

The Architecture (A1) Project

Year 1 Project Review/ summary of key results to date
for R. Korsch (22-05-03)

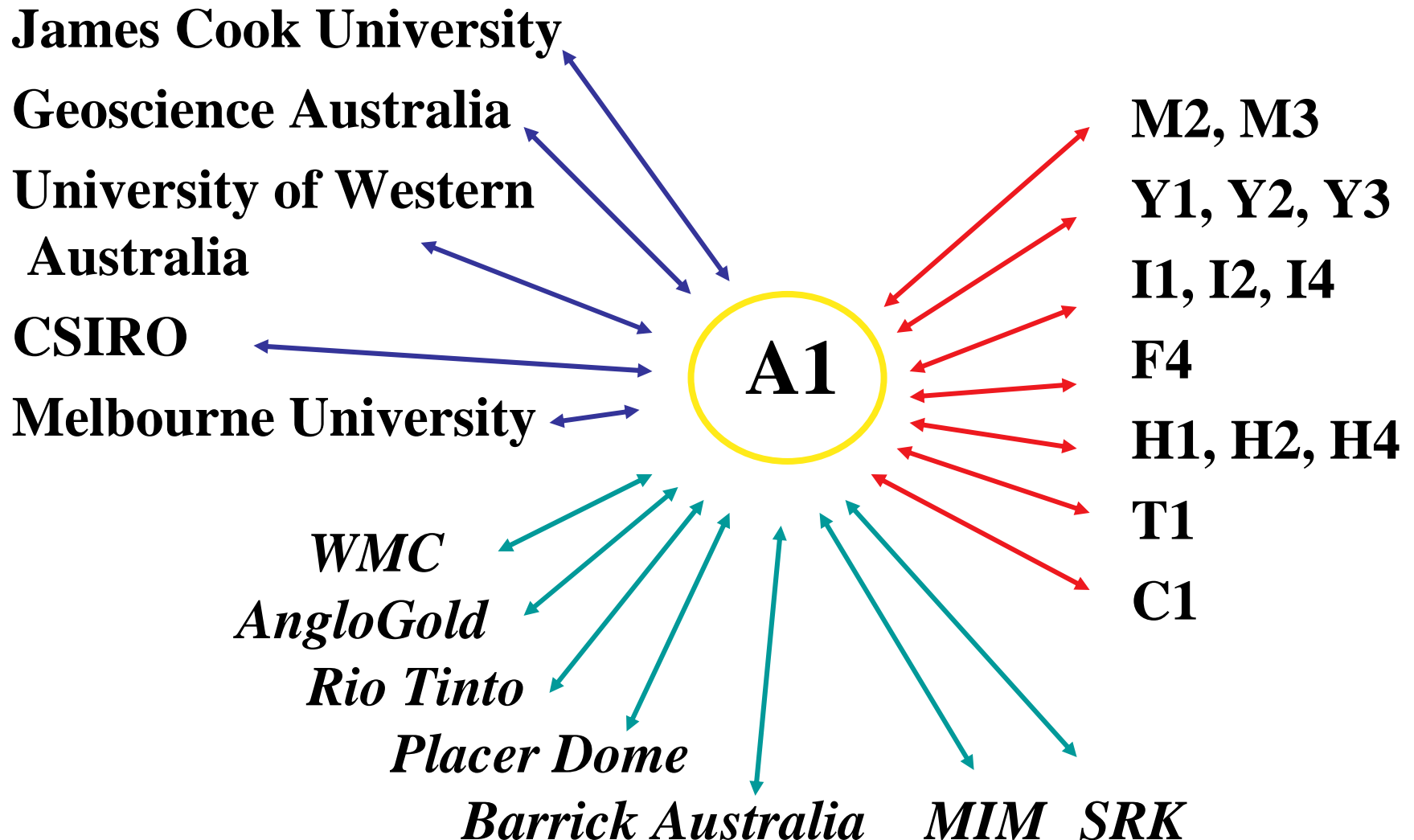
“What are the fundamental characteristics of mineralised (trans-lithospheric) fault systems?”

- **Project Leader:** Frank Bierlein, Monash University
- **Key Researchers:** Peter Betts, Ivo Vos, Anthony Morey (Monash)
Bruce Goleby, Barry Drummond (Geoscience Aust.)
- **Industry mentors:** Jon Hronsky (WMC), Francois Robert (Barrick Australia), Mike Etheridge (SRK), Roric Smith (AngloGold), Graeme Broadbent (Rio Tinto)
- *Commencement Date:* May 2002
- *Project Duration:* 3 years

Project Aims

- **To understand why some fault systems are mineralised, and why others are barren**
- **Determine set of critical parameters that can be applied to identify favourable conduits and faults that are well-endowed**
- **Better understanding of role, significance of deep-seated structures in generating major ore deposits**
- **Predictive mineral discovery at significantly reduced risk**

Linkages



Key Results to date (05/03) - I

- **Data base design (completed 12/02)**
- **Data base population (>65 entries; ongoing & open-ended); entry form available on pmd*CRC web site & Twiki since 12/02**
- **Data base protocol (since 04/03)**
GA, CSIRO; part of pmd*CRC XML data base network
- **Development of web interface**
(to enable interrogation of db, and efficient data entry)
- **Definition of ‘critical parameters’ (in progress)**

Key Results to date (05/03) - II

- **Key area studies (since August 2002):**
 - **Study to determine whether MIFZ represents a trans-lithospheric suture (no); prelim. findings reported 03/03**
 - **Fractal dimension analysis of mineralised fault systems in the Mt Isa Inlier identified correlation between degree of non-linearity and endowment of major faults (with T. Blenkinsop); prelim. findings reported 03/03**
 - **PhD project in Hodgkinson-Broken River Province (since 04/02); characterisation of major faults, relation to mineral deposits; development of GIS data base for Phanerozoic of E Australia**
 - **PhD project in Eastern Goldfields Province (initial project design and selection of key areas finalised 05/03; comparison between Boorara and Bardoc fault systems underway)**

Key Results to date (05/03) - III

- **Merger with F4 deposits data base (underway)**
 - integration of multi-scale data bases
 - data-driven prospectivity maps for specific key areas
 - powerful prospective tool
- **Scenarios for modelling program (since 04/03)**
initial design and protocol (with S. Cox & R. Woodcock)
- **Investigating deep faults as fluid pathways using seismic data**
(input from B. Goleby & B. Drummond?!)
- **Increased structural and geophysical input**
via collaboration with B. Murphy, R. Weinberg