



The Royal Academy  
of Engineering

*i*Foundry



**WPE-2008**

# **2008 Workshop on Philosophy and Engineering**

The Royal Academy of Engineering  
November 10-12 2008

## **Schedule of Talks**

## Monday 10 November 2008

All Plenary sessions take place in F4, the main lecture room

9.00 – 9.30 Registration

9.30 – 9.45 Welcome and introduction of day's theme(s) **Taft Broome and Natasha McCarthy**

09.45 – 10.45 **Billy V. Koen: *Toward a Philosophy of Engineering: An Engineer's Perspective***

10. 45 – 11.15 Coffee break

11. 15 – 12.45 **Parallel session – submitted papers**

**A. F1** Mikko Martela Esa Saarinen, Raimo P. Hämmäläinen, Mikko Martela and Jukka Luoma: *Systems Intelligence Thinking as Engineering Philosophy*  
David Blockley: *Integrating Hard and Soft Systems*  
Maarten Franssen and Bjørn Jespersen: *From Nutcracking to Assisted Driving: Stratified Instrumental Systems and the Modelling of Complexity*

**Chair:** Darryl Farber

**B. F4** Ton Monasso: *Value-sensitive design methodology for information systems*  
Ibo van de Poel: *Conflicting values in engineering design and satisficing*  
Rose Sturm and Albrecht Fritzsche: *The dynamics of practical wisdom in IT-professions*

**Chair:** Joe Pitt

**C. G1** Ed Harris: *Engineering Ethics: From Preventative Ethics to Aspirational Ethics*  
Bocong Li: *The Structure and Bonds of Engineering Communities*  
Priyan Dias: *The Engineer's Identity Crisis: Homo Faber vs. Homo Sapiens*

**Chair:** Michael Davis

12.45 – 14.00 Lunch

14. 00 – 15.30 **Tutorials**

**F1:** Aarne Vesilind – *Peace Engineering*

**F4:** Peter Kroes and Maarten Franssen – *Sociotechnical Systems*

**G1:** Mark Somerville and Sarah Bell – *Reflections on Engineering Education*

15.30 – 16.00 Break

16.00 – 17.30 **Jerome Ravetz: *Maintenance as morality***

17.30 – 19.30 Reception at the Royal Society

## Tuesday 11 November 2008

9.00 Coffee and tea

9.30 – 9.45 Welcome and introduction of day's theme(s) **Caroline Whitbeck**

9.45 – 10.45 **Deborah Johnson: *An STS-Informed Account of Engineering Ethics***

10.45 – 11.15 Coffee break

11.15 – 12.45 **Parallel session**

**D. F1** Neelke Doorn Ibo van de Poel: *A Rawlsian Approach to Distribute Responsibilities in R&D Networks*

Michael Pryce: *Descartes and Locke at the Drawing Board: Philosophies of Engineering Design*

Bruce Vojak, Raymond L. Price, Abbie Griffin: *A Polanyian Perspective of Breakthrough Engineering Innovation*

**Chair:** Carl Mitcham

**E. F4** Aaron Sloman: *Virtual Machines in Philosophy, Engineering and Biology*

Russ Abbott: *Supervenience, emergence, and individuals*

Enrong Pan: *A Philosophical Model of the Relationship between Structure and Function in Engineering Design*

**Chair:** Ron Chrisley

**F. G1** Rune Nydal: *Normative cross-over terms - The ethos of an ultrasound screening programme*

Dingmar van Eck: *On Engineering Meanings of Functional Decomposition*

Taft Broome: *Metaphysics of Engineering II*

**Chair:** Natasha McCarthy

12.45 – 14.00 Lunch

14.00 – 15.30 **Tutorials**

**F1.** Igor Aleksander – *Engineering Conscious Systems*

**F4.** Karen Tonso – *Feminist issues in engineering*

**G1.** Peter Simons – *Metaphysics in Engineering*

15.30 – 16.00 Break

16.00 – 17.30 **Parallel Session – submitted papers**

**G. F1** Maria Eunice Gonzalez: *Ethical implications of ubiquitous computation*

Viola Schiaffonati: *From Philosophy of Science to Philosophy of Engineering: The Case of AI*

