Qingyu Ye, (10/2016 -2020) graduated Ph.D. student, then postdoc *Univ. of Virginia (USA)*

9. Dr Weiying Hong (09/2021-2025), graduated Ph.D. student
10. Dr TingTing Zheng (10/2021-2025), graduated Ph.D. student
11. Dr Kai Chen (09/2021-2025), graduated Ph.D. student

Postdoctoral research associates supervised as PI (7): Dr Chang-Seuk Lee (09/2021-23; now Assistant Prof. W. Univ, Seoul, Korea); Dr Alessandro Cecconello (10/2017 to 04/2018; now Assoc. Prof. Univ. of Brescia, IT), Dr Gririraj Manohran (01/2022-present); Dr Pierrick Clement (12/2015-11/2018; then researcher at EPFL, CH); Dr Keitel Cervantes Salguero (10/2017- 09/2020; now Researcher, Boise State Univ. USA) ; Dr Mark Freeley (11/2017-21 now consultant at BY) ; Dr Franco Tardani (2015; now R&D Scientist) .

Awards and Honors

Year	Title
2016	<i>Fellow of The Higher Education Academy</i> (PR108169) (04/07/2016): UK Professional Standards Framework for teaching and learning support in higher education
2016	<i>Best Oral Presentation</i> , 252 nd American Chemical Society National Meeting, Philadelphia, (U.S.A.), “Nanostructured Interfaces” Session
2016	<i>QMUL Staff Bonus Scheme 2016</i> : in recognition of individual contribution to Queen Mary
2006	<i>Young Scientist Award</i> : European Materials Research Society

FUNDING

- External grants as PI (principal investigator) or Co-PI (co-Principal investigator):

Total external Grant income > GBP £2M as PI contribution

Year	Title	Program	Grant value
09/2025-2027	PI: DNA Nanotechnology for Single-Molecule Control in Sensing Devices	Air Force Office of Scientific Research, Grant Acceptance Letter - 25IOE027	£239.7k
2025-2027	PI: Portable Multiplexed Biosensors for Trauma Induced Coagulopathy	Defence Science and Technology Lab.-GOV UK, Grant number: DSTL0000044519	£250k
2024-2025	PI: Nanoscale Multicolour Photodetectors: DNA Nanotechnology for Mixed-Dimensional Heterostructures	Defence Science and Technology Lab.-GOV UK, Grant number : DSTL0000030050	£130k
2022-2025	PI: Bio-molecular nanocarbon junctions for low-power computing	Defence Science and Technology Lab.-GOV UK, Grant number: DSTL0000002134	£99.8k
2022-2024	PI: Exactmer-QMUL: Exact Polyethylene Glycol polymers	Knowledge Transfer Partnership, Innovate UK, Grant number: 13121	£230.9k
2021-2023	PI: Nanoscale Biosensing Devices	Air Force Office of Scientific Research, Grant number: FA86552117003	£230.2k
2020-22	PI: Portable Biosensing Reader	Life Arc charity	£136k
2017-2020	PI: DNA Nanotechnology for Single-Molecule Monitoring of Target-Analyte Interactions	Air Force Office of Scientific Research, Grant number: FA95501710179	£226.6k
2016-2019	PI: Single-Molecule Bioelectronic Devices with Multi-Sensing Capability	Air Force Office of Scientific Research, Grant number: FA95501610345	£176.9k

2016-17	PI: DNA origami conjugated glycomimetic arrays for neuroelectrodes	Royal Society International Exchange (UK-Eire)	£6k
2015-2017	PI: Towards Solution Processable Single-Molecule Devices	Engineering and Physical Sciences Research Council UK, GRANT NUMBER: EP/M029506/1	£100k
2015-2018	Co-PI: Fundamental membrane interactions of copper generated oligomers, profibrils and amyloid fibres	Biotechnology and Biological Sciences Research Council UK, GRANT_NUMBER: BB/M023877/1	£346k
2013	PI: DNA Nanotechnology	Rita Levi Montalcini Programma Giovani Ricercatori (Italian Ministry of Education): awarded but I renounced , as I took a position at Queen Mary University of London	€275.8k
Equipment grants			
2022	Co-PI: A confocal microscope for multidisciplinary dynamic studies of complex biological systems	Biotechnology and Biological Sciences Research Council UK, GRANT_NUMBER: BB/W019698/1	£390.2k
2020	PI: NanoFrazor: Thermal Scanning Probe Lithography	Engineering and Physical Sciences Research Council UK -Queen Mary	£248.5k

