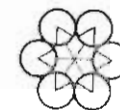


# aipea



ASSOCIATION INTERNATIONALE POUR L'ETUDE DES ARGILES  
INTERNATIONAL ASSOCIATION FOR THE STUDY OF CLAYS  
INTERNATIONALE VEREINIGUNG ZUM STUDIUM DER TONE  
МЕЖДУНАРОДНАЯ АССОЦИАЦИЯ ПО ИЗУЧЕНИЮ ГЛИН

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**newsletter** n. 25 - 1989

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Acting Secr. Gen. : R.A. Schoonheydt, Laboratorium voor  
Oppervlaktechemie, K.U.Leuven, Kardinaal Mercierlaan 92,  
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Belgium, China, Czechoslovakia, France, Germany, German Democratic Republic, Great-Britain and Ireland, Hungary, Israel (1987-1988), Italy, Korea, Nordic Society, Poland, South-Africa, Spain, The Netherlands, U.S.A., U.S.S.R.	
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PRESIDENT'S PODIUM

Dear Clay Scientists, Dear Colleagues,

The International Association for the Study of Clays, AIPEA, is facing in the year 1989 a very important but captious event, the 9th International Clay Conference. Our colleagues in France who organize this world meeting with so much care, have published an excellent second circular of this conference to be held in Strasbourg from August 28 to September 2, 1989. This circular includes a survey of some basic data on AIPEA, edited proceedings of eight previous AIPEA conferences and a list of chairmen of the AIPEA-affiliated national groups of the world. The planned program of the 9th ICC is clear and promises great experience in the technical program, as well as during the excursions. The participating AIPEA members will be pleased that our hosts in France also count with the usual registration discount. Although this was not included in the second circular it will appear in the third circular as I was informed by the Secretary General of the 9th ICC. The AIPEA Council wishes the Organizing Committee in Strasbourg every success in its demanding and very important work which is always essential for a successful international meeting.

The AIPEA members are looking forward to the selected plenary lectures and many exhibited posters but also to a report of the Standardization and Preparation Techniques Committee (SPT) prepared by Prof. J. Thorez who devoted a lot of his time to finalize this AIPEA project. Some of the Council members are of the opinion that the SPT Committee should continue the work it has undertaken although the first results are discouraging. Many clay scientists using X-ray diffraction techniques in the identification of clay and non-clay minerals occurring in the clay accumulations are seeking to obtain this information.

The closing date for the W.F. Bradley Award competition was November 20, 1988. Five manuscripts were submitted to this date. The members of the Bradley Award Committee will now study and evaluate the manuscripts. In March 1989 we shall know the name of the Bradley Award recipient. He or she will present his or her winning paper in a plenary lecture during the 9th International Clay Conference in Strasbourg. The AIPEA Council and I are looking forward to this significant event.

Last spring, I had a letter from the Academy of Sciences in Moscow saying that Prof. F.V. Chukhrov, former AIPEA President (1969-1972) died on April 26, 1988 of a heart attack. His scientific contribution to clay science as well as his service to AIPEA were excellent. His book "Colloids of the Earth Crust" (1955) and original papers devoted to clay minerals, oxides and oxyhydroxides of iron and manganese represent a substantial contribution to our science.

I look forward to meeting you at the 9th International Clay Conference in Strasbourg. But before we meet let me wish all AIPEA members, their families and the institutions involved in clay matter research a happy, prosperous new year of 1989.

Jiri Konta

LIST OF AIPEA MEMBERS - LAST NOTICE

When receiving this AIPEA Newsletter, please check carefully the address label :

- (1) If you wish to make any change, please notify as soon as possible either the Treasurer or the Secretary.
- (2) This address label also indicates the last year for which your membership fee was paid. Please take this opportunity to pay and update your dues :  
Annual membership fee is :  
 4.00 US\$ for members of affiliated societies  
 6.00 US\$ for other members
- (3) If the year is circled in red, this means that your name will not appear in the members directory and will be removed from our mailing list. Please correct this situation immediately if you wish to retain your membership.

Send your cheques to Dr. C. De Kimpe  
AIPEA Treasurer  
Land Resource Research Centre  
Central Experimental Farm  
Ottawa, Ontario  
Canada K1A 0C6

C. De Kimpe  
AIPEA Treasurer

THE NINTH INTERNATIONAL CLAY CONFERENCE 1989

(STRASBOURG, FRANCE, August 28 - September 2, 1989)

The technical program will be organized in the following sessions :

- I. Rock weathering, laterites and soil mineralogy : clay minerals, amorphous materials, oxy-hydroxides
- II. Crystal chemistry, clay mineral structure and nomenclature
- III. Interstratification and intercalation chemistry
- IV. Colloidal properties, surface chemistry and catalysis
- V. Geochemistry of clay minerals and thermodynamic approaches to clay-water interactions
- VI. Organic matter, clay mineral interactions and origin of life
- VII. Geochemistry and isotope chemistry of clay minerals
- VIII. Clay minerals in sediments : paleoenvironmental and diagenetic significance
- IX. Role and evaluation of clays in diagenesis and hydrothermal alterations
- X. Zeolites
- XI. Clay minerals and nuclear waste disposal
- XII. Industrial applications and ceramics
- XIII. Analytical techniques
- XIV. Teaching of clay mineralogy

Each session consists of 2 plenary lectures, a poster session of the accepted papers and a round-table discussion of the poster papers. The manuscripts of the accepted papers will be published in Sciences Géologiques, Mémoires under the editorship of Y. Tardy and V.C. Farmer. The deadline for preregistration and submission of abstracts was December 31, 1988.

In case you did not obtain the second circular contact :

Dr. Hélène PAQUET  
9th International Clay Conference  
Institut de Géologie  
Rue Blessig 1  
67084 Strasbourg (France)  
Tél.: 33-88-358555

The second circular contains all information about registration, accommodation, field trips, traveling and submission of abstracts.

XIV. Symposium on Teaching Clay Mineralogy : New Concepts and Methods of Investigation to be held at the 9th International Clay Conference Strasbourg, France.

