

AUSTRALIAN CLAY MINERALS SOCIETY INCORPORATED

18th biennial conference

Program and abstracts

Canberra, ACT
April 29 - May 1 2002



ACMS office bearers 2000-2002

President Professor Tony Eggleton

Past President Dr Jock Churchman

Secretary Dr Richard Greene

Treasurer Mrs Robin Westcott

Committee Ms Berlinda Crowther
 Dr Will Gates

Conference sponsors and support

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MONDAY APRIL 29 MORNING

8:00 am	Registration, Gould Wing, ANU	
8:45	Conference opening	
9:00	PLENARY LECTURE: The significance of nanopores	Professor Jim Quirk
	SESSION 1- SOILS AND SALINITY	
9:30	Mineral products formed by oxidation of iron sulfides in Australian upland freshwater acid sulfate soils: genesis and significance.	<u>Robert Fitzpatrick</u> , Mark Raven and Marian Skwarnecki
9:50	Layer charge characteristics of smectites from cotton growing soils of New South Wales	<u>Balwant Singh</u> and Susan Heffernan
10:10	Unravelling the natural gamma response of sediments and saprolith in a complex regolith environment. Gilmore project area, central New South Wales.	<u>Kok Tan</u> , David Gibson, Kenneth Lawrie & John Wilford
10:30	MORNING TEA	

11:00	Gully erosion in the Ben Chifley Dam catchment: a study of gully attributes and their management implications	Celina Smith
11:20	Dispersive potential of soil clays as influenced by exchangeable magnesium	<u>P.Rengasamy</u> and R.S.B.Greene
11:40	The influence of exchangeable cations on the micro-structural organization of clays	<u>R Murray</u> and J Quirk
12:00	Characterisation of pore structure in deep regolith materials	<u>M. Turner</u> , M. Knacksteadt, R. S.B. Greene, I. White.
12:20	LUNCH	

MONDAY APRIL 29 AFTERNOON SESSION

SESSION 2 KAOLINS		
2:00	Studies of synthetic kaolinites containing copper and zinc	<u>A.R. Tong</u> , B. J. Kennedy, and B. Singh
2:20	Nature and origin of kaolinite and halloysite in saprolites from igneous rocks in Hong Kong	<u>Jock Churchman</u> , Ian Pontifex, Stuart McClure, and Steve Parry
2:40	Halloysite-alunite in sediments east of Maralinga, South Australia: a record of acid drainage in the post early Tertiary landscape	<u>J.L.Keeling</u> , P.G.Self and M.D.Raven
3:00	Skardon River – world class kaolin products from far north Queensland	S. N. Border
3:20	Halloysite: quantification in kaolin clays and water content	M. de Oliveira and <u>R.A.Eggleton</u>
3:40	AFTERNOON TEA	
4:00	ACMS AGM	
7:30	CONFERENCE DINNER Red Belly Black Cafe 1 Hobart Place, Civic. Ph 6257 1889	

TUESDAY APRIL 30 ALL DAY	
ACMS 18 TH Biennial Conference Field Trip	
8:00 am	Assemble in front of the Geology building on Daley Road
8:30am	Bus departs
5:00 pm	Approximate return
NB	Bring wet weather gear, coat and good boots.

WEDNESDAY MAY 1 MORNING SESSION

SESSION 3: CLAY MODIFICATIONS		
9:00	Mechanochemical treatment of kaolinite	<u>Ray L. Frost</u> , Éva Makó, János Kristóf, Erzsébet Horváth and J.Theo Kloprogge
9:20	Separation of adsorbed and intercalated formamide using controlled rate thermal analysis methodology	<u>R. L. Frost</u> , J. Kristof, E. Horvath, Z. Ding ¹
9:40	Development of mesoporous materials from kaolin clays.	Balbir Singh, I.D.R. Mackinnon and R.J. Gilkes
10:00	Nanometre-sized clay induced free volume changes in polymers	A. Ammala, A. J. Hill, P. Meakin, T. Tran, <u>T. W. Turney</u> ,
POSTER INTRODUCTIONS		
10:20	Novel phases of kaolinite expanded by intercalation with potassium and cesium acetates	<u>Ray L. Frost</u> , Janos Kristof, J.Theo Kloprogge
10:25	Infrared emission spectroscopy of the thermal transformation of Mg-, Mi- and Co-hydrotalcites	J. T. Kloprogge and R. L. Frost
10:30	Multispectral remote sensing of clay minerals using the Aster instrument	Berlinda Crowther and Prame Chopra
10:35	Synthesis and characterization of copper-doped pillared clays	Z. Ding, <u>R. L. Frost</u> and J. T. Kloprogge
10:40	Overview of the soils of the Canberra-Windellama region	Brian Jenkins
10:45	Stability of clay microaggregates in aeolian sediments	<u>R. S.B. Greene</u> , R.A. Eggleton, W.D. Nettleton, J. A. Mason and R. Gatehouse.
10:50	MORNING TEA AND POSTER SESSION	
12:30	LUNCH	

WEDNESDAY MAY 1 AFTERNOON SESSION

2:00	Clays for waste management	Jock Churchman
2:20	Stability of clay minerals and formation of Fe-oxyhydroxides in mine-spoil soils from Banska Stiavnica – Sobov (Slovakia)	<u>M. Dubikova</u> , V. Sucha, F. Elsass, P. Cambier, and M. Pernes
2:40	Adsorptive minerals to reduce the availability of cadmium and arsenic in contaminated soils	<u>Balwant Singh</u> and B.J.Alloway
3:00	Mineral quantification in clay-rich sediment	Richard A. Eggleton, Kok Tan and Kenneth. Lawrie
3:20	The ages of deep weathering in the Yilgarn Craton	Julius Athlopheng and <u>Allan R. Chivas</u>
3:40	CONFERENCE CLOSING AND AFTERNOON TEA	