Job Description for NIHR Academic Clinical Fellowship in Paediatric Surgery (Clinical Therapeutics & Pharmacology & Industry) ST1-3

1. Job Title: NIHR Academic Clinical Fellow in Paediatric Surgery

2. Duration of post: 3 years

The fellowship comprises 75% clinical training and 25% protected academic training, equivalent to nine months of academic time over the three-year post.

Entry at ST1-ST3, aligned to the NIHR Priority Research.

3. Research institutions in which training will take place

Research training will be based at the UCL Great Ormond Street Institute of Child Health (UCL GOS ICH), principally within the Kidney Development and Disease group in the Developmental Biology and Cancer Programme and the UCL Centre for Kidney and Bladder Health. Clinical-academic work will be closely integrated with Great Ormond Street Hospital for Children NHS Foundation Trust (GOSH) and, where appropriate to the project and clinical training needs, University College London Hospitals NHS Foundation Trust (UCLH). Project-specific collaborations may include other UCL platforms and partner NHS organisations.

4. Timetabling of clinical and research time

The post will be structured as 75% clinical and 25% academic training. The protected academic component is equivalent to three months per year (nine months in total over three years). Academic time may be organised as defined research blocks, day release, or a hybrid arrangement, agreed between the post-holder, Academic Supervisor and Clinical Programme Director according to the requirements of the research project and the trainee's clinical competencies. Protected academic time will be maintained free from routine clinical service commitments, while ensuring appropriate clinical exposure and progression through the Paediatric Surgery curriculum.

5. Description of research component of programme

The academic component will provide an integrated programme of translational paediatric surgical research at UCL GOS ICH, with a particular opportunity to undertake paediatric urology research. The post is explicitly aligned to the NIHR Priority Research Theme Clinical Therapeutics & Pharmacology & Industry: projects will focus on understanding disease mechanisms, identifying therapeutic targets, evaluating candidate treatments or therapeutic platforms, and translating discoveries towards patient benefit. The successful applicant will receive training in research design, governance, quantitative methods, laboratory and/or clinical research methodology, scientific communication, grant development and patient and public involvement and engagement (PPIE). The principal aim is to generate high-quality preliminary data and outputs that support a competitive application for a doctoral Research Training Fellowship or equivalent award.

Illustrative paediatric urology projects include:

- **Molecular Mechanisms and AI-Driven Therapeutics.** We will investigate the detailed signalling cascades downstream of cyclic GMP modulation to elucidate the precise anti-fibrotic mechanisms of sGC modulators. By integrating state-of-the-art single cell technologies with AI-based protein modelling, we aim to identify better, more targeted therapeutic agents that can be refined into targeted gene therapies to deliver highly specific prenatal interventions for congenital urological disorders.
- **Testing Anti-fibrotic Therapy in Relevant Human Models.** We currently lack relevant *in vitro* models as therapy testbeds for LUT disorders. To address this need, we propose to utilise urine as a unique

resource because it contains shed urinary tract cells which can potentially be accessed repeatedly to establish personalised disease models. We will use a Cell Catcher device (PMID: 39591363) to harvest LUT cells from urine collected at GOSH clinics and from patients at home; reprogram them to enable differentiation into all signature LUT cell types (epithelia, smooth muscle, and nerves). These will then be placed in a microfluidic device to generate a bladder-on-a-chip, which will be used to test sGC modulators.

- **Urinary tract organoids for disease modelling and therapeutic development.** Develop kidney, bladder, ureter and vascular organoid systems and implantation/scaffold models to study disease biology, regenerative approaches and the response to candidate interventions. This platform is well suited to translational collaboration and future therapeutic or industry-facing studies.
- **Clinical therapeutics, implementation and health-economic research.** Evaluate enhanced recovery after surgery (ERAS) pathways in complex paediatric urology, including bladder reconstruction and paediatric kidney transplantation, with assessment of outcomes, resource use, patient experience and cost-effectiveness.

The precise project will be agreed with the successful candidate according to prior experience and career objectives. Projects will be designed to be achievable within the ACF period and to provide a coherent package of pilot data, presentations and publications. Academic supervision will be available from Professor David Long, Mr Nav Johal, Professor Paolo de Coppi and relevant members of the wider UCL/GOSH research environment, with opportunities for multidisciplinary and cross-institutional collaboration.

6. Description of clinical training component of programme

The clinical component will be undertaken within the NHS England London & South East Region Paediatric Surgery training programme. The ACF is intended for entry at ST1-3 and will follow the same Paediatric Surgery curriculum, ISCP requirements, workplace-based assessment and Annual Review of Competence Progression standards as other specialty trainees. Clinical placements will be determined by the Clinical Programme Director according to the trainee's individual learning needs and the requirements of the approved training programme, with 25% protected academic time incorporated throughout the fellowship.

The programme will provide broad paediatric surgical training while allowing exposure to the high-volume specialist paediatric urology services at GOSH and UCLH. Depending on rotation and training need, urological experience may include exstrophy and reconstructive urology, neuropathic bladder and posterior urethral valves, stone disease, oncology and general paediatric urology. Training opportunities include supervised operating, specialist outpatient clinics, multidisciplinary and radiology meetings, urodynamics and peri-operative care.

Focused theatre exposure and participation in emergency paediatric surgery/urology on call will support development of operative judgement, acute decision-making and safe management of complex postoperative patients. The trainee will also obtain the wider paediatric surgical experience required by the curriculum. Academic trainees will be supported to protect research time without compromising achievement of clinical capabilities; progression will be competency based and reviewed jointly through the clinical and academic assessment processes.

7. Academic Programme Director name

Prof Paolo De Coppi (UCL)

Prof Nick Watkins (Academic TPD)

Prof Dan Leff (Academic TPD)

8. Clinical Programme Director name

Mr Anindya Niyogi

9. Programme contact for further information

Mr Nav Johal – n.johal@ucl.ac.uk
Prof David Long - d.long@ucl.ac.uk
Prof Paolo De Coppi - p.decoppi@ucl.ac.uk

10. NHSE contact:

Specialty Team https://lasepgmdesupport.hee.nhs.uk/support/home
Recruitment Enquiries - https://lasepgmdesupport.hee.nhs.uk/support/home

11. Useful websites for further information IAT Guide | NIHR
https://www.nihr.ac.uk/explore-nihr/academy-programmes/integrated-academic-training.htm

12. Confirmation that the post attracts an NTN (A) - YES

This job description was prepared on 12th August 2026