- **Internal Queen Mary University competitive grants awarded as PI (total: £201k):** Queen Mary *Global Challenges Research Fund* (Jan 2020-Dec 2020): £48k; Queen Mary *Impact Fund* £50K (Oct 2019-2020) + £50k (June 2021-22); Queen Mary *Innovation Grant* (Dec 2017-Nov 2018): £38k; *EPSRC Institutional Sponsorship Fund* (Oct 2016- April 2017): £15k.
- **10 externally-funded PhD studentships secured as PI** and Primary supervisor: one co-funded with the Univ of Munster (completed in 2020), 8 Chinese Scholarship Council PhD studentships (two completed in 2017, two in 2019, three in 2025, one to complete in 2026), one A*-Singapore co-funded (to complete in 2027). Two externally funded as co-supervisor: BBSRC-Lido PhD Studentship (completed 2019), A*-Singapore co-funded (completed 2025)

SUMMARY OF SCIENTIFIC PUBLICATIONS

Product type	Number	Data Base	Start	End
Total Papers [international]	87	Web of Science	2004	2025
<i>Papers last 15 years [international]</i>	76	Web of Science	2010	2025
<i>Papers last 10 years [international]</i>	65	Web of Science	2015	2025
Total papers (intl) as corresponding author	37	Web of Science	2011	2025
Books chapters [scientific]	4	Web of Science	2004	2025
Patents	2			
Total Impact factor	757.6 (Web of Science Journal Citation Reports, as per year of publication)			
Impact Factor “medio”	8.7 (Web of Science Journal Citation Reports, as per year of publication)			
Total Citations	2931 (Scopus); 3746 (Google Scholar)			
Average Citations per Product	33.7 (Scopus) 43 (Google Scholar)			
Hirsch (H) index	28 (Scopus) 34 (Google Scholar)			



Citations History: Google Scholar



Citations History: Scopus

SELECTED PUBLICATIONS FOR THE EVALUATION

(16 from the last 10 years; *Corresponding author)

I.F.= impact factor in the year of publication (JCR, Web of Science). Citations from Scopus.

1. T. Zheng, L. G. Rigby, J. F. Marshall,* **M. Palma***, "Multivalent DNA Origami Enables Single-Molecule Dissection of Integrin $\alpha\beta 6$ - Receptor Tyrosine Kinase Crosstalk in Cancer Biology"
ACS Nano, 2025, doi: [10.1021/acsnano.5c07581](https://doi.org/10.1021/acsnano.5c07581) (I.F. = 16)
2. K. Chen, H. Miao, S. Dimitriov, **M. Palma***, "Mixed-Dimensional 0D-DNA-2D Heterostructures Beyond van der Waals: A DNA-Templated Strategy for Optoelectronic Tunability"
Advanced Functional Materials, 2025, 2502140 , doi:[10.1002/adfm.202502140](https://doi.org/10.1002/adfm.202502140) (I.F.: 19)
3. H. Miao, G. Manoharan, A. Lim, P. Mirau, J. L. Chavez, CS Lee*, **M. Palma***, "Modulating Signal Generation in Aptamer-Based CNT-FET Biosensors by Controlling the Functionalization Route"
Advanced Sensor Research, 2025, e70002 doi: [10.1002/adsr.70002](https://doi.org/10.1002/adsr.70002) (I.F.= 3.5)
4. R Gwyther, S Cote, CS Lee, H. Miao, K Ramakrishnan, **M Palma*** and D Jones* "Optimising CNT-FET Biosensor Design through modelling of biomolecular electrostatic gating and its application to beta-Lactamase detection"
Nature Communications, 2024, 15, 7482, doi: [10.1038/s41467-024-51325-6](https://doi.org/10.1038/s41467-024-51325-6) (I.F. =15.7; citations: 10)
5. X. Xu, B. Bowen,R. E.A. Gwyther, M. Freeley, B. Grigorenko,A. V. Nemukhin, J.Ekl'f-Ostenberg, K. Moth-Poulsen, D.D. Jones*, **M. Palma***, "Tuning Electrostatic Gating of Semi-Conducting Carbon Nanotubes by Controlling Protein Orientation in Biosensing Devices"
Angewandte Chemie International Edition, 2021, 60, 20184 –20189, doi: [10.1002/anie.202104044](https://doi.org/10.1002/anie.202104044) (I.F. = 16.8 ; citations: 22)
6. M. A. Fernandez-Yague,* A. Trotier, S. A. Abbah, A. Larraoaga, A. Thirumaran, A. Stapleton, S. A. M. Tofail, **M. Palma**, A. Pandit, M. J Biggs*, "A self-powered piezo-bioelectronic device regulates tendon repair-associated signalling pathways through modulation of mechanosensitive ion channels"
Advanced Materials, 2021, 33, 2008788, doi: [10.1002/adma.202008788](https://doi.org/10.1002/adma.202008788) (I.F. = 32; citations: 72)
7. K. C-Salguero, M. Freeley,J. L.Chavez,* **M. Palma*** "Single-Molecule DNA Origami Aptasensors for Real-Time Biomarker Detection "
Journal of Materials Chemistry B, 2020, 8, 6352, doi: [10.1039/D0TB01291B](https://doi.org/10.1039/D0TB01291B) (I.F.= 6.3, citations: 14)
8. W. Hawkes, D. Huang, P. Reynolds, L. Hammond, M. Ward, N. Gadegaard, J. F. Marshall,* T. Iskratch,* **M. Palma*** "Probing the nanoscale organisation and multivalency of cell surface receptors: DNA origami nanoarrays for cellular studies with single-molecule control"
Faraday Discussions, 2019, 219, 203-219, doi: [10.1039/C9FD00023B](https://doi.org/10.1039/C9FD00023B) (I.F.= 4.3, citations: 37)
9. G.Amoroso, Q. Ye, K. Cervantes-Salguero, G. Fernandez, A. Ceconello*, **M. Palma***
"DNA-powered Stimuli-Responsive Single-Walled Carbon Nanotube Junctions"
Chemistry of Materials, 2019, 31, 1537-1542, doi: [10.1021/acs.chemmater.8b04483](https://doi.org/10.1021/acs.chemmater.8b04483) (I.F.= 9.5, citations: 15)
- 10.D. Huang, K. Patel, S. Perez-Garrido, J. F. Marshall,* **M. Palma*** "DNA Origami Nanoarrays for Multivalent Investigations of Cancer Cell Spreading with Nanoscale Spatial Resolution and Single-Molecule Control"
ACS Nano, 2019, 13, 728-73, doi: [10.1021/acsnano.8b08010](https://doi.org/10.1021/acsnano.8b08010) (I.F.= 14.5, citations: 67)
- 11.D. C. Bode, M. Freeley, J. Nield, **M. Palma** , J. H. Viles* "Amyloid- β oligomers have a profound detergent-

