



Lucy Cavendish College
University of Cambridge

The LucEnt Challenge

Enterprise Weekend



10-12 March 2023

Schedule

Friday 10 March

13:00 Lucy Cavendish Café Meet and Greet

The Lucy Enterprise Society – a student initiative – will be in the café to meet student participants and all members of the Lucy Cavendish Community interested in finding out more about their mission and events.

19:00 Warburton Hall LucEnt Challenge drinks and Formal Hall

Pre-Dinner Speakers: Lucy Jung (Founder & CEO, Charco NeuroTech) and Alex Murray (Founder & MD, FLIT).

Saturday 11 March

13:00 Warburton Reception Rooms Networking Lunch

Teams and mentors meet and are introduced to the afternoon's activity.

13:30 Wood-Legh Room, Strathaird Project work and Mentoring

Work with your team and mentors to develop your proposal into a pitch. At 15:00 we will take a break to hear Jason Mashinchi, founder and Managing Director of Cambridge Kinetics, talk about his enterprising journey.

Sunday 12 March

09:00 Wood-Legh Room, Strathaird Perfect the Pitch

Final opportunity to polish your presentation. Refreshments available from 10:00.

10:30 Wood-Legh Room, Strathaird Project Pitches

Each team will have five slides, five minutes of presentation and five minutes of questions to pitch their project to judges Professor Dame Madeleine Atkins and Richard Hefford-Hobbs.

12:30 Wood-Legh Room, Strathaird Winner announced

Gather to hear feedback from the judges and celebrate with the prize award winner. Those attending are cordially invited to College Sunday lunch.

Contributors

Bruno Cotta – LucEnt Champion & Fellow



Bruno has over 30 years of leadership and management experience working with public, private and third sector organisations, from entry-level students to board-level executives, local startups to global corporates and others in research, education, healthcare, industry and government.

He has led initiatives to inform and shape world-class university strategic plans, international partnerships and innovation ecosystems, including founding the Enterprise Lab at Imperial College London and directing the Entrepreneurship Centre at Cambridge Judge Business School, to support the next generation of innovators and entrepreneurs.

Bruno's voluntary work includes serving as Visiting Fellow & Honorary Ambassador at the Business School in Cambridge and as Fellow of Lucy Cavendish College, where he is a member of the Governing Body and founder of LucEnt (Lucy Enterprise).

Professor Dame Madeleine Atkins – President & Judge



Madeleine became the 9th President of Lucy Cavendish College, University of Cambridge, on 1st October 2018. Madeleine's background includes reading Law and History as an undergraduate at Cambridge, teaching in a large comprehensive school in Huntingdon, and completing a Ph.D. and post-doctoral research contracts at the University of Nottingham.

Following various senior positions at Newcastle University, including Pro-Vice-Chancellor, she was Vice-Chancellor of Coventry University between 2004 and 2013.

Madeleine then joined the Higher Education Funding Council for England (HEFCE) as its Chief Executive in January 2014, retaining that post until March 2018.

Richard Hefford-Hobbs – Sponsor & Judge



Founder of Cambridge Precision Ltd (CPL), Richard is a successful entrepreneur, philanthropist and polymath. Qualified as a Manufacturing Engineer, he is engaged in numerous commercial, educational and voluntary endeavours to promote and support manufacturing, engineering and innovation.

Richard maintains active commercial interests in a number of companies and works with a wide range of partner organisations. He has alliances with training bodies, collaborating frequently on projects with the University of Cambridge, IfM, Anglia Ruskin, and Oxford University to name just a few and is

Vice President of 'Heritage Crafts'.

Within the field of Education, Richard holds office with independent and state providers as a Governor, mentor, and technical advisor, to students at the University of Cambridge where he is a Fellow Commoner of Lucy Cavendish college, and a Fellow of the Institute for Engineering & Technology (IET).

Lucy Jung – Speaker & Mentor – Charco Neurotech Co-Founder & CEO



Lucy Jung co-founded Charco Neurotech with NHS Doctor Floyd Pierres after undertaking her Innovation, Design, & Engineering Master's at RCA and Imperial College in London. She decided to focus on alleviating Parkinson's symptoms following meetings with individuals with the condition who highlighted the toll of its symptoms on their quality of life. Prior to founding Charco, she was involved in a string of projects including the development of a pen for patients with micrographia and a range of athletic clothing able to detect high impacts and potential injuries.

Contributors

Alex Murray – Speaker & Mentor – FLIT Co-Founder & Managing Director



Alex co-founded FLIT after completing a master's degree in Public Policy at Tsinghua University. With a background as both a management consultant and as a keen long-distance cyclist (with journeys across America and China under his belt) he knew that he wanted to dedicate his career to helping people find new ways to move around their cities. These beginnings inspired FLIT: a Cambridge-based startup designing and building lightweight folding ebikes for urban commuters.