1. Plenary lectures
  1. William F. Bleam  
- Solving Clay Mineralogy Problems with New Physical Methods (25 min.).
  2. N.V. Van Damme\*  
- Role of Clay Mineralogy in Science and Technology in the Next Decade (25 min.).
2. Demonstrations, Poster Presentations and Discussion (90 min.)
  1. Hideomi Kodama  
- Transparent Sheets for the Models of Layer Silicates
  2. Bertrand Fritz\*  
- Computer Use for Investigating Clay Minerals
  3. Bertrand Fritz\*  
- Interpretation of X-ray Diffractograms by Means of Computer Simulation
  4. Darrell G. Schulze  
- Clay Plot - An Interactive Computer Program for Teaching Clay Mineral Structural Concepts
  5. Joseph W. Stucki  
- Instructional Software for Teaching Double-Layer Theory
  6. Other program participants are welcome
3. Panel Presentations (15 min. each plus 5 min. for discussion)
  1. Richard A. Eggleton  
- Mineral Weathering Changes Revealed by High Resolution Transmission Electron Microscopy
  2. Stephen P. Altaner  
- Properties of 2:1 Layer Silicates Revealed by Nuclear Magnetic Resonance Methods
  3. Cyril W. Childs\*  
- Properties, Occurrence and Analysis of Iron Oxides with Short Range Structural Order

\* Subject to confirmation.

STANDARDIZATION OF PREPARATION TECHNIQUES -  
CONCLUSIONS OF THE COMMITTEE

During the International Clay Conference held in Bologna-Pavia (1981), the Chairman of the SPT Committee had developed in his lecture on the Investigation Techniques that one would finally feel oneself in a kind of Babel Tower when reviewing the clay "cookery" applied by and followed by clay scientists for both the preparation and the study of clay minerals! The then Executive Committee of the AIPEA has charged J. Thorez to try to standardize at least the method of preparation (i.e. the extraction of the less than 2  $\mu\text{m}$ ) and to launch the SPT program.

In Pavia, 36 persons attended the preliminary meeting of the SPT Committee. In Prague in 1983, 25 scientists, most of them different, were also present. All of them had clearly expressed the need "to do something" and were willing to become involved in the evaluation program. Out of them, only some have really participated in the program! Initially 129 clay scientists and/or clay laboratories had expressed their interest.

The 34 final reports received so far by the Chairman of the SPT Committee - these 34 representing 40 % of the participants - essentially allow to evaluate the disparities related to the purely qualitative XRD results. An internal flow sheet for the preparation and analysis of the selected sample was imposed to the participants in order to ease a comparison of data.

In Pavia, the Chairman has expressed at the AIPEA Executive Committee meeting that the SPT program was an "utopy"! Indeed, how would/could any clay scientist accept to change his "traditional clay cookery" and, consequently, to implicitly recognize that his own method does not (no more) yield good results? How could future XRD results - gathered by a modified "imposed" method - still be comparable to former results obtained through a classic method of preparation and of investigation?

In a publication related to "qualitative clay mineral analyses based on sample treatments" (J. Thorez, 1985, 5th Meeting of the European Clay Groups) and in a recent doctoral thesis presented at Liège Claygeology Laboratory (N. KANDA, 1986) it

has been clearly demonstrated that some classic pretreatments before the XRD analysis of clay components, artificially induce structural, hence compositional, modifications in comparison with the original not-chemically-treated clay.

At the very starting stage of the SPT program, it was decided to impose a "flow sheet" for the extraction of the less than 2  $\mu\text{m}$  fraction and, further on, for the selection of post-treatments (cationic saturations, ...). This was specified to ease a purely qualitative comparison of the XRD data.

It is clear, however that a complete comparison of results is hampered because many disparities in the handling of the sample (following a strict application of the SPT procedure, or after drastic deviations from the latter, or simply by non application at all of the SPT program). Consequently, relatively great discrepancies arise even for the clay component appraisal, as I and K, not to speak about the other clay minerals and mixed layers which were diversely identified!

As a consequence, one has simply to conclude that the SPT Committee has failed to develop a minimum of standardization! Such a situation was forecasted at the very first suggestion in Italy! Standardizing the preparation of clay minerals, whatever the wanted fraction, and proceeding to a standardized investigation by XRD and to an identification of the components will remain an utopy! It is too late now to reverse the situation whether or not, one day, the AIPEA Executive Committee will decide to change the "game". The latter seems to remain a kind of "Rubik's cube" where, according to the laboratory procedure followed and the experience of the researchers, the facets (or smaller cube faces) will change like a kaleidoscopic "clay-landscape"!

Nevertheless the Chairman of the SPT Committee wants to express his warmest thanks to those participants who have accepted to play the "game". At least there will remain, for them and the Chairman, the satisfaction of having tried something in co-operation! All of us will clearly recognize the actual situation, but without having a possibility to step towards a compromise or to offer a more general "flow sheet" enabling a strict qualitative comparison of XRD analytical data. The next step, if any, remains in the hands of the AIPEA

Executive Committee. Should an extending program be set up this time for a tentative quantitative evaluation of the clay composition, one risks again to face still larger disparities among the participants !

The AIPEA Executive Committee, the participants to the SPT program and the SPT Chairman might well find this report unsatisfactory for a number of reasons. One finishes, indeed, with a lot of questions rather than definitive answers. One cannot find any systematic way to "correct" the future investigations but only hopeful personal guidelines.

This report is not presented in a partial, biased or inconsistent way. It reflects a State of the Art. Each of us presents his free way of working in clay mineralogy. The imposed SPT flow-sheet has never pretended to be the sole unique way of preparing and studying clay minerals. It was designed to gather analytical data in such a way that results would be easier to compare. It would have been more stimulating if any participant would have introduced his data according to his usual way of analysis. But, then, comparison of data would have reached a greater panoply of variations, both from the standpoint of the qualification and of the quantification.