- like effect on lipid membrane bilayers, imaged by atomic force and electron microscopy"
Journal of Biological Chemistry 2019, 294, 7566-7572, doi: [10.1074/jbc.AC118.007195](https://doi.org/10.1074/jbc.AC118.007195) (I.F.= 4.2, citations: 121)
12. M. Freeley, A. Attanzio, A. Ceconello, G. Amoroso, P. Clement, G. Fernandez, F. Gesuele, **M. Palma***,
 "Tuning the Coupling in Single-Molecule Heterostructures: DNA-Programmed and Reconfigurable Carbon Nanotube-Based Nanohybrids"
Advanced Science, 2018, 5, 1800596, doi: [10.1002/advs.201800596](https://doi.org/10.1002/advs.201800596) (I.F. = 12.4, citations: 25)
 13. X. Xu, P. Clement, J.V.R. Eklöf, N. Kelley-Loughnane, K. Moth-Poulsen, J. L. Chávez, **M. Palma***,
 "Reconfigurable Carbon Nanotube Multiplexed Sensing Devices",
Nano Letters, 2018, 18, 4130-4135, doi: [10.1021/acs.nanolett.8b00856](https://doi.org/10.1021/acs.nanolett.8b00856) (I.F. = 12.2, citations: 56)
 14. C. Vallejo-Giraldo, K. Krukiewicz, I. Calaresu, J. Zhu, **M. Palma**, M. Fernandez, B. W McDowell G, N. Peixoto, N. Farid, G. O'Connor, L. Ballerini, A. Pandit, and M. J. P Biggs* "Attenuated Glial Reactivity on Topographically Functionalized Poly(3,4 Ethylenedioxythiophene):P-Toluene Sulfonate (PEDOT:PTS) Neuroelectrodes Fabricated by Microimprint Lithography",
Small, 2018, 14, 1800863, doi: [10.1002/sml.201800863](https://doi.org/10.1002/sml.201800863) (I.F. = 10.8 ; citations: 29)
 15. M. Freeley, H. L. Worthy, R. Ahmed, B. Bowen, D. Watkins, J. E. Macdonald, M. Zheng, D. D. Jones,* **M. Palma***, "Site-Specific One-To-One Click Coupling of Single Proteins to Individual Carbon Nanotubes: a Single-Molecule Approach"
Journal of the American Chemical Society, 2017, 139, 17834-17840, doi: [10.1021/jacs.7b07362](https://doi.org/10.1021/jacs.7b07362) (I.F.= 14.3, citations: 26)
 16. M. J. P. Biggs, M. Fernandez, D. Thomas, R. Cooper, **M. Palma**, J. Liao, T. Fazio, C. Dahlberg, H. Wheadon, A. Pallipurath, A. Pandit, J. Kysar, S. J. Wind* "The Functional Response of Mesenchymal Stem Cells to Electron-Beam Patterned Elastomeric Surfaces"
Advanced Materials, 2017, 29, 1702119, doi: [10.1002/adma.201702119](https://doi.org/10.1002/adma.201702119) (I.F. = 21.9 ; citations: 24)