Jason Mashinchi – Saturday Speaker – Cambridge Kinetics Founder & Managing Director



Jason has a first degree in Computer Science and a Masters in Industrial Systems, Manufacturing and Management. Jason founded Cambridge Kinetics two years ago in response to a clear demand and need for high quality software development services around Cambridgeshire. Having seen first-hand how companies struggle developing and rolling out new software systems, Cambridge Kinetics was founded to address this need by offering the highest quality solutions. The business is growing rapidly, helping solve core business challenges, identifying the right approach to software development and solving real problems for a wide variety of industrial organisations.

Mentors

Professor Sabine Bahn – Fellow & Founder



Professor Sabine Bahn is a practising psychiatrist, Chair in Neurotechnology and Director of the Cambridge Centre for Neuropsychiatric Research. Her main research interests are to understand the molecular basis of neuropsychiatric disorders, with a focus on schizophrenia and mood disorders. Professor Bahn has published many articles in high impact journals. In 2005, she co-founded Psynova Neurotech Ltd, which has launched the first blood test aiding in the early diagnosis of schizophrenia. In 2011 Psynova Neurotech was acquired by Myriad Genetics, a NASDAQ listed company. In 2015 she co-founded Psyomics Ltd, which aims to transform mental health through digital diagnosis. In 2015 she was elected a Fellow of the Royal Society of Biology.

Babita Devi – Founder & Managing Director at bStrategic



Babita is a coach and mentor and has been supporting business owners for over 30 years with business development, strategic marketing and commercialisation. She is the Founder of The Alignment Axis, built on the premise that 'your business grows when you grow'. She has worked with hundreds of businesses helping scale high potential, innovative start-ups and SMEs.

Babita coaches companies on the Accelerate programme at the Judge Business School at Cambridge University, is a Mentor for Barclays Eagle Labs across their UK network and Raising Starts – a science and technology hub in Belgrade and Associate Innovation Director for Oxford Innovation Space. Babita has started 2 businesses, has lectured entrepreneurial marketing to MBAs and Business Studies students and is an Advisor to several organisations including a Venture Capital fund and NED for Global Entrepreneurs Network UK, connecting 66,000 entrepreneurs across 200 countries. Babita is a 2022 Timewise PowerList winner and is passionate about connecting people, bringing together strategic partners, and growing networks of innovators, thinkers and change makers.

Mentors

Nooman Haque – Fellow & Investment Expert



Nooman has many years of experience in the entrepreneurial investing sector having headed up Life Sciences and Healthcare at Silicon Valley Bank for EMEA. There he led a team supporting early, growth-stage and established multinational businesses in all sectors of life sciences. He is a frequent panelist, writer and spokesperson for the industry. Nooman's background includes management consulting and investing. He was also a Government economist specialising in competition & innovation.

He graduated with advanced degrees in economics and an MBA and completed his undergraduate studies in psychology.

Derek Jones – Fellow & CEO at the Babraham Research Campus



Derek has over 35 years' in the life-science industry as both a scientist and in business and corporate development.

Initially a medicinal chemist with Merck, Derek moved into business and corporate development at Chiroscience, (one of the UK first biotech companies), successfully negotiating and managing several multi-million pound licensing agreements including being part of the team that licensed the UK first biotech product, Chirocaine. He has co-founded: BioWisdom, an IT/Drug discovery company, and Daniolabs a therapeutics company using

zebrafish as a model organism for drug discovery.

At Babraham Research Campus he was responsible for the spin-out of Crescendo Biologics from intellectual property developed at the Babraham Institute; overseen c £100M of public investment into the campus; delivered several multimillion pound property deals (£50M+) and launched Accelerate@Babraham a life science bio incubator-accelerator programme.

Derek has a 1st degree in Chemistry, a Masters in Information Technology, an MBA as the first cohort of the Cambridge University Judge Business School MBA programme, and is a Chartered Director. He is a non-executive director at Rothamsted Enterprise at the Rothamsted Institute and is a member of the Cambridge University Enterprise Investment Committee.

Tony Kypreos – Advisor & Venture Partner for the UN Sustainable Development Goals



Tony is an entrepreneur, corporate innovator, and angel investor with over 25 years of leadership experience. An authority on start-ups, corporate venturing, building high performing teams and businesses, he is especially focussed on developing high-value, technology-enabled Health, Environmental and Sustainable Development impact driven organisations.

Currently, he is a member of the Advisory Council and Venture Partner of the United Nations Development Programme-backed sustainability venture accelerator 'Accelerate2030' in Geneva as well as a Board Advisor at Geneva

Macro Labs. Tony is also an investor and board advisor in FinTech, ClimateTech, Health, and software ventures with merger and acquisition exits to Oracle, Pikel, Nokia, and Opentext.

