

## Andrea Santamaría

Dr Andrea Santamaria Garcia is an assistant professor in the Department of Physics at the University of Liverpool and a member of the Cockcroft Institute. She is an accelerator physicist by training and now specialises in machine learning applied to particle accelerators. She did her doctoral studies at CERN, where she studied crab cavity failures at the High Luminosity Large Hadron Collider. Following her PhD, she was awarded a CERN Senior Fellowship and joined the operations group at CERN, where she carried out targeted measurement campaigns. In 2020, Andrea joined the Karlsruhe Institute of Technology, where she created and led the AI4Accelerators team. During this time, she coordinated a project focused on controlling ultrafast nonlinear phenomena using online reinforcement learning on hardware. She was also part of several projects focused on the development and deployment of machine learning algorithms in a variety of particle accelerators for tuning and control, including the development of one of the first differentiable beam physics packages. Finally, Andrea founded the Reinforcement Learning for Autonomous Accelerators (RL4AA) international collaboration, which organises workshops annually on the topic of reinforcement learning applied to real world systems.