Applied in Focus. Global in Reach.
UCL Department of Science, Technology, Engineering and Public Policy (STEaPP)
INTRODUCTION

The Department of Science, Technology, Engineering and Public Policy (ST EaPP) is a uniquely policy-orientated department within UCL. Underpinning all of our education, research and policy activities is one aim: to change the world for the better.

With this aim in mind, ST EaPP was founded in the recognition that science, technology and engineering expertise are vital to tackling today’s most pressing global challenges, from energy access to climate change and congested cities. We also know that for the most impactful results, public policy needs to be informed by different kinds of expertise and evidence.

The department creates a space for a diverse range of academics, policymakers, practitioners and science and engineering experts to come together and apply their knowledge to tackling these complex challenges. ST EaPP sits across three world-class UCL faculties: the Faculty of Engineering, the Bartlett Faculty of the Built Environment and the Faculty of Mathematical and Physical Sciences.

“Every area of policy today is underpinned by science, technology and engineering – from energy systems to poverty alleviation, from national defence to community health. The ability of governments, industry, civil society and the STEM community to work together is going to determine whether humanity effectively tackles the most pressing challenges of the 21st century.”

Dr Jason Blackstock,
Head of Department,
UCL ST EaPP
STEaPP aims to gain broader perspectives on the global implications and impact of research on people, politics and governance, with a focus on practice-oriented outcomes.

We focus on understanding, interrogating and improving policy and decision-making processes.

We collaborate closely with external partners, users, clients and communities, not simply to explore solutions to global challenges, but more fundamentally to redefine the problems.

Our work is also people-centred – considering the impact of emotions, values and power systems on decision making, and focused on those who make the decisions as well as those who are impacted by their choices.

We take a bold, disruptive approach, stepping outside the conventions and structures of academia, public policy and engineering.

Our faculty combines expertise in disciplines such as law, international relations, policy analysis, public administration, regulation, science advice and diplomacy, innovation, risk and uncertainty, and futures and foresight.

We work with high-profile policy partners to apply this expertise to pressing challenges through our education, research and policy work.

www.ucl.ac.uk/steapp/people

Policy activities run as threads through all of our work. We collaborate closely with external decision makers to ensure that we are asking the relevant questions and addressing real needs through our education and research programmes. Our growing policy team will continue to reshape our engagement with external practitioners and champion the value of academic research in tackling global problems.
STEaPP’s education programmes aim to enable the next generation of practitioners and academics to work at the interface between science, engineering and public policy.

www.ucl.ac.uk/steapp/study

Master’s of Public Administration (MPA)
With science and engineering expertise key to solving today’s major policy challenges, our MPA is the public policy degree of the future. The MPA offers practical skills, insights and client experience, with the option to specialise in a range of policy areas.

“The training I’ve got on this course will really help me act as a better bridge between scientists and policy officers.”
Wee Ng, MPA Science, Engineering and Public Policy (2016), Singapore Civil Service

Doctoral Training Programme (DTP)
Our DTP aims to develop world-class interdisciplinary researchers and practitioners concerned with the role of science, technology and engineering innovation in decision-making. STEaPP offers two pathways for an academic or policy-focused approach.

How to Change the World
A unique hands-on training programme that equips undergraduate engineers to develop creative and technically robust solutions to 21st-century challenges. Each year, STEaPP delivers the programme to computer science, engineering and management science students from 11 UCL departments. The interdisciplinary teams gain advice from academics and specialist mentors from a range of our policy and industry partners.

“The programme provides engineers with essential training in how to define the question at the heart of a brief and work on multidisciplinary projects. This approach to education is where the industry needs to go.”
Keith Clarke CBE, Chair of Swansea Bay Tidal Lagoon and Future Cities Catapult

Professional and Executive Education
Our executive education programmes bring together conceptual overviews with experiential learning so that participants can gain the practical skills and insight to navigate policy-making in today’s complex world. Taught by practice-oriented academics and high-profile visiting lecturers, the courses build on the latest insights from our research and policy activities. A selection of our previous courses are listed below.