Dr. N. KANDA  
Collaborator in the  
final report

Prof. J. THOREZ  
Chairman of the SPT Committee

EUROPEAN CLAY GROUPS ASSOCIATION

The first president of the European Clay Groups Association (ECGA) is Prof. Dr. F. Veniale

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STATUTES

Aim

The aim of the European Clay Groups Association (ECGA) is to stimulate research among, and to distribute information to, European scientists relating to all aspects of clay science and technology.

Affiliation

The ECGA is open to all National Clay Groups of Europe. Affiliation does not involve any financial commitment.

Council

Each affiliated National Clay Group may nominate one representative and one substitute to the ECGA Council. Both representative and substitute may attend Council meetings but each National Clay Group has only one vote. The Principal Editor of Clay Minerals, the journal of the European Clay Groups, is an ex officio (non-voting) member of Council. Responsibilities of Council are : (i) to encourage cooperation between the National Clay Groups of Europe and to coordinate activities when required; (ii) to decide on the venue for each four-yearly European Clay meeting; (iii) to advise on publication policy of Clay Minerals.

Decisions at Council will be taken by simple majority vote (with the President having a casting vote), except in relation to changes in statutes which require a two-thirds majority. Council will normally meet at each European Clay Meeting. Special business meetings may also be called by the President during the AIPEA International Clay Conferences and/or other International Conferences pertinent to clay science. No decision taken at these special business meetings will be binding unless the meeting is attended by representatives of at least two-thirds of the affiliated National Clay Groups.

#### President

The President of the ECGA will be elected by Council at each European Clay Meeting. He will serve one term only, i.e. until the next European Clay Meeting. The President may appoint a Secretary from outside the ECGA Council; this secretary has no voting rights on Council.

#### European Clay Meetings

European Clay Meetings will be held every four years, with a two-year gap between AIPEA International Clay Conferences which are also on a four-year cycle.

The host National Clay Group for each European Clay Meeting will be selected by the ECGA Council at the preceding European Clay Meeting. The National Clay Group chosen to host the European Clay Meeting will appoint a Chairman of the Organising Committee. The Chairman and his committee will be responsible for all arrangements, including publication of papers presented at the meeting.

#### Relationship to AIPEA

The ECGA will support the aims of AIPEA and the President will inform AIPEA of all proposed activities.

(Statute approved at the ECGA inaugural Meeting at Sevilla - Spain, September 9, 1987).

## NATIONAL CLAY GROUPS

### Belgium

The annual meeting of the "Belgian Contact Group on Clays" took place in Louvain-la-Neuve on the 26th and 27th May 1988. It was organized as a two day Symposium in honour of Prof. J.J. Fripiat. The University of Louvain and the Belgian National Fund for Scientific Research both contributed heavily in making the event a great success. Two hundred scientists participated.

The program was entitled :

#### "Surface Chemistry, Clay Minerals & Catalysts"

The following papers were read :

- Charge distribution in layer silicates : effect on the arrangement and reactivity of sorbed species : J.M. Serratosa, Instituto de Ciencias de Materiales, CSIC, Madrid, Spain.
- Adsorption and molecular dynamics on rough surfaces and in porous media. H. Van Damme, Centre de Recherche sur les Solides à Organisation Cristalline Imparfaites, CNRS, Orléans, France.
- Thermodynamics of adsorption at the solid-liquid interface : influence of surface heterogeneity and importance of the adsorbate-adsorbent interaction. J. Cases, Centre de Valorisation des Minerais, CNRS, Nancy, France.
- Relationship between water molecules, exchangeable cations and clay surfaces. R. Prost, Institut National de la Recherche Agronomique, Versailles, France.
- Relationship between water molecules, exchangeable cations and clay surfaces. R. Prost, Institut National de la Recherche Agronomique, Versailles, France.
- The clay-water system : spectroscopic studies with methylene blue and proflavine. R.A. Schoonheydt, Katholieke Universiteit Leuven, Belgium.
- Oxide catalyst : their genesis and surface chemistry. F.S. Stone, University of Bath, Great Britain.
- Vibrational spectroscopy on surfaces : characterization of catalysts and surface functional groups. H. Knozinger, Universität München, Germany.
- Substitution in microporous crystalline aluminosilicates. J. Martens, M. Mertens, Hong Xi Li, P.A. Jacobs, Katholieke Universiteit Leuven, Belgium.

- Molecular interactions: confinement effects and supermolecular catalysis by zeolites and other microporous solids. E.G. Derouane, J.M. André, A.A. Lucas, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium.
- Lecture delivered by Prof. J.J. Fripiat : Disordered surfaces, the key of the reactivity of solids.

W. Stone

### China

A Workshop of Non-Metallic Mineral Deposits was held in Beidaihe (not far away from Peking), from 12-19 May 1988. It was organized by the Ministry of Geology and Mineral Resources. About 230 participants from different provinces attended the meeting. Many interesting papers, concerning clay mineral deposits, were presented, such as :

1. Vermiculite in Weili, Xinjiang Autonomous Region
2. Illite (sericite) deposits in Wenzhou, Zhejiang province
3. One of the biggest bentonite deposits in Ningming, Guangxi province.
4. Kaolin of high quality ceramic material in Longyan, Fujian province.

Kaolin of weathered arkosic sand layer (Tertiary period) has been found recently in Hepu, Guangxi province. It proved itself as a high quality coating material for the paper industry.

A Meeting of Refractory Clays was held in Zhengzhou, Henan province on 4-10th September 1988. Twelve papers were presented and discussed, 3 on pyrophyllite, 3 on porcelain-stone, 5 on bauxite and refractory clay, one on interstratified mica-smectite mineral from Kawai pottery stone deposits, Ishikawa prefecture of Japan.

A National Symposium on Non-Metallic Minerals was held in Wuhan, Hubei province, on 21-24th September. It was organized by the Chinese Silicate Society. About 400 participants from different provinces, universities and research institutes attended the meeting, 369 abstracts were published in the Symposium Proceedings; 69 papers dealt with problems of analysis, processing and utilization of clays.