Tony has an MBA from Henley Business School; a BSc (Hon) Physics & Electronic Systems from Brunel University; and is a certified Neuro-Linguistic Programming (NLP) practitioner from the University of California, Santa Cruz.

Mentors

Dr Gita Khalili Moghaddam – Alumna & Founder



Gita co-founded TumourVue in 2018 to address a pronounced unmet need in cancer surgery. Based at the University of Cambridge's Biomedical Innovation Hub and with funding from the Medtech Accelerator, TumourVue's technology combines real-time imaging and AI to distinguish a viable tumour from normal brain tissue.

Having obtained her PhD in Biotechnology in 2017, Gita is currently on secondment at GSK Global Health as a UKRI Innovation Scholar, taking a

leading role in the use of AI in tuberculosis drug development. As an academic entrepreneur, she has been widely recognised as one of the top 18 women in AI & Data by Innovate UK (2019), a BioBeat Mover & Shaker in BioBusiness (2020) and a top contender for Cofinitive 21toWatch (2021).

Dr Poorna Mysoor – Fellow & Director of Studies in Law



Poorna joined Lucy Cavendish from the Faculty of Law, University of Oxford where she was a Leverhulme Trust Early Career Fellow and a JRF at the Queen's College. Her research focuses on the interaction of private law with intellectual property law. As a postdoctoral researcher, she worked on the conceptual and doctrinal analogies that can be drawn from tangible property law, such as land law and personal property law, into copyright law to examine the extent to which this can assist copyright balance.

Her doctoral thesis was on implied licences in copyright law, where she analysed and applied principles of contract law to copyright law to develop a robust and predictive methodology for implying copyright licences.

Sharena Shiv – Alumna, Campaigner and Business Owner



Sharena is ex-Microsoft and NatWest Group (Coutts Bank). In 2017 she pursued a passion and started Devotion Property Management in Devon and currently hosts the weekly podcast START UP. START NOW. The podcast showcases the journeys of inspirational entrepreneurs, side hustlers and their mentors, discussing their successes, challenges and how they overcame setbacks.

Sharena holds an undergraduate degree in Business & Management from Aston University and a Masters in Entrepreneurship from Cambridge.

During her time in Cambridge, she held a number of senior elected positions at The Cambridge Union.

LucEnt Challenge Teams - Albert

There is a growing concern about the mental health of school-aged children, as studies have shown that every fifth child is affected by a mental health disorder. This can have long-lasting impacts on children's development and well-being, including difficulty in relationships, academic performance, and overall life satisfaction.

It is vital that effective and accessible resources are made available to parents to help them support the mental health of their children. Only by addressing this issue can we hope to improve the well-being of children and families and create a brighter future for all.

The MVP of the solution would rely on human expertise to provide tailored advice for parents helping to navigate the complexities of their child's mental health. A simple interface would allow parents to describe their child's situation and receive counselling advice to track and improve their children's mental health.

Then, the app would be developed to cater existing educational content to each child's specific situation. A system for profiling each child based on personality assessments would be integrated, allowing for tailored advice relevant to the child's unique needs.

The final phase would involve implementing the technology to provide parents with immediate access to tailored advice based on the generally pre-trained transformer model (GPT4 coming in 2023) fine-tuned with psychometric research data and psychology literature.

UN SDG: 3 - Good health & wellbeing, 4 - Quality education

Team

Viktoria Peocz (LC)



I am an innovative and driven individual with experience in the Ecommerce and Technology Industry. Currently, I work as a CX Enablement Analyst at VTEX (with a background in Digital Marketing and Business Development), where my focus is on creating strategies to maximize the control and influence of the clients' digital roadmap. In 2020 I started my own small ecommerce business, where I was responsible for all aspects of business creation (from building the website, developing the designs and value propositions for the products, to financing and marketing). This experience helped me to truly fall in love with Entrepreneurship,

mainly due to its innovative aspect and the beauty of being able to create something valuable for customers. My goal is to utilize my knowledge to establish a personalized skincare business associated with an innovative, affordable, sustainable, and scientifically effective brand.

Jakub Klemens Gasienica-Ciulacz (K)



A passionate 24-year-old entrepreneur with a background in Management and Computer Engineering. I'm scaling up my online tutoring platform for Polish high school students and helping the best of them to achieve their full potential through my NGO. However, I am also growing my interest in MedTech to utilise my family's dental office management expertise through a new software startup.

Bobby Shang (K)



I am head of casualty pricing at Inigo insurance. We are a new specialty insurer operating at Lloyd's of London. Embracing data and analytics to enhance understanding of complex risks is at the heart of our strategy. I am a qualified actuary with 11 years industry experience. I am passionate about the applications of technology and innovation to pricing and product development. I enjoy discussing ideas and problem-solving with likeminded professionals, particularly those from other industries. Insurance is a social good; advancement will reduce uncertainty and premiums, facilitate new coverages and better enable companies to take calculated risks, positively impacting global prosperity and entrepreneurship.

