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## Jeoloji Panorama

Jeoloji Mühendisliği Dergisi'nin 50. sayısının "Jeoloji Panorama" Dünya Periyodiklerinden CD Tarama sayfalarında "Karbonatların jeokimyası" konusu araştırmacıların hizmetine sunulmaktadır. Öz/Abstract bölümünde sayfa sınırlaması nedeniyle ancak 4 öz/abstract'a yer verildi. Sempozyumlardan haberlere 1997 yılında Çukurova ve Selçuk Üniversiteleri Jeoloji Mühendisliği Bölümlerince gerçekleştirilmiş Jeoloji Sempozyumları konu yapılmıştır. Çeşitli yayınevlerinden derlenen yeni yayın ve kitaplarla okurlarımızın literatür dağarcığı daha da zenginleşmiş olacaktır. Yapılan değerlendirme sonucunda oldukça ilgi göreceğine inandığımız "Jeoloji Panorama" sayfalarına içerdikleri konu başlıkları kapsamında sizlerden gelecek olan yazıları beklemekteyiz. Bu düşünce ile sizlerindeki katkılarıyla jeolojinin çeşitli disiplinlerine daha geniş bir perspektifle bakabilmek olanağı bulunulacaktır. Ayrıca okurlarımızın bize gönderecekleri öğrenmek istedikleri konuları ve yanıtlamamızı istedikleri soruları yanıtları ile birlikte bulacakları "Okurlarımızdan" başlığı ile yeni bir bölümü gelecek sayımızdan başlayarak "Jeoloji Panorama" içinde yer vereceğiz.

### Dünya Periyodiklerinden CD-Tarama GEO-REF (1983-1993)

Hazırlayanlar: Engin Öncü Sümer ve Mine Sümer.  
Konu: Karbonatlı kayaların jeokimyasal özellikleri

#### Kısaltmalar

TI = Başlık  
AU = Yazar (lar)  
OS = Yayınlandığı yer, cilt, sayfa  
AB = Yayınnın özeti  
YR = Yayınlandığı yıl  
LA = Yayınnın yazıldığı dil  
DE = Yayınnın anahtar sözcükleri

#### GEOCHEMISTRY OF CARBONATE (References) (ODTÜ Kütüphanesi GEOREF 1983-1993 CD-Taraması)

**TI: Sedimentary cycling and environmental change in the late Proterozoic; evidence from stable and radiogenic isotopes.**

AU: Derry-Louis-A; Kaufman-Alan-J; Jacobsen-Stein-B  
SO: Geochimica-et-Cosmochimica-Acta. 56. (3). p. 1317-1329. YR: 1992

DE: carbon-; C-13/C-12; carbonate-rocks; strontium-; Sr-87/Sr-86; oxygen-; O-18/O-16; isotopes-; sedimentary-rocks; upper-Proterozoic; Proterozoic-; upper-Precambrian; Precambrian-; stable-isotopes; radioactive-isotopes; alkaline-earth-metals; metals-; ratios-; marine-environment; environment-

**TI: Geochemistry of Precambrian carbonates; IV, Early Paleoproterozoic (2.25 + or - 0.25 Ga) seawater.**

AU: Veizer-Jan; Clayton-Robert-N; Hinton-R-W  
SO: Geochimica-et-Cosmochimica-Acta. 56. (3). p. 875-885. YR: 1992

DE: South-Africa; geochemistry-; carbonate-rocks; Australia-; Canada-; oxygen-; O-18/O-16; carbon-; C-13/C-12; isotopes-; sedimentary-rocks; strontium-; Sr-87/Sr-86; Precambrian-; lower-Proterozoic; Proterozoic-; upper-Precambrian; Malmani-Dolomite; Transvaal-Supergroup; Southern-Africa; Africa-; Duck-Creek-Dolomite; Wyloo-Group; Australasia-; Bruce-Member; Espanola-Formation; Huronian-; trace-elements; stable-isotopes; ratios-; marine-environment; environment-; alkaline-earth-metals; metals-

**TI: Carbonate minerals, major and minor elements and oxygen and carbon isotopes and their variation with water depth in cool, temperate carbonates, western Tasmania, Australia.**

AU: Prasada-Rao-C; Adabi-Mohammad-H  
SO: Marine-Geology. 103. (1-3). p. 249-272. YR: 1992

DE: Tasmania-; oceanography-; sediments-; Tasman-Sea; oxygen-; O-18/O-16; carbonate-sediments; carbon-; C-13/C-12; isotopes-; diagenesis-; cementation-; geochemistry-; processes-; chemical-fractionation; Australia-; Australasia-; West-Pacific; Pacific-Ocean; carbonates-; major-elements; minor-elements; stable-isotopes; sedimentation-rates; marine-sediments; temperate-environment; environment-; depth-; temperature-; SEM-data; X-ray-diffraction-data; bryomol-; bioclastic-sedimentation

**TI: Glacial to interglacial contrasts in the calcium carbonate content and influence of Indus discharge in two eastern Arabian Sea cores.**

AU: Divakar-Naidu-P  
SO: Palaeogeography,-Palaeoclimatology,-Palaeoecology. 86. (3-4). p. 255-263. YR: 1991

DE: Arabian-Sea; stratigraphy-; Quaternary-; sediments-; composition-; calcium-carbonate; Indian-Ocean; Indus-River; cores-; discharge-; distribution-; geochemistry-; Holocene-; Pleistocene-; glacial-environment; environment-; interglacial-environment; fluctuations-; climate-; changes-; indicators-

**TI: Geochemical mapping of carbonate terrains.**

AU: Pirc-Simon; McNeal-J-M; Lenarcic-T; Prohic-Esad; Svrkota-R  
SO: Applied-Earth-Sciences. 100. p. B74-B87. YR: 1991

DE: Yugoslavia-; geochemistry-; surveys-; geomorphology-; solution-features; karst-; cartography-; topography-; terrains-; carbonates-; Southern-Europe; Europe-; statistical-analysis; soils-

**TI: Strontium isotope profile of Carboniferous-Permian Akiyoshi Limestone in Southwest Japan.**

AU: Nishioka-Sumino; Arakawa-Yoji; Kobayashi-Yoji  
SO: Geochemical-Journal. 25. (3). p. 137-146. YR: 1991

DE: Japan-; geochemistry-; isotopes-; Sr-87/Sr-86; limestone-; strontium-; sedimentary-rocks; Akiyoshi-Limestone; Honshu-; Far-



East; Asia-; alkaline-earth-metals; metals-; sedimentary-petrology; carbonate-rocks; stable-isotopes; Carboniferous-; Permian-; interpretation-

**TI: Petrographic and geochemical analysis of caliche profiles in a Bahamian Pleistocene dune.**

AU: Beier-J-A SO: *Sedimentology*. 34. (6). p. 991-998. YR: 1987  
DE: Bahamas-; geochemistry-; sedimentary-rocks; carbonate-rocks; caliche-; carbon-; C-13/C-12; oxygen-; O-18/O-16; isotopes-; ratios-; upper-Pleistocene; Pleistocene-; Quaternary-; West-Indies; clastic-rocks; eolianite-; stable-isotopes; trace-elements; petrography-; San-Salvador

**TI: Petrological and isotopic implications of some contrasting late Precambrian carbonates, NE Spitsbergen.**

AU: Fairchild-I-J; Spiro-B SO: *Sedimentology*. 34. (6). p. 973-989. YR: 1987  
DE: Spitsbergen-; sedimentary-petrology; sedimentary-rocks; carbonate-rocks; geochemistry-; carbon-; C-13/C-12; oxygen-; O-18/O-16; isotopes-; ratios-; Svalbard-; Vendian-; upper-Proterozoic; Proterozoic-; stable-isotopes; iron-; metals-; manganese-; strontium-; alkaline-earth-metals; diagenesis-; paleoenvironment-; upper-Precambrian; Precambrian-; Arctic-region; Polar-regions

**TI: Coordinated textural, isotopic, and elemental analyses of constituents in some Middle Devonian limestones.**

AU: Popp-Brian-Nicholas OS: University of Illinois, Urbana, United-States; Master's SO: 136 p. YR: 1981  
DE: sedimentary-rocks; limestone-; isotopes-; Devonian-; sedimentary-petrology; geochemistry-; carbonate-rocks; textures-; Middle-Devonian

**TI: Stable isotope geochemistry of early Proterozoic carbonate concretions in the Animikie Group of the Lake Superior region; evidence for anaerobic bacterial processes.**

AU: Winter-Bryce-L; Knauth-L-Paul SO: *Precambrian-Research*. 54. (2-4). p. 131-151. YR: 1992  
DE: Minnesota-; geochemistry-; isotopes-; Ontario-; carbon-; C-13/C-12; concretions-; oxygen-; O-18/O-16; sulfur-; S-34/S-32; sedimentary-structures; secondary-structures; Animikie-Group; Rove-Formation; Thomson-Formation; Gunflint-Iron-Formation; Midwest-; United-States; stable-isotopes; lower-Proterozoic; Proterozoic-; dolomite-; carbonates-; precipitation-; diagenesis-; reduction-; Eastern-Canada; Canada-; Pass-Lake-Quarry; Oliver-Creek; electron-probe-data; authigenic-minerals; Lake-Superior-region

**TI: Origin of carbonate deposits in the vicinity of Yucca Mountain, Nevada; preliminary results of hydrochemical modeling.**

AU: Kroitoru-Levy; Livnat-Alex; Fenster-David-F; Van-Camp-Scott-G SO: *American-Geophysical-Union*. 72. (17). p. 116 YR: 1991  
DE: Nevada-; hydrogeology-; ground-water; Nye-County-Nevada; Western-U.S.; United-States; southern-Nevada; Nevada-Test-Site; Yucca-Mountain; waste-disposal; radioactive-waste; high-level-waste; calcite-; carbonates-; fractures-; hydrochemistry-

**TI: Geochemical constraints on the origin of dolomite in the Ordovician Trenton and Black River limestones, Albion-Scipio area, Michigan.**

AU: Granath-Victoria-C SO: *AAPG-Bulletin*. 75. (3). p. 584-585 YR: 1991  
DE: Michigan-; sedimentary-petrology; sedimentary-rocks; Trenton-Group; Black-River-Group; Midwest-; United-States; geochemistry-; dolostone-; carbonate-rocks; Ordovician-; limestone-; Albion-Scipio-Field; Stoney-Point-Field; south-central-Michigan; strontium-; alkaline-earth-metals; metals-; Sr-87/Sr-86; isotopes-; stable-isotopes;

matrix-; cement-; dolomitization-; sea-water; brines-; fluid-inclusions; inclusions-; geologic-thermometry; oxygen-; O-18/O-16; hydrogen-; D/H-; deuterium-; Michigan-Basin; North-America; siliciclastics-

**TI: Carbon isotopic stratigraphy of the San Andres Formation; a possible correlation tool?.**

AU: Colgan-R-Eugene; Scholle-Peter-A SO: *AAPG-Bulletin*. 75. (3). p. 555 YR: 1991  
DE: Texas-; stratigraphy-; Permian-; San-Andres-Formation; Southwestern-U.S.; United-States; carbon-; isotopes-; correlation-; Algerita-Escarpment; Permian-Basin; transgression-; shelf-environment; environment-; nearshore-environment; progradation-; cycles-; dolostone-; carbonate-rocks; C-13/C-12; stable-isotopes; dissolved-materials; dolomitization-; chemostratigraphy-

**TI: Cathodoluminescence and trace-element geochemistry of carbonate cements formed with burial in seawater.**

AU: Budd-D-A SO: *AAPG-Bulletin*. 75. (3). p. 547 YR: 1991  
DE: Atlantic-Ocean; sedimentary-petrology; diagenesis-; cathodoluminescence-; trace-elements; cement-; carbonates-; sea-water; cementation-; Lower-Cretaceous; Cretaceous-; turbidite-; debris-flows; mass-movements; DSDP-Site-534; Leg-76; IPOD-; Deep-Sea-Drilling-Project; DSDP-Site-416; Leg-50; allochems-; petrography-; overgrowths-; siliciclastics-; Eh-; pH-; brines-; limestone-; carbonate-rocks

**TI: Diagenetic framework for chemical remanence acquisition in lower Paleozoic carbonate rocks from W. Newfoundland.**

AU: Beaubouef-R-T; Rush-P-F SO: *AAPG-Bulletin*. 75. (3). p. 539 YR: 1991  
DE: Newfoundland-; sedimentary-petrology; diagenesis-; stratigraphy-; Paleozoic-; Eastern-Canada; Canada-; lower-Paleozoic; carbonate-rocks; western-Newfoundland; Saint-George-Group; Tremadocian-; Lower-Ordovician; Ordovician-; Port-au-Port-Peninsula; Cambrian-; autochthons-; uplifts-; petrography-; evolution-; fabric-; limestone-; dolostone-; paleomagnetism-; magnetization-; hematite-; oxides-; karst-; solution-features; dedolomitization-; remagnetization-; magnetite-; geochemistry-; cementation-; precipitation-; authigenic-minerals; dolomitization-

**TI: Kuwaiti dolomite; petrology, geochemistry and groundwater origin.**

AU: El-Sayed-M-I; Fairchild-I-J; Spiro-B SO: *Sedimentary-Geology*. 73. (1-2). p. 59-75. YR: 1991  
DE: Kuwait-; sedimentary-petrology; sediments-; sedimentary-rocks; chemically-precipitated-rocks; duricrust-; ground-water; geochemistry-; isotopes-; oxygen-; O-18/O-16; carbon-; C-13/C-12; Arabian-Peninsula; Asia-; Quaternary-; calcrete-; carbonate-rocks; dolomite-; stable-isotopes; dolomite-; carbonates-; dolostone-

**TI: A reconnaissance carbon-oxygen isotopic study of micritic components in Silurian marine carbonates from eastern Iowa.**

AU: Ludvigson-Greg-A; Witzke-Brian-J; Gonzalez-L-A SO: *Geological-Society-of-America*. 23. (3). p. 26 YR: 1991  
DE: Iowa-; stratigraphy-; Silurian-; Scotch-Grove-Formation; Gower-Formation; Le-Porte-City-Limestone; Midwest-; United-States; carbon-; C-13/C-12; isotopes-; stable-isotopes; oxygen-; O-18/O-16; carbonate-rocks; micritization-; diagenesis-; sedimentary-petrology; processes-; eastern-Iowa; dolomitization-

**TI: Petroleum potentialities of central Tunisia as deduced from identification and characterization of oil source rocks.**

AU: Saidi-M; Acheche-M-H; Inoubli-H; Belayouni-H SO: *AAPG-Bulletin*. 75. (8). p. 1420 YR: 1991  
DE: Tunisia-; economic-geology; petroleum-; North-Africa; Africa-; central-Tunisia; source-rocks; possibilities-; Silurian-; Devonian-; shale-; clastic-rocks; Cretaceous-; black-shale; Eocene-; Paleogene-



Tertiary-; carbonate-rocks; genesis-; natural-gas; geochemistry-; organic-materials; exploration-

**TI: Geochemistry of metastable carbonate minerals from the Brush Creek marine interval (Missourian), Indiana County, Pennsylvania.**

AU: Cercione-Karen-Rose; Kime-Amy; Mutchler-Scott; Rittler-Keith  
 SO: AAPG-Bulletin. 75. (8). p. 1381 YR: 1991  
 DE: Pennsylvania-; geochemistry-; carbonates-; Indiana-County-Pennsylvania; Brush-Creek-Formation; Eastern-U.S.; United-States; minerals-; marine-environment; environment-; Missourian-; Upper-Pennsylvanian; Pennsylvanian-; Carboniferous-; western-Pennsylvania; aragonite-; calcite-; shells-; X-ray-diffraction-data; magnesian-calcite; isotopes-; carbon-; C-13/C-12; stable-isotopes; oxygen-; O-18/O-16; bivalves-; mollusks-; precipitation-; Pharkidonotus-; recrystallization-; textures-; SEM-data; crinoids-; echinoderms-; pore-water; early-diagenesis; diagenesis-

**TI: Aspects of the chemistry of modern and fossil biological apatites.**

AU: Lee-Thorp-Julia-A; van-der-Merwe-Nikolaas-J  
 OS: Univ. Cape Town, Dep. Archaeol., Rondebosch, South-Africa; Univ. Fla., United-States; Harvard Univ., United-States  
 SO: Journal-of-Archaeological-Science. 18. (3). p. 343-354. YR: 1991  
 DE: carbon-; isotopes-; C-13/C-12; Mammalia-; Primates-; Pleistocene-; South-Africa; paleontology-; stable-isotopes; bones-; teeth-; Swartkrans-; geochemistry-; collagen-; proteins-; organic-materials; apatite-; phosphates-; carbonate-apatite; infrared-spectra; mammals-; Eutheria-; Theria-; biochemistry-; Quaternary-; diet-; Southern-Africa; Africa-

**TI: Carbon and oxygen isotope composition of lower Palaeozoic limestones and concretions, an example of high temperature diagenesis.**

AU: Buchardt-Bjorn  
 SO: Terra-Cognita. 4. (2). p. 219-220. YR: 1984  
 DE: Denmark-; geochemistry-; isotopes-; limestone-; carbonate-rocks; Scandinavia-; Western-Europe; Europe-; Bornholm-; geologic-thermometry; lower-Paleozoic; Paleozoic-; O-18/O-16; stable-isotopes; oxygen-; C-13/C-12; carbon-; IGCP-; high-temperature; diagenesis-

**TI: Sr isotopic variation in shallow water carbonate sequences; stratigraphic, chronostratigraphic, and eustatic implications of the record at Enewetak Atoll.**

AU: Quinn-Terrence-M; Lohmann-K-C; Halliday-A-N  
 SO: Paleoceanography. 6. (3). p. 371-385. YR: 1991  
 DE: strontium-; isotopes-; Sr-87/Sr-86; carbon-; C-13/C-12; oxygen-; O-18/O-16; Marshall-Islands; geochemistry-; stratigraphy-; Pleistocene-; sedimentary-rocks; carbonate-rocks; alkaline-earth-metals; metals-; stable-isotopes; Enewetak-Atoll; Micronesia-; Quaternary-; changes-of-level; variations-; shallow-water-environment; environment-; chronostratigraphy-; eustacy-

**TI: Geochemistry of Cambro-Ordovician Arbuckle Limestone, Oklahoma; implications for diagenetic delta (18)O alteration and secular delta (13)C and (87)Sr/(86)Sr variation.**