Under the joint auspices of the Chinese Silicate Society (host), Yugoslav Union of Engineers and Technicians, Miners, Geologists and Metallurgists, United Nations Industrial Development Organization and "Industrial Minerals" of U.K., the Second World Congress on Non-Metallic Minerals will be held in Beijing (Peking), China on October 23-28, 1989. Certainly some members of the National Clay Group will attend the Congress.

Zheng Zhi

### Czechoslovakia

Four meetings were organised in the year 1988. The meetings were attended by some thirty scientists on the average. Ten papers were presented covering a wide range of topics. The second Spring Meeting (June 8) at the Institute of Raw Materials in Kutná Hora was prepared as a one-day General Assembly of the Czechoslovak Clay Group. The following papers were presented in the scientific program :

- I. Sanc, "The study of layer silicates by the automatic X-ray diffraction system".
- S. Civiš, "The microprobe analyses of layer silicates by using the electron microscope Tesla BS-300 and the energy dispersive analyzer Link".
- P. Seba, "The special methods of technological evaluation of ceramic raw materials".

A visit to laboratories of the hosted institute was included in the scientific programme.

The General Assembly accepted the repeated request of Prof. J. Konta to resign from the post of President of Czechoslovak Clay Group which he has been holding for more than thirty years. He expressed, however, the wish to cooperate further with the Group as a member only. For his merit in the field of Czechoslovak argillology he was awarded a Honorary Presidency.

Dr. Karel Melka, Ph.D. (Geological Survey, 118 21 Prague 1, Malostranské nám. 19) was elected as President. In December 1988, the first meeting of the Organizing Committee of the 11th Czechoslovak Conference on Clay Mineralogy and Petrology

took place at Geological Survey in Prague. The 11th Czechoslovak Clay Conference will be held in the capital of south Bohemia Ceské Budejovice (150 km south of Prague) in Summer 1990. Both the University town with 100.000 inhabitants and its beautiful surroundings with world famous castles are offering possibilities to geology and touristic attractions.

Jiri Sindelar

France

Meetings :

The "Groupe Français des Argiles" held two national meetings during 1988.

The following papers were presented at the Spring Meeting on March 19 :

- Catalysis and organic reactions in solid minerals : P. Laszlo
- Adsorption of alkylamines vapors on kaolinites : J. Yvon, R. Mercier, J.M. Cases, J.F. Delon and Y. Grillet
- Influence of grinding and leaching on the adsorption properties of chrysotile : H. Suquet
- Rheological behaviour and microtexture of boehmite paste : J.M. Drouin, P. Levits, T. Chopin, P. Nortlier and H. Van Damme
- Relation between the models of electrical transport and the structures of kaolinite and montmorillonite : J.C. Giuntini and J.V. Zanchetta
- Synthesis of zeolitic molecular sieves from montmorillonite : K. Hamoudi and B. Siffert
- Synthesis and phase transitions between 80 and 240°C in the system stevensite - kerolite - Ni-Mg talc : H. Mondesir and A. Decarreau
- First stages of the illite-smectite transformation during cyclic humectation and dessication : C. Andreli, M. Robert and F. Elsass
- Thermodynamic properties of dehydration and compaction of smectites : O. Touret
- Chemical and mineralogical characteristics of the green hydrothermal clays from the Monts de Galapagos (drill 509B of Leg 70) : M. Buatier and G. Ehret.

The participants of the Autumn Meeting on October 26 had the privilege of listening to introductory lectures by

Prof. J. Srodon from Krakow, Poland, and by Prof. J. Stucki from Urbana, U.S.A., followed by twelve national speakers.

- Illite and illite/smectite in sedimentary rocks : identification, quantification and origin : J. Srodon
- Effect of iron oxidation on the surface colloidal and magnetic properties of smectites : J.W. Stucki
- Ferrous and magnesian kaolinite/serpentine and several unusual clay minerals in the tropical coastal sediments : G.S. Odin
- Clays and diagenesis in the oil fields : F. Sommer
- Diagenesis and distribution of fine minerals and particularly clay minerals : B. Kübler
- Clastic mineral distributions of fine fractions on the Berriasian-Valanginian carbonate platform (western Jura, Switzerland) : T. Adatte
- Origin and significance of the clays from the Purbekian formations of West-Europe : J.F. Deconinck
- Alternating dark and clear sediments in the Cenozoic of the NW Indian Ocean : A. Bouquillon, P. De Menocal and P. Debrabant
- Mineralogy and crystallochemistry of the copper silicates from the Santa Blandina Mine (Brazil) : M. Creach, A. Decarreau, D. Nahon and J.H. Thomassin
- A new bentonite deposit in Tunisia : illite/smectite interlayers : F. Bergaya and E. Srasra
- Crystallinity of the kaolins : R. Prost and E. Huard
- Synthesis of ferruginous kaolinites at 200°C : S. Petit, A. Decarreau, J.P. Eymery and J.H. Thomassin
- Interactions between hydroxy-aluminous montmorillonites and citric acid : P. Gambier and G. Sposito
- Monte Carlo simulation of the interlayer cation distribution in a clay suspension in water : A. Delville and P. Laszlo
- Contribution of hydrologic conductivity measurements to the study of the clay gel structures : T. Koutit and R. Prost

Workshop

The "Groupe Français des Argiles" and the "Société Française de Minéralogie et Cristallographie" organize a workshop on "Clay materials : structures, properties and applications". The workshop will be held from Monday 6th to Friday 10th of March 1988 at Aussois (Savoie). The main subjects are :

- internal organization of the layers
- from the unit cell to the particle
- physico-chemical properties of the clays
- relations between water and clays



- organization of the particles in the materials
- chemical and mineralogical heterogeneities in clay materials
- applications to industries, soils sciences and sediments.