LucEnt Challenge Teams - AutoK

Curbing the pollution emanating from on-road vehicles is an intricate global issue. The inability to map out emissions from such vehicles for the road load conditions is leading to adapting convenient proxy measures like ageism in phasing out older vehicles. But it is crucial to understand that it's not alone the on-road emissions that contribute to vehicles' lifecycle emissions; their production phase also accounts for a significant share. Many a nation across the globe are also blending petroleum hydrocarbons with biofuels like ethanol to have a lesser polluting substitute. But as it is nearly impossible to replace or retrofit a nationwide fleet to make them perfectly compatible with the latest fuel blends, innovations in fuel alone can't fulfil the expectations envisioned by the policy-makers and customers in realizing the optimal energy harnessing from the latest available fuel blends.

Minimizing the vehicles' carbon emissions inventory in their entire lifecycle, i.e., production, operation, and scrappage in a financially self-sustainable manner, is the main objective.

The novel and foolproof testing methodology to do energy profiling of intact in-use vehicles is the unique value proposition of this endeavour. Envisioned testing setup consists of a dyno test bed, gas analyzer, and an on-board diagnostics (OBD) reader, which is well integrated with the control unit having a pre-installed testing methodology. This work can effectively alleviate the pain points of many interest groups mutually associated with the automotive space.

UN SDG: 7 - Affordable & clean energy, 9 - Industry, innovation & infrastructure, 13 - Climate action

Team

Vareesh Pratap (LC)



Vareesh hail from a remote village in India and had his primary schooling there only before joining a free meal residential school fully sponsored by the Government of India for his secondary education. He did undergrad in Mechanical Engineering where he also enjoyed my role as University Team Captain for auto sport SAE BAJA. He also had an opportunity to work for a Fortune 500 company, led a team of more than 125 energized people and managed a business with annual turnover worth more than £ 10 million. He is most passionate about decarbonizing road transport by optimizing life cycle carbon emissions of IC engine powered vehicles.

Apart from his ongoing research at Cambridge University, he is also enjoying his roles as Treasurer Lucy Cavendish MCR and Engineering PG (Taught) – Rep. He is also the elected President (PG) at Cambridge Student Union for academic year 2023/24 and looking forward to contribute uplifting the trajectory of many others.

Till Stratmann (LC)



Till Stratmann is an engineering graduate from Germany. He did his undergraduate degree in Germany and the US. At Cambridge, he enjoys being involved with the many societies at Lucy and the University. His interest in entrepreneurship was sparked through an internship in Menlo Park, in which he got introduced to the Silicon Valley startup culture.

Gautham Ramananda (LC)



LLM Master of Law

LucEnt Challenge Teams – Firesight

Rising surface temperatures and exacerbated droughts are driving an increase in both the frequency and severity of forest fires, which currently release about 1.8 gigatonnes of CO₂ a year, equivalent to 6% of anthropogenic greenhouse gas emissions. In addition, they lead to the destruction of wide swaths of flora that would otherwise act as a significant carbon sink. Much attention is placed on fires occurring in wealthier nations such as the US and Australia, but wildfires disproportionately affect those in poverty and are just as prevalent in the Global South.

Known ecological forestry methods can help reduce the severity of wildfires, stabilise forest carbon, and promote healthier forest ecosystems. The challenge is to build technologies that allow us to deploy these strategies efficiently and at scale, in service of minimising long-term wildfire hazard. Current assessments of wildfire risk are primarily conducted locally, with methods varying greatly between regions. The quality and prevalence of these assessments is consequently also heavily biased towards areas with greater research funding.

We propose to harness the advances in remote sensing, machine learning, and fire modelling to deliver an analytics suite providing integrated global wildfire risk assessments, together with consultancy services advising optimal strategies to reduce this risk.

We believe that wildfire risk analytics require complex modelling involving various data sources, which AI techniques would be able to capture in a scalable manner. Specifically, our innovation lies in combining the following state-of-the-art approaches:

- Fusing multimodal data including historical fire records, land management practices, climate models, and vegetation satellite imagery
- Using ML to model the relationship between fuel composition and fire severity
- Running simulations of potential fires and aggregating risk across regions
- Using reinforcement learning to choose actions that optimally minimise fire hazard

UN SDG: 9 – Industry, innovation and infrastructure, 13 – Climate action, 15 – Life on land

Team

Onkar Gulati (LC)



Onkar is currently a member of the Artificial Intelligence for Environmental Risks CDT. Previously, he completed his undergraduate studies at the University of Tokyo, where his senior thesis focused on developing a novel system for investigating the quantum mechanical phenomena dictating environmental magnetoreception in avian species. Afterwards, he spent the better part of a year working in private equity in Tokyo, with a particular focus on secondary funds and impact investments. He hopes to tackle complex issues during his PhD from both a statistical and economic viewpoint. In particular, he is interested in researching nationwide carbon quantification through the application of machine learning.