AU: Gao-Guoqiu; Land-Lynton-S SO: Geochimica-et-Cosmochimica-Acta. 55. (10). p. 2911-2920. YR: 1991  
 DE: Oklahoma-; geochemistry-; isotopes-; oxygen-; O-18/O-16; carbon-; C-13/C-12; strontium-; Sr-87/Sr-86; sedimentary-rocks; limestone-; Arbuckle-Group; Southwestern-U.S.; United-States; Cambrian-; Ordovician-; carbonate-rocks; ratios-; stable-isotopes; alkaline-earth-metals; metals-; diagenesis-; secular-variations; Slick-Hills; southwestern-Oklahoma

**TI: Fluorine mobility during early diagenesis of carbonate sediment; an indicator of mineral transformations.**

AU: Rude-Peter-D; Aller-Robert-C

SO: Geochimica-et-Cosmochimica-Acta. 55. (9). p. 2491-2509. YR: 1991

DE: fluorine-; geochemistry-; carbonate-sediments; Gulf-of-Mexico; diagenesis-; indicators-; halogens-; migration-of-elements; sediments-; early-diagenesis; marine-sediments; Florida-Bay; North-American-Atlantic; North-Atlantic; Atlantic-Ocean; pore-water; fluoride-ion; mobility-

**TI: Paleolimnological signatures from carbon and oxygen isotopic ratios in carbonates from organic carbon-rich lacustrine sediments.**

AU: Talbot-M-R; Kelts-K  
 SO: AAPG-Memoir. 50. p. 99-112. YR: 1990  
 DE: Ghana-; geochemistry-; isotopes-; sediments-; carbonate-sediments; sedimentary-petrology; carbon-; oxygen-; ratios-; lacustrine-environment; environment-; organic-carbon; organic-materials; carbonates-; paleolimnology-; West-Africa; Africa-; Lake-Bosumtwi; diagenesis-; water-; mineral-composition; paleohydrology-; processes-; salinity-

**TI: Carbon dioxide in the Paleozoic atmosphere; evidence from carbon-isotope compositions of pedogenic carbonate.**

AU: Mora-Claudia-I; Driese-Steven-G; Seager-Paula-G  
 SO: Geology-(Boulder). 19. (10). p. 1017-1020. YR: 1991  
 DE: Pennsylvania-; stratigraphy-; Paleozoic-; carbon-; isotopes-; C-13/C-12; sedimentary-rocks; clastic-rocks; Paleosols-; paleoclimatology-; Bloomsburg-Formation; Catskill-Formation; Mauch-Chunk-Formation; paleoatmosphere-; carbon-dioxide; stable-isotopes; red-beds; Eastern-U.S.; United-States; central-Pennsylvania; soils-; claystone-; atmospheric-pressure; fluvial-environment; environment-; deltaic-environment

**TI: Influence of deep-sea benthic processes on atmospheric CO<sub>2</sub>.**

AU: Sundquist-E-T  
 SO: Mathematical-and-Physical-Sciences. 331. (1616). p. 155-165. YR: 1990  
 DE: geochemistry-; geochemical-cycle; carbon-; atmosphere-; sediments-; marine-sediments; diagenesis-; carbon-dioxide; deep-sea-environment; environment-; processes-; sea-water; solution-; carbonate-sediments; buffers-; models-

**TI: Calcium carbonate preservation in the ocean.**

AU: Emerson-S-R; Archer-D  
 SO: Mathematical-and-Physical-Sciences. 331. (1616). p. 29-40. YR: 1990  
 DE: Indian-Ocean; oceanography-; sediments-; marine-sediments; geochemistry-; Atlantic-Ocean; carbon-; sea-water; calcium-carbonate; sediment-water-interface; preservation-; degradation-; solution-; saturation-; organic-materials; deep-sea-environment; environment-; organic-carbon; sedimentary-petrology; processes-; models-

**TI: Geochemical differences between subtropical (Ordovician), cool-temperate (Recent and Pleistocene) and subpolar carbonate, Tasmania, Australia.**

AU: Prasada-Rao-C  
 SO: Carbonates-and-Evaporites. 6. (1). p. 82-106. YR: 1991  
 DE: Tasmania-; sedimentary-petrology; sedimentary-rocks; carbonate-rocks; environment-; geochemistry-; oxygen-; isotopes-; O-18; carbon-; C-13; Australia-; Australasia-; Permian-; Pleistocene-; Quaternary-; Holocene-; temperate-environment; subpolar-environment; subtropical-environment; Ordovician-; classification-; stable-isotopes; trace-elements

**TI: Chemical and isotopic evolution of fluids in the active Long Valley hydrothermal system.**

AU: Peterson-Maria-L; White-Art-F  
 SO: 1989 annual meeting. Abstracts-with-Programs-Geological-Society-of-America. 21. (6). p. A85 YR: 1989



DE: California-; geochemistry-; isotopes-; Pacific-Coast; Western-U.S.; United-States; evolution-; Long-Valley-Caldera; topography-; hydrology-; hydrogen-; D/H-; stable-isotopes; deuterium-; oxygen-; O-18/O-16; rainfall-; seasonal-variations; tuff-; pyroclastics-; volcanic-rocks; carbon-; C-13/C-12; carbonate-rocks; geologic-thermometry; temperature-; pH-; kinetics-; sulfates-; sulfides-

**TI: delta (18)O and delta (13)C stable isotope geochemistry of dolomitized detrital calcites of the Los Monegros Group, southeastern Ebro Basin, Spain.**

AU: Peterson-Jonathan-D

SO: AAPG-Bulletin. 74. (5). p. 739-740 YR: 1990

DE: Spain-; sedimentary-petrology; diagenesis-; geochemistry-; isotopes-; Iberian-Peninsula; Southern-Europe; Europe-; oxygen-; O-18/O-16; stable-isotopes; carbon-; C-13/C-12; dolomitization-; calcite-; carbonates-; Los-Monegros-Group; Ebro-Basin; lacustrine-environment; environment-; limestone-; carbonate-rocks; lithocalcarene-; paleogeography-; pore-water

**TI: Petroleum potential of the Upper Ordovician Maquoketa Group in Illinois; a coordinated geological and geochemical study.**

AU: Crockett-Joan-E; Kruge-Michael-A; Oltz-Donald-F

SO: AAPG-Bulletin. 74. (5). p. 636 YR: 1990

DE: Illinois-; economic-geology; petroleum-; Maquoketa-Formation; New-Albany-Shale; Midwest-; United-States; possibilities-; Upper-Ordovician; Ordovician-; geochemistry-; shale-; clastic-rocks; carbonate-rocks; source-rocks; lithostratigraphy-; Rock-Eval; pyrolysis-; maturity-; pristane-; alkanes-; aliphatic-hydrocarbons; hydrocarbons-; organic-materials; phytane-; steroids-; isomers-; lithofacies-; sandstone-; migration-; stratigraphic-traps; traps-; Cottage-Grove-Fault

**TI: Paleoclimatic controls on stable oxygen and carbon isotopes in caliche of the Abo Formation (Permian), south-central New Mexico, U.S.A.**

AU: Mack-Greg-H; Cole-David-R; Giordano-Thomas-H; Schaal-William-C; Barcelos-Jose-H

SO: Journal-of-Sedimentary-Petrology. 61. (4). p. 458-472. YR: 1991

DE: New-Mexico; stratigraphy-; Permian-; paleoclimatology-; isotopes-; sedimentary-rocks; caliche-; carbonate-rocks; oxygen-; O-18/O-16; carbon-; C-13/C-12; sedimentation-; deposition-; environment-; Abo-Formation; Southwestern-U.S.; United-States; stable-isotopes; south-central-New-Mexico

**TI: Isotopes in climatological studies.**

AU: Rozanski-Kazimierz; Gonfianti-Roberto

SO: International-Atomic-Energy-Agency-Bulletin. 32. (4). p. 9-15 YR: 1990

DE: isotopes-; analysis-; climate-; paleoclimatology-; indicators-; atmosphere-; research-; meteorology-; techniques-; ocean-circulation; marine-environment; environment-; ice-caps; terrestrial-environment; polar-environment; changes-; marine-sediments; lake-sediments; ground-water; calcium-carbonate; circulation-; data-bases; models-; precipitation-; geochemistry-

**TI: Carbonate minerals in glacial sediments; geochemical clues to palaeoenvironment.**

AU: Fairchild-Ian-J; Spiro-Baruch

SO: Geological-Society-Special-Publications. 53. p. 201-216. YR: 1990

DE: sediments-; carbonate-sediments; glaciomarine-environment; minerals-; carbonates-; occurrence-; sedimentation-; transport-; glacial-transport; environment-; paleoenvironment-; Quaternary-; chemostratigraphy-; geochemistry-; IGCP-; Proterozoic-; upper-Precambrian; Precambrian-; recrystallization-

**TI: Events leading to global phosphogenesis around the Proterozoic/Cambrian boundary.**

AU: Donnelly-T-H; Shergold-J-H; Southgate-P-N; Barnes-C-J

SO: Geological-Society-Special-Publications. 52. p. 273-287. YR: 1990

DE: diagenesis-; processes-; phosphatization-; sedimentation-; environment-; anaerobic-environment; isotopes-; ratios-; stable-isotopes; strontium-; Sr-87/Sr-86; carbon-; C-13/C-12; global-; upper-Proterozoic; Proterozoic-; Lower-Cambrian; Cambrian-; boundary-; alkaline-earth-metals; metals-; marine-environment; IGCP-; organic-materials; carbonate-rocks; geochemistry-; phosphorus-

**TI: Precambrian/Cambrian boundary problem; carbon isotope correlations for Vendian and Tommotian time between Siberia and Morocco.**

AU: Magaritz-Mordeckai; Kirschvink-Joseph-L; Latham-Andrew-J; Zhuravlev-A-Yu; Rozanov-A-Yu

SO: Geology-(Boulder). 19. (8). p. 847-850. YR: 1991

DE: USSR-; stratigraphy-; Proterozoic-; Morocco-; Cambrian-; isotopes-; carbon-; C-13/C-12; sedimentary-rocks; carbonate-rocks; geochemistry-; Siberia-; North-Africa; Africa-; upper-Precambrian; Precambrian-; Vendian-; upper-Proterozoic; Tommotian-; Lower-Cambrian; boundary-; correlation-; chemostratigraphy-; stable-isotopes; fluctuations-; cycles-; Anti-Atlas; Siberian-Platform; sections-; IGCP-

**TI: Oxygen-isotope composition of diagenetic calcite in organic-rich rocks; evidence for (18)O depletion in marine anaerobic pore water.**

AU: Sass-Eytan; Bein-Amos; Almogi-Labin-Ahuva

SO: Geology-(Boulder). 19. (8). p. 839-842.

YR: 1991

DE: Israel-; geochemistry-; isotopes-; oxygen-; O-18/O-16; diagenesis-; sedimentary-rocks; carbonate-rocks; Middle-East; Asia-; stable-isotopes; calcite-; carbonates-; organic-materials; marine-environment; environment-; pore-water; anaerobic-environment; Upper-Cretaceous; Cretaceous-; SEM-data; foraminifers-; microfossils-; paleo-oceanography; bicarbonate-ion

**TI: Geochemical studies of subsurface carbonate rocks.**

AU: Erickson-R-L; Erickson-M-S; Mosier-E-L; Chazin-Barbara

OS: U. S. Geol. Surv., United-States; U. S. Geol. Surv., United-States

SO: Geological-Survey-Bulletin. p. 51-52. YR: 1991

DE: Missouri-; geochemistry-; carbonate-rocks; sedimentary-rocks; surveys-; Polk-County-Missouri; Greene-County-Missouri; Dallas-County-Missouri; Laclede-County-Missouri; Webster-County-Missouri; Wright-County-Missouri; USGS-; Midwest-; United-States; southwestern-Missouri; Springfield-Quadrangle; cores-

**TI: Determination of carbonate carbon in geologic materials by coulometric titration.**

AU: Brandt-Elaine-L; Aruscavage-Philip-J; Papp-Clara-S-E

SO: Geological-Survey. p. 68-72. YR: 1990

DE: chemical-analysis; techniques-; sample-preparation; carbon-; analysis-; USGS-; titration-; coulometry-; carbonates-

**TI: Carbon and oxygen isotope trends of Precambrian-Cambrian carbonates from Lesser Himalaya, India.**

AU: Tewari-Vinod-C

OS: Wadia Inst. Himalayan Geol., Dehra Dun, India YR: 1990

CN: Himalayan geology seminar, Dehra Dun, April 4-7, 1990

DE: India-; geochemistry-; isotopes-; sedimentary-rocks; carbonate-rocks; Lesser-Himalayas; Indian-Peninsula; Asia-; Precambrian-; Cambrian-; Deoban-Formation; Riphean-; upper-Proterozoic; Proterozoic-; Vendian-; Krol-Formation; C-13/C-12; stable-isotopes; carbon-; ratios-; oxygen-; O-18/O-16; Tommotian-; Lower-Cambrian;



variations-; sedimentation-; evolution-; cyclic-processes; atmosphere-; oceanography-

**TI: Characterization of tar from a carbonate reservoir in Saudi Arabia; Part I, Chemical aspect.**

AU: Harouaka-A-S; Asar-H-K; Al-Arfaj-A-A; Al-Husaini-A-H; Nofal-W-A YR: 1991

DE: Saudi-Arabia; geochemistry-; organic-materials; engineering-geology; petroleum-engineering; reservoir-rocks; chemical-analysis; methods-; chromatography-; Arabian-Peninsula; Asia-; carbonate-rocks; characterization-; tar-; sampling-; thermal-analysis; X-ray-analysis

**TI: The influence of limestone stability on the interpretation of geochemical processes occurring in the saltwater-freshwater mixing zone.**

AU: Wicks-Carol-M; Herman-Janet-S; Randazzo-Anthony-F; Jee-Jonathan-L

SO: Abstracts-with-Programs-Geological-Society-of-America. 22. (7). p. 63 YR: 1990

DE: Florida-; hydrogeology-; ground-water; Floridan-Aquifer; Southeastern-U.S.; Eastern-U.S.; United-States; Central-Florida; west-central-Florida; limestone-; carbonate-rocks; aquifers-; geochemistry-; hydrochemistry-; salt-water; fresh-water; solubility-

**TI: Radium isotopes, alkaline earth diagenesis, and age determination of travertine from Mammoth Hot Springs, Wyoming, U.S.A.**

AU: Sturchio-Neil-C

SO: Applied-Geochemistry. 5. (5-6). p. 631-640. YR: 1990

DE: Wyoming-; geochemistry-; isotopes-; sedimentary-rocks; carbonate-rocks; travertine-; radium-; Ra-228/Ra-226; Park-County-Wyoming; Mammoth-Hot-Springs; Western-U.S.; United-States; Yellowstone-National-Park; alkaline-earth-metals; metals-; radioactive-isotopes; diagenesis-; sedimentary-petrology; absolute-age; Quaternary-

**TI: Manganese contents of some rocks of Silurian and Devonian ages in Northwest Virginia.**

AU: Cox-Leslie-J

OS: U. S. Geol. Surv., United-States; U. S. Geol. Surv., United-States

SO: Geological-Survey-Bulletin. p. B1-B16. YR: 1991

DE: Virginia-; geochemistry-; trace-elements; economic-geology; manganese-ores; mineral-deposits; genesis-; supergene-processes; sedimentary-rocks; manganese-; carbonate-rocks; Shenandoah-County-Virginia; Frederick-County-Virginia; Rockingham-County-Virginia; Helderberg-Group; USGS-; Southeastern-U.S.; Eastern-U.S.; United-States; northwestern-Virginia; Silurian-; Devonian-; lower-Paleozoic; Paleozoic-; metal-ores; metals-; sedimentation-; marine-environment; environment-; shallow-water-environment; mineral-deposits,-genesis

**TI: Manganese contents of some lower Paleozoic carbonate rocks of Virginia.**

AU: Force-Eric-R

SO: Geological-Survey-Bulletin. p. A1-A9. YR: 1991

DE: Virginia-; economic-geology; manganese-ores; sedimentary-rocks; geochemistry-; manganese-; carbonate-rocks; mineral-deposits; genesis-; supergene-processes; Clarke-County-Virginia; Shenandoah-County-Virginia; Giles-County-Virginia; Buchanan-County-Virginia; Montgomery-County-Virginia; Grayson-County-Virginia; Carroll-County-Virginia; Botetourt-County-Virginia; Washington-County-Maryland; Shady-Dolomite; Knox-Group; USGS-; Southeastern-U.S.; Eastern-U.S.; United-States; western-Virginia; Maryland-; northwestern-Maryland; metals-; lower-Paleozoic; Paleozoic-; mineral-deposits,-genesis; metal-ores; marine-environment; environment-; shallow-water-environment; geochemical-controls; sedimentation-; hydrogeological-controls

**TI: Manganese contents of some sedimentary rocks of Paleozoic age in Virginia.**

AU: Force-Eric-R; Cox-Leslie-J

SO: Geological-Survey-Bulletin. 25 p. YR: 1991

DE: Virginia-; geochemistry-; manganese-; carbonate-rocks; sedimentary-rocks; Shady-Dolomite; Knox-Group; Oriskany-Sandstone; Helderberg-Group; USGS-; Southeastern-U.S.; Eastern-U.S.; United-States; metals-; Paleozoic-; manganese-oxides; oxides-; manganese-ores; metal-ores; Appalachians-; North-America

**TI: Devonian dolomites from the Holy Cross Mts., Poland; a new concept of the origin of massive dolomites based on petrographic and isotopic evidence.**

AU: Migaszewski-Zdzislaw-M

SO: Journal-of-Geology. 99. (2). p. 171-187. YR: 1991

DE: Poland-; sedimentary-petrology; sedimentary-rocks; carbonate-rocks; dolostone-; isotopes-; carbon-; C-13/C-12; oxygen-; O-18/O-16; diagenesis-; dolomitization-; evolution-; Central-Europe; Europe-; Swiety-Krzysz-Mountains; genesis-; petrography-; Upper-Devonian; Devonian-; clay-mineralogy; pyrite-; sulfides-; stable-isotopes

**TI: Oceanic ferromanganese geochemistry.**

AU: Andreev-Sergei-I (Andreyev, Sergey I)

OS: VNIIOkeangeol., Leningrad, USSR

SO: AAPG-Bulletin. 74. (6). p. 958 YR: 1990

DE: nodules-; ferromanganese-composition; geochemistry-; classification-; metals-; carbonate-compensation-depth; diagenesis-; sedimentary-processes; hydrothermal-processes