Information : Prof. A. Decarreau  
 Université des Sciences  
 Laboratoire de Pétrologie de la Surface  
 Avenue du Recteur Pineau 40  
 86022 POITIERS  
 FRANCE

Médard Thiry

Germany

The annual meeting of the DTTG took place in Karlsruhe on May 19 and 20, 1988. 12 papers and several posters have been presented dealing with clay mineralogical problems of waste deposition. A field trip to several clay deposits near Karlsruhe followed.

During this meeting the donation of the "Karl-Jasmund-Award" has been decided. This award shall be used to sponsor the activities of young scientists in the field of clays and clay minerals.

In 1989 the DTTG will organize a workshop "Preparation and identification of Clay Minerals".

F. Eckhardt

German Democratic Republic

The working group "Clay Minerals and Mineral Analysis" of the Society of Geological Sciences in the German Democratic Republic organized in 1988 the following short meetings and round tables :

- "Clay Minerals in Soils", held in October at the Rostock University (chairman F. Reuter, Rostock)
- "Reference Substances of Clays", held in November in Berlin (co-chairman J. Kranz, Berlin and M. Ruchholz, Greifswald)
- "Extraordinary applications of bentonite", held in November in Dresden (chairmen A. Kraetsch and F. Wiedemann, Dresden)

In addition the 7th Meeting "Clay Minerals - genesis, deposits and applications" was held in Greifswald from October 12th to 15th (chairman M. Störr, Greifswald). 44 foreign participants and 126 native members used the possibility of 44 oral papers, 28 scientific posters, and one field trip to become familiar with recent results of clay minerals' research. Both presidents, Prof. J. Konta of AIPEA and Prof. F. Veniale of the ECGA took part in this meeting presenting papers.

M. Störr

Great Britain and Ireland

The 1988 Spring Meeting of the Clay Minerals Group was held in Cambridge on March 17-18. This was convened by Dr. C.V. Jeans in collaboration with the Petroleum Exploration Society of Great Britain, the Society of Professional Well Log Analysts, and the Geological Society, and entitled "Clay Diagenesis in Hydrocarbon Reservoirs and Shales". The meeting was attended by approximately 140 people. There were a total of 26 contributed papers and two special topic discussions. A thematic issue of Clay Minerals, containing papers from the meeting, will be published in June 1989.

The 1988 Autumn meeting of the Clay Minerals Group was held in London on Friday November 11 on the theme of "Aluminium in Clays and The Environment". Two keynote lectures were given, by Prof. J.D. Birchall, FRS, of ICI Corporate Research Laboratories, entitled "The Chemistry of Aluminium and Silicon Outside and Inside Biology", and by Prof. N. Van Breemen of the Dep. of Soil Science and Geology, Wageningen Agricultural University, Holland, entitled "Mobilization of Aluminium in Acidic Soils under the influence of Acid Atmospheric Deposition", and five further contributed papers. The meeting was attended by 48 people.

At the Annual General Meeting following the Autumn Meeting, the following were elected to serve on the committee for 1989 :

- Chairman : Dr. M. J. Wilson
- Secretary : Dr. P.L. Hall
- Treasurer : Dr. T.J. Primmer
- Principal Editor : Dr. D.C. Bain
- Committee members : Dr. C. Breen, Dr. J.R. Gronow,  
 Mr. F.R. Price, Dr. D.J. Morgan  
 Mr. R.J. Merriman, Mr. M.H. Yates

Future Meetings :

- Spring 1989 : This will be held at the University of Birmingham on March 21-22, 1989. The theme of the meeting will be "Organic and Inorganic Interactions of Clay Minerals", the first day being a symposium on clay-organic interactions.
- Winter 1989 : The Group will host a half-day session entitled "Thermodynamics of Clays" as part of the Mineralogical Society's Winter meeting at University College London from December 18-20 entitled "Thermodynamic Stability and Behaviour of Clay Minerals".

For further details concerning either of these meetings, contact : Dr. P.L. Hall, Hon. Secretary  
British Clay Minerals Group  
P.O. Box 153  
Cambridge CB3 0HG  
UNITED KINGDOM

P.L. HALL

Hungary

The following lectures were held in Budapest :

December 1987 :

- Dékány I. : "Adsorption of liquids on silicates - a thermodynamic analysis of the processes"
- Juhász Z. : "Adsorption of water vapour on clay minerals"

January 1988 :

- Bidló G. : "Dissolution of clay minerals in soda solution"
- Rischák G. : "Direct determination of the amorphous phases in soils by X-ray diffraction"

February 1988 :

- Rischák G. : "Determination of degree of hydration in lateritic soils. Joint application of X-ray diffraction and chemical analysis"
- Viczián I. : "Report on the Euroclay Meeting/Sevilla, September 1987"

March 1988 :

- Stefanovits P. : "Clay minerals of hydromorphic soils"

April 1988 :

- Bárdossy G. : "Lateritic weathering profiles in Australia"

May 1988 :

- Csáky-Tombácz E. : "Surface dissociation and stability of montmorillonite suspensions"
- Patzkó A. : "Ionic and molecular adsorption of cation active tensides"

October 1988 :

- Dódy I. : "Stacking faults and interlayering in layer silicates"
- Papp G. : "Occurrence of serpentines at Dunabogdány"

November 1988 :

- Bárdossy G. : "Genesis of bauxite deposits in the Amazonas Basin"

For December 1988 a session on Industrial Clay Deposits is planned. Problems of geology, mining, processing and utilization in industrial clays in Hungary will be discussed as well as perspectives of future development. Mátyás E. and Sas P. will speak on bentonites, Zelenka T. and Lenkei M. on kaolin deposits.

The sessions were normally organized by the Clay Minerals Group of the Hungarian Geological Society. The January and February meetings were organized by the Soil Mineralogy Group of the Hungarian Society for Soil Science. On 23rd February a plenary lecture was held by I. Viczián in the Hungarian Geological Society on "Repartition of clay minerals in sedimentary formations of Hungary - Part II/Tertiary and Quaternary/".

István Viczián

Israel

The 1987 report was not in the 1988 newsletter. It is given below. I apologize for this delay.

