

What does Education for Sustainability have to do with Electronics and Computer Science?

“Transforming research into answers to real world problems produces business opportunities, enhances quality of life, creates jobs, boosts the economy and helps make our world safer and more rewarding.” (<http://www.ecs.soton.ac.uk/research/researchimpact>)

Technology has a rapidly changing and developing role in addressing some of the global and local sustainability challenges facing the world today. Topic areas of relevance to sustainability already in the Electronics and Computer Science curriculum include:

- **Human-computer interactions:** usability of systems design; accessibility of technologies in their design and availability.
- **Security:** cyber security in the 21st Century; countermeasures; mitigation of risk; cloud application development.
- **Social interactions:** using computing to foster social interactions e.g. opportunities created through crowdsourcing, citizen science.
- **Human health and wellbeing:** application of robotics in medicine; computing increasing accessibility e.g. through touch screens; opportunities and pitfalls of social networking sites on human wellbeing e.g. avoiding social isolation, cyber bullying.
- **Biological data:** application of modelling biological data e.g. human genome project; biomedical sciences and pharmaceutical industries.
- **Design and innovation:** advocating the use of sustainable energy, materials and sources, from production, construction, development, design and through to trade; supply chain management; lifecycle assessment; energy generation, storage, usage and efficiencies.
- **Business and law:** social entrepreneurship.
- **Ethics:** in industry and research; use of technologies in times of emergency or political upheaval.

Key skills for electronic and computer scientists which sustainability teaching cultivates:

interdisciplinarity; informed decision-making; synthesis of different opinions, theory and data; debate and reasoning; teamwork; leadership; problem-solving; oral and written communication; self-management; time-management; critical thinking; future thinking; project management; risk management; entrepreneurship.

Find out more: Contact Julia Kendal (j.kendal@soton.ac.uk) for more information including case studies on teaching sustainability in this area.