Jovana Knezevic (SE)



Jovana joined the Artificial Intelligence for Environmental Risks CDT after nine years in the tech industry. She worked on a wide variety of software systems, from low-latency trading platforms to mobile-cloud distributed system, and her most recent position was as a tech lead for Google's Android Automotive personalization team.

She left the industry driven by curiosity and looking to apply her experience and skill to some of society's most pressing and challenging problems – understanding our environment and our sustainable place in it. In no small part, she is motivated by her passion for backpacking, wildlife, and landscape photography. Having lived through multiple forest fires in California, her current research interests focus on the quantification of wildfire risk.

She moved from Serbia to the US to study at MIT, where she completed her undergraduate and master's degrees in Electrical Engineering and Computer Science.

LucEnt Challenge Teams - KEMS

In the context of a country like Kosovo, the absence of an address system presents a significant challenge during emergency situations. In order to pinpoint their location for emergency services, residents of Kosovo rely on the use of landmarks, a method that proves to be inefficient and unreliable in a developing country where landmarks are constantly changing. Additionally, social media has emerged as a popular tool for the mobilization of blood donations in times of urgent need, with users posting their blood type to find matching donors.

To address these challenges, KEMS- Kosovo Emergency Medical Services will be developed as a mobile application. This app will serve as a solution to both problems by allowing users to send a pin of their current location, enabling them to be connected to emergency services swiftly and accurately. Furthermore, the app will also send notifications to all users during times of blood shortages, thus enabling a more timely and efficient response to such critical situations. The development of this app has the potential to greatly enhance emergency response efforts in Kosovo and save countless lives.

UN SDG: 3 - Good health & wellbeing

Team

Laura Lungu (LC)



Laura is a Neuroscience PhD student at the MRC Laboratory of Molecular Biology. Her research is focused on linking neural circuit structure to behavioral function, and she has experience in psychology, having studied patients with atypical sensory processing and how these experiences are shaped by various drugs. She previously collaborated with Johnson and Johnson to tackle diagnostics for neuropsychiatric diseases.

Margjele Shala (LC)



As a student with a background in physics, neuroscience and medicine, Margjele has continuously been working in finding ways to better serve communities in need, ranging from portable EKGs to KEMS. Her current research at the MRC Laboratory of Molecular Biology focuses on the effects Parkinson's Disease mutations have on cognitive abilities in *Drosophila Melanogaster*.

LucEnt Challenge Teams – Let's Talk About Sex!

We aim to reduce the lack of sufficient, updated, and accessible sexual health education (sex ed) among young people worldwide, and provide them with access to informative sex ed inclusive of all genders, and sexualities. Our project aims to debunk social stigma and norms of shame surrounding bodies, change, sex and consent amongst all genders, and to promote overall mental health and wellbeing. In this project, we would also like to address issues surrounding period poverty, sustainable menstruation/contraception and gender inequality, which we believe are important to highlight when discussing sexual education. This way we would address the following UN SDGs: good health and wellbeing, quality education, and responsible consumption and production.

Our plan is to develop a sexual health interactive course, with the help of a sexual health expert, through a website accessible and curated for young audiences. In addition, we would link it with in person workshops at schools and other institutions. Since we would work with children, the online course would contain videos, goals, progress bars, games, fun exercises, animations, and mindful check-in questions. Ideally, a chat function will also be made available for the young users to ask a professional any questions/concerns they may have, but this may be harder to practically implement. The website will be tailored to different age groups, and once the individual confirms their age they will be provided with information curated to their age group. Hence, younger age groups will have more visual/interactive information on puberty and consent for instance, whereas older age groups will have more data focused information on safe sex and contraception.

A first way to deliver our project is by having our course website readily available worldwide and promoted online to young people. A second way to deliver our age-curated content is through interactive workshops at a pilot school (with the intention of expanding into other schools) and encourage the students to use our website if they would like to access more sexual health information in their own time.

UN SDG: 3 – Good health & wellbeing, 4 – Quality education, 12 – Responsible consumption and production

Team

Ioana Dobre (LC)



Ioana is from Romania, studies Psychological and Behavioural Sciences and is a passionate member of the Cambridge-based arts zine BAIT, a Lucian welfare officer, and enjoys anthropology, yoga, rowing, mindfulness, and art.

Leila Schaaf (LC)



Leila is a second year Psychological & Behavioural Sciences undergraduate from Germany and loved her role as LGBTQ+ officer last year. She enjoys team sports, art, travelling, and volunteering.

Chloe Wills (LC)



Chloe is a second year Natural Sciences undergrad from London who is enthusiastic about playing the piano and dancing, and enjoys being a member of the Trinity College Literature Society and Cambridge African Caribbean Society.