R. Schoonheydt

1987

A joint meeting of the Israel Society of Clay Research and the Israeli Society of Soil Science was convened on May 26, 1987 at the Faculty of Agricultural Engineering, The Technion, Haifa. The meeting commemorated the 20th anniversary of the death of Dr. R. Mokady, a pioneering Israeli soil and clay scientist.

Morning Session (Chaired by I. Ravina)

- D. Zaslofsky - R. Mokady - In Memoriam
  - E. Pohorilles : "The Next Decade in Israeli Agriculture"
  - P.F. Low - The Mokady Memorial Lecture : "Extending Fundamental Research to Practice"
- Presentation of the Mokady Prize by Z. Gerstl, Secretary of Israel Society of Soil Science to Dr. R. Wallach, for his Ph.D. Thesis : "Solutions for Subsurface Runoff in a Watershed".

Afternoon Session (Chaired by A. Banin)

- "Smectite Clays - Fundamental Properties and Applications"
- I. Shainberg : "Potassium ion exchange and the colloidal properties of smectite clays"
- U. Mingelgrin : "Clays in chromatography"
- S. Yariv : "Adsorption of colored aromatic cations by montmorillonite"
- Y. Avnimelech : "Coflocculation of algae and clays"
- L. Margulies : "Photochemical stabilization of pesticides adsorbed on the surface of montmorillonite"
- I. Ravina : "K-Ca-Mg ion-exchange in calcareous-clayey soils"

In an administrative meeting of the Israel Society of Clay Research at the end of the afternoon session, a new council was elected for the period 1987-1989, consisting of L. Margulies (Chairman), and E. Ben-Dor.

A. Banin

1988

The annual meeting of the Israel Society for Clay Research was convened at the Faculty of Agriculture in the Rehovot Campus of the Hebrew University, on October 11, 1988.

Session 1 (Chaired by Z. Gerstl)

1988 Mokady Prize Lectures (jointly with the Israel Society of Soil Science)

- E. Jurkevitch : "Siderophores of pseudomonads : biosynthesis, chemical properties and activity as iron carriers to plants in soil"
- H. Rozen : "Prevention of photochemical degradation of bioresmethrin on the surface of montmorillonite"

Session 2 (Chaired by S. Yariv)

- S. Nir\*, H. Rozen, D. Hirsch, A. Banin and L. Margulies - "Specific adsorption of inorganic and organic cations to clays : Recent results and developments in a model".
- D. Hirsch\*, S. Nir and A. Banin : "Effects on ionic strength, complexation in solution and clay concentration on cadmium adsorption to montmorillonite".
- A. Shaviv\* : "Exchange and fixation of  $NH_4^+$  in three Israeli soils"
- R. Keren : "Rheology of aqueous suspensions of montmorillonite and kaolinite"
- A. Singer : "Clay minerals in some soils from south-east China-preliminary results"

Session 3 (Chaired by A. Banin)

- A. Miloslavsky\*, L. Heller-Kallai and Z. Isenstadt : "The reactivity of volatiles from clays"
- E. Ben-Dor\*, A. Banin and A. Singer : "Light reflectance of smectite minerals in the near infrared region as a quantitative and qualitative characterization tool of hydroxyl groups in the crystal lattice".
- S. Yariv\*, M. Muller-Vonmoos, G. Kahr and A. Rub : "Thermal analytical study of the adsorption of acridine orange by smectite minerals"
- T. Ben-Shlomo\* and Banin A. : "Iron adsorbed and iron enriched smectite clays as Mars soil analogs"

A. Banin

Italy

The main events during 1988 have been two workshops on "Weathering and Pedogenesis" and "Industrial Clays" held in Florence and Livorno, respectively. The meeting in Florence (1-3 June) was opened by an invited lecture, delivered by Dr. G. Pedro (INRA-Science du Sol, Versailles-France) on "Geochemistry of weathering. Influence of water activity and micro-fabric". It was followed by a seminar introducing a two-days field trip (soils occurring on acidic, basic and ultramafic rocks in Tuscany and central Italy), that was guided by Drs. S. Bini, Lulli and Ristori of the Agriculture Faculty, University of Florence. The meeting in Livorno (22-23 September) consisted of invited lectures delivered by Dr. R. Kühnel (Department of Mining Engineering-University of Technology, Delft - Netherlands) on "Industrial clay minerals. State-of-the-art and perspectives", and by Prof. A. Cancelli (Department of Earth Science, and Sanitary Engineering-State and Polytechnic Universities, Milan-Italy) on "Bentonite as barrier for waste disposal sites". A visit of the largest plant (Soc. Laviosa) in Italy for bentonite dressing and for the production of synthetic zeolites was included in the programme.

A project is carried out for realizing a "Catalogue on clays in Italy" with the aim to collect Critical Cards concerning : i) nature and distribution of clay components in sedimentary units, in fluviatile, lacustrine and coastal-marine basins, ii) composition and properties of clay deposits suitable for industrial uses and applications, iii) mechanical and geotechnical parameters of clayey formations with hazardous slope stability.

Prof. Dr. Fernando Veniale

Korea

The meetings of the Clay Studies Group of Korea took place in Seoul jointly with the Annual Meeting of the Mineralogical Society of Korea on May 27, 1988.

The papers delivered at both meetings were :

- Kim S.J., Park J.K and Jeong G.Y. : "Separation of iron-bearing minerals from kaolin"

- Lee S.R. and Lee D.J. : "Genesis of claystone in Dongbog Mt. area"
- Park J.K. and Kim S.J. : "Mineralogy of kaolin from Gaya area"
- Hwang J.Y. : "Clay minerals from the Beobsu Clay deposits at Cheongsong"
- Noh J.H. : "Model of formation of smectite and zeolite in the alteration of perlite".

Soo Jin Kim

Nordic Society for Clay Research

The board during 1988 has been :

- Chairman : Prof. Per Jørgensen  
The Norwegian Agricultural University
- Secretary : Dr Knut Pederstad, Norsk Hydro a.s.
- Treasurer : Dr. Per-Arne Melkerud  
The Swedish Agricultural University

The Spring Meeting was arranged at the Arhus University field station, Mønsted. The organization of the meeting as well as the field trip was done by Ole Bjørnslev Nielsen and Knud Binzer.