**TI: A fluid inclusion and stable isotope study of synmetamorphic copper ore formation at Mount Isa, Australiareply.**

AU: Heinrich-Christoph-A; Andrew-Anita-S; Wilkins-Ronald-W-T; Patterson-David-J

SO: Economic-Geology-and-the-Bulletin-of-the-Society-of-Economic-Geologists. 86. (1). p. 206-207. YR: 1991

DE: Queensland-; geochemistry-; isotopes-; fluid-inclusions; P-T-conditions; greenschist-facies; copper-ores; stable-isotopes; carbon-; C-13/C-12; oxygen-; O-18/O-16; hydrogen-; D/H-; mineral-deposits; genesis-; metamorphic-processes; deuterium-; ore-forming-fluids; Australia-; Australasia-; metal-ores; economic-geology; Mount-Isa; inclusions-; mineral-deposits,-genesis; deformation-; breccia-; clastic-rocks; dolostone-; carbonate-rocks; zoning-; geologic-thermometry; greenstone-; schists-; paleosalinity-; alteration-; Urquhart-Shale; pH-; cooling-; mineral-assemblages; crystallization-; calcium-chloride; homogenization-

**TI: Geochemical evidence supporting T. C. Chamberlin's theory of glaciation.**

AU: Raymo-M-E

SO: Geology-(Boulder). 19. (4). p. 344-347. YR: 1991

DE: biography-; general-; Chamberlin-; T.-C.; glacial-geology; glaciation-; causes-; atmosphere-; geochemistry-; carbon-dioxide; weathering-; chemical-weathering; effects-; strontium-; isotopes-; Sr-87/Sr-86; sedimentary-rocks; carbonate-rocks; Phanerozoic-; stratigraphy-; paleoclimatology-; global-; Chamberlin,-T.-C.; history-; ancient-ice-ages; degassing-; composition-; paleoatmosphere-; orogeny-; rates-; silicates-; alkaline-earth-metals; metals-; stable-isotopes; paleo-oceanography; erosion-

**TI: Manganese carbonate bands as an indicator of hemipelagic sedimentary environments.**

AU: Sugisaki-Ryuichi; Sugitani-Kenichiro; Adachi-Mamoru

SO: Journal-of-Geology. 99. (1). p. 23-40. YR: 1991

DE: Japan-; geochemistry-; manganese-; sedimentary-rocks; sedimentation-; environment-; hemipelagic-environment; minerals-; carbonates-; rhodochrosite-; isotopes-; oxygen-; O-18/O-16; carbon-; C-13/C-12; metals-; banded-materials; carbon-dioxide; chert-; chemically-precipitated-rocks; Paleozoic-; Mesozoic-; Holocene-; Quaternary-; geochemical-indicators; Far-East; Asia-; Honshu-; Mino-Belt; stable-isotopes; geochemical-profiles



**TI: Subduction and accretion of the Permanente Terrane near San Francisco, California.**

AU: Larue-D-K; Barnes-I; Sedlock-R-L

SO: Tectonics. 8. (2). p. 221-235. YR: 1989

DE: California-; tectonophysics-; plate-tectonics-; San-Francisco-County-California-; Franciscan-Formation-; Calera-Limestone-; Pacific-Coast-; Western-U.S.-; United-States-; San-Francisco-California-; Permanente-Terrane-; structural-geology-; tectonics-; limestone-; carbonate-rocks-; subduction-; geochemistry-; faults-; evolution-; facies-; deformation-; greenstone-; schists-

**TI: Carbon isotope variations in Cambrian-Proterozoic rocks; a case for secular global trend.**

AU: Banerjee-D-M

SO: Developments-in-Precambrian-Geology. 8. p. 453-470. YR: 1990

DE: Asia-; geochemistry-; isotopes-; carbon-; C-13/C-12-; sedimentary-rocks-; carbonate-rocks-; Lower-Cambrian-; Cambrian-; Proterozoic-; upper-Precambrian-; Precambrian-; stable-isotopes-; India-; Indian-Peninsula-; Pakistan-; Mongolia-; Far-East-; variations-; ratios-

**TI: Geochemistry of Precambrian carbonates; 3-shelf seas and non-marine environments of the Archean.**

AU: Veizer-Jan; Clayton-Robert-N; Hinton-R-W; von-Brunn-Victor; Mason-T-R; Buck-S-G; Hoefs-Jochen

SO: Geochimica-et-Cosmochimica-Acta. 54. (10). p. 2717-2729. YR: 1990

DE: South-Africa-; geochemistry-; isotopes-; Western-Australia-; sedimentary-rocks-; stable-isotopes-; sea-water-; carbonate-rocks-; sediments-; carbonate-sediments-; strontium-; Sr-87/Sr-86-; oxygen-; O-18/O-16-; carbon-; C-13/C-12-; Precambrian-; Archean-; shelf-environment-; environment-; Southern-Africa-; Africa-; Australia-; Australasia-; Pongola-Supergroup-; Hamersley-Group-; alkaline-earth-metals-; metals-; tectonics-; marine-sediments-; playas-; dolostone-; chemical-composition-; lacustrine-environment-; Ventersdorp-Supergroup-; Fortescue-Group-; trace-elements-; iron-; manganese-

**TI: Eclogitic metamorphism in carbonate rocks; the example of impure marbles from the Sesia-Lanzo Zone, Italian Western Alps.**

AU: Castelli-D

SO: Journal-of-Metamorphic-Geology. 9. (1). p. 61-77. YR: 1991

DE: Alps-; petrology-; metamorphism-; Italy-; P-T-conditions-; high-pressure-; metamorphic-rocks-; facies-; eclogite-facies-; Europe-; Southern-Europe-; carbonate-rocks-; marbles-; Sesia-Lanzo-Zone-; Western-Alps-; geochemistry-; electron-probe-data-; absorption-; X-ray-spectra-; chemical-composition-; IGCP-

**TI: Glacial to Holocene changes in carbonate and clay sedimentation in the Equatorial Pacific Ocean estimated from thorium 230 profiles.**

AU: Yang-Yong-Liang; Elderfield-Henry; Ivanovich-Miro

SO: Paleoceanography. 5. (5). p. 789-809. YR: 1990

DE: Pacific-Ocean-; stratigraphy-; Quaternary-; thorium-; isotopes-; Th-230-; sedimentation-; sedimentation-rates-; deep-sea-sedimentation-; geochemistry-; processes-; solution-; sediments-; marine-sediments-; Equatorial-Pacific-; actinides-; metals-; radioactive-isotopes-; carbonate-sediments-; glaciomarine-environment-; environment-; postglacial-environment-; marine-environment-; geochemical-indicators-; upper-Pleistocene-; Pleistocene-; Holocene-; geochemical-profiles-; paleo-oceanography-; clay-; clastic-sediments

**TI: Tracers of ocean paleoproductivity and paleochemistry; an introduction.**

AU: Elderfield-Henry

SO: Paleoceanography. 5. (5). p. 711-718. YR: 1990

DE: sediments-; marine-sediments-; geochemistry-; paleoecology-; indicators-; marine-environment-; productivity-; environment-; geochemical-indicators-; cadmium-; metals-; barium-; alkaline-earth-

metals-; calcium-; ratios-; paleo-oceanography-; radioactive-isotopes-; isotopes-; geochemical-profiles-; carbonate-sediments-; tracers-

**TI: Isotopic studies of calcite, pyrite, and wood from glacial deposits in the Beardmore Glacier area, Transantarctic Mountains.**

AU: Hagen-Erik-H; Faure-Gunter; Jones-Lois-M

SO: Antarctic-Journal-of-the-United-States. 24. (5). p. 67-68. YR: 1989

DE: glacial-geology-; glacial-features-; debris-; absolute-age-; dates-; sediments-; Antarctica-; geochronology-; Paleozoic-; isotopes-; analysis-; sulfur-; S-34-; Beardmore-Glacier-; Polar-regions-; Transantarctic-Mountains-; C-13-; stable-isotopes-; carbon-; O-18-; oxygen-; Sr-87/Sr-86-; alkaline-earth-metals-; metals-; strontium-; glacial-sedimentation-; glacial-environment-; environment-; limestone-; carbonate-rocks-; pyrite-; sulfides-; wood-; Shackleton-Limestone-; Sirius-Formation-; East-Antarctica

**TI: Primary and diagenetic controls of isotopic compositions of iron-formation carbonates.**

AU: Kaufman-Alan-J; Hayes-J-M; Klein-C

SO: Geochimica-et-Cosmochimica-Acta. 54. (12). p. 3461-3473. YR: 1990

DE: Western-Australia-; geochemistry-; sedimentary-rocks-; diagenesis-; effects-; carbonate-rocks-; isotopes-; ratios-; carbon-; C-13/C-12-; oxygen-; O-18/O-16-; iron-formations-; chemically-precipitated-rocks-; lower-Proterozoic-; Proterozoic-; upper-Precambrian-; Precambrian-; Dales-Gorge-Member-; Brockman-Iron-Formation-; Australia-; Australasia-; Hamersley-Group-; stable-isotopes

**TI: Geochemistry of sedimentary carbonates.**

AU: Morse-John-W; Mackenzie-Fred-T

SO: Developments-in-Sedimentology. 48. 707 p. YR: 1990

DE: sedimentary-rocks-; carbonate-rocks-; geochemistry-; mineral-composition-; reactions-; carbonates-; calcium-carbonate-; diagenesis-; marine-environment-; environment-; early-diagenesis

**TI: (234)U - (238)U - (230)Th - (232)Th systematics in saline groundwaters from central Missouri.**

AU: Banner-Jay-L; Wasserburg-G-J; Chen-James-H; Moore-Clyde-H

SO: Earth-and-Planetary-Science-Letters. 101. (2-4). p. 296-312. YR: 1990

DE: Missouri-; hydrogeology-; ground-water-; geochemistry-; radioactive-isotopes-; isotopes-; uranium-; U-238/U-234-; thorium-; Th-232/Th-230-; Midwest-; United-States-; central-Missouri-; salt-water-; salinity-; artesian-waters-; springs-; Mississippian-; Carboniferous-; Ordovician-; sandstone-; clastic-rocks-; carbonate-rocks-; aquifers-; hydrochemistry-; actinides-; metals-; radioactive-decay-; brines-; pollution-

**TI: Relationships between organic matter and metalliferous deposits in lower Palaeozoic carbonate formations in China.**

AU: Jia-R; Liu-D; Fu-J

SO: Special-Publication-of-the-International-Association-of-Sedimentologists. (11). p. 193-201. YR: 1990

DE: China-; economic-geology-; metal-ores-; mineral-deposits-; genesis-; controls-; geochemical-controls-; Far-East-; Asia-; carbonate-rocks-; upper-Paleozoic-; Paleozoic-; organic-materials-; Southern-China-; mineral-deposits-; genesis-; trace-elements-; interpretation-; migration-of-elements-; asphalt-; bitumens-; IGCP-

**TI: Stable isotopic and trace elemental study of diagenetic styles in adjacent transgressive-regressive (T-R) units, Middle Devonian Cedar Valley Group.**

AU: Plocher-O-W; Ludvigson-G-A; Gonzalez-L-A

SO: Abstracts-with-Programs-Geological-Society-of-America. 22. (5). p. 42YR: 1990



DE: Iowa-; stratigraphy-; Devonian-; oxygen-; isotopes-; O-18/O-16; carbon-; C-13/C-12; sedimentary-rocks; carbonate-rocks; invertebrates-; biochemistry-; diagenesis-; cementation-; geochemistry-; trace-elements; Cedar-Valley-Formation; Coralville-Member; Littleton-Member; Midwest-; United-States; transgression-; regression-; Givetian-; Middle-Devonian; petrography-

**TI: Anatomy of a Middle Ordovician carbon isotope excursion; preliminary carbon and oxygen isotopic data from limestone components in the Decorah Formation, Galena Group, eastern Iowa.**

AU: Ludvigson-G-A; Witzke-Brian-J; Lohmann-K-C; Jacobson-S-J  
SO: Abstracts-with-Programs-Geological-Society-of-America. 22. (5). p. 39 YR: 1990

DE: Iowa-; geochemistry-; isotopes-; carbon-; C-13/C-12; oxygen-; O-18/O-16; sedimentary-rocks; limestone-; invertebrates-; biochemistry-; Decorah-Shale; eastern-Iowa; Midwest-; United-States; Galena-Dolomite; carbonate-rocks

**TI: Trace-element distribution across calcite veins; a tool for genetic interpretation.**

AU: Erel-Yigal; Katz-Amitai

SO: Chemical-Geology. 85. (3-4). p. 361-367. YR: 1990

DE: Israel-; geochemistry-; trace-elements; sedimentary-rocks; carbonate-rocks; chalk-; crystal-chemistry; carbonates-; calcite-; Middle-East; Asia-; Judean-Desert; Menuha-Formation; Santonian-; Senonian-; Upper-Cretaceous; Cretaceous-; veins-; geochemical-profiles; dolomitization-; solution-; epigene-processes; extension-; crystal-growth

**TI: Stratigraphic shifts in carbon isotopes from Proterozoic stromatolitic carbonates (Mauritania); influences of primary mineralogy and diagenesis.**

AU: Fairchild-I-J; Marshall-J-C; Bertrand-Sarfati-J

SO: American-Journal-of-Science. 290-A. p. 46-79. YR: 1990

DE: Mauritania-; stratigraphy-; Proterozoic-; carbon-; isotopes-; C-13/C-12; diagenesis-; materials-; stromatolites-; sedimentary-structures; biogenic-structures; sedimentary-rocks; carbonate-rocks; geochemistry-; IGCP-; West-Africa; Africa-; upper-Precambrian; Precambrian-; Atar-Group; stable-isotopes; ultrastructure-; fractionation-; algae-; paleo-oceanography; chemostratigraphy-

**TI: Carbon isotope shifts in Pennsylvanian seas.**

AU: Magaritz-Mordeckai; Holsler-William-T

SO: American-Journal-of-Science. 290. (9). p. 977-994 YR: 1990

DE: New-Mexico; geochemistry-; isotopes-; Pennsylvanian-; stratigraphy-; paleo-oceanography; carbon-; C-13/C-12; sedimentary-rocks; carbonate-rocks; Nevada-; Carboniferous-; Southwestern-U.S.; United-States; southwestern-New-Mexico; Big-Hatchet-Peak; stable-isotopes; marine-environment; environment-; Western-U.S.; Arrow-Canyon; paleoatmosphere-; geochemical-profiles

**TI: Extreme (13)C depletions in seawater-derived brines and their implications for the past geochemical carbon cycle.**

AU: Lazar-Boaz; Erez-Jonathan

SO: Geology-(Boulder). 18. (12). p. 1191-1194. YR: 1990

DE: sea-water; geochemistry-; carbon-; isotopes-; C-13/C-12; geochemical-cycle; ecology-; observations-; hypersaline-environment; Israel-; Red-Sea; stable-isotopes; brines-; salinity-; evaporites-; chemically-precipitated-rocks; carbonate-rocks; organic-materials; microbial-mats; sediments-; fractionation-; photosynthesis-; environment-; Middle-East; Asia-; Indian-Ocean; Gulf-of-Aqaba

**TI: Paleomagnetism of the Cambrian Royer Dolomite and Pennsylvanian Collings Ranch Conglomerate, southern Oklahoma; an early Paleozoic magnetization and nonpervasive remagnetization by weathering.**

AU: Nick-Kevin-E; Elmore-R-Douglas

SO: Geological-Society-of-America-Bulletin. 102. (11). p. 1517-1525. YR: 1990

DE: Oklahoma-; stratigraphy-; Pennsylvanian-; Cambrian-; paleomagnetism-; Paleozoic-; isotopes-; sedimentary-rocks; stable-isotopes; oxygen-; O-18/O-16; carbon-; C-13/C-12; Carter-County-Oklahoma; Murray-County-Oklahoma; Collings-Ranch-Conglomerate; Royer-Dolomite; Southwestern-U.S.; United-States; south-central-Oklahoma; Arbuckle-Mountains; Carboniferous-; dolostone-; carbonate-rocks; conglomerate-; clastic-rocks; weathering-; remagnetization-; dedolomitization-; karstification-; chemical-remanent-magnetization; remanent-magnetization; magnetization-; SEM-data; natural-remanent-magnetization; depositional-remanent-magnetization; pole-positions

**TI: The influence of growth mechanism and surface structure on the partitioning of trace elements into minerals; examples from carbonate minerals.**

AU: Reeder-Richard-J

SO: Chemical-Geology. 84. (1-4). p. 305 YR: 1990

DE: crystal-chemistry; carbonates-; calcite-; crystal-growth; partitioning-; diagenesis-; trace-elements; crystal-structure

**TI: Dolomites; reconciling modern sample with the ancient record.**

AU: McKenzie-J-A

OS: ETH Geol. Inst., Zurich, Switzerland; Univ. Aix-Marseille III, Lab. Geosci. Environ., Marseilles, France

SO: Chemical-Geology. 84. (1-4). p. 190-191 YR: 1990

DE: diagenesis-; dolomitization-; sebkha-environment; environment-; dolomite-; carbonates-; dolostone-; carbonate-rocks

**TI: Carbon and oxygen isotopic evidence for iron-formation depositional conditions; Gunflint Formation, Thunder Bay region, Ontario, Canada.**

AU: Carrigan-W-J; Cameron-E-M

SO: Abstracts-with-Programs-Geological-Society-of-America. 21. (6). p. 24 YR: 1989

DE: Ontario-; stratigraphy-; Proterozoic-; Eastern-Canada; Canada-; upper-Precambrian; Precambrian-; isotopes-; carbon-; C-13/C-12; stable-isotopes; oxygen-; O-18/O-16; iron-formations; chemically-precipitated-rocks; deposition-; Gunflint-Formation; Thunder-Bay; limestone-; carbonate-rocks; dolostone-; siderite-; carbonates-; black-shale; clastic-rocks; chert-; precipitation-; organic-materials; iron-; metals-

**TI: Evolution of mississippi valley-type (MVT) brines in Lower Ordovician carbonate rocks of the Appalachian Orogen.**

AU: Kesler-Stephen-E

SO: Abstracts-with-Programs-Geological-Society-of-America. 21. (6). p. 8 YR: 1989