LucEnt Challenge Teams - DyCo

The specific problem we aim to address is the problems caused by traditional dyeing techniques in the textile industry. Currently, over 90% of the clothes we consume are synthetically dyed and have a major impact on the surrounding environment and population where they are produced. As well as this, textile fibres can require over 200 tonnes of water for every tonne of textiles produced and the majority of this water returns to the environment often full of hazardous chemicals, heavy metals, microfibres and mordants. Another issue is the devastating impact the production of dyes has on the local population, with many people not having access to clean water due to this contamination and may be exposed to this on a daily basis. With our idea we hope to address these problems and prevent the devastating impact the global fashion industry has on our environment. In particular we hope to tackle targets 12.6, 12.7 and 12.8 of the UNSDG and transform the industrial dyeing industry into an environmentally friendly, socially responsible, and economically viable one, through the discovery and production of biologically synthesised, nature-inspired dyes.

We aim to design and develop an AI-powered platform for the discovery of an expansive catalogue of novel, nature-inspired dyes that can be synthesised by genetically engineered bacteria. The technology pipeline will comprise three components.

- A generative machine learning (ML) model generates new molecules chemically similar to existing natural dyes, targeting compounds predicted to possess desired properties.
- Our key innovation lies in a second ML model to predict enzymatic pathways for the biosynthesis from benign feedstocks of targets from the first model not synthesisable via environmentally friendly and cost-effective methods.
- Existing synthetic biology tools can then readily be employed to encode these synthetic pathways into bacteria such that they selectively produce large volumes of our target dye during fermentation.

UN SDG: 11 - Sustainable cities and communities, 12 - Responsible consumption and production, 13 - Climate action

Team

Dhruv Menon (LC)



Dhruv is on M.Res + PhD programme in Nanoscience and Nanotechnology (NanoDTC). During his undergraduate studies in Materials Engineering at the Indian Institute of Technology Gandhinagar he worked extensively on nanoporous materials called metal-organic frameworks (MOFs) for environmental remediation applications such as toxic metal removal from water. During his M.Res and subsequent PhD, he wants to expand on his work on these materials in the domain of translational medicine for the delivery of therapeutic molecules to hard-to-treat cancers such as pancreatic cancer. With a passion for innovation, he has previously been involved in the development of Krux.ai, a platform for work optimisation, currently being patented in India.

Tara Murphy (LC)



Tara is a Theoretical Physics Graduate at Trinity College Dublin having obtained a first-class honours and Gold Medal in her University. She has a wide knowledge and background of various mathematical concepts, particularly in Machine Learning and Quantum Mechanics, having completed experimental and computational internships at Tyndall National Institute, VULCAN Laser Research Facility, Quantum Motion Technologies at UCL and IBM Research Labs in Dublin. In her future career, she hopes to bring together both the theoretical and experimental fields in physics and create a link between the two communities. She is currently a NanoDTC student at the Cavendish Laboratories.

LucEnt Challenge Teams - DyCo

Team

Stephanie Fraser (T)



Stephanie Fraser is a PhD candidate at the EPSRC CDT in Nanoscience and Nanotechnology, University of Cambridge. She is currently studying plasmon enhanced ferroelectrics discovery in the Department of Materials. Prior to this, she worked on a project investigating the photophysics of single photon emitters in two-dimensional materials. Stephanie received her MSc in Chemistry from the University of KwaZulu-Natal (South Africa) where she studied as a Vincent Maphai scholar. Her dissertation focused on the development of biopolymer-based hydrogels for wearable electronics. Previously, she obtained her BSc in Applied Mathematics and Chemistry from the same university. Outside the lab, Stephanie enjoys playing orchestral repertoire – and is always up for a rally on the tennis court.

Josiah Riley (ED)



Josiah is from Newcastle-Upon-Tyne. He completed his Undergraduate master's degree in chemistry, at Loughborough University. Outside of academic pursuits, he enjoys art, church, football, and music.

LucEnt Challenge Teams - Next Generation Africa

In Malawi, traditional perceptions, cultural norms, and the lack of information access create obstacles for girls with respect to their sexual and reproductive health. This can be seen in the lack of adolescent-friendly services, as well as their often limited knowledge about crucial topics such as menstrual management, family planning, gender-based discrimination, as well as STDs and HIV prevention. This not only exacerbates the vulnerability of girls regarding their sexual and reproductive health, but it also puts them at increased risk of experiencing sexual and gender-based violence. Close to 4,000 girls drop out of school each year due to pregnancy or early marriage, with over 28% of girls aged 15-19 being married or in a union.