The following lectures were presented :

- Per Jørgensen : "Composition of the clay fraction in Dutch tills and transport of till material"
  - Claus Ditlefsen : Clays for industrial production, a study of some quaternary clay deposits
  - Marek Tokarz : Pillared clays - preparation and properties
  - Jørgen Mikkelsen : Bentonite - a new Danish clay product
  - Ole Bjørnslev Nielsen : Pleistocene marine sediments from Baffin Bay and the Labrador Sea
  - Chr. Kock : Mineralogical composition of placick layers
- The fall meeting was arranged in Stockholm, at the Royal Technical University.

The following lectures were presented :

- N. Gjelsvik and I.B. Holmefjord : Use of infrared spectroscopy (IR) for study of clays.
- Majid Ghonayshi : Mineralogical composition of three cultivated Swedish Soils

- Sverre Teveldal : Use of a personal computer to run a diffractometer and making the diffractograms
- Per Jørgensen : Quantifying the mineralogical composition from X-ray diffractograms

Other activities : N. Gjelsvik at Norsk Hydro a.s. has continued to collect data about the Nordic reference clays.

K. Pederstad

### Poland

The Third Polish Conference "Clays and Clay Minerals" with participation of guests from abroad was held in Warszawa, in September 6-8, 1988. Prof. Dr. L. Stoch from the Academy of Mining and Metallurgy in Cracow was the Chairman of the Organizing Committee, Prof. Dr. K. Szpila from Warsaw University was the Secretary of the Organizing Committee and the Chief of the Warsaw Organizing Group. About 120 Polish participants and 23 guests from abroad (from Bulgaria, Czechoslovakia, GDR, Italy, Japan, South Africa, Spain, UK, USA and the USSR) attended the conference. During two days of sessions, 5 plenary lectures and 57 communications were delivered and 19 posters were presented.

Plenary lectures were as follow :

- J.M. Serratosa : "Application of NMR spectroscopy to the study of clay minerals and related compounds"
- J. Konta : "Clay and accompanying minerals in rivers of Bohemian Massif : result of climate and geology"
- F. Veniale : "Dickite facies and diagenesis processes in "varicoloured clays", Italian Appenines"
- V.A. Drits : "The nature of structural defects in clay minerals"
- L. Stoch : "Origin and evolution of clay minerals in the history of sedimentary rocks of Poland"

On the third day of the conference two field trips went on, namely :

- A) to the North border of the Holy Cross Mts/Triassic stoneware clays, Liassic refractory clays, visit of the factory of glazed tiles in Opoczno
- B) the vicinity of Warsaw : visit of the Factory of Board Semi-vitreous China-ware in Prussk6w, Quaternary varved clays.

Anna Langier-Kuźniarowa

### South Africa

Members of the Clay Interest Group met on the occasion of the 22nd Earth Science Congress of the Geological Society of South Africa held from 4th-7th July 1988 at Durban and presented the following papers, published in the extended abstracts of the Geocongress '88.

- Bühmann C. and Bühmann D. : Illite/smectite interstratifications as geothermometer : application to the coal measures of the Vryheid Formation.
- Chadwick P.J. and Fuller A.O. : Clay mineralogy of the Table Mountain Group in the western Cape Province - 32°S"
- Thamm A.G., Fuller A.O. and Chadwick P.J. : "Diagenesis and petrology of some Table Mountain Group arenites in the S.W. Cape Sandveldt"

The 20th annual symposium of the S.A. Ceramic Society was held at Sandton on the 9th September 1988. Under the theme : S.A. ceramics - past, present and future, 15 papers were delivered.

With effect from 1st March, 1989 the new address of the AIPEA liaison officer will be :  
c/o Geological Survey  
Private Bag 112  
PRETORIA 0001

D. Bühmann

### Spain

The Annual Meeting of the Spanish Clay Society (SEA) took place in Madrid on 17th March 1988. There were about 50 attendees and the three following lectures were given :

- Crystallochemical knowledge of vermiculites by Dr. C. de la Calle
- Clays in pharmaceutical formulations by Dr. J. Cornejo
- Application of clay mineralogy to the study of basins by Dr. F. Lopez-Aguayo

The Martin Vivaldi Award for Doctoral Thesis carried out in Spain has been announced. The deadline for submission of manuscripts is January 31, 1989.

The next meeting of the Spanish Clay Society will be held together with the Portuguese scientists interested in Clay Mineral Science in Aveiro (Portugal) on March 28-30, 1989 organized by Prof. C. Gomes. The main objective of this meeting will be to increase cooperation between Portuguese and Spanish Scientists working in Clay Mineral Science in all of its branches and to encourage Portuguese Scientists to create the Portuguese Clay Society.

J.L. Perez Rodriguez

### The Netherlands

The national clay minerals group of The Netherlands joined the NKV, The Netherlands Ceramic Society in 1988. The advantage of such an association with a much larger organisation is the availability of facilities such as a monthly journal, "Glas Klei Keramiek" and administrative support.

The secretary of the group, Dr. P. Buurman left for Indonesia for a period of a few years, therefore the activities became less. In the interim period Prof. Dr. L. van de Plas acts as a secretary for him. In the meantime the group is looking for a new secretary in order to bring the number of annual meetings back to normal and to initiate new activities.

Membership of AIPEA, till now on an individual basis, will also be changed into a group membership through the association with the NKV.

L. van de Plas

### U.S.A.

The Society held a very successful 25th Annual Meeting in Grand Rapids, Michigan under the leadership of President N. Guven and General Chair T. J. Pinnavaia. The George W. Brindley Lecture was given by M. L. Jackson on Clay Mineral Origin in Soils. CMS Distinguished member M.M. Mortland spoke on Clay-Organic Interactions : Past, Present and Future. The Pioneer Lecture was given by R. M. Barrer on Shape-Selective Sorbents Based on Clay Minerals.