DE: Appalachians-; economic-geology; base-metals; North-America; evolution-; mississippi-valley-type; metal-ores; Lower-Ordovician; Ordovician-; carbonate-rocks; Appalachian-Phase; sphalerite-; sulfides-; dolomite-; carbonates-; fluorite-; fluorides-; halides-; barite-; sulfates-; paragenesis-; isotopes-; strontium-; alkaline-earth-metals; metals-; Sr-87/Sr-86; stable-isotopes; brines-; fluid-inclusions; inclusions-; East-Tennessee-Field; solubility-; Tennessee-; Southern-U.S.; United-States; Pennsylvania-; Eastern-U.S.; Newfoundland-; Eastern-Canada; Canada-; ore-forming-fluids; mineral-deposits-; genesis

**TI: Dolomitization of Lower Cambrian carbonate platform during deep burial, Virginia Appalachians, USA.**

AU: Barnaby-R-J; Read-J-F

SO: International-Geological-Congress.-Abstracts-Congres-Geologique-Internationale.-Resumes. 28. (1). p. 89-90. YR: 1989



DE: Virginia-; sedimentary-petrology; diagenesis-; Appalachians-; Shady-Dolomite; Southeastern-U.S.; Eastern-U.S.; United-States; North-America; stratigraphy-; Cambrian-; Lower-Cambrian; dolomitization-; carbonate-platforms; cathodoluminescence-; brecciation-; C-13/C-12; isotopes-; stable-isotopes; carbon-; O-18/O-16; oxygen-; strontium-; alkaline-earth-metals; metals-; Sr-87/Sr-86; iron-; manganese-; marine-environment; environment-; cement-; solution-; fluid-inclusions; inclusions-

**TI: The carbon- and oxygen-isotope record of the Precambrian-Cambrian boundary interval in China and Iran and their correlation.**

AU: Brasier-Martin-D; Magaritz-Mordeckai; Corfield-Richard; Luo-Huilin; Wu-Xiche; Ouyang-Lin; Jiang-Zhiwen; Hamdi-B; He-Tinggui; Fraser-A-G

SO: Geological-Magazine. 127. (4). p. 319-332. YR: 1990

DE: China-; stratigraphy-; Cambrian-; Iran-; Proterozoic-; carbon-; isotopes-; C-13/C-12; oxygen-; O-18/O-16; invertebrates-; biostratigraphy-; USSR-; ratios-; interpretation-; Far-East; Asia-; Middle-East; Yunnan-; Southwestern-China; Meishucun-; Szechwan-; Maidiping-; Vailiabad-; stratotypes-; upper-Precambrian; Precambrian-; Lower-Cambrian; upper-Proterozoic; correlation-; boundary-; diagenesis-; early-diagenesis; dolostone-; carbonate-rocks; phosphate-rocks; chemically-precipitated-rocks; trilobites-; stable-isotopes; Morocco-; North-Africa; Africa-; Tommotian-; India-; Indian-Peninsula; Siberia-; mollusks-; Russian-Republic

**TI: Experimental study bearing on the absence of carbonate in mantle-derived xenoliths.**

AU: Canil-Dante

SO: Geology-(Boulder). 18. (10). p. 1011-1013. YR: 1990

DE: magmas-; geochemistry-; dissociation-; processes-; mantle-; composition-; mineral-composition; inclusions-; xenoliths-; kimberlite-; phase-equilibria; experimental-studies; CaO-MgO-SiO<sub>2</sub>-CO<sub>2</sub>; P-T-conditions; high-pressure; peridotites-; ultramafics-; carbon-dioxide; synthesis-; decompression-; decarbonation-; carbon-

**TI: Dinantian dolomites from East Fife; hydrothermal overprinting of early mixing-zone stable isotopic and Fe/Mn compositions.**

AU: Searl-A; Fallick-A-E

SO: Journal-of-the-Geological-Society-of-London. 147. (4). p. 623-638. YR: 1990

DE: Scotland-; sedimentary-petrology; sedimentary-rocks; carbonate-rocks; geochemistry-; isotopes-; oxygen-; O-18/O-16; carbon-; C-13/C-12; diagenesis-; dolomitization-; Great-Britain; United-Kingdom; Western-Europe; Europe-; Dinantian-; Carboniferous-; limestone-; dolomite-; carbonates-; mixing-; stable-isotopes; iron-; metals-; manganese-; Saint-Monans-Syncline; Fife-; SEM-data; cement-; petrography-; thin-sections; Mid-Kinniny-Limestone; Charlestown-Main-Limestone; Saint-Monans-Little-Limestone; Pathhead-Fault; major-elements; calcite-; siderite-; Saint-Monans-Brecciated-Limestone; Saint-Monans-White-Limestone

**TI: Intracrystalline carbon and oxygen isotope variations in calcite revealed by laser microsampling.**

AU: Dickson-J-A-D; Smalley-P-C; Raheim-A; Stijfhoorn-D-E

SO: Geology-(Boulder). 18. (9). p. 809-811. YR: 1990

DE: minerals-; carbonates-; calcite-; crystal-growth; spectroscopy-; laser-methods; techniques-; chemical-analysis; methods-; carbon-; isotopes-; C-13/C-12; oxygen-; O-18/O-16; Wales-; Great-Britain; United-Kingdom; Western-Europe; Europe-; South-Wales; Abercrombie-; Carboniferous-; limestone-; carbonate-rocks; vugs-; sample-preparation; stable-isotopes; zoning-; chemical-composition; precipitation-

**TI: Glaciation and saline-freshwater mixing as a possible cause of cave formation in the eastern Midcontinent region of the United States; a conceptual model.**

AU: Panno-Samuel-V; Bourcier-William-L

SO: Geology-(Boulder). 18. (8). p. 769-772. YR: 1990

DE: Illinois-; geomorphology-; solution-features; Michigan-; Appalachians-; caves-; glacial-geology; glaciation-; diagenesis-; effects-; karstification-; Midwest-; United-States; Illinois-Basin; Michigan-Basin; North-America; Appalachian-Basin; Midcontinent-; genesis-; theoretical-models; models-; karst-; salt-water; discharge-; fresh-water; ice-movement; aquifers-; limestone-; carbonate-rocks; ground-water; consolidation-; recharge-; mixing-; hydrochemistry-

**TI: Channelized fluid flow through shear zones during fluid-enhanced dynamic recrystallization, Northern Apennines, Italy.**

AU: Carter-Karen-E; Dworkin-Stephen-I

SO: Geology-(Boulder). 18. (8). p. 720-723. YR: 1990

DE: Italy-; structural-geology; deformation-; Apennines-; crystal-growth; carbonates-; calcite-; structural-analysis; preferred-orientation; faults-; effects-; shear-zones; field-studies; recrystallization-; isotopes-; sedimentary-rocks; limestone-; strontium-; Sr-87/Sr-86; oxygen-; O-18/O-16; geochemistry-; trace-elements; Southern-Europe; Europe-; Northern-Apennines; Liguria-; Triassic-; Portoro-Limestone; nappes-; fluid-phase; stable-isotopes; alkaline-earth-metals; metals-; low-grade-metamorphism; metamorphism-; carbonate-rocks

**TI: Geochemical and isotopic constraints on the diagenetic history of a massive stratal, Late Cambrian (Royer) dolomite, Lower Arbuckle Group, Slick Hills, SW Oklahoma, USA.**

AU: Gao-Guoqiu

SO: Geochimica-et-Cosmochimica-Acta. 54. (7). p. 1979-1989. YR: 1990

DE: Oklahoma-; geochemistry-; trace-elements; diagenesis-; isotopes-; sedimentary-rocks; ratios-; carbonate-rocks; dolostone-; oxygen-; O-18/O-16; strontium-; Sr-87/Sr-86; carbon-; C-13/C-12; Slick-Hills; Southwestern-U.S.; United-States; southwestern-Oklahoma; Arbuckle-Group; Royer-Dolomite; Upper-Cambrian; Cambrian-; stable-isotopes; alkaline-earth-metals; metals-

**TI: Geochemical sampling and analysis.**

AU: Jones-D-G; Webb-P-C

**TI: Diagenesis of carbonate cements in Permo-Triassic sandstones from the Iberian Range, Spain; evidence from chemical and stable isotopes.**

AU: Morad-S; Al-Aasm-Ihsan-Shakir; Ramseyer-Karl; Marfil-R; Aldahan-A-A

SO: Sedimentary-Geology. 67. (3-4). p. 281-295. YR: 1990

DE: Spain-; stratigraphy-; Permian-; Triassic-; isotopes-; diagenesis-; cementation-; oxygen-; O-18/O-16; carbon-; C-13/C-12; sedimentary-rocks; clastic-rocks; sandstone-; Iberian-Peninsula; Southern-Europe; Europe-; Iberian-Mountains; cement-; carbonates-; stable-isotopes; dolomite-; calcite-; Guadalajara-Province; petrography-; geochemistry-

**TI: Precipitation of dissolved carbonate species from natural water for delta (13)C analysis; a critical appraisal.**

AU: Bishop-Philip-K

SO: Chemical-Geology-Isotope-Geoscience-Section. 80. (3). p. 251-259. YR: 1990

DE: chemical-analysis; techniques-; sample-preparation; carbon-; isotopes-; C-13/C-12; geochemistry-; processes-; precipitation-; stable-isotopes; natural-materials; water-; fractionation-; analysis-; experimental-studies; carbonates-

**TI: Sedimentology and geochemistry of a regional dolostone; correlation of trace elements with dolomite fabric and texture.**

AU: Shukla-Vijai



SO: Abstracts – Society – of – Economic – Paleontologists – and – Mineralogists, -Annual-Midyear-Meeting. 1986 (Vol. 3). p. 102 YR: 1986

DE: North-Dakota; geochemistry; trace-elements; Interlake-Formation; Williston-Basin; Midwest; United-States; diagenesis; Silurian; dolomitization; dolostone; carbonate-rocks; textures-

**TI: A multicomponent carbonate-silicate model of the sedimentation process in the Precambrian oceans.**

AU: Mel'-nichuk-V-I

SO: Oceanology. 29. (2). p. 203-207. YR: 1989

DE: Precambrian; stratigraphy; paleo-oceanography; sedimentation; processes; marine-sedimentation; theoretical-studies; mathematical-models; models; silicates; carbonates; carbon-dioxide

**TI: Successive pore fluid generations in a Lower Permian brine aquifer, Palo Duro Basin, Texas Panhandle, U.S.A.**

AU: Fisher-R-Stephen; Posey-Harry-H; Kyle-J-Richard

SO: Applied-Geochemistry. 4. (5). p. 455-464. YR: 1989

DE: carbon; isotopes; C-13/C-12; oxygen; O-18/O-16; strontium; Sr-87/Sr-86; water; ratios; Texas; geochemistry; sedimentary-rocks; carbonate-rocks; pore-water; Lower-Permian; Permian; brines; Palo-Duro-Basin; Southwestern-U.S.; United-States; Panhandle; alkaline-earth-metals; metals; stable-isotopes

**TI: Microlithon alteration associated with development of solution cleavage in argillaceous limestone; textural, trace-elemental and stable-isotopic observations.**

AU: Bhagat-Snehal-S; Marshak-Stephen

SO: Journal-of-Structural-Geology. 12. (2). p. 165-175. YR: 1990

DE: structural-analysis; interpretation; cleavage; oxygen; isotopes; O-18/O-16; New-York; structural-geology; carbon; C-13/C-12; sedimentary-rocks; limestone; strontium; geochemistry; manganese; Greene-County-New-York; Albany-County-New-York; Ulster-County-New-York; Kalkberg-Limestone; Coeymans-Formation; Manlius-Formation; Eastern-U.S.; United-States; eastern-New-York; carbonate-rocks; Hudson-River-valley; Catskill-New-York; Albany-New-York; Kingston-New-York; recrystallization; petrofabrics; calcite; carbonates; slip-cleavage; foliation; microlithons; trace-elements; statistical-analysis; metals; Lower-Devonian; Devonian; alkaline-earth-metals; stable-isotopes

**TI: Stable isotopic systematics of the Bushveld Complex II, Constraints on hydrothermal processes in layered intrusions.**

AU: Schiffries-Craig-M; Rye-Danny-M

SO: American-Journal-of-Science. 290. (3). p. 209-245. YR: 1990

DE: South-Africa; geochemistry; isotopes; intrusions; layered-intrusions; contact-metamorphism; metasomatism; processes; hydrothermal-alteration; hydrogen; D/H; carbon; C-13/C-12; oxygen; O-18/O-16; mineral-deposits; genesis; metal-ores; hydrothermal-processes; analysis; stable-isotopes; Southern-Africa; Africa; Transvaal; Bushveld-Complex; aureoles; metamorphism; hydrothermal-conditions; deuterium; mineral-deposits; genesis; veins; carbonate-rocks; igneous-rocks; ore-forming-fluids

**TI: Geochemistry and sedimentology of a facies transition from limestone to iron-formation deposition in the early Proterozoic Transvaal Supergroup, South Africa.**

AU: Klein-Cornelis; Beukes-Nicolas-J

SO: Economic – Geology – and – the – Bulletin – of – the – Society – of – Economic-Geologists. 84. (7). p. 1733-1774. YR: 1989

DE: South-Africa; economic-geology; iron-ores; mineral-deposits; genesis; hydrothermal-processes; sedimentary-petrology; sedimentary-rocks; chemically-precipitated-rocks; iron-formations; Southern-Africa; Africa; Transvaal-Supergroup; reconstruction; deposition; limestone; carbonate-rocks; dolostone; shale; clastic-rocks; precipitation; regression; models; Kaapvaal-Craton; organic-carbon; organic-materials; transgression; rare-earths; metals; East-Pacific-Rise; Atlantic-Ocean; mixing; ore-forming-fluids; mineral-

deposits; genesis; metal-ores; Kuruman-Iron-Formation; outcrops; weathering; alteration; Danielskuil; Kuruman; Pomfret-Mine; asbestos-deposits; boreholes-

**TI: Petrographic and geochemical evidence for origin of paleospeleothems, New Mexico; implications for the application of fluid inclusions to studies of diagenesis.**

AU: Goldstein-Robert-H

SO: Journal-of-Sedimentary-Petrology. 60. (2). p. 282-292. YR: 1990

DE: New-Mexico; stratigraphy; Mississippian; isotopes; sedimentary-rocks; ratios; carbon; C-13/C-12; oxygen; O-18/O-16; fluid-inclusions; geologic-thermometry; interpretation; geochemistry; trace-elements; diagenesis; processes; carbonate-rocks; limestone; Lake-Valley-Formation; Southwestern-U.S.; United-States; Carboniferous; solution-features; paleokarst; speleothems; calcite; carbonates; stable-isotopes; inclusions; paleosalinity-

**TI: (13)C and (18)O compositions of carbonates from a cyclic carbonate-evaporite rock sequence; evidences for meteoric water input.**

AU: Sheu-Der-Duen

SO: Chemical-Geology. 81. (1-2). p. 157-162. YR: 1990

DE: Texas; geochemistry; isotopes; sedimentary-rocks; carbonate-rocks; sedimentation; environment; nearshore-environment; carbon; C-13/C-12; oxygen; O-18/O-16; McKnight-Formation; Cretaceous; Albian; Lower-Cretaceous; southern-Texas; evaporites; chemically-precipitated-rocks; cyclic-processes; stable-isotopes; paleogeography; geochemical-indicators; marine-environment; fresh-water-environment; meteoric-water; subtidal-environment; intertidal-environment; rhythmic-bedding; planar-bedding-structures; sedimentary-structures; Southwestern-U.S.; United-States

**TI: Comparative study of the kinetics and mechanisms of dissolution of carbonate minerals.**

AU: Chou-Lei; Garrels-Robert-M; Wollast-Roland

SO: Chemical-Geology. 78. (3-4). p. 269-282. YR: 1989

DE: geochemistry; processes; solution; calcite; carbonates; aragonite; magnesite; dolomite; experimental-studies; kinetics; pH; thermodynamic-properties; stoichiometry-

**TI: Petrography, trace elements and oxygen and carbon isotopes of Gordon Group carbonates (Ordovician), Florentine Valley, Tasmania, Australia.**

AU: Rao-C-Prasada

SO: Sedimentary-Geology. 66. (1-2). p. 83-97. YR: 1990

DE: Tasmania; geochemistry; trace-elements; sedimentary-rocks; carbonate-rocks; stratigraphy; Ordovician; diagenesis; isotopes; oxygen; O-18/O-16; carbon; C-13/C-12; Australia; Australasia; Florentine-Valley; Gordon-Limestone; petrography; stable-isotopes; Arenigian; Lower-Ordovician; Ashgillian; Upper-Ordovician; strontium; alkaline-earth-metals; metals; sodium; alkali-metals; manganese; iron; magnesium; dolostone; glacial-environment; environment; Benjamin-Limestone; materials; intertidal-environment; supratidal-environment; subtidal-environment; Cashions-Creek-Limestone

**TI: Did major changes in the stable-isotope composition of Proterozoic seawater occur?.**

AU: Burdett-J-W; Grotzinger-John-P; Arthur-M-A

SO: Geology-(Boulder). 18. (3). p. 227-230. YR: 1990

DE: Northwest-Territories; geochemistry; isotopes; Canadian-Shield; Proterozoic; stratigraphy; paleo-oceanography; oxygen; O-18/O-16; carbon; C-13/C-12; sedimentary-rocks; carbonate-rocks; diagenesis; Canada; North-America; Rockwest-Formation; upper-Precambrian; Precambrian; lower-Proterozoic; stable-isotopes; early-diagenesis; dolomitization; cementation; oolite; marine-environment; environment-



**TI: Origin of late Precambrian intrusive carbonates, Eastern Desert of Egypt and Sudan; C, O and Sr isotopic evidence.**

AU: Stern-Robert-J; Gwinn-Cynthia-J

SO: Precambrian-Research. 46. (3). p. 259-272. YR: 1990

DE: Egypt-; geochemistry-; sedimentary-rocks; carbonate-rocks; isotopes-; carbon-; C-13/C-12; oxygen-; O-18/O-16; strontium-; Sr-87/Sr-86; North-Africa; Africa-; Sudan-; East-Africa; genesis-; upper-Precambrian; Precambrian-; intrusions-; Eastern-Desert; stable-isotopes; alkaline-earth-metals; metals-; basement-; whole-rock; Pan-African-Orogeny; mixing-; evolution-; continental-margin; melange-; X-ray-data

**TI: Geochemistry of drift over the Precambrian Grenville Province, southeastern Ontario and southwestern Quebec.**

AU: Kettles-I-M; Shilts-W-W

SO: Paper-Geological-Survey-of-Canada. p. 97-112.