FULL LIST OF PUBLICATIONS in international peer-reviewed journals

(*Corresponding Author)

- 87) T. Zheng, L. G. Rigby, J. F. Marshall,* **M. Palma***, "Multivalent DNA Origami Enables Single-Molecule Dissection of Integrin $\alpha\beta6$ -Receptor Tyrosine Kinase Crosstalk in Cancer Biology"
ACS Nano, 2025, doi: [10.1021/acsnano.5c07581](https://doi.org/10.1021/acsnano.5c07581)
- 86) W. Hong, B. Lambert, Z. Mengrani, L. Cognet,* **M. Palma***, "Hetero-Functionalization of Carbon Nanotubes Termini with Single-Molecule Control"
Small, 2025, e05186, <https://doi.org/10.1002/sml.202505186>
- 85) H. Miao, K. Chen, H. Yu, M. Ali, **M. Palma*** "DNA-directed assembly of graphene homostructures"
Journal of Applied Physics, 2025, 138, 044303, <https://doi.org/10.1063/5.0282176>
- 84) K. Chen, H. Miao, S. Dimitriov, **M. Palma***, "Mixed-Dimensional 0D-DNA-2D Heterostructures Beyond van der Waals: A DNA-Templated Strategy for Optoelectronic Tunability"
Advanced Functional Materials, 2025, 2502140. <https://doi.org/10.1002/adfm.202502140>
- 83) H. Miao, G. Manoharan, A. Lim, P. Mirau, J. L. Ch-vez, CS Lee*, **M. Palma***, "Modulating Signal Generation in Aptamer-Based CNT-FET Biosensors by Controlling the Functionalization Route"
Advanced Sensor Research, 2025, e70002, <https://doi.org/10.1002/adsr.70002>
- 82) T. Zheng, C. O'Neill, J. F Marshall, T. Iskratsch*, **M. Palma*** "Selective Placement of Functionalised DNA Origami via Thermal Scanning Probe Lithography Patterning"
Materials Advances, 2024, 5, 9376-9382 <https://doi.org/10.1039/D4MA00828F>
- 81) MA Fernandez-Yague*, **M. Palma**, S.A.M Tofail, M Duffy, LR Quinlan, Mathew J Dalby, Abhay Pandit, Manus J Biggs "A Tympanic Piezo-Bioreactor Modulates Ion Channel-Associated Mechanosignaling to Stabilize Phenotype and Promote Tenogenesis in Human Tendon-Derived Cells"
Advanced Science, 2024, 2405711, <https://doi.org/10.1002/advs.202405711>
- 80) W Lin, **M. Palma**, D Di Tommaso* "Zirconium-doped ultrathin copper nanowires for C1 and C2+ products in electrochemical CO2 reduction reaction"
Molecular Catalysis, 2024, 569, 114591, <https://doi.org/10.1016/j.mcat.2024.114591>
- 79) L Sun, L Che, M Li, K Chen, X Leng, Y Long, X Guo, **M. Palma**, Y Lu*, "Reinforced Nacre-Like MXene/Sodium Alginate Composite Films for Bioinspired Actuators Driven by Moisture and Sunlight"
Small, 2024, 2406832, <https://doi.org/10.1002/sml.202406832>
- 78) R Gwyther, S Cote, CS Lee, H. Miao, K Ramakrishnan, **M. Palma***, D Jones* "Optimising CNT-FET

