COMPLEX SYSTEMS

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COMPLEX SYSTEMS TOOLKIT

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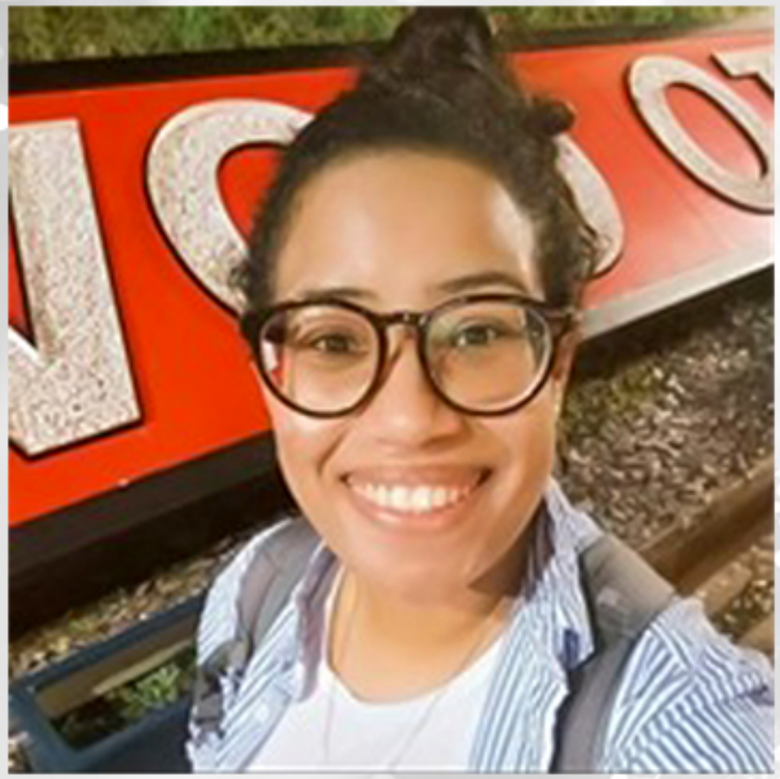
Peter Martin
Director of R&D, Quanser

Co-Chair, Complex Systems Toolkit Working Group

Leading a team of engineers that work at the intersection of academia and the high-tech industry, my team and I constantly struggle to design and build hardware platforms and software solutions that harness and distill complexity for different levels of students from freshers to postdocs. When I was presented with the opportunity to help create a toolkit to enable academics to instill an understanding of complex systems into courses and programs, I jumped at the opportunity to promote an understanding of the tools and techniques of complex systems engineering. Technology increasingly cannot be controlled, but it can be harnessed, understood, and guided to push the boundaries of what is possible. Our students will be the ones to push those boundaries, and it's essential that they are prepared. I'm honored to have been invited to participate in the toolkit, and I can't wait to see the influence of the material spread throughout the UK and beyond.



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Dr. Amina Hamoud
University of the West of England

Senior Lecturer in Systems Engineering

As someone working at the intersection of autonomous systems, safety assurance, and resilient infrastructure, I know firsthand that technical expertise alone isn't enough. Engineers must understand how systems interact with humans, environments, and society. I'm proud to contribute to the Toolkit because it gives educators practical ways to develop these essential competencies, preparing students to build resilient systems with our increasingly complex world demands.

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Dr. Mariam Makramalla, PhD, FRSA
New Giza University

Lecturer

As an engineering educator, students are approaching me all the time with questions of how what they study connects to real life. The amount of complexity and connectivity that this toolkit offers is groundbreaking and incredibly necessary for this day and age.

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Dr. Mohammad Hassannezhad
University College London

Lecturer, Certified Systems Engineer

The world around us is full of systems and often, we don't even realize that we are part of these highly complex systems of dynamic systems. To navigate this complexity, society needs 'well-rounded engineers': people with systems mindset who don't just fix problems, but know how to design smarter, more sustainable, cost-effective solutions. This global initiative brings together problems, people, places, and practices to help young engineers develop the competencies for the needs of modern world.

Dr. Stuart Grey SFHEA
University of Glasgow

Senior Lecturer

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As someone who has been a heavy user of the EPC resources in my teaching over the years, particularly the Ethics Toolkit, I am incredibly proud to contribute to the Complex Systems Toolkit. It is an area with extensive good practice across the sector, a lot of which will now be available in one place.

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