

Research Themes and Personnel

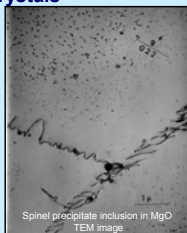
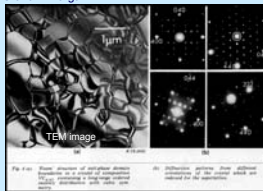
Ceramic Materials

40
 1965 - 2005

Structural Imperfections in Crystals

Defect structure in non-stoichiometric spinels
 Transition metal complexes in MgO crystals
 Non-stoichiometry in transition metal compounds

Mike Lewis
 Bryan Wicks
 John Billingham
 Phil Bell
 John Venables
 Melve Ball
 Robert Boyd
 Graham Morgan



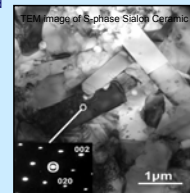
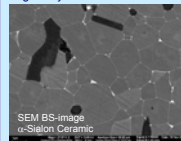
Structural Ceramics for Engineering Application (Silicon Nitrides, Si-Al-O-N Systems)

Peter Drew
 Brian Powell
 John Lumby
 B.S.B. Kanunaratne
 Garry Heath
 Steve Winder
 Ian Tuerley
 Steve Mason
 Graeme Leng-Ward
 Carl Jasper
 Astrid Nordmann
 Mark Smith
 Roger Bayliss

Carl Reed
 Steve Ketchion
 Colin Pickering
 John Fernie
 Hafiz Jumali
 Naima Gajom
 Kevin Plucknett
 Nick Butler
 Rashid Bhatti
 Peter Barnard
 Bikram Basu
 Richard Fung

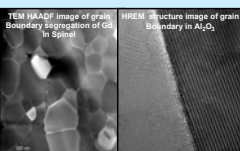
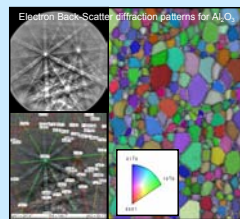
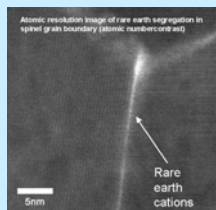


Ceramic Engine components



Nanocrystalline Oxide Ceramics (Aluminas, Spinel)

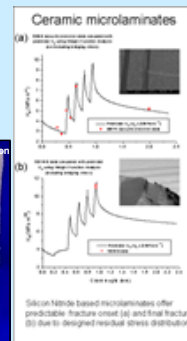
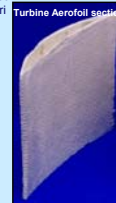
Andries Bosland
 Geoff West
 James Perkins
 Richard Dobedoe



Structural Ceramic Composites (Dispersed phase systems, Fibrous and laminated microstructures)

Hywel Jones
 Markys Cain
 Hong Feng
 Malcolm Bright
 Grant West
 Tony Chamberlain
 Andy Tye
 Mark Pharoah
 Aldo Boccacini
 Dave Horspool
 Ian Gee

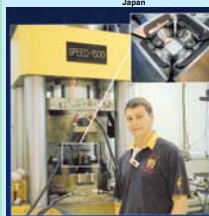
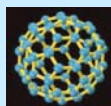
Richard Dobedoe
 Olwen Pullum
 Li Jie
 V.S.R. Murthy
 Tony Razzell
 Adrian Danie
 Andy Wootton
 Stuart Sutherland
 Rebecca Cain
 Syed Qadri



Fullerene Polymers (Ultrahard materials, Magnetic carbons)

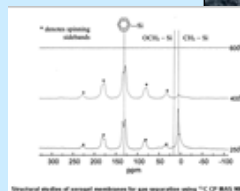
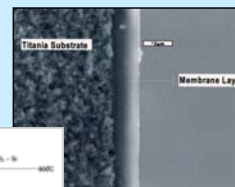
Rob Wood
 Steve Bennington
 Martin Lees

Tim Steer
 Markys Cain
 Naoyuki Kitamura



Ceramic Membranes-for gas separation

Stefan Bjorkert
 Geoff West

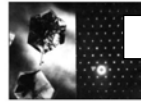
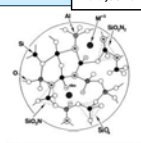
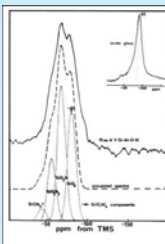


NMR spectra from organically modified silicate membranes illustrating thermal removal of organic molecular templates

Novel Glasses and Glass-Ceramics Silicates, oxynitrides

John Metcalf-Johansen
 Csaba Rappensberger
 John Fernie
 Andy Wootton

Gerald Smith
 Nicole Frety
 Graeme Leng Ward
 David Mosely



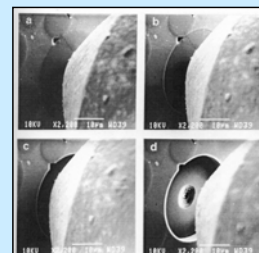
Industry Collaborators

- Lucas Industries
- SKF (Holland)
- Pilkingtons
- Cookson
- Cerametal (Luxembourg)
- TiN Technology
- International Stylons
- ABB (Germany)
- Alcan Chemicals
- Rolls Royce
- JFECC (Japan)
- Morrisflex
- B.E. Research
- ITP (Spain)
- De Beers
- GEC-Alsthom
- MCV (Italy)
- British Gas
- Morgan Advanced Ceramics
- Kanthal VK
- Oxford Instruments
- Teer Coatings

Instrument Development (SEM based nanoindentation, ultra fast, laser based, thermal analysis)

Markys Cain
 Dario Manara

Grant West
 Steve York



SEM based nano-indentation; measurement of interface shear stress of a fibre composite