Technical sessions were given on Pillared Clays and Clay Catalysts, Surface Chemistry, Fundamental Physics and Chemistry, Hydroxy-Interlayered Clays and Soil Clays, Mineralogy and Diagenesis, and Environmental and Materials Applications. Also, a general poster session contained thirty papers. It was a great success. The refreshments helped make it so !

The 26th CMS Meeting will be held at California State University, Sacramento, CA 95819-2694 September 25-28, 1989. Jim L. Post is General Chair. CMS President is W. F. Moll, Oil-Dri Corp. of America, 22149 North Pet Lane, Prairie View, Il. 60069.

J.B. Dixon

### U.S.S.R.

The All-Union Clay Conference was held in Novosibirsk, 24-29 September 1988. The program consisted of 80 oral and 250 poster presentations, distributed over sections on Geology and Mineralogy, Crystal Chemistry, Genesis, Colloid Properties, Engineering, Technology and Practical Uses of Clays and Clay Minerals. Papers on clay mineral sciences were presented at the Annual Session of the Moscow Division of the All-Union Mineralogical Society (Tchernogolovka, April 18-22) and at the yearly Fedorov session (Leningrad, May 23-26). Topics such as Systematics of Layer Structures, Relation between mixed-layered, hybrid, polytype and UD-structures, Real Structure of Phyllosilicates, Crystal Chemistry of Oceanic Mn-containing Sediments, Relation between Structure and Conditions of Formation.

B.B. Zvyagin

EVENTS

- The 26th Annual Meeting of the Clay Minerals Society is scheduled for Red Lion Inn, Sacramento, California, 23-28 September 1989 :

\* Scientific Program (25-28 September) :

Proposed special topic - Permeability of clay barriers and clay soils, including testing procedures and field applications. General technical sessions will follow.

\* CMS Workshop (23 September)

Proposed topic - Clay rheology testing procedures. A demonstration of infrared diffuse reflectance spectra, with use of overtone spectra, may be available.

\* Field Trips

- Pre-meeting (24 September) : Flagstaff Hill chlorite deposits (half day)

- Mid-meeting (26 September) : Clay deposits and mineralized area of Mother Lode Country

- Side trip to Napa Valley wine-growing areas

\* Sponsoring Institution :

California State University, Sacramento

Further Information : Dr. J.L. Post  
General Chairman  
Department of Civil Engineering  
California State University,  
Sacramento, California 95819  
(916) 278-6081

Dr. Marion G. Reed  
Chevron Oil Field Research Company  
P.O. Box 446  
La Habra, California 90631

- 28th International Geological Congress  
Washington D.C., U.S.A., July 9-19, 1989

Contact address : Dr. B.B. Hanshaw  
Secretary general  
28th Int. Geological Congress  
P.O. Box 1001  
Herndon, Virginia 22070-1001  
U.S.A.

- XII International Geochemical Exploration Symposium and the II Brazilian Geochemical Congress will both take place in Rio de Janeiro, Brazil, on October 1-6, 1989.

Contact address : RIO'89 (XII IGES - II CBG)  
A/C CPRM-LAMIN  
Av. Pasteur 404 - Urca  
CEP 22292 - Rio de Janeiro, RJ, Brazil  
Tel. : (55-21) 295-5297  
Telex : (55-21) 22685  
Fax. : (55-21) 325-6044

The deadline for submission of extended abstracts (1.000 words) or full papers is May 1, 1989.

- Rolex Awards for Enterprise 1990. Five awards, each consisting of a sum of 50,000 Swiss francs and a golden Rolex Chronometer, will be awarded in 1990. The Rolex Awards are intended to provide financial assistance to persons with the spirit of enterprise in order to allow them to carry out unconventional projects in the fields of :  
- Applied Sciences and Invention  
- Exploration and Discovery  
- The Environment

Official forms, the rules and conditions for submission can be obtained from : The Secretariat  
The Rolex Awards for Enterprise  
P.O. Box 178  
1211 Geneva 26  
SWITZERLAND

The limiting date for submission is March 31, 1989.

BOOKS

Proceedings Tenth Conference on Clay Mineralogy and Petrology in Ostrowa, J. Konta, editor, Univerzita Karlova, Praha 1988.

## GREEN MARINE CLAYS

Oolitic Ironstone Facies, Verdine Facies, Glaucony Facies and Celadonite-Bearing Rock Facies - A Comparative Study

*edited by G.S. Odin, Paris, France*

Green Marine Clays provides a comparative study of four authigenic marine clays: the well-known glaucony marine facies; the newly-identified sedimentary facies - verdine; the old oolitic ironstone facies; and the celadonite-bearing facies.

Contents: Foreword (G. Millot). Introduction to the study of green marine clays. Part A. The oolitic ironstone facies. Chamosite, the green marine clay from Chamoson (M.F. Delaloye, G.S. Odin). Green marine clays from the oolitic ironstone facies (G.S. Odin et al). Part B. The verdine facies. The verdine facies from the lagoon off New Caledonia (G.S. Odin, J.P. Masse). The verdine facies from the Senegalese continental shelf (G.S. Odin et al). The verdine facies deposited in 1988 (G.S. Odin et al). Mineralogy of the verdine facies (G.S. Odin et al). Geological significance of the verdine facies (G.S. Odin, B.K. Sen Gupta). Part C. The glaucony facies. Glaucony from the Gulf of Guinea (G.S. Odin). Glaucony from the margin off northwestern Spain (G.S. Odin, M. Lamboy). Glaucony from the Kerguelen Plateau (G.S. Odin, F. Fröhlich). Geological significance of the glaucony facies (G.S. Odin, P.D. Fullagar), Part D. The celadonite-bearing facies. Nature and geological significance of celadonite (G.S. Odin et al). Conclusion to the study of green marine clays. Glossary. References. Index of collaborators. Geographical index.

Developments in Sedimentology, 45  
1988 xxiv + 446 pages; ISBN 0-444-87120-9

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