

# Dr Alexandra R. Paul, BSc (Hons), PhD, AFHEA, AMRSC

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Postdoctoral fellow who is passionate about developing new cancer therapeutics, currently working on new drug delivery systems that target glioblastoma. Strong organisational, time management, supervisory, research and technical skills developed through completion of degree studies at the University of Kent, lab work at Rothamsted Research and postdoctoral research at King's College London. The Maplethorpe Research and Teaching Fellowship has allowed the development of independent research, grant-writing skills, teaching (Pharmacy, MPharm) and supervisory experience (2 MSc graduates).

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## Academic Qualifications

- 2018-2022 **PhD, Chemistry**, A Novel Strategy for the Synthetic Selection of Enhanced Therapeutic Aptamers  
Division of Natural Sciences, University of Kent, UK
- 2019-2020 **Higher Education Associate Fellowship Scheme**  
Unit for the Enhancement of Learning and Teaching, University of Kent, UK
- 2014-2018 **BSc (Hons), Chemistry – First Class**  
Division of Natural Sciences, University of Kent, UK

## Academic Position

- 2025-Present **Research Talent Hub Postdoctoral Fellow**  
Department of Pharmacology & Pharmacy, LKS Faculty of Medicine, The University of Hong Kong, Hong Kong SAR
- 2024-2025 **Postdoctoral Research Fellow**  
Department of Pharmacology & Pharmacy, LKS Faculty of Medicine, The University of Hong Kong, Hong Kong SAR
- 2022-2024 **Postdoctoral CW Maplethorpe Research and Teaching Fellow**  
Institute of Pharmaceutical Science, King's College London, UK
- 2022 **Postdoctoral Associate in Nucleic Acid Delivery & Brain Cancer Immunotherapy**  
Institute of Pharmaceutical Science, King's College London, UK
- 2018-2022 **Specialist Associate Lecturer in Chemistry**  
Division of Natural Sciences, University of Kent, UK
- 2020-2022 **Chemistry Academic Mentor**  
University of Kent, UK
- 2013-2017 **Research Assistant in Biological Chemistry (Gap year & holiday work)**  
Biological Chemistry and Crop Protection, Rothamsted Research, Harpenden, UK

## Awards

- 2025-2026 **Research Talent Hub Postdoctoral Award**, funded by the Innovation and Technology Fund, The Government of the Hong Kong Special Administrative Region
- 2024 **Top Poster Award**, Controlled Release Society Annual Meeting & Exposition, Bologna, Italy
- 2022-2024 **CW Maplethorpe Research and Teaching Fellowship**, The University of London, UK
- 2018-2021 **Vice Chancellor PhD Scholarship**, University of Kent, UK

## Grant Funding

- 2024 **Royal Society of Chemistry, Researcher Development and Travel Grant, Awarded £500**
- 2021-2022 **Royal Society of Chemistry, Research Enablement Grant (Co-PI), Awarded £9,980**

## Publications

Published:

- Selection of Optimised Ligands by Fluorescence-Activated Bead Sorting. Paul, A. R., Falsaperna, M., Lavender, H., Garrett, M. D., Serpell, C. J. *Chem. Sci.*, 2023, 14, 9517-9525 (IF:10)
- Sequence-defined oligophosphoesters for selective inhibition of the KRAS G12D/RAF1 interaction. Claringbold, B. R., Vance, S., Paul, A. R., Garrett, M. D., Serpell, C. J. *Chem. Sci.*, 2025, 16, 113 (IF:10)
- Developing Aptamer-targeted mRNA for Immunotherapy. Paul, A. R. & Al-Jamal, K. T. *Springer Nature: Methods in Molecular Biology*. 2025

In preparation:

- Insights into the Sequence-Assembly of Sequence-defined Phosphoesters From Molecular Dynamics Simulations and Diffusion-Ordered NMR Spectroscopy. Williamson, J., Piskorz, T., Claringbold, B. R., Paul, A. R., Garrett, M. D., Duarte, F., Serpell, C. J. (Ready for submission).
- Advances in Aptamer Drug Delivery Systems for Treatment of Neurodegenerative Diseases. Paul, A. R., Moreno Mitchell, A., Harrison, O. J., Luo, Y., Al-Hiyarat, T. & Al-Jamal, K. T.
- Targeted nucleic acid delivery to T-cells via a novel Bi-NA delivery system using CD3e aptamer. Paul, A. R., Luo, Y., Walters, A.A. & Al-Jamal, K. T.
- A new aptamer delivery system transporting nucleic acids to T-cells for glioblastoma immunotherapy. Paul, A. R., Zam, A. Marrocu, A., Moreno Mitchell, A., Rouatbi, N. Walters, A.A. & Al-Jamal, K. T.
- In vivo aptamer selection for cardiomyocytes. Gafar, H., Paul, A. R., Giacca, M. & Al-Jamal, K. T.