YR: 1989

DE: Ontario-; geochemistry-; drift-; Quebec-; glacial-geology; glaciation-; glacial-transport; Eastern-Canada; Canada-; clastic-sediments; Precambrian-; Grenville-Province; southeastern-Ontario; southwestern-Quebec; till-; Frontenac-Arch; overburden-; acid-rain; mineral-exploration; trace-elements; minor-elements; weathering-; lithofacies-; copper-; metals-; chromium-; Ottawa-Valley; Gatineau-Valley; clay-; bedrock-; marbles-; outcrops-; glaciomarine-environment; environment-; boulder-trains; glacial-features; distribution-; zinc-; arsenic-; calcium-carbonate; histograms-; statistical-analysis

**TI: Changes in marine isotopic composition and the Late Ordovician glaciation.**

AU: Marshall-James-D; Middleton-Paul-D

SO: Journal-of-the-Geological-Society-of-London. 147. (1). p. 1-4. YR: 1990

DE: Sweden-; stratigraphy-; Ordovician-; isotopes-; sedimentary-rocks; ratios-; carbonate-rocks; coquina-; carbon-; C-13/C-12; oxygen-; O-18/O-16; geochemistry-; trace-elements; brachiopods-; biostratigraphy-; glacial-geology; ancient-ice-ages; paleoclimatology-; Scandinavia-; Western-Europe; Europe-; stable-isotopes; limestone-; Upper-Ordovician; Siljan-; central-Sweden; paleo-oceanography; Kullberg-Limestone; Boda-Limestone; Dalarna-; Hindella-; cathodoluminescence-

**TI: Carbon isotopic ratios of Silurian marine carbonates in the Michigan Basin; a record of organic productivity?.**

AU: Cercone-K-R; Lohmann-K-C

SO: Abstracts-Society-of-Economic-Paleontologists-and-Mineralogists,-Annual-Midyear-Meeting. 3. p. 20 YR: 1986

DE: Michigan-; geochemistry-; carbon-; Michigan-Basin; North-America; isotopes-; Silurian-; carbonate-rocks; marine-environment; environment-; ratios-; brachiopods-; cementation-; diagenesis-; C-13/C-12; stable-isotopes; anaerobic-environment; bacteria-; fermentation-; organic-materials; Midwest-; United-States; oxidation-; shelf-environment

**TI: Gradients in carbonate mineralogy, Biscayne Bay, SE Florida; a reassessment of XRD analysis.**

AU: Burton-Elizabeth-A

SO: Abstracts-Society-of-Economic-Paleontologists-and-Mineralogists,-Annual-Midyear-Meeting. 3. p. 16-17 YR: 1986

DE: Florida-; sedimentary-petrology; sediments-; Dade-County-Florida; Southeastern-U.S.; Eastern-U.S.; United-States; Biscayne-Bay; carbonate-sediments; fresh-water-environment; environment-; magnesium-; alkaline-earth-metals; metals-; calcite-; carbonates-; aragonite-; X-ray-data; ratios-; solution-; Atlantic-Coastal-Plain; North-America

**TI: Sedimentary cycling and the Phanerozoic carbonate mass distribution.**

AU: Mackenzie-Fred-T

SO: Abstracts - of - Papers - American -Chemical-Society,-National-Meeting. 198. p. GEOC 15 YR: 1989

DE: sedimentary-rocks; carbonate-rocks; geochemistry-; geochemical-cycle; carbon-; Triassic-; Phanerozoic-; uniformitarianism-; Devonian-; rates-; calcite-; carbonates-; dolomite-; ratios-; Cambrian-; Permian-; Quaternary-; Ordovician-; Carboniferous-; Silurian-; Jurassic-; Cretaceous-; Cenozoic-; oxygen-; concepts-

**TI: Global Phanerozoic geochemical cycle of carbon.**

AU: Ronov-Alex-B

OS: Vernadsky Inst., Moscow, USSR

SO: Abstracts-of-Papers-American-Chemical-Society,-National-Meeting. 198. p. GEOC 13 YR: 1989

DE: geochemistry-; geochemical-cycle; carbon-; organic-carbon; organic-materials; carbonate-ion; oxygen-; sedimentary-rocks; carbon-dioxide; Phanerozoic-; paleoatmosphere-; evolution-; atmosphere-; volcanism-

**TI: Carbon isotope fractionation between dissolved carbonate (CO<sub>3</sub><sup>2-</sup>) and CO<sub>2</sub>(g) at 25 degrees and 40 degrees C.**

AU: Lesniak-P-M; Sakai-H

SO: Earth-and-Planetary-Science-Letters. 95. (3-4). p. 297-301. YR: 1989

DE: carbon-; isotopes-; C-13/C-12; stable-isotopes; fractionation-; carbon-dioxide; carbonate-ion; dissolved-materials; experimental-studies; open-systems; pH-

**TI: Geochemistry of some Ordovician and Devonian trilobite cuticles from North America.**

AU: McAllister-John-E; Brand-Uwe

SO: Chemical-Geology. 78. (1). p. 51-63. YR: 1989

DE: Ontario-; paleontology-; Trilobita-; New-York; trilobites-; biochemistry-; Ordovician-; isotopes-; cuticles-; diagenesis-; geochemistry-; trace-elements; carbon-; C-13/C-12; oxygen-; O-18/O-16; sedimentary-rocks; Erie-County-New-York; Livingston-County-New-York; Ludlowville-Formation; Moscow-Formation; Eastern-Canada; Canada-; Great-Lakes-region; North-America; Eastern-U.S.; United-States; west-central-New-York; Onondaga-Limestone; Whitby-Formation; Cobourg-Formation; Verulam-Formation; southern-Ontario; Devonian-; minor-elements; Phacops-rana; Isoletus-gigas; calcite-; carbonates-; stable-isotopes; limestone-; carbonate-rocks; shale-; clastic-rocks

**TI: Late Proterozoic glacial carbonates in Northeast Spitsbergen; new insights into the carbonate-tillite association.**

AU: Fairchild-I-J; Hambrey-Michael-J; Spiro-B; Jefferson-T-H

SO: Geological-Magazine. 126. (5). p. 469-490. YR: 1989

DE: Spitsbergen-; stratigraphy-; Proterozoic-; sedimentary-rocks; lithofacies-; isotopes-; carbonate-rocks; oxygen-; O-18/O-16; carbon-; C-13/C-12; sedimentation-; environment-; interpretation-; Svalbard-; Arctic-region; upper-Precambrian; Precambrian-; upper-Proterozoic; Petrovreen-Member; Eldobreen-Formation; stable-isotopes; glacial-environment; cathodoluminescence-; Wilsonbreen-Formation; glaciolacustrine-environment; paleoenvironment-; environmental-analysis; tillite-; clastic-rocks; petrography-

**TI: Application of geochemistry to the stratigraphic correlation of Appin and Argyll Group carbonate rocks from the Dalradian of northeast Scotland.**

AU: Thomas-C-W

SO: Journal-of-the-Geological-Society-of-London. 146. (4). p. 631-647. YR: 1989

DE: Scotland-; geochemistry-; trace-elements; stratigraphy-; Cambrian-; Precambrian-; metamorphic-rocks; metasedimentary-rocks; Great-Britain; United-Kingdom; Western-Europe; Europe-; Dalradian-; Appin-Group; Argyll-Group; carbonate-rocks; northeastern-Scotland



**TI: Trace element and isotope geochemistry of zoned calcite cements, Lake Valley Formation (Mississippian, New Mexico); insights from water-rock interaction modelling.**

AU: Meyers-William-J

SO: *Sedimentary-Geology*. 65. (3-4). p. 355-370. YR: 1989

DE: New-Mexico; geochemistry-; trace-elements; diagenesis-; cementation-; calcite-; oxygen-; isotopes-; O-18/O-16; carbon-; C-13/C-12; minerals-; ratios-; Lake-Valley-Formation; Southwestern-U.S.; United-States; carbonates-; cement-; stable-isotopes; crystal-zoning; Mississippian-; Carboniferous-; rock-water-interface; models-; cathodoluminescence-

**TI: Determination of both chemical and stable isotope composition in milligramme-size carbonate samples.**

AU: Coleman-Max-L; Walsh-J-Nick; Benmore-Richard-A

SO: *Sedimentary-Geology*. 65. (3-4). p. 233-238. YR: 1989

DE: minerals-; carbonates-; chemical-composition; oxygen-; isotopes-; O-18/O-16; carbon-; C-13/C-12; ratios-; stable-isotopes; experimental-studies; inductively-coupled-plasma-methods

**TI: High-resolution scanning proton microprobe studies of micron-scale trace element zoning in a secondary dolomite; implications for studies of redox behaviour in dolomites.**

AU: Fraser-Donald-G; Feltham-David; Whiteman-Mark

SO: *Sedimentary-Geology*. 65. (3-4). p. 223-232. YR: 1989

DE: Italy-; geochemistry-; trace-elements; crystal-growth; carbonates-; dolomite-; minerals-; diagenesis-; cementation-; Southern-Europe; Europe-; Eh-; crystal-zoning; cement-; electron-probe-data; cathodoluminescence-; X-ray-data; Gargano-Peninsula

**TI: The laser microprobe and its application to the study of C and O isotopes in calcite and aragonite.**

AU: Smalley-P-C; Stijfhoorn-D-E; Raheim-A; Johansen-H; Dickson-J-A-D

SO: *Sedimentary-Geology*. 65. (3-4). p. 211-221. YR: 1989

DE: oxygen-; isotopes-; O-18/O-16; carbon-; C-13/C-12; diagenesis-; cementation-; calcite-; minerals-; ratios-; carbonates-; crystal-growth; analysis-; laser-methods; stable-isotopes; aragonite-; cement-; crystal-zoning

**TI: Neomorphism and cementation in ancient deep-water limestones, Cow Head Group (Cambro-Ordovician), western Newfoundland, Canada.**

AU: Coniglio-M

SO: *Sedimentary-Geology*. 65. (1-2). p. 15-33. YR: 1989

DE: Newfoundland-; geochemistry-; trace-elements; diagenesis-; cementation-; limestone-; sedimentary-rocks; carbonate-rocks; carbon-; isotopes-; C-13/C-12; oxygen-; O-18/O-16; Eastern-Canada; Canada-; sedimentary-petrology; deep-sea-environment; environment-; Cow-Head-Group; Cambrian-; Ordovician-; western-Newfoundland; stable-isotopes; cathodoluminescence-; recrystallization-; calcite-; carbonates-; crystal-zoning; Humber-Arm-Allochthon; petrography-; SEM-data

**TI: Active dissolution in modern shallow marine carbonate sediments; global implications?.**

AU: Walter-Lynn-M; Burton-Elizabeth-A

SO: *Abstracts-with-Programs-Geological-Society-of-America*. 19. (7). p. 880 YR: 1987

DE: Florida-; oceanography-; sediments-; solution-; shallow-water-environment; environment-; marine-environment; carbonate-sediments; global-; pore-water; geochemistry-; Florida-Keys; Southeastern-U.S.; Eastern-U.S.; United-States; aragonite-; carbonates-; calcite-; cores-; carbonate-platforms; organic-materials; geochemical-cycle

**TI: Th/U dating of open carbonate systems.**

AU: Hillaire-Marcel-C; Causse-C; Carro-O; Casanova-J; Ghaleb-B; Goetz-C

SO: *Chemical-Geology*. 70. (1-2). p. 127 YR: 1988

DE: absolute-age; dates-; carbonate-rocks; sedimentary-rocks; age-; caliche-; travertine-; stromatolites-; biogenic-structures; algae-; Th/U-; calcite-; carbonates-

**TI: The use of the Th-230 and Ba as indicators of palaeoproductivity over a 300 kyr time scale; evidence from the NW Arabian Sea.**

AU: Shimmield-Graham-B; Price-N-B; Khan-A-A

SO: *Chemical-Geology*. 70. (1-2). p. 112 YR: 1988

DE: Arabian-Sea; stratigraphy-; Quaternary-; thorium-; isotopes-; Th-230; barium-; geochemistry-; sediments-; northwestern-Arabian-Sea; actinides-; metals-; radioactive-isotopes; alkaline-earth-metals; Owen-Ridge; calcium-carbonate; paleoproductivity-; Indian-Ocean; paleo-oceanography

**TI: Chemical and mineralogical effects of acid deposition on Shelburne Marble and Salem Limestone test samples placed at four NAPAP weather-monitoring sites.**

AU: Ross-Malcolm; McGee-Elaine-S; Ross-Daphne-R

SO: *American-Mineralogist*. 74. (3-4). p. 367-383. YR: 1989

AB: Marble and limestone briquettes were placed at National Acid Precipitation Assessment Program (NAPAP) test sites in North Carolina, Washington, D.C., New Jersey, and New York to determine mineralogical changes that might be attributed to acid deposition. Samples have been examined after exposures of 1 and 2 yr, and the most significant change is the development of a gypsum-rich "spot" on the sheltered side of the briquettes. X-ray and SEM analyses reveal that gypsum plus calcite is present within the "spot" area, but outside this area and on the upper surface of the briquettes, only calcite is detected. A model, based on the sequence of salts observed to crystallize from a progressively more concentrated solution, is presented to explain the presence of the "spot" on the undersides of the briquettes. In the models, the CaCO<sub>3</sub>-saturated solutions filling the pore space in the stone continuously precipitate calcite during the drying period after the rain event; gypsum is precipitated only after evaporation is nearly complete. As evaporation proceeds, the solution migrates by gravity to the lower surface of the briquette and the last residual liquid precipitates gypsum and produces the gypsum-rich "spot". It is proposed that the most significant stone damage is due to salt build up on and within the stone rather than due to stone removal through dissolution.--Modified journal abstract.

DE: construction-materials; geochemistry-; weathering-; chemical-weathering; building-stone; rock-mechanics; materials-; properties-; pollution-; effects-; atmosphere-; acid-rain; hydrology-; atmospheric-precipitation; Salem-Limestone; Shelburne-Marble; NAPAP-; Natl.-Acid-Precipitation-Assess.-Program; marbles-; limestone-; carbonate-rocks; limestone-deposits; marble-deposits; field-studies; sulfuric-acid; nitric-acid; SEM-data; salt-; evaporites-; chemically-precipitated-rocks; gypsum-; sulfates-; calcite-; carbonates-

**TI: Stable isotopic (S,C,O) study of the Abbeytown Zn+Pb+Ag mine, Co. Sligo, Ireland.**

AU: Hitzman-Murray-V; Recio-C; Caulfield-J-B-D; Boyce-A-J; Fallick-Anthony-E

SO: *Abstracts-with-Programs-Geological-Society-of-America*. 20. (7). p. 38 YR: 1988

DE: Ireland-; economic-geology; silver-ores; lead-zinc-deposits; Western-Europe; Europe-; metal-ores; pyrite-; sulfides-; precious-metals; geochemistry-; isotopes-; stable-isotopes; oxygen-; carbon-; sulfur-; Abbeytown-Mine; Mississippian-; Carboniferous-; carbonate-rocks; dolomitization-; dedolomitization-; fluid-inclusions; inclusions-; sphalerite-; galena-; breccia-; clastic-rocks; S-34/S-32; C-13/C-12; O-18/O-16; Sligo-

**TI: Discovery of a second Ordovician meteorite using chromite as a tracer.**

AU: Nystrom-Jan-Olav; Lindstrom-Maurits; Wickman-Frans-E

SO: *Nature-(London)*. 336. (6199). p. 572-574. YR: 1988



DE: meteorites-; detection-; stony-meteorites; Sweden-; geochemistry-; diagenesis-; materials-; conodonts-; biostratigraphy-; Ordovician-; fossil-meteorites; chromite-; oxides-; geochemical-indicators; limestone-; carbonate-rocks; Scandinavia-; Western-Europe; Europe-; southern-Sweden; Osterplana-; Kinnekulle-; electron-probe-data; SEM-data; microfossils-; metasomatism-

**TI: Mixing-zone dolomites in the Gully Oolite, Lower Carboniferous, South Wales.**

AU: Searl-A

SO: Journal-of-the-Geological-Society-of-London. 145 (Part 6). p. 891-899. YR: 1988

DE: Wales-; stratigraphy-; Carboniferous-; sedimentary-petrology; sedimentary-rocks; geochemistry-; isotopes-; carbonate-rocks; limestone-; oxygen-; O-18/O-16; carbon-; C-13/C-12; Great-Britain; United-Kingdom; Western-Europe; Europe-; Dinantian-; South-Wales; dolomitic-limestone; petrography-; Gully-Oolite; stable-isotopes

**TI: Stable isotopes in the back reef facies of the Bonnetterre and Davis formations (Cambrian), MO; evidence for a complex diagenetic history.**

AU: Gregg-Jay-M; Shelton-Kevin-L

SO: Abstracts-with-Programs-Geological-Society-of-America. 20. (7). p. 120 YR: 1988

DE: Missouri-; sedimentary-petrology; diagenesis-; Bonnetterre-Formation; Davis-Formation; Midwest; United-States; geochemistry-; isotopes-; Cambrian-; carbon-; oxygen-; limestone-; carbonate-rocks; dolostone-; dolomitization-; mississippi-valley-type; mineralization-; mudstone-; clastic-rocks; O-18/O-16; stable-isotopes; C-13/C-12

**TI: Kristalle als Geothermometer und-barometer.**

AU: Paulitsch-Peter

SO: Zentralblatt für Geologie und Paleontologie. Teil I. H.3.p. 181-344. YR: 1990

LA: German

De: *Jadeite*: Paragensis, crystal structure and color, orientation in rocks and experimental deformation, experiments on jadeite forming, jade as roughmaterial for the art handwork, summary; *Amphibole*: Preferred orientation of hornblendes, experimental hornblende – deformation, anisotropy of amphibolites, crystal structure of the hornblende and facies, aluminium, sodium, calcium, magnesium, iron and titanium in hornblendes, isotopes in hornblendes, epitaxis, biopyriboles, hornblende reactions in nature, experimental forming of amphiboles, technical syntheses, summary; *Chloritoid*: Natural paragensis, with chloritoid, crystal structure and polytyps, orientation von chloritoid in rocks, experimental chloritoid-reactions, literature aut of lands, summary; *Staurolite* Paragensis, crystal structure and epitaxis, orientation, experimental deformation, laboratory experiments on the forming conditions, summary; *Titanite*: Paragensis, age, form, crystal structure, experimental deformation and orientation, titanite-syntheses, titanites in technic, summary; *Corundum*: Paragensis, form and epitaxis, structure, color, orientation, corundum-syntheses with different mineral pairs, technic, rubies, world wide, summary; *Talc*: Paragensis, ore deposits, structure, talc-synthesis, technic, summary; *Phlogopite*: Natural paragensis, crystal chemistry and polytyps, isotopes and trace elements, fluid inclusions, epitaxis, orientation and experiments of deformation, conditions of experimental forming, weathering, technic, summary. (Özcan DORA)