We aim to address this discrimination and unequal treatment faced by girls in Malawi with Herlendo. Herlendo responds to a call from UNICEF to develop a chatbot that provides marginalised girls with relevant and reliable information on sexual and reproductive health. Herlendo is a conversational chatbot that girls can talk to like a friend or 'aunty', providing personalised advice on sexual and reproductive health. The chatbot will be integrated into existing channels, such as SMS, social media (WhatsApp), and existing Malawian education platforms, making it easily accessible for girls. Herlendo will provide girls with the support they need on their journey to sexual and reproductive health and well-being.

UN SDG: 3 - Good health & wellbeing, 4 - Quality education, 12 - Responsible consumption and production

Team

Martin Graf (LC)



I currently study Advanced Computer Science. During my undergrad, I discovered that I want to build stuff that positively impacts the world. Hence, next to my studies and later work at a software company, I joined Next Generation Africa, an NGO providing quality education in Malawi. At Next Generation Africa, together with the rest of the team, I designed and implemented the current version of our Xulendo digital library which is used by thousands of students across Malawi. One thing I realized during my work on Xulendo is that not just the availability of educational material prevents children from enjoying quality education. I want to help change this by providing quality health-related information to girls via Herlendo.

Niels Kunz (JN)



As a recent graduate of the University's MPhil in Development Studies, I am passionate about understanding the intricacies of successful digital education projects in development contexts. As a Mercator Fellow, I am currently working for UNICEF Malawi. In the past, I have contributed to several digital development initiatives, including working with Yoma, the Campaign for Female Education (CAMFED), and the Center for Advanced Internet Studies (CAIS). Having co-founded Next Generation Africa, I work towards increasing educational equity with our partners through the education platform Xulendo and open-source textbooks. It is with great enthusiasm that I embark on this exciting new initiative, Herlendo, in collaboration with our partners in Malawi and an amazing team.

Clever Banda (international partner)



I am a Civil Engineering student at the Malawi University of Business and Applied Sciences. As a student in Malawi, I have experienced first-hand the challenges of limited educational resources. However, I was fortunate enough to have access to Next Generation Africa's digital library during my secondary education. This experience inspired me to join their great team and help provide more students with access to quality education. As someone who is studying in a program that is mostly male-dominated, I witness every week how some girls are at a disadvantage due to societal stereotypes and norms. With Herlendo, I want to empower girls by breaking down societal barriers and helping them reach their full potential, creating a better future for their communities.

LucEnt Challenge Teams – Recipes for Growth

Covid-19 had a drastic impact on all countries, however, naturally, those who were already at risk and marginalized were affected the most and became even more vulnerable. Many women's cooperatives especially in Jordan that serve the community through cooking and selling homemade goods were forced to close down their business for 3 whole months which had devastating results on all stakeholders. Women cooperatives are considered a vulnerable group that has a combination of risk factors. They have an informal structure with very little attention to strategic planning and development. This is why with the onset of a pandemic they had no tools for survival.

I decided to help a local women's cooperative in Jordan by building comprehensive coping mechanisms that are culturally and economically sustainable. I started by branding, development of a social media profile, created linkages with reputable social media accounts, financial review and logistical support to reach customers including helping them with packaging and distribution. This all led to the cooperative being visited by HM Queen Rania of Jordan and the cooperative being featured on a reputable magazines and media sites. Now, I want to use experience from my pilot study in Jordan and create links between cooperatives in Jordan and the UK.

After choosing the cooperatives I want to work with both in the UK and Jordan, I aim to start working on a comprehensive user-friendly online guide or manual that includes different tips on improving. Within this guide, I will include a possible emergency plan for cooperatives if they face crises similar to the pandemic. I would also run online or in person workshops to train representatives from each cooperative on the guide and how to make use of the technical and practical expertise. Moreover, I plan to organize an online bazaar to showcase the cooperatives' products and launch online shopping. I would also like to create and sell a shared cookbook with joint recipes from the cooperatives in both the UK and Jordan.

UN SDG: 5 – Gender equality, 8 – Decent work and economic growth, 11 – Sustainable cities and communities

Team

Farah Aljazzy (LC)



I am currently a first year undergraduate student studying Human, Social, and Political Sciences. I am the Communications and Outreach Officer for the local "Tal Al Rumman Women's Cooperative" in Jordan. During my school years, I organized and engaged in service projects by being the President of the Student Council as well as the Vice President of the Round Square group. Moreover, I engaged in several internships at NGOs and research institutes. I received various awards such as the King Constantine Award, Outstanding Creativity Activity Service Award, and the Duke of Edinburgh Award. I aspire for a career in international relations and mutual cooperation. My life goal is to be an active global citizen who is empowered to promote human rights, sustainable development, and overall peace and prosperity.

LucEnt Challenge Teams - TrackGiving

A recent survey conducted by the World Economic Forum in June 2021 with a considerable amount of respondents of 33,000, found concern that NGOs were too focused on money, losing touch with the public, using public funding poorly, corrupt, or incompetent. And also by Baroness Stowell, who is the Chair of the Charity Commission in the UK and stated just last week in fact that Charities are no more trusted by British public than the 'stranger in the street'. The future of all charitable work depends on public trust.