## Patents

- 3 patents in preparation: novel immune cell targeting aptamers

## Teaching

- 2022-Present **Pharmacy, MPharm**  
Department of Pharmacy, King's College London, UK  
- Chemistry of Drug: Chemical Structures & Bonding and Electronic Effects. pKa of Phenols Lab.  
- Biochemical Basis of Therapeutics Module: Enzyme Kinetics Lab.
- 2018-2022 **Chemistry BSc & Forensic Science BSc**  
Department of Chemistry & Forensic Science, University of Kent, UK  
- Organic + Polymer Chemistry/ Inorganic Chemistry/ Analytical Chemistry lab modules
- 2020-2022 **OCR A-Level Chemistry**  
University of Kent Outreach Secondary Schools, UK

## Supervisions

- 2022-2024 **Pharmacy, MPharm:** Department of Pharmacy, King's College London, UK  
- Academic Advisor: 11 students  
- 2 MPharm Project Students
- 2023-2024 **Pharmaceutical Analysis, Technology and Biopharmaceutical, MSc**  
School of Cancer & Pharmaceutical Sciences, King's College London, UK  
- MSc Project Student: Alexandra Moreno Mitchell (Achieving 1<sup>st</sup> class: 78% in final project)  
- MSc Project Student: Yutong Luo (Achieving 1<sup>st</sup> class, awarded The Boyland Prize for best project (88%))
- 2023 **King's Undergraduate Research Fellowship**, Faculty of Science & Medicine, King's College London, UK

## Invited Presentations

- 2024 **International Seminar on Nanomedicine**  
Universitas Sumatera Utara, Indonesia
- 2023 **Fire Bio Symposium**  
Biosciences, Division of Natural Sciences, University of Kent, UK

## Oral Presentations

- 2023 **Flask Talk: CLINAM European Foundation for Clinical Medicine Summit**  
CLINAM European Foundation for Clinical Medicine, Basel, Switzerland
- 2021 **Bringing Chemical Biology to Cancer Research** (1/3 PhD students selected)  
Royal Society of Chemistry and British Association of Cancer Research, UK
- 2020 **7th International INSOAP Symposium on Aptamers**  
International Society on Aptamers, UK

## Poster Presentations

- 2024 **Controlled Release Society Annual Meeting & Exposition (Top poster award)**  
Controlled Release Society, Bologna, Italy
- 2023 **CLINAM European Foundation for Clinical Medicine Summit**  
CLINAM European Foundation for Clinical Medicine, Basel, Switzerland
- 2021 **Biological and Medicinal Chemistry Postgraduate Symposium XV**  
Biological and Medicinal Chemistry Sector, Royal Society of Chemistry, UK
- 2020 **7th International INSOAP Symposium on Aptamers**  
International Society on Aptamers, UK
- 2019 **Royal Society of Chemistry, Macrocyclic and Supramolecular Chemistry Meeting**  
University of Kent, Canterbury, UK
- 2019 **London Polymer Group Symposium**  
University of Kent, Canterbury, UK

## Positions of Responsibility

- 2024-Present **Equality, Diversity and Inclusivity Committee**  
Controlled Release Society
- 2022-Present **London Centre for Nanotechnology Early Career Researchers Committee**  
London Centre for Nanotechnology, UK
- 2022-Present **Aspen UK Rising Leaders Fellow**  
Aspen, UK
- 2023-2024 **Sustainability Team (Winning bronze LEAF award)**  
Institute of Pharmaceutical Science, King's College London, UK
- 2023-2024 **Development Diversity and Inclusivity Committee**  
School of Cancer and Pharmaceutical Science Institute of Pharmaceutical Science, King's College London, UK
- 2022-2023 **National Postdoc's Conference Steering Committee**  
Centre for Postdoctoral Development in Infrastructure, Cities and Energy (C-DICE) Impact Hub, UK
- 2021-2022 **University and College Union Representative**  
Division of Natural Sciences, University of Kent, UK
- 2021-2022 **Postgraduate Representative**  
Division of Natural Sciences, University of Kent, UK