- Biosensor Design through modelling of biomolecular electrostatic gating and its application to beta Lactamase detection"
Nature Communications, 2024, 15, 7482, <https://doi.org/10.1038/s41467-024-51325-6>
- 77) Z. Mengrani, W. Hong, **M. Palma**,* "DNA-Mediated Carbon Nanotubes Heterojunction Assembly"
ACS Nanoscience Au, 2024, 4, 6, 391–398, <https://doi.org/10.1021/acsnanoscienceau.4c00025>
- 76) W. Lin, A. G. Nabi, **M. Palma**,* D. Di Tommaso * "Copper Nanowires for Electrochemical CO₂ Reaction"
ACS Applied Nanomaterials, 2024, 7, 24, 27883–27898, <https://doi.org/10.1021/acsanm.3c06116>
- 75) H. Zhang, M. Krynski, A. D. Fortes, T.G. Saunders, **M. Palma**, Y. Hao, F. Krok, H. Yan,* I. Abrahams,* "Origin of Polarization in Bismuth Sodium Titanate-Based Ceramics"
Journal of the American Chemical Society, 2024, 146, 5569–5579, <https://doi.org/10.1021/jacs.3c13927>
- 74) H. Zhang, H. Giddensa, T. G. Saunders, **M. Palma**, I. Abrahams, *, Haixue Yanc, *, Yang Haoa* "Microwave tunability in tin substituted barium titanate"
Journal of the European Ceramic Society, 2024, 44, 1627–1635, <https://doi.org/10.1016/j.jeurceramsoc.2023.10.033>
- 73) P. A. Gilhooly-Finn,* I. E. Jacobs, O. Bardagot, Y. Zaffar, A. Lemaire, S. Guchait, L. Zhang, M. Freeley, W. Neal, F. Richard, **M. Palma**, N. Banerji, H. Sirringhaus, M. Brinkmann, and C. B. Nielsen* "Interplay between Side Chain Density and Polymer Alignment: Two Competing Strategies for Enhancing the Thermoelectric Performance of P3HT Analogues"
Chemistry of Materials, 2023, 35, 9029–9039 <https://doi.org/10.1021/acs.chemmater.3c01680>
- 72) T. Degousee,* W.G. Neal, J. Selvarajaha, T. Talha-Deana, **M. Palma**, B. C. Schroeder, J. Mol* "One Hour Road to High Quality Arrays of Gold Nanoparticles Coated with Organic Ligand"
J. Mater. Chem. C, 2023, 11, 16518–16526 <https://doi.org/10.1039/d3tc01497e>
- 71) Y. Xu, R. Xie, Q. Li, J. Feng, H. Luo, Q. Ye, Z. Guo, Y. Cao, **M. Palma**, G. Chai, M. Titirici,* C. R. Jones* "Pyridine Functionalized Carbon Nanotubes: Unveiling the Role of External Pyridinic Nitrogen Sites for Oxygen Reduction Reaction"
Small, 2023, 19, 2302795 <https://doi.org/10.1002/sml.202302795>
- 70) K. Cervantes-Salguero, Y. A. Gutierrez Fosado, W. Megone, J. E. Gautrot*, **M. Palma*** "Programmed Self-Assembly of DNA Nanosheets with Discrete Single-Molecule Thickness and Interfacial Mechanics: Design, Simulation and Characterization"
Molecules, 2023, 28, 3886 <https://doi.org/10.3390/molecules28093686>
- 69) R. Marcial-Hernandez*, S. Giacalone, W.G. Neal, C-S. Lee, P. A. Gilhooly-Finn, G. Mastroianni, D. Meli, R. Wu, j. Rivnay, **M. Palma**, C.B.Nielsen* "Aqueous processing of organic semiconductors enabled by stable nanoparticles with built-in surfactants"
Nanoscale, 2023, 15, 6793–6801 <https://doi.org/10.1039/d2nr06024h>
- 68) L. Sun, L. Che, M. Li, W. G. Neal, X. Leng, Y. Long, Y. Jia, Y. Gao, **M. Palma**, and Y. Lu* "Zero-Waste Emission Design of Sustainable and Programmable Actuators"
SusMat, 2023, 3, 207–221 <https://doi.org/10.1002/sus2.120>
- 67) G. Manoharan, P. Bosel, J. Thien, M. Holtmannsp*ter, L. Meingast, M. Schmidt, H. Eickmeier, M. Haase, J. Maultzsch, M. Steinhart, J. Wollschlger, **M. Palma*** and C. Meyer,* "Click-Functionalization of Silanized Carbon Nanotubes: From Inorganic Heterostructures to Biosensing Nanohybrids"
Molecules, 2023, 28, 2161 <https://doi.org/10.3390/molecules28052161>
- 66) T. Thala-Dean, K. Chen, G. Mastroianni, F. Gesuele, J. Mol*, **M. Palma*** "Nanoscale Control of DNA-Linked MoS₂-Quantum Dot Heterostructures"
Bioconjugate Chemistry, 2023, 34, 78–84 <https://doi.org/10.1021/acs.bioconjchem.2c00285>
- 65) H. Zhang, A D. Fortes, H. Giddens, T. Graves Saunders, **M. Palma**, I. Abrahams,* H. Yan,* Y. Hao* "Antiferroelectric-like Behavior in a Lead-Free Perovskite Layered Structure Ceramic"
Inorganic Chemistry 2022, 61, 50, 20316–20325 <https://doi.org/10.1021/acs.inorgchem.2c02726>
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- **M. Palma***, J. Abramson, Alon A. Gorodetsky, C. Nuckolls, M. Sheetz, S. J. Wind and J. Hone "Controlled confinement of DNA at the nanoscale: nanofabrication and surface biofunctionalization" *DNA Nanotechnology. Methods in Molecular Biology*, 2011, vol 749. Humana Press. https://doi.org/10.1007/978-1-61779-142-0_12
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Patents