Through the use of cutting edge technology known as the Blockchain, TrackGiving provides the ability to track each £ from the NGO/foundation, to a frontline organisation/to the end beneficiary. That gives the NGO's and foundations complete transparency and verification on how funds are spent, where they go, and what impact they're having. Customer segments include charitable donors, NGO's and charitable foundations.

A platform for donations which allows tracking the movement of funds, via cutting edge technology (Blockchain Technology). This results in increased transparency of the donation process thereby leading to a greater confidence in the NGO sector, whilst also keeping NGO's in check. In turn, this will see stronger institutions, increasing partnership for sustainable development and an increase trust in the charitable giving process for the donor. A prototype will be run with a local NGO, utilising a basic version of the technology (with some manual intervention) whilst also providing the user experience of tracking movement of funds.

UN SDG: 9 - Industry, innovation and infrastructure, 16 - Peace, justice and strong institutions, 17 - Partnerships for the goals

Team

Bohan Yang (LC)



Strong interest in technology and finance, where I have previously completed a chartered accountancy qualification and an MBA. Past experiences have also included serving in the Singapore Armed Forces for 2 years, to more recently working with the online luxury fashion retail platform Farfetch. I also have a strong interest in leveraging on China's rapid growth in the upcoming decade. Enterprise/Opportunity focus: FinTech and Social Impact.

Riz Nazrullah (K)



Interesting fact - I have performed at the Royal Albert Hall twice! I am extremely passionate about technological innovation, disruption, start-ups and making this world a much better place through this. During the last academic year, I represented the University of Cambridge at the National Union of Students (NUS). Named "One to Watch" by Bill Clinton's Global Initiative, and as an "Emerging Peacemaker" by the Archbishop of Canterbury. Past experiences include launching a custom merchandise company alongside my undergraduate degree and advising Amazon Fresh on their student marketing effort in the UK. Enterprise/Opportunity focus: Technology and Social Impact.

An update on the LucEnt Challenge 2021-22

Last year's LucEnt Challenge Weekend saw Tombi Makuyana, PhD student at the Babraham Institute, win £1000 for her project "100 Young Women Initiative".

100 Young Women Initiative is a mentorship programme, run by Shasha Network, geared towards the creation of a supportive system that will encourage teenage girls, from marginalized communities, to pursue their dreams. Through 4 weeks intensive mentoring program, girls are equipped with self-leadership, career research, and personal branding skills maximizing their chances of achieving their career aspirations. The girls can network with leaders working at top companies and universities such as Deloitte, KMPG, Stanford, University of Cambridge, etc. Upon completing the programme, girls become part of a lifelong support network.

There is a vast aspiration gap in Africa, preventing young girls from reaching their full potential. For most families without a steady income, the sons are encouraged to go to college while daughters are trained on household skills to be good wives. This grim reality leaves an imbalanced society where most males are educated and females less educated, leading to a lack of female role models for younger ones to aspire to. Those from low-income backgrounds with limited aspirations are left behind due to a lack of exposure to the endless and genderless opportunities available to them.

The LucEnt Challenge Prize, sponsored by Cambridge Precision Ltd, supported the initial cohorts on the 100 Young Women Initiative.

The programme has already started seeing the first fruits of the commitment to the 100 young women that have upskilled. One of the scholars, Tanatswa from Zimbabwe, received a Beit Trust scholarship to study Translational Neuroscience at the University of Cambridge. She mentioned how the programme helped her tell her story and articulate her vision for her future career goals. She's settling well and has ambitions to pursue a PhD later on while continuing to be an advocate for mental health in Zimbabwe.



(Farai, Tanatswa (scholar), Ntombi)



(James Dyer from AstraZeneca, Ntombi)

The LucEnt Challenge has opened doors for Tombi and her team at Shasha Network, allowing them to demonstrate early success and secure further funds. Tombi went on to win the "Pitch for the Prize" at the Entrepreneurship Marquee at Cambridgeshire County Day and continues to work on the 100 Young Women Initiative with Shasha Network to inspire more girls discover their purpose and reach their fullest potential.

The LucEnt Challenge invites Lucy Cavendish College students to combine their knowledge, skills and experience in a multi-disciplinary team to identify an enterprising solution to a problem relevant to the United Nations Sustainable Development Goals (UN SDGs).

The Challenge teams selected to attend this Enterprise Weekend will benefit from entrepreneurial inspiration, mentor support and will have the opportunity to win a £1000 prize towards implementing their vision for a new product, service or innovation that has the potential to create significant economic or social impact.

Lucy Cavendish College is grateful to Cambridge Precision Ltd for their generous support of the Enterprise Weekend and the enterprising activity of students at the College.