John R. Allen: *Whither Software Engineering*

Ron Chrisley, Tom Froese and Adam Spiers: *Engineering conceptual change: The Enactive Torch*

**Chair:** Russ Abbott

- H. F4** Heinz C. Luegenbiehl: *Dual Responsibilities: Balancing Employee and Engineering Considerations in Engineers' Decision-Making*  
Wybo Houkes and Auke Pols: *Being in Control: Towards a Model of Rational Acceptance of Technology*  
Hans Radder: *Have we just moved into the age of technoscience?*  
Diane Michelfelder: *Artes Liberales and Ethics for Engineers* (Abstract available separately)

**Chair:** Ibo van de Poel

- I. G1** W Richard Bowen: *Promoting a Culture of Peace within Engineering – Engineering for the Promotion of a Culture of Peace*  
Darryl Farber: *Philosophies of Sustainability and Engineering the Nuclear Fuel Cycle - Scenarios for the Future of Nuclear Power*  
Behnam Taebi: *Intergenerational future of nuclear power*

**Chair:** Aarne Vesilind

17.30 – 19.30 **Poster Session and wine reception** (sponsored by the British Academy)

### **Wednesday 12 November 2008**

9.00- 9.30 Tea and coffee

9.30 – 9.45 Welcome and introduction of day's theme(s) **Joe Pitt**

09.45 – 10.45 **Carl Mitcham: *The Philosophical Weakness of Engineering as a Profession***

10.45 – 11.15 Coffee Break

11.15 – 12:45 **Parallel session – submitted papers**

- J. F1** Michael Davis: *Some Problems Defining Engineering—From Chicago to Shantou*  
Peter Simons: *Varieties of Parthood: Ontology learns from Engineering*  
Joel Moses: *Toward an Ontology for Systems-related Terms in Engineering and Computer Science*

**Chair:** Peter Kroes

- K. F4** Kieron O'Hara: *The Technology of Collective Memory and the Normativity of Truth*  
Taft Broome: *Social Heuristics in Engineering*  
John Monk: *Emotion, Engineering and Ethics*

**Chair:** Priyan Dias

- L. G1** Sarah Bell, Joseph Hillier and Andrew Chilvers: *Beyond the modern profession: rethinking engineering and sustainability*  
Nicholas Mousilides: *Reflections on Integrating Engineering Education within the Elementary School Curriculum*  
Dave Goldberg: *What Engineers Don't Learn and Why They Don't Learn It, and How Philosophy Might Be Able to Help*

**Chair:** John Heywood

12.45 – 14.00 Lunch

14.00 – 15.30 **Parallel Session – submitted papers**

- M. F1** William Grimson: *A systematic approach towards developing a Philosophy of Engineering*  
Mo Abolkheir: *The Five Epistemic Phases of Technological Inventions*  
Caroline Whitbeck: *Post-Enlightenment Philosophical Ethics and its Implications for Practical (and Professional) Ethics*

**Chair:** Richard Bowen

- N. F4** Antonio Dias de Figueiredo: *Toward an Epistemology of Engineering*  
Oliver Parodi: *Hydraulic Engineering Reflected in the Humanities*  
Cao Nanyan and Su Junbin: *Textual Research on Professional Awareness of Ethics in up-to-date Constitutions of Chinese (mainland) Engineering Public Organizations*

**Chair:** David E. Goldberg

- O. G1** Susanna Nascimento and Alexandre Pólvara: *Hitches & Prospects: Outlining Portuguese Encounters of Philosophy, Sociology and Anthropology with Engineering*  
Fotini Tsaglioti: *'Steamy Encounters': Bodies & Minds between Explosions & Automation*  
Xiao Ping: *Scanning Engineering Liabilities from the Perspective of Aggrieved Parties*

**Chair:** Diane Michelfelder

15.30 – 16.30 **Wrap-up session**

16.30 Closing drinks