- **M. Palma**, P. Clement, X. Xu, "Biosensor device and assembly methods": *US patent* 11891652B2, *U. K. Patent Application* No 1719555.3; *European patent application* No. 18815381.3; *PCT Patent Application* No. PCT/GB2018/053401 <https://patents.google.com/patent/US11891652B2/en>
- C. K-Thompson, R. L. Gonzalez Jr., J. Hone, **M. Palma**, A. Gondarenko, D. Chenet, S. Wind "Functionalized surfaces and methods related thereto" *US Patent* 070050.5325 <https://patents.google.com/patent/US9759842B2/en>

Other Publications (scientific divulgation)

- **M. Palma**, "Solution Processable Carbon Nanotubes Hybrid Systems and Devices" *Video Proc. Adv. Mater.*, Volume 2, Article ID 2105176 (2021) DOI: 10.5185/vpoam.2021.05176 <https://www.proceedings.iaaonline.org/article/vpoam-2105176>
- **M. Palma**, "Structural DNA nanotechnology", *Chemistry World*, Royal Society of Chemistry, July 2016
- **M. Palma** "From living computers to nano-robots: how we are taking DNA beyond genetics", *The Conversation*, June 7, 2016

RESEARCH LEADERSHIP AND RESPONSIBILITIES

- **Leading international research teams**: Coordinating partners at the 711th Human Performance Wing Air Force Research Laboratory USA (Dr Jorge Chavez group, 4 US Air Force Grants as PI) & Univ. of Daikin Australia (Prof. Tiff Walsh: one Air Force grant as PI). Coordinator of UK-France team (one grant as PI: UK MOD's Defence Science and Technology Laboratory & French Defence Innovation Agency (AID)). Coordinating Queen Mary -A* Singapore co-funded PhD programme (as PI, with Dr Aaron Lau, Institute of Materials Engineering A* Singapore), Coordinating a co-funded PhD with Univ. of Munster, Germany (as PI, with Prof Gustavo Fernandez). Coordinator of UK-Ireland Royal Society exchange grant as PI (with Dr Manus Biggs, Univ. of Ireland Glasgow). Recruited/developed as PI 15 PhD students (11 to completion) and 7 postdocs; 10 externally funded PhD studentships. External Grant income > GBP £2M (as PI contribution) in addition to £638k in equipment grants and £201k from institutional (Queen Mary Univ.) grants.

- **Industrial collaborations**: with Exactmer Ltd (<https://exactmer.com/>) as PI on *Knowledge Transfer Partnership*, *Innovate UK* grant with them (2022-2024): £230k; Partnership with Maddison Ltd (<https://maddison.co.uk/>), to build portable biosensor reader (£70k); Collaboration with Cambridge Display Technology (<https://www.cdtltd.co.uk/>) on £100k EPSRC grant (2015-17).

- **REF Unit of Assessment Coordinator** for the Department of Chemistry (UoA 8) 2021 REF return (www.ref.ac.uk) (REF is the UK's system for assessing the excellence of research in UK higher education institutions). Resulted in the Department ranking 8th in Impact and 9th in research outputs, in the UK.

- **Head of the Centre for Chemical Research**, Faculty of Science and Engineering (Queen Mary University of London, 2025-present: <https://www.sereseach.qmul.ac.uk/ccr/people/>).

