

Computational Thinking: It's Not Just About Computers

Professor Muffy Calder



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Biography

Muffy Calder OBE FRSE FREng is Chief Scientific Adviser for Scotland and Professor of Computing Science at Glasgow University.

Her research is in modelling and reasoning about the behaviour of complex software and biochemical systems using computer science, mathematics and automated reasoning techniques. She has collaborated with scientists and engineers from a wide range of disciplines, from electrical and aerospace engineering, to cancer and cardiovascular medicine. She has been an academic at Glasgow University for over 25 years, and previously was Dean of Research in the College of Science and Engineering. She has spent time in industry and has collaborations with many world-leading companies including BT Research Laboratories, DEC (Digital Equipment Corp) Research Labs in California, and NATS (air traffic services).

Abstract

Computer Science has made a huge impact on our world: the way we do science, the way we run our businesses, the way we conduct business and personal relationships. But many of the big ideas behind it are largely invisible because you can't see, touch, feel or smell computation. The aim of this lecture is to explain one of greatest contributions of computer science: *computational thinking*. I will try to make it visceral and explain what it is, what it isn't, why it matters, and why everyone should know about it.