## Özler / Abstracts

**Candan Gökçeoğlu, Hüsnü Aksoy, 1996, Landslide Susceptibility mapping of the slopes in the residual soils of the Mengen region (Turkey) by deterministic stability analyses and image processing techniques: Engineering Geol., 44, 147-161 .**

**Abstracts:** The aim of present study is to prepare a landslide susceptibility map of a region of about 120 km<sup>2</sup>, between Gökcesu and Pazarköy (around Mengen, NW Turkey) at approximately 10 km north of the North Anatolian Fault Zone, where frequent landslides occur. For this purpose, mechanisms of the landslides were studied by two-dimensional stability analyses together with field observations, and the parameters controlling the development of such slides were identified. Field observations indicated that the failures generally developed within the unconsolidated and/or semiconsolidated soil units in forms of rotational, successive shallow landslides within the weathered zone in Mengen, Cukurca and Sazlar formations. Although consisting of residual soils, Capak and Gökdağ formations do not exhibit landslides as the natural slopes formed on these, do not exceed the critical slope angles. Statistical evaluations and distribution of the landslides on the topographical map showed that such parameters as cohesion, angle of internal friction, slope, relative height, orientation of slopes, proximity to drainage pattern, vegetation cover and proximity to major faults were the common features on the landslides. Digital images were obtained to represent all these parameters on gray scale on the SPOT image and on the digital elevation model (DEM) of the area using image processing techniques. Soil mechanics tests were carried out on 36 representative samples collected from different units, and parameters were determined for two-dimensional stability analyses basing on "sensitivity approach" and for the preparation of digital shear strength map. In order to determine the critical slope angles values for the residual soils, a series of sensitivity analyses were realized by using two-dimensional deterministic slope stability analyses techniques for varying values of cohesion, angle of internal friction and slope height along with varying saturation conditions. According to the results of the sensitivity analyses, the Mengen formation was found to be most susceptible unit to landslides, covering about 33.5 % of the region studied in terms of surface area. The distribution of the critical slopes were determined by superimposing the critical slope values from sensitivity analyses on slope map of the study area. On the other hand, iso-cohesion and iso-friction maps were produced by locating the values of cohesion and internal friction angles in a geographic coordinate system such that they coincide with sample locations on the DEM and by further interpolation of the values concerned. The pixel values were evaluated in gray scale from 0 to 255,0 representing the lowest pixel value and 255 representing the highest. Sensitivity analyses on cohesion and angle of internal friction investigate the effects of the parameters only on stability, revealed that cohesion was effective at a rate of 70% by itself, while angle of internal friction alone controlled the stability by a rate of 30%. The iso-cohesion and iso-friction maps previously obtained were digitally combined in these rates and a "shear strength map" was prepared. The geographic setting of the study area is such that northern slopes usually receive dense precipitation. In relation to this fact, about 42% of the landslides are due north. Thus, a slope orientation map was prepared using the DEM, and slo-

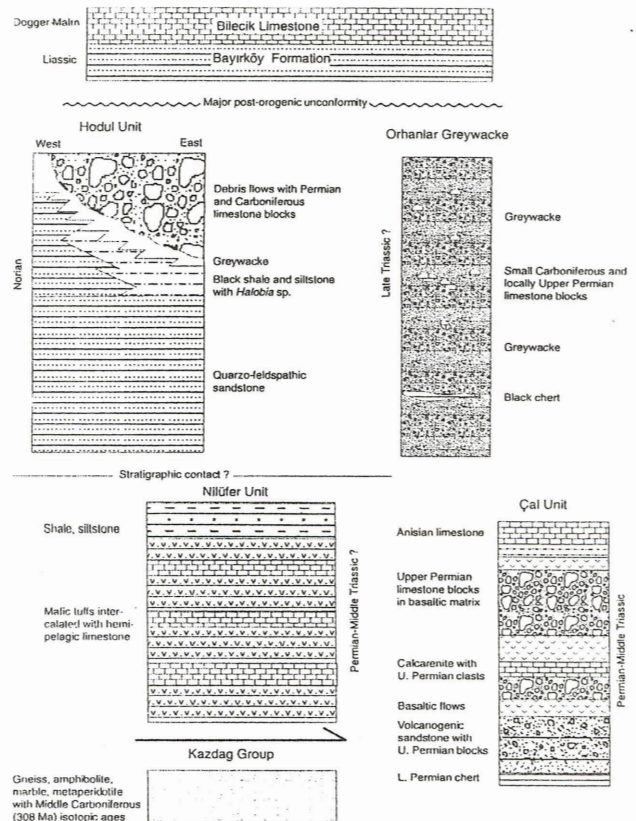


pes facing north were evaluated as being more susceptible to sliding. Proximity to the drainage pattern was another important factor in the evaluation, as streams could adversely affect the stability by either eroding the toe or saturating the slope, or both. When considered together, in conjunction with the field observations, faults and landslides showed a close association. In the area, about 88% of the landslides were detected within an area closer than 250 m to major faults, therefore, a main discontinuity map was produced using the SPOT image of the region, and "proximity to major faults" was evaluated as a parameter as most of the landslides developed in areas where the vegetation was rather sparse. A vegetation cover map was therefore obtained from the SPOT image, and the areas with denser vegetation were considered to be less susceptible to sliding with respect to the areas with less or no vegetation. Having prepared the maps accounting for the distribution of critical slopes, shear strength properties, relative height, slope angle, orientation of the slopes, vegetation cover, proximity to the drainage pattern, geographic corrections were carried on each of these, and a potential failure map was obtained for the residual soils by superimposing all these maps. Next, a classification was performed on the final map and five relative zones of susceptibility were defined. When compared with this map, all of the landslides identified in the field were found to be located in the most susceptible zone. The performance of the method used in processing the images appears to be quite high, the zones determined on the map being the zones of relative susceptibility.

**Ernst JA. Leven, Aral I. Okay, 1996, *Foraminifera from the exotic Permo-Carboniferous limestone blocks in the Karakaya Complex, Northwestern Turkey: Rivista Italiana di Paleontologia e Stratigrafia*, 102, 2, 139-174.**

**Abstract:** Karakaya Complex in northern Turkey is a tectonic assemblage of strongly deformed Permo-Triassic mafic volcanic and clastic rocks, representing subduction-accretion complexes of the Paleo-Tethys. It forms an over 1000 km long discontinuous east-west trending belt and constitutes the basement to the little deformed Jurassic-Cretaceous sequence of the Pontides. In northwest Turkey four tectonic units are differentiated within the Karakaya Complex. A basal metabasite-marble-phyllite sequence, an arkosic sandstone-olistostrome unit, a greywacke unit and a mafic lava-tuff-olistostrome unit. The latter three units comprise numerous exotic blocks of Permo-Carboniferous limestone ranging up to one kilometre in size. Foraminifera from over 180 blocks from these three Karakaya Complex units are studied, many in oriented sections. The rich fusulinid and small foraminifer assemblage in the blocks of the Karakaya Complex with three new fusulinid species, *Triticites* (?) *kozakensis*, *Palaeofusulina* (*Paradunbarula*) *okayi* and *Palaeofusulina* (*Paradunbarula*) *ottomana*, indicate the presence of all the Carboniferous and Permian stages with the exception of Tournaisian, Kasimovian and Bolorian. However, the majority of the limestone blocks (>80%) are of Murgabian to Midian age. Compared to the Upper Paleozoic sequences from the Anatolide-Taurides, the limestone blocks in the Karakaya Complex are characterised by richer fusulinid assemblages, and a more complete synthetic sequence suggesting that they were deposited to the north of the Anatolide-Tauride platform along the southern or northern margin of the Paleo-Tethys. The concentration of the olistostromes along the suture with the Anatolide-Taurides suggests that the limestone

blocks were derived from the southern margin of the Paleo-Tethys. However, fusulinid assemblages of the Karakaya Complex show similarities to those from Urals, northern Pamir and Darvaz, all thought to be located along the northern margin of the Paleo-Tethys, suggesting an opposing view. This could be due to the narrow width of the Permian Paleo-Tethys in the Turkish paleo-longitude, which might have obliterated faunal differences in fusulinid assemblages from both sides of the ocean.



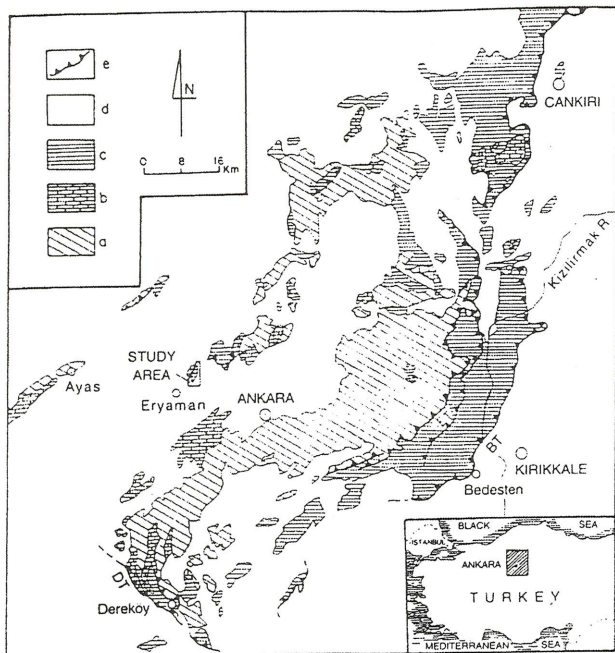
**Figure 2.** Generalized synthetic stratigraphic columns of the Karakaya Complex (The Nilifer, Hodul and Çal units and the Orhanlar Greywacke) and their tectono-stratigraphic position.

**Nikita Yu. Bragin, U. Kağan Tekin, 1996, *Age of radiolarian-chert blocks from the Senonian Ophiolitic Mélange (Ankara, Turkey): The Island Arc*, 5, 114-122.**

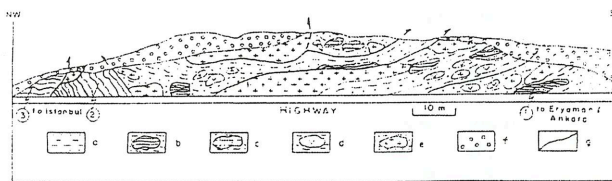
**Abstract:** The Senonian Ophiolitic Mélange of the Mélange Supergroup includes numerous blocks of radiolarian cherts. These blocks contain various radiolarian assemblages from the Albanian to the Turonian (*Pseudodictyomitra pseudomacrocephala*, *Thanarla veneta*), the Lower Cretaceous (*Thanarla conica*, *Alievium helenae*, *Pseudodictyomitra carpatica*), the Kimmeridgian-Tithonian (*Ristola altissima*, *Sethocapsa cetia*, *Podocapsa amphitreptera*) and the Lower Jurassic (*Parahsuum simplum*). Upper Norian radiolarians were obtained from two of these blocks. The assemblage is represented by *Betraccium deweveri* Pessagno and Blome, *Ferresium triquetrum* Carter, *Pylostephanidium ankaraense* n. sp. (Genus *Pylostephanidium* was formerly unknown in the Upper Triassic) and other taxa. Thus, Upper Norian fauna of



Turkey exhibits close similarity to the radiolarian assemblages of western North America, Eastern Russia, Japan and the Philippines. This provides further evidence for the correlation of Mediterranean and Pacific Triassic sequences. These data allow for the conclusion that the sedimentation of radiolarian cherts was common in this part of Tethys during the Late



**Figure 1.** Geological map showing major rock units of the Ankara mélange. (a) Pre-Liassic 'Karakaya Group'. (b) Jurassic-Cretaceous sedimentary sequence. (c) Senonian Ophiolitic Mélange. (d) Tertiary-Recent cover rocks. (e) Thrust to reverse fault. BT: Bedesten Thrust Fault Zone, DT: Derekoş Thrust Fault Zone, ET: Elmadag Thrust Fault Zone (Modified after Koçyiğit 1992).



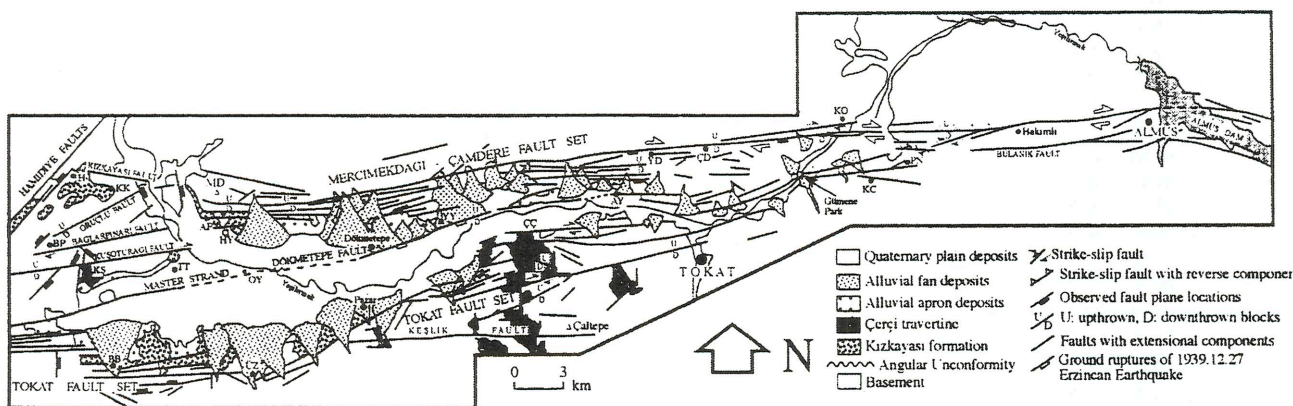
**Figure 2.** Generalized cross-section of a road-cut between Eryaman and İstanbul. (a) Volcaniclastic matrix. (b) Blocks of mudstone and chert with 1, Upper Triassic; 2, Lower Jurassic; 3, Kimmeridgian-Tithonian Radiolaria. (c) Blocks of limestones. (d) Blocks of volcanics. (e) Blocks of serpentinized gabbro. (f) Tertiary-Recent cover rocks. (g) Tectonic contact.

Triassic and the Jurassic.

**Erdin Bozkurt, Ali Koçyiğit, 1996, The Kazova basin: an active negative flower structure on the Almus Fault Zone, a splay fault system of the North Anatolian Fault Zone, Turkey: Tectonophysics, 265, 239-254.**

**Abstract:** The Kazova basin is located within the Almus Fault Zone (AFZ), a splay fault system of the North Anatolian Fault Zone, in the central Pontides, Turkey. It is a 0.7-10-km-wide, 60-km-long, wedge-shaped right-lateral strike-slip depression bounded by the Mercimekdağı-Çamdere fault set in the north and the Tokat fault set in the south. The Kazova basin is superimposed on pre-Pliocene basement rocks while its basin fill comprises the Pliocene to lower Quaternary Kızkayası and Çerçi formations, and Quaternary alluvials.

The Mercimekdağı-Çamdere and Tokat fault sets of the AFZ, the basin-margin faults of the Kazova basin have a considerable amount of normal separation, and show a divergent character. Here, the Kazova basin is interpreted as an active negative flower structure, where the combination of normal movement (extension) along the different segments of the AFZ, and the oblique extension between its branching splays resulted from a natural response to the anticlockwise rotation along the AFZ are suggested basin-forming mechanism. This kind of basin is first reported from Turkey although different types of strike-slip basins, such as fault-wedge, pull-aparts, composite



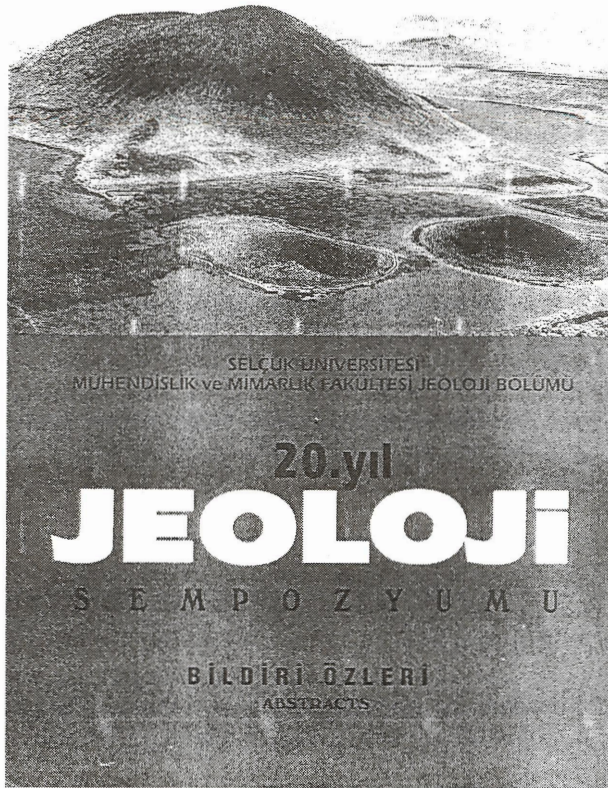
**Figure 3.** Neotectonic map of the Almus Fault zone. AK= Ahurköy; AP= Arzıpınarı; AY= Akyamaç; BB= Bahçebaşı; BP= Bağlarpınarı; ÇÇ= Çerçi; ÇD= Çamdere; GP= Gülpınarı; H= Hamidiye; HY=Hamayeri; İH= İlephamamı; KC= Korucak; KK= Kızkayası; KO= Kızılköy; KS= Kuşoturağı; MD= Mercimekdağı; OY= Oveyurt; PN= Pınarlı; SN= Sargun; TT= Tattıcak; OZ= Üzümlören; YD= Yayladalı; YY= Yeşilyurt.