Fundamentals of City Leadership
Client: Arup, 2016-17
A one-day workshop run in five global Arup offices which equips delegates with the tools to become active conversants in negotiations and understand the political dimensions surrounding city projects.

Master’s of Public Administration Bootcamp
Client: Royal Society, November 2016
An intensive, condensed version of our MPA programme, attended by 10 policy advisors and hosted at the Royal Society. Eight sessions cover a range of topics, including an introduction to public administration, policy analysis, big data and regulation of urban infrastructure.

Young Engineers’ Leadership Day
Client: Royal Academy of Engineering, September 2016
An exciting one-day event which provided early and mid-career engineering practitioners from across the world with an opportunity to work together on the Sustainable Development Goals and develop solutions that were both technically innovative and socially and economically viable.

“The workshop provided an excellent illustration of why diversity in teams delivers better results. The ingenuity and creativity displayed by these international and interdisciplinary teams was outstanding.”
Dr Hayaatun Sillem, Deputy CEO and Director of Strategy, Royal Academy of Engineering
Our research is focused on co-production. We bring together academic, governmental, civil society and industry partners to tackle the pressing opportunities and challenges facing our societies today. A selection of our current projects are outlined below.

www.ucl.ac.uk/steapp/research

Urbanization and City Leadership

**City Leadership Laboratory**
Based within STEaPP, the City Leadership Laboratory is a hub for academics, public authorities and international organisations working on the future of cities and the role of city leadership. The Lab engages in a range of research, teaching and policy advice, partnered with organisations including Arup, C40 Cities and the World Bank.

Digital Society and Cybersecurity

**PETRAS Internet of Things Research Hub**
PETRAS is a £9.8 million project drawing together nine leading UK universities and 90 user partners from the private and public sectors to explore the implications of the Internet of Things (IoT) on issues such as privacy, public policy and safety. The Hub is led by a team from within STEaPP, who are also co-leading a stream within the project with Cardiff University specifically focused on Standards, Governance and Policy.

International Development

**Agro-industries and Clean Energy in Africa (AGRICEN)**
AGRICEN is a five-year research programme exploring the potential role of agro-industries in improving rural energy access. The project aims to identify barriers, develop strong methodology for implementation and promote meaningful approaches that meet demands of potential investors.

Knowledge Systems

**Research and Evidence Use in Parliament**
STEaPP is supporting the Social Science section of the UK government’s Parliamentary Office of Science and Technology (POST) in a study of the use of research evidence within parliamentary debate and scrutiny, including the impact of POST. Using a mixed method approach, the project explores the multiple definitions of ‘evidence’ in use in the UK Parliament and what types of evidence are most appropriate to its different information needs.

Sustainability

**Deltas’ Dealings with Uncertainty: Multiple Practices and Knowledges of Delta Governance (DoUbT)**
The project combines science and technology studies with the anthropology of development to interrogate how uncertainties are understood and dealt with in environmental planning. DoUbT focuses on four deltas in Asia with diverging cultural and historical trajectories and contemporary dynamics (Thailand, Myanmar, Bangladesh and Vietnam).

Disaster Resilience and Response

**Invisible Threads: Informal Networks for Disaster Risk Reduction**
In collaboration with the World Bank’s Global Facility for Disaster Risk Reduction and the International Committee of the Red Cross, this project explores disaster preparedness, response and recovery in hazard-prone cities. The project is using data from three pilot studies in Nepal, Japan and the Philippines to explore the role of informal networks in disasters affecting different geographical and socio-political contexts.
Currently we engage with well over 100 partners from industry, government, academia, and professional bodies across our education and research programmes. Just a few examples include:

- The Royal Society
- Royal Academy of Engineering
- ARUP
- IET
- UN-Habitat
- CATAPULT
- Red Cross/Red Crescent Climate Centre