- **Co-Director of the Institute of Bioengineering** (Queen Mary Univ. of London: 2015-2018).

- Co-Lead of the “Engineering Better Medicine” PhD programme at Queen Mary’s Faculty of Science and Engineering (2021-2024): coordinating cohort of 35 PhDs: training, marketing and communication.
- Governance group Lead for the merger of the Departments of Chemistry with the Department of Physics in the new School of Physical and Chemical Sciences at Queen Mary Univ. of London (2021-22).
- **External Examiner of 10 PhD thesis and vivas** (“membro di commissione per la valutazione del dottorato di ricerca”) at the: University of Oxford (Mr Pawell, 2018); University of Liverpool (Mr Planje, 2019); Imperial College (Mr Stringer 2022) ; Univ. of Newcastle (Mr Stokoe 2024) ; University College London (Mr Santarelli 2017, Ms Pugh 2018, Mr Whitehouse 2021); King’s College London (Ms Williams 2017); University of Lancaster (Mr DeBonis 2023), IMDEA Madrid (Mr Vera-Hidalgo 2020).
- Internal Examiner of 4 PhD thesis and vivas at Queen Mary Univ. of London: Mr Traldi 2023, Ms Wu 2019, Mr Hu 2017, Ms Campanella 2017.
- Member of Hiring Committee at Queen Mary’s Faculty of Science & Engineering: 2022 and 2023.
- Official Mentor of 3 tenure-track Lecturers (Assistant Professors) at Queen Mary University through their tenure-track/probation: Dr Y. Liu 2019-23; Dr X Cambeiro 2017-20; Dr M. Fernandez-Yague 2023-present
- Line-manager for Departmental technical staff: Analytical Lab and NMR Services managers, 2017 -2018
- **Organisation of Conferences**: i) “Biosensing methods” symposium, at the *IEEE Research and Applications of Photonics in Defense Conference*, FL (U.S.A.) Aug 2018; ii) “Bioinspired and Biohybrid Nanosructures” symposium, at the *European Materials Research Society Conference*, Strasbourg (France) 2021
- **Invited Presentations at Conferences (talks/oral seminars: invited “relatore”):**
 1. FisMat 2025, Venice (Italy), July 2025
 2. Electrochemical Society Meeting, Montreal (Canada), May 2025
 3. Electrochemical Society Meeting, San Francisco (USA), May 2024
 4. RSC Nanoscience and Nanotechnology Network Annual Symposium, London (U.K.) 2023
 5. Electrochemical Society Meeting, Vancouver (Canada), June 2022
 6. NT21 International Conference on Science & Applications of Carbon Nanotubes, 2021 (online/covid)
 7. Electrochemical Society Meeting, June 2021 (online/covid)
 8. (Bio)Molecular Electronics Colloquia, June 2020 (online/covid)
 9. 9th Chemical Nanoscience Symposium Newcastle, U.K., March 2019
 10. **Keynote presentation** at the European Congress on Advanced Materials (EuroMat), Thessaloniki, Greece, Sept 2017
 11. Royal Society Chemical Nanoscience and Nanotechnology Meeting, Keele, U.K., January 2017
 12. European Materials Research Society, Warsaw, Poland, September 2014
- **Additional Presentations at Conferences (talks/oral, “relatore”):**
 13. ChemOnTubes 2024, Strasbourg (France), April 2024
 14. Electrochemical Society Meeting, Dallas (U.S.A), May 2019
 15. Functional DNA Nanotechnology (FDN 2018), Rome (Italy) June 2018
 16. Electrochemical Society Meeting, Seattle (U.S.A), May 2018
 17. ChemOnTubes 2018, Biarritz (France), April 2018
 18. European Conference on Molecular Electronics (ECME), Dresden (Germany), September 2017
 19. 5th International Conference on Multifunctional, Hybrid and Nanomaterials, Lisbon (Portugal) 03/2017
 20. American Chemical Society National Meeting, Philadelphia, PA (U.S.A.), August 2016
 21. 13th European Conference on Molecular Electronics, Strasbourg (France), September 2015
 22. 12th International Conference of Materials Chemistry, York (U.K). July 2015
 23. Materials Research Society Spring Meeting, San Francisco, CA (U.S.A.), April 2015
 24. Materials Research Society Meeting, Boston, MA (U.S.A.), November 2012
 25. American Chemical Society National Meeting, San Diego, CA (U.S.A.), March 2012
 26. International Conference on Electron, Ion, Photon Beam Technology and Nanofabrication; Las Vegas, NV (U.S.A.), June 2011
 27. Materials Research Society meeting, San Francisco, CA (U.S.A.), April 2011
 28. American Chemical Society National Meeting, Anaheim, CA (U.S.A.), March 2011