## Sempozyum / Seminer / Konferans

### SELÇUK ÜNİVERSİTESİ, MÜHENDİSLİK VE MİMARLIK FAKÜLTESİ, JEOLJİ MÜHENDİSLİĞİ BÖLÜMÜNÜN 20. YILI JEOLJİ SEMPOZYUMU

Selçuk Üniversitesi, Mühendislik-Mimarlık Fakültesi, Jeoloji Mühendisliği Bölümünün 20. Yılı Jeoloji Sempozyumu, 12-16 Mayıs 1997 tarihleri arasında Konya Üniversitesi kampüsünde gerçekleştirildi. Sempozyumda Çevre Jeolojisi, Endüstriyel Hammaddeler, Hidrojeoloji, Metalik Maden Yatakları, Mineraloji-Petrografi, Paleontoloji, Stratigrafi-Sedimentoloji, Yapısal Jeoloji, Zemin Mekaniği olmak üzere 9 konu başlığı altında 109 bildiri sunulmuştur. Sunulan bildiriye ait makaleler düzenleme komitesi tarafından yayınlanacak sempozyum bildiriler kitabında yer alacaktır. Sempozyum bildiri özleri kitabında yer alan bildiri başlıkları ve yazarları aşağıda verilmiştir.



#### 1- ÇEVRE JEOLJİSİ

Asitli topraklarda ağır metallerin jeolojik, pedojen ve antropolojik kısımlarının ayırteđilmesi: **Ali GÜREL.**

Kömür yakıtlı termik santrallardaki uçucu küllerin çevreye etkisi: Genel deęerlendirme: **Burcu ÇANCI, Nilgün GÜLEÇ ve Ayhan ERLER.**

Maden sahalarında arazi düzenlemesinin önemi ve ülkemizdeki uygulamalar: **Nurten ŞENSÖĞÜT ve Cem ŞENSÖĞÜT.**

Şabanözü (Çankırı) yöresindeki ofiyolitik birimlerin mineralojik-petrografik incelemesi ve alterasyon ürünü minerallerin insan sağlığı üzerindeki riskleri: **Mine ŞENOĞLU.**

Samsun ili civarındaki topoğrafik yapının bölgenin hava kirliliğine etkisi (POSTER): **Şükrü DURSUN.**

Konya Ovası yeraltı sularındaki bor kirlenmesi: **Güler GÖÇMEZ ve Ahmet GÜZEL.**

#### 2- ENDÜSTRİYEL HAMMADDELER

Cemilboğazı (KD Gümüşhane) vezüvyan ve flogopitlerinin mineralojik ve kimyasal özellikleri: **Ferkan SİPAHİ ve M. Burhan SADIKLAR.**

Karamustafa ve Hasköy (Gümüşhane / KD Türkiye) yöresindeki hidrotermal barit yataklarının incelenmesi: **Faruk AYDIN ve M. Burhan SADIKLAR.**

Dolomili agregada alkali-agrega etkileşiminin sips, orjinal beton ve beton lüp örneklerinde incelenmesi: **Aynur ÖZEL, Y. Yelda DİNEROL, Meltem SAYARSLAN, Serdar HELVACI ve Cengiz YETİŞ.**

Örenli (Kepsut-Balıkesir) yöresinin jeolojisi ve talk yatakları: **Fetullah ARIK ve Sedat TEMUR.**

Üst Triyas-Alt Jura (Korkuteli-Antalya) kireçtaşının mühendislik ve teknolojik özellikleri: **Ayhan KOÇBAY, Recep KILIÇ ve Yalçın ORKUN.**

Killerin çimento sanayisinde kullanımı ve ocak işletme seçimine ilişkin bir uygulama: **Halil KUMSAR, Ali GÖKGÖZ ve Yahya ÖZPINAR.**

Sivas-Ulaş Tersiyer havzası sölestinlerinin mineralojisi, jeokimyası ve kökeni: **Erdoğan TEKİN, Baki VAROL ve Ruhi ÖZGÖNÜL.**

Ereğli (Konya)-Ulukışla (Niğde) sölestinlerinin jeolojik konumu: **Abdurahman MURAT ve Sedat TEMUR.**

Esbey-Emet (Kütahya) borat yatağı kil mineralleri ve basit bir seramik uygulaması: **Mumtaz ÇOLAK.**

Gökçeyazı-Kuşaktepe (Ereğil-Konya) sölestin zuhurlarının incelenmesi: **Ünal DEMİRAY, M. Muzaffer KARADAĞ ve M. Salim ÖNCEL.**

Karacaoğlan gaz sahasında kil diyajenezi ve vitrinit yansıması arasındaki istatistiksel ilişki: **Arda ARCASOY.**

Konya ili kömür olanakları ve ülke ekonomisindeki yeri: **Hülya İNANER ve Eran NAKOMAN.**

Ayvacak (Çanakkale) bentonit yataklarının mineralojik özellikleri: **Fazlı ÇOBAN.**



### 3- HİDROJEOLOJİ

Elazığ yakın çevresindeki bazı formasyonların hidrojeolojik karakteristikleri: **Bahattin ÇETİNDAG**.

Bergama Kleopatra Kaplıcası'nın hidrojeolojik incelemesi: **Şevki FİLİZ ve Gültekin TARCAN**.

Ildırı (Çeşme) karstik kaynaklarının hidrojeolojik incelemesi: **Yalçın ESEN, Şevki FİLİZ ve Gültekin TARCAN**.

Turgutlu (Manisa) kaplıcaları ve çevresinin hidrojeolojik incelemesi: **Gültekin TARCAN ve Şevki FİLİZ**.

İç Anadolu'daki önemli bir içme suyu kaynağının su kimyası ve izotopik özellikleri: Helvadere-Aksaray: **Mustafa AFŞİN ve Nail ÜNSAL**.

Hapis jeotermal (hidrotermal) akışkanlara bir örnek: İsmil (Konya) jeotermal sahası: **Adem AKBAŞLI**.

Seydişehir yöresinde rillenkarren oluşumuna etki eden faktörler: **Selim ERDOĞAN ve Mustafa EKMEKÇİ**.

Doğu Karadeniz Bölgesi taşkın ovalarının jeoloji ve topografya ile ilişkisi: **Ömer Murat YAVAŞ**.

Değirmenlik karst çöküntüsünde morfolojik-yapısal özelliklerin karst evrimi açısından yorumlanması: **Aylin BAŞAL ve Mehmet EKMEKÇİ**.

Dalyan-Ildır (Çeşme) yöresinin hidrojeolojisi: **Turan GÜRSEL, Şevki FİLİZ ve Gültekin TARCAN**.

Yukarı Zamantı havzasında kar erimesi ve yeraltı suyu akımı: **Ömer Murat YAVAŞ**.

Beyşehir Gölü hakkında yeni bir gözlem: **Yüksel AYDIN**.

Permo-Triyas yaşlı kireçtaşlarının (Çorum) hidrojeoloji özellikleri ve yeraltı suyu kalitesi: **Zafer ARIGÜN ve Ayhan KOÇBAY**.

Gazlıgöl (Afyon) sıcak ve mineralli su kaynaklarının hidro-kimyasal incelemesi: **Güler GÖÇMEZ ve İbrahim KARA**.

Konya dolayında suların oluşturduğu doğal anıtlar ve bunların korunması: **Baki CANİK**.

Pınarbaşı (Kayseri) karstik kaynağının hidrojeoloji incelemesi: **Ahmet GÜZEL, Tahir NALBANTÇILAR ve Mehmet BAYRAM**.

Marmara Bölgesi termomineral kaynakları: **Rüstem PEHLİVAN ve Osman YILMAZ**.

### 4- METALİK MADEN YATAKLARI

Karakaş (Baskil-Elazığ) demir cevherleşmesinin özellikleri: **Muharrem AKGÜL ve Birol ACAR**.

Kanköy (Yomra-Trabzon / KD Türkiye) civarında toprak ve bitki jeokimyasının uygulaması: **Abdurahman LERMİ ve Ali VAN**.

Olucak (Gümüşhane) altınlı kuvars damarlarının jeolojik, mineralojik ve jenetik açıdan incelenmesi: **Hakan ÇAVGA ve Miraç AKÇAY**.

Armutlar-tepe (Niğde) antimuan mineralizasyonunun incelenmesi: **M. Gürhan YALÇIN**.

Hacı Mustafa (Baskil-Elazığ) cevherleşmelerinin özellikleri ve kökeni: **Cemal BÖLÜCEK ve Ahmet SAĞIROĞLU**.

Elmaalan (Arsin-Trabzon) yöresinde masif sülfid mineralizasyonları üzerinde gelişen toprakların element dağılımının incelenmesi: **Saliha SARAÇ ve Ali VAN**.

Özdil granatoidine bağlı cevherleşmeler: **Hülya YAZICI ve M. Burhan SADIKLAR**.

Seydişehir bölgesindeki karstik boksitlerle Sultan Dağları'nda bulunan lateritik boksitlerin mineralojik ve jeokimyasal karşılaştırılması: **M. Muzaffer KARADAĞ, Ahmen AYHAN ve M. Salim ÖNCEL**.

Gümüşköy (Kütahya) gümüş yatağının jeolojisi ve kökeni: **Adnan KARABAŞ**.

Yeşilova (Burdur) civarı kromit yataklarının jeokimyası ve bazı yataklarla karşılaştırılması: **Adnan DÖYEN ve Ahmet AYHAN**.

Arsin (Trabzon) yöresi topraklarında Pb, Zn, Cu, Mn dağılımı ve Fe-Mn yumruları: **Ayla HANEDAN, M. Burhan SADIKLAR ve Ali VAN**.

Karot bilgi bankası ve uygulamaları: **Mehmet ŞENER**.

Trabzon yöresi güncel topraklarındaki tabaka ve yumru şekilli Fe-Mn zenginleşmelerinin kökeni: **M. Burhan SADIKLAR**.

Kanatburun (Petek-Tunceli) yöresindeki skam kayaların özellikleri: **Mehmet ALTUNBEY ve Hüseyin ÇELEBİ**.

### 5- MİNERALOGİ-PETROGRAFI

Piran Köyü (Keban) çevresindeki magmatik kayaların petrografik ve petrolojik özellikleri: **Bünyamin AKGÜL ve A. Fevzi BİNGÖL**.

Elazığ civarındaki ofiyolitlerin petrografik özellikleri: **Melihat BEYARSLAN**.



Pütürge (Malatya) Masifi'ndeki gnaysların petrografik ve petrolojik özellikleri: **Emin ERDEM ve Fevzi BİNGÖL.**

Karanlık Dere (Gölbaşı-Adıyaman) magmatitlerinin petrolojisi: **A. Fevzi BİNGÖL, Melahat BEYARSLAN, Bünyamin AKGÜL ve Emin ERDEM.**

Bolu-Yedigöller granitik kayaların petrojenezini: **P. Ayda Müğân USTAÖMER ve Erdiç KİPMAN.**

Yükselen (Kadınhanı) kuzeyindeki pelitik kayalar içinde yer alan bazı şistlerin petrokimyası: **Hüseyin KURT.**

Hidrotermal alterasyona uğramış Yunusemre (Eskişehir) serpantinlerin jeolojisi ve petrografisi: **Ali REÇBER, Şükrü KOÇ ve Yusuf K. KADIOĞLU.**

Pulur masifi doğu kesiminin bölgesel metamorfizması, Sakızlı, Kurugüney (Demirözü-Bayburt) yöresi, KD Türkiye): **Salim GENÇ.**

Ultramafitlerin hidrotermal alterasyon derecesini belirleyen doku çeşitleri: Eskişehir: **Yusuf K. KADIOĞLU, Şükrü KOÇ ve Ali REÇBER.**

Zigana Granitoyidi'nin (Maçka-Trabzon) mineralojik ve jenetik açıdan incelenmesi: **Orhan KARSLI ve M. Burhan SADIKLAR.**

Mahmut-Demirtaş (Alanya-Antalya) yöresinde Alanya Birliği metamorfitlerinin petrografisi: **Gürsel KANSUN ve Halil BAŞ.**

Mineral kimyası ve petrografik özelliklerden yararlanarak granitoidlerdeki anklav ve gabroların ilişkilerinin belirlenmesi: Ağaçören (Aksaray): **Yusuf K. KADIOĞLU ve Nilgün GÜLEÇ.**

Galatya volkanik kompleksinin sayısal arazi modeli (POSTER): **Erhan KANSU, Arda ARCASOY, M. Lütfi SÜZEN ve Vedat TOPRAK.**

Kesirli kristallenmede magma bileşimindeki değişimin modellenmesi: **Hulusi KARGI.**

Granodiyoritik kayalarda lav akış yönlerinin anizotropik manyetik süseptibilite ile belirlenmesi: **Ali AYDIN, Kenan GELİŞLİ ve Zafer ARSLAN.**

## 6- PALEONTOLOJİ

Batı Karadeniz Bölgesi Geç Kretase rudist faunası: **Mükerrem FENERCİ ve Sacit ÖZER.**

Batı-Orta Toroslar Erken-Orta Miyosen bentik foraminiferlerinin paleobiyocoğrafyası ve evrimi: **Sefer ÖRÇEN.**

Yenice (Tarsus) kuzeyi Neojen istifinin mikropaleontolojik incelenmesi ve ortamsal özellikleri: **Güldemin ÖGRÜNÇ, Kemal GÜRBÜZ ve Atike NAZİK.**

Çaltılı (Gümüşhane) yöresi. Sinemuriyen-Kariksiyen (Alt Jura) ammonit faunası: **Fusun ALKAYA.**

Jeolojik tarihin sorunları ve "sistem düşüncesi" modellerinin gerekliliği: **Ömer Faruk NOYAN ve E. Şahin ÇAKIR.**

Marmara Denizi ve çevresi Kuvaterner mollusk faunası: **Sevinç K. YEŞİLYURT, Güler TANER ve Yeşim İSLAMOĞLU.**

Çanakkale-Gökçeada-Bozcaada üçgeni arasındaki dip sedimanlarında planktik foraminifer dağılımı: **Vedia TOKER ve Ayşegül YILDIZ.**

## 7- STRATİGRAFİ-SEDİMANTOLOJİ

Çaldıran (Van) civarının jeolojik incelenmesi: **Yaşar ÇAKIR ve Erkan TANYOLU.**

Çaltepe dolomitinin (Seydişehir-Konya) sedimantolojik ve petrografik özellikleri: **Asuman ÇETİN, M. Muzaffer KARADAĞ ve Hükmü ORHAN.**

Kırıkhan (Hatay) civarının tektono-stratigrafik incelemesi: **Alican KOP, Ulvi Can ÜNLÜGENÇ ve Cavit DEMİRKOL.**

Hazar Köyü (Elazığ) güneybatısının jeolojik özellikleri: **Mustafa SÖNMEZ.**

Tortum Gölü (Erzurum) kuzeyinin stratigrafik ve sedimantolojik özellikleri: **Raif KANDEMİR ve Sadettin KORKMAZ.**

Oligo-Miyosen Denizli molas havzasına ait alüvyal yelpaze-yelpaze delta ve sıg deniz çökellerinin stratigrafisi ve sedimantolojisi, Güneybatı Türkiye: **Hasan SÖZBİLİR.**

Neojen Peçenek havzasının jeolojik evrimi: **Vedat TOPRAK ve Bora ROJAY.**

Konya batısındaki gölsel Neojen stromatolitleri: **A. Müjdat ÖZKAN ve Hükmü ORHAN.**

Afyon Sandıklı bölgesindeki İnfakambriyen kayaları: **Burhan ERDOĞAN, T. GÜNGÖR ve Necdet ÖZGÜL.**

Denizli bölgesinde Menderes masifi ile Likya naplarının stratigrafik ve yapısal ilişkisi: **Sacit ÖZER ve Hasan SÖZBİLİR.**

Milas alanında Menderes Masifi'ne ait Kretase-Alt Tersiyer istifinin biyo-stratigrafisi: **Sacit ÖZER, İzver TANSEL, Vedia TOKER, Bilâl SARI ve Mükerrem FENERCİ.**

Amasya yöresinde Orta Kretase sürecindeki platform-havza çökelleri ve birikim koşulları: **Cemil YILMAZ.**



Doğu Pontidler'de (G-Trabzon) Üst Kretase yaşlı volkano-klastiklerin petrol kaynak kayası açısından incelenmesi: **Reyhhan KARA ve Sadettin KORKMAZ.**

Tuz Gölü havzasındaki (Şereflikoçhisar-Aksaray arası) Üst Kretase yaşlı Asmaboğazı formasyonunun diyajenetik özellikleri: **Hükmü ORHAN ve A. Müjdat ÖZKAN.**

Karakeçili (Kırıkkale GGB'sı) Neojen havzasındaki playa kompleksinin sedimentolojik özellikleri, Türkiye: **İbrahim TÜRKMEN ve Mehmet ÖZKUL.**

Soma kömür, havzası Miyosen istifi: **Uğur İNCİ.**

Soma yöresinin Kuvaterner jeolojisi: **İbrahim ARPALİYİÇİT.**

### 8- YAPISAL JEOLJİSİ

1 Ekim 1995 Dinar depremi ve Türkiye yeni deprem haritası: **A. Baki GÜNAYDIN.**

Modem kuyu logları ile çatlak rezervuarlarının değerlendirilmesi: **Ahmet TANDIRCIOĞLU.**

Sivrice (Elazığ) çevresinde Doğu Anadolu Fay Zonu'nun tektonik Özellikleri: **Mehmet TURAN ve Zülfü GÜROCAK.**

Tokat Masifi tektonostratigrafisinde yeni bulgular: **İhsan SEYMEN.**

Van ve Elazığ yörelerinde Kırkgeçit formasyonundaki (Orta Eosen-Alt Miyosen) olistolit yerleşmelerinin tektonik önemi: **Ercan AKSOY ve Mehmet TURAN.**

Kapıdağ Yarımadası kayma zonu: **Rahmi AKSOY.**

Kartalkaya-Köroğlu kompleksinin jeolojisinin gravite ve havadan manyetik anomalileri ile incelenmesi: **Seyfullah TUFAN, Erhan KANSU ve Vedat TOPRAK.**

Belirsiz uzunluktaki eklemlerin geometrik parametreleri ile kaya kütesinin dayanımı arasındaki ilişki: **Hasan ÜÇPİRTİ.**

### 9- ZEMİN MEKANİĞİ

Ayrık elemanlar yöntemi (DEM) ile süreksizliklerin kaya kütlelerinin dayanımına olan etkisinin iki boyutta incelenmesi: **Hasan ÜÇPİRTİ.**

Cumhuriyet Üniversitesi Tıp Fakültesi Hastanesi katı atıkları için düşünülen düzenli deponi sahasının zemin özelliklerinin incelenmesi: **Bilâl TUNÇSİPER, Orhan CERİT ve Ergün KARACAN.**

Süreksizlik aralıklarının belirlenmesinde karşılaşılan problemler: **M. Kemal GÖKAY.**

