

Panel: ASE Retrospective

Andrew Ireland

Automated Reasoning Perspective

Research Quality

- Influence on the field?
- Enabling technology?
- Novel application?
- Industrial impact?

Quality of the Methodology

- Explicit scientific hypothesis?
- Evidence to support (or refute) hypothesis?

Software Assurance

- Colin O'Halloran *et al*, QinetiQ
- COTS tools and Software Assurance
- Verifying Simulink generated code
- ClawZ: SPARK verified against Z model
- ProofPower: Tactic based proof tool
- Eurofighter Typhoon: 37kloc against 3 models
- Automotives, *i.e.* Jaguar Landrover (C subset)
- ASE-99, ASE-00, ASE-01

Software Defects

- Daniel Jackson *et al*, MIT
- Detecting software design defects
- Focus on detecting defects, rather than proof
- Alloy: SAT Solving/Relational Modelling
- TestEra, JAlloy, Alloy+B-method, ...
- Avionics, telecoms, medical, ...
- ASE-01, ASE-02, ASE-03, ASE-04, ASEJ-04