Science of Cyber-Security
IFIP 10.4 Session 5

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Jonathan Spring

- Most of what passes for cyber-security currently in pseudo-science.

- We can argue about what is science and pseudo-science.

- Maybe the real question is: what is effective in terms making predictions and helping design, build, deploy more secure systems and manage uncertainty (risk)?

- We should learn from other sciences.

Jonathan Spring

- How does CS differ from other sciences?

- CERT: collecting and analyzing malware. Has a feel of zoology/botany to me!?

- NSA best paper awards: no clear, public criteria.

- Science and engineering are not disjoint, in fact symbiotic.

Sami Saydjari

- Pressure for short-term results.

- DARPA (funding agency) cultural shift from "avoid tech surprises" to "faster, better, cheaper".

- Mainly "Homeland security"?!

- Spectrum: science, engineering, practice,...

- Not dealing with natural artefacts, but fast changing human creations.

- Science as social process.

Shing-hon Lau

- Pressure to publish as many as papers as possible, with little regard for quality.

- Too many conferences.

- Poor reviewing, lack of clear guidelines.

- Lack of guidelines to authors.

- Lack of training in the methodology of science.

- Importance of survey papers (Brian).

Personal notes

- crypto, crypto protocols, formal methods (mathematical models) have made progress.

- But the full socio-technical challenges still beyond our current modelling techniques. STAST workshop.

- Dealing with rare events.

- e.g. PayPal vs the regulators....

- Game theory.

notes

- Do lawyers, judges think of journal papers as instances of legal precedents?

- Phil: look at Ross Anderson's battles with the UK banks?!