Çumru (Konya) civarının zemin özellikleri: **Adnan ÖZDEMİR ve İbrahim AKBULUT.**

Kayaçların ısısal iletkenliklerini belirlemek amacıyla bir ısısal iletkenlik ölçek sisteminin geliştirilmesi: **Ayhan BAYRAK, Mustafa EĞRİBOYUN ve Selahattin PELİN.**

Tikintinin temelinde kil yapılmış toprak kabarması ve reoloji deformasyonunun önceden tayin edilmesi: **Ç. Hamidin DANYALOĞLU.**

Lös zeminlerin kayma mukavemeti parametrelerinin zamana göre değişiminin araştırılması: **Geybulla R. GEYBULLAOĞLU ve Sabır K. ALİOĞLU.**

Zeminlerde sıkışma eğrisinin başlangıç boşluğa bağlı olarak değişiminin araştırılması: **Yakup A. EYUBOĞLU, Ana N. ALİZADE, Mehti C. CAFEROĞLU ve Acam Ö. NAGDİOĞLU.**

Killerde oluşan tek boyutlu şişme deformasyonunun zamana göre değişiminin araştırılması: **Sabır K. ALİOĞLU ve Ali Abdullah SÜLEYMAN.**

Apşeron Yarımadası kireçtaşlarının mühendislik jeolojisi özellikleri: **İ. Azızağa MUHTAROĞLU.**

Lös batan zeminler üzerinde yolların projelendirilmesi için yapılan mühendislik jeolojisi etüdlerinin farklı özellikleri: **Vügar S. ALİOĞLU.**

Mühendislik jeolojisi araştırma işlerinde lös zeminlerin esas deformasyonu göstericilerin belirlenmesi: **Tevfik İSMAİLOĞLU.**

## ÇUKUROVA ÜNİVERSİTESİNDE JEOLJİ MÜHENDİSLİĞİ EĞİTİMİNİN 20. YILI SEMPOZYUMU

Çukurova Üniversitesi, Mühendislik ve Mimarlık Fakültesi, Jeoloji Mühendisliği Bölümü tarafından düzenlenen "Çukurova Üniversitesinde Jeoloji Mühendisliği Eğitiminin 20. Yılı Sempozyumu" 30 Nisan-3 Mayıs 1997 tarihleri arasında Adana-Balçalı Üniversite kampüsünde gerçekleştirildi. Sempozyumda Genel Jeoloji, Mineraloji-Petrografi, Maden Yatakları-Jeokimya ve Uygulamalı Jeoloji anabilim dallarında 126'sı sözlü, 15'i poster olmak üzere toplam 141 bildiri sunulmuştur. Sunulan bildirilere ait makaleler düzenleme komitesi tarafından düzenlenerek GEOSOUND dergisinde yayımlanacaktır. Sempozyum bildiri özleri kitabında yeralan bildirilerin başlıkları ve yazarları aşağıda verilmiştir.





ÇUKUROVA ÜNİVERSİTESİNDE  
JEOLJİ MÜHENDİSLİĞİ EĞİTİMİNİN  
20. YILI SEMPOZYUMU

### *Bildiri Özleri*

30 Nisan-3 Mayıs 1997  
ADANA

Geç Kuvaterner (Holosen) döneminde İstanbul ve çevresinde gözlenen değişimler: **Engin MERİÇ.**

Orta Toros'ların kuzey kısmında bir YB/DS Neotetis dilimi: Koçkaya metaofiyolitik karmaşığı: Yitilen pasif bir kıtasal kenar kalıntısı mı?: **Levent ÖZGÜL, M. Cemal GÖNCÜOĞLU.**

Olucak (Gümüşhane-Torul) yöresi, Üst Kretase yaşlı volkanik ve subvolkanik kayaların petrografisi-petrokimyası ve tortul granitoyidi ile olan kökensel ilişkisi: **Hakan ÇOBAN, Şemsettin CARAN.**

Osmaneli (Bilecik) yöresindeki *Orbitoides*'lerin biyometrik incelenmesinin ön bulguları: **Muhittin GÖRMÜŞ.**

Maden (KD Türkiye) resifal kireçtaşının birikim koşulları ve Geç Kretase paleocoğrafyasındaki konumu: **Cemil YILMAZ, Firdevs AYAZ.**

K/T toplu yok olması öncesinde bentik foraminifer anomalileri: **Nurdan İNAN, Engin MERİÇ.**

K/T geçişinde anormal büyümüş *Orbitoides apiculatus* Schlumberger bireyleri: **Nurdan İNAN, Engin MERİÇ.**

Trakya havzası kuzeybatısının Orta-Geç Eosen foraminiferlerinin paleoekolojisi ile bölgenin paleocoğrafyasına bir yaklaşım: **Sefer ÖRÇEN, Aynur BÜYÜKUTKU.**

Pazarcık-Sakçagöz-Kilis-Gaziantep arası Paleosen-Erken Miyosen çökellerinin foraminifer fasiyesleri temelinde paleobatimetrik değerlendirilmesi: **Sefer ÖRÇEN.**

Neojen Pelitçik havzasının jeolojisi, Galatya volkanik provenisi (Ankara): **Vedat TOPRAK, M. Lütfi SÜZEN.**

Pelitçik havzası (Ankara) dolayındaki püskürme merkezlerinin jeofizik (Gravite ve manyetik) yöntemlerle incelenmesi: **Seyfullah TUFAN, Vedat TOPRAK, Lütfi SÜZEN.**

Uydu görüntülerinde sınıflandırma metodları ve jeolojik uygulamalarda kullanımı: **Arda ARCASOY.**

Tuz Gölü havzasındaki evaporit minerallerinin uzaktan algılama yöntemleri ile belirlenmesi ve haritalanması: **Nadir Taşkın AKPULAT, Arda ARCASOY.**

Temel bileşen analizinin litolojik haritalama için kullanılması: **Erhan KANSU.**

Orta-Batı Anadolu'da alkali volkanizma, manto ksenolitleri ve tektonik ilişkiler: **M. Yılmaz SAVAŞÇIN, Tolga OYMAN.**

Çakmak trakit-porfirinin mineralojik-petrografik ve jeokimyasal özellikleri: Yıldızeli, Sivas: **Musa ALPASLAN.**

Ağaçören intruzif takımının petrolojisi (Aksaray): **Yusuf Kağan KADIOĞLU, Nilgün GÜLEÇ.**

Bolkardağlar, Aladağlar ve Niğde Masifinde kabuk kalınlaşması ve Ulukışla-Çamardı baseninde riftleşme ile ilgili plütonların karşılaştırmalı incelenmesi, Orta Toroslar, Türkiye: **Ali ÇEVİKBAŞ, Durmuş BOZTUĞ, Cavit DEMİRKOL, Sabah YILMAZ, Mustafa AKYILDIZ.**

İç Anadolu Alkali plütonizmasındaki Korkundağ ve Baranadağ plütonlarında (D Kaman-KB Kırşehir) silisçe aşırı doymuş (alkos) ce silisçe tüketilmiş (alkus) alkali kayalar birlikteliği: **Nazmi OTLU, Durmuş BOZTUĞ.**

İğdir Köyü (Yeşilova-Burdur) çevresindeki ofiyolitler ve bunlarla ilişkili metamorfik kayaların petrografik incelenmesi: **Yahya ÖZPINAR.**

Aygörmez Dağı napı (Pınarbaşı-Kayseri) Devoniyen-Triyas yaşlı diyajenez-çok düşük mertebeli metasedimanter kayaların mineralojik ve petrografik karakteristikleri: **Ömer BOZKAYA, Hüseyin YALÇIN.**

Bursa-Hamitler katı atık alanının jeolojik ve hidrojeolojik incelenmesi: **K. Tahsin ŞENYUVA ve Okay EROSKAY.**



Keban Magmatitleri (Elazığ) sanidinlerinin jeokimyası: **Hüseyin ÇELEBİ, Şahin HANELÇİ, Ali SEYREK.**

Bigadiç zeolitlik tüflerinin bazı anyonik iyon değiştirme yetenekleri: **Yılmaz BÜRKÜT, Vildan ESENLİ, Ahmet ÇELENLİ.**

Çayırhan-Beypazarı Bölgesi (Ankara) tenardit trona yatakları oluşum koşulları: **Yılmaz BÜRKÜT, Fikret SUNER, Vildan ESENLİ.**

Trakya Havzası Kuzeybatısında Üst Eosen yaşlı tüflerin hidrokarbon potansiyeli: **Aynur (GEÇER) BÜYÜKUTKU, Nurettin SONEL, Mustafa BAYRAKTAR.**

Tepearası formasyonu (Beyşehir güneydoğusu) dolomitlerinin diyajenetik gelişimleri ve rezervuar karakteri (Konya, Türkiye): **Ali SARI, Erdoğan TEKİN, Nurettin SONEL, İsmail BAHTİYAR.**

Karakaya Problemi: tektonostragrafi evrimi üzerine öngörülen modeller ve Kozak uzanımı batısı, KB Anadolu ve İmrahor bölgesi, Ankara'dan yeni bulgular: **A. Alper ATILLA, Levent ÖZGÜL, Cemal GÖNCÜOĞLU.**

Orta Anadolu ofiyolitlerinin genel jeolojik özellikleri: **Cemal GÖNCÜOĞLU, Kenan YALINIZ, Osman PARLAK, P.A. FLOYD.**

Dalma-batma zonu üstü tipte ofiyolitlerin oluşum ve yerleşme yaşları: Sarıkaraman ofiyoliti, Orta Anadolu, Türkiye: **Kenan YALINIZ, Osman PARLAK, Sevinç (ÖZKAN) ALTINER, Cemal GÖNCÜOĞLU.**

Domaniç Neojen Havzasının ortamsal özellikleri: **Yakup ÇELİK.**

Kuzey Anadolu Fayı Zonunda Ağvanis metamorfiteilerinin petrojenezine ilişkin ön bulgular, Gülova (Sivas), KD Türkiye: **Lütfi ALTINKAYNAK, Salim GENÇ.**

Maçka-Zigana (KD Türkiye) yöresinde Üst Kretase sürecindeki yay-ıçi çökel kayıtları ve bölge jeolojisindeki önemi: **Cemal YILMAZ, Orhan KARSLI.**

Nurdandağı'nı oluşturan birimlerin yanlış adlandırılmasından kaynaklanan jeoteknik sorunlar: **İlyas YILMAZER, Tamer Yiğit DUMAN.**

Su basıncı ve K ( $\sigma$  yatay/ $\sigma$  düşey) değerlerinin tünel tasarımı-na etkisi: Köroğlu sıradağlarındaki bir örnek: **Tamer Yiğit DUMAN, İlyas YILMAZER.**

Filişten oluşan bir bölgede kurulacak organize sanayi sitesinin (OOS) jeoteknik açıdan öndependirilmesi: Batı Karadeniz bölgesinden bir örnek: **Tolga ÇAN, Tamer Yiğit DUMAN, İlyas YILMAZER.**

Kadınhanı pelitik kayalarında kloritoyid içeren şistler: **Hüseyin KURT.**

Seyhan ve Ceyhan Deltalarının kronolojik evrimi ve bunların kıyı değişimine etkileri: **Kemal GÜRBÜZ.**

Adana Baseni kuzeyinde yer alan Miyosen yaşlı denizaltı yelpazelerinin iz fosilleri yardımı ile ortamsal özelliklerinin araştırılması: **Huriye DEMİRCAN, Kemal GÜRBÜZ, Vedat TOKER.**

Topuk-Göynükbelen sokulumunun mineralojik ve jeokimyasal özellikleri, Orhaneli-KB Anadolu: **Yüksel ÖRGÜN, Atilla AKYOL.**

Alt Ordovisiyen öncesi yaşlı yay magmatizmasının Kuzey Türkiye'den bir örnek: Çadırtepe Formasyonu'nun jeokimyasal incelenmesi (Bolu, B Pontidler): **P. Ayda USTAÖMER, Erdiñ KİPMAN.**

Trakya Havzası kuzey şelfinde (Silivri civarı) Oligo-Miyosen delta çökellerinin sismik görünümü: **Taner TANIŞ, Nurettin SONEL.**

Sivas Havzası kuzeybatı kenarında Eosen sonrası kuzey yönlü bindirmeler: İmbrike yapılar: **Selim İNAN.**

Trakya Havzası kuzeybatısında yeraltı verileri ile mikrofasiyes analizi: **Aynur (Geçer) BÜYÜKUTKU, Gökseven ESELLER, Nurettin SONEL.**

Çevre Jeolojisi ve jeofizik ile Kocaeli-Kızıldere heyelan ve erozyon alanı araştırılması ve önleme teknikleri: **Cengiz KURTULUŞ, Hasan ENDEŞ, Funda DÖKMEN, Savaş AYBERK.**

Fele yöresinde Üst Jura-Alt Kretase gelgit çevresi karbonatlarının sekans stratigrafisi (Batı Toroslar, Türkiye): **İsmail Ömer YILMAZ, Demir ALTINER, Muzaffer BEYAZITOĞLU.**

Alt Kretase gelgit çevresi ortamı karbonat istiflerinde metre ölçekli devirsel çökeller (Üzümlü, Batı Toroslar, Türkiye): **Naki AKÇAR, Demir ALTINER.**

Sulakyurt granitoidlerinde açılan derivasyon tünelineki destek tasarımı: **Aydın ÖZSAN, Yusuf Kağan KADIOĞLU.**

Ezine (Çanakkale) metamorfiteilerinde görülen farklı türdeki buruşma klivajı ve fiziksel koşullarla ilişkisi: **İsmail BİLGİN.**

Batı Toroslarda Geç Mesozoyik-Tersiyer evrimine yaklaşım: Cide-Devrek virgasyonu'nun gelişimi: **Erdiñ YİĞİTBAŞ, Ali ELMAS.**

Bolu-Eskipazar zonu'nun jeolojisi: İnter Pontit Zonu'nun gelişimine bir yaklaşım: **Ali ELMAS, Erdiñ YİĞİTBAŞ, Yücel YILMAZ.**



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Kongre'nin Ana Teması, "Enerji ve Teknoloji: Gelecekte bin yıllık dönemde dünya kalkanmasının sağlanması" olan bu kongrede işlenecek konular aşağıda 4 başlık altında toplanmıştır:

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**Young Peter C. - Concise Encyclopedia of Environmental Systems**

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**Kitaplar****(Uygulamalı Jeoloji)**

**Engineering geology of weak rock.** Proceeding of the 26 th annual Conference of the Engineering Group of the Geotechnical Society, Leeds, United Kingdom, 9-13 September 1990, 510 pages, Fig., Tbl., Hard Back, A.A. Balkema Publishers, Amsterdam, 1993, 575 French Francs

**Rock slopes.** Proceedings of the Asian ISRM Regional Symposium on rock slopes, 7-12 December 1992, New Delhi, India, 486 pages, Tabl., Fig., Hard Back, Balkema Publishers, Amsterdam, 1993, 544 French Francs.

**Applied Karst Geology.** Proceedings of the Fourth multidisciplinary Conference on sinkholes and the engineering and environmental impacts of karst, Tabl., Fig., Hard Back, Balkema Publishers, Amsterdam, 500 French Francs.

**Geotechnical management of waste and contamination.** Proceedings of the Conference on geotechnical management of waste and contamination, Sydney, N.S.W., Australia, 22-23 March 1993, 517 pages, Tabl., Fig., Hard Back, Balkema Publishers, Amsterdam, 560 French Francs.

**Environmental Management: Geo Water and Engineering Aspects.** Proceedings of an International Conference, Wollongong, New South Wales, Australia, 8-11 February 1993, 828

pages, Tabl., Fig., Hard Back, 680 French Francs, Balkema Publishers, Amsterdam.

**Design methodology in rock engineering theory, Education and practice,** by Z.T. Bienawski, 1992; 198 pp., Tabl., Fig., Soft Back, A.A. Balkema Publishers, Amsterdam, 95 Dfl.

**Geomechanics principles in the design of tunnels and caverns in rocks,** by Ashraf Mahtab and Piergiorgio Grosso, in Developments in Geotechnical Engineering, 72, 1992, 264 pages, Tabl., Fig., U.S. \$ 143.00, Elsevier Science Publishers.

**Discontinuity analysis for rock engineering,** by Stephen D. Pries, 1992, 473 pages, Tabl., Fig., Hard Back, E 35.00, Chapman and Hall, London.

**Towards new worlds in tunnelling.** Proceedings of the International Congress towards new worlds in tunnelling, Acapulco, Mexico, 16-20 May 1992, 3 volumes (2 vol. Published 1992, vol. 3: 4/93); 1042 pages, Tabl., Fig., Hard Back, Balkema Publishers, Amsterdam, 894 French Francs (whole set).

**Geomechanics 91.** Proceedings of the International Conference "Geomechanics 91", Hrade/Ostrava/Czechoslovakia, 24-26 September 1991, 372 pages, Tabl., Fig., Hard Back, A.A. Balkema Publishers, 1992, 409 French Francs.

**Microtunnelling.** Proceeding of the 2 nd International Symposium "Microtunnelling", Munich, 8th April 1992, 89 pages, Tabl., Fig., Hard Back, A.A. Balkema Publishers, 75 Dfl.

**Ground Freezing.** Proceedings of the 6th International Symposium on ground freezing. Beijing 10-12 september 1991; Volume 2, 170 pages, Tabl., Fig., Hards Back, A.A. Balkema Publishers, 250 Dfl. (2 volumes).

**Earth Reinforcement Practice.** Proceedings of the International Symposium on earth reinforcement practice, Fukuoka. Kyushu, Japan, 11-13 November 1992; Volume 1; 725 pages, Tabl., Fig., Hard Back, A.A. Balkema Publishers, 692 French Francs.

**Application of stress wave theory to piles.** Proceedings of the Fourth International Conference, The Hague, The Netherlands, 21-24 Sept. 1992; 720 pages. Tabl., Fig., Hard Back. A.A. Balkema Publishers, 545 French Francs.

**Proceedings of the twelfth International Conference on soils mechanics and foundation engineering.** Rio de Janeiro, 1989, volumes 4 and 5; 1270 pages, Tabl., Fig., Hardback, A.A. Balkema Publishers, 1250 Dfl. (5 volumes).

**Induced Seismicity,** edited by Peter Knoll, 1992, 469 pages, Tabl., Fig., Hardback, A.A. Balkema Publishers, 160 Dfl.

**Hydrologic tropicale et appliquée en Afrique subsaharienne,** par