29. American Vacuum Society 57th International Symposium, Albuquerque, NM, (U.S.A.), Oct 2010;
selected by the American Institute of Physics as a “meeting highlight”
30. American Chemical Society National Meeting, San Francisco, CA (U.S.A.), March 2010
31. American Vacuum Society 56th International Symposium, San Jose, CA (U.S.A.), Nov 2009
32. American Chemical Society Colloid & Surface Science Symposium, New York City (USA) June 2009
33. American Chemical Society National Meeting, Salt Lake City (USA), March 2009
34. International Conference on Nano-science and Technology, Basel (Switzerland) August 2006
35. European-Materials Research Society meeting, Nice (France) 2006
- Invited Seminars at Universities and Research Institutes:
- Department of Chemistry, Cardiff University, U.K., March 2021
 - Department of Chemistry, Keele University, U.K., Oct 2020
 - IMDEA Nanoscience, Madrid, Spain, January 2020
 - Department of Engineering, University of Pisa, Italy, October 2019
 - Institute of Complex Molecular Systems, Eindhoven University of Technology, NL, June 2019
 - Department of Physics, King's College London, U.K., May 2019
 - Department of Chemistry, University College London, U.K., January 2018
 - Department of Chemistry, University of Southampton, U.K., November 2017
 - Department of Chemistry and Chemical Engineering, Chalmers University of Technology, Gothenburg, Sweden, May 2017
 - Department of Engineering (IfM), University of Cambridge, U.K. August 2016
 - Human Effectiveness Directorate, Wright-Patterson Air Force Base, U.S.A., May 2016
 - Department of Physics, Lancaster University, U.K. Feb 2016
 - Department of Physics, The University of Liverpool, U.K. Nov 2015
 - School of Physics and Astronomy, Cardiff University, U.K. Oct 2015
 - Department of Materials, University of Oxford, U.K. Sept 2015
 - Institute for Bioengineering of Catalonia, Barcelona, Spain, June 2015
 - Medical Device Week, National University of Ireland, Galway, Ireland, June 2014
 - Department of Chemistry, King's College London, U.K. May 2014
 - University of Strasbourg, France, November 2013
 - National Institute of Standards and Technology, Gaithersburg, MD (U.S.A.), January 2013
 - Alivisatos Group, Department of Chemistry, University of California Berkeley, (U.S.A.) April 2011
 - Nanoscale Science and Engineering Center, Columbia University, New York City, (U.S.A.) 2010
 - Cooper Union, New York City, NY (U.S.A.) October 2010
- Reviewer of Research Grants for: PRIN projects Italian Ministry of University and Research (IT), Royal Society University Research Fellowship (UK), Engineering and Physical Sciences Research Council (UK), Swedish Research Council (SE).
- Reviewed applications for academic promotions at different international universities: Univ. of Liverpool UK (2022), Univ. of Sharjah KSA (2023, 2024) and Taibah Univ. KSA (2025).
- Reviewer for Scientific Journals: the Journal of the American Chemical Society, Nature Communications, Angewandte Chemie International Edition, Nano Letters, ACS Nano, Advanced Materials, Advanced Functional Materials, Nanoscale, Bioactive Materials, Materials Advances, Chemistry of Materials, Chemical Science, Advanced Photonic Research, Advanced Science, Encyclopedia of Applied Physics, Small, Small Methods, ChemBioChem, Langmuir, the Journal of Physical Chemistry, Analytical Chemistry, ACS Applied Materials & Interfaces, ACS Sustainable Chemistry and Engineering, ACS Omega, Chemistry a European Journal, ChemPlusChem, Advanced Engineering Materials, Polymers, Scientific Reports, Nanomedicine, Journal of Materials Science, International Journal of Nanomedicine, Nanomaterials, Physica Status Solidi (RRL) - Rapid Research Letters, IEEE Sensors Letters, Sensors and Actuators B
- Membership of Scientific Societies: Royal Society of Chemistry (2015-present), ElectroChemical Society (2018-present), American Chemical Society (2008-2019), Materials Research Society (2008-2016).
- Editorial board member of “SmartMat”, Wiley journal (2021-2023)

London (UK), 21/08/2025
Prof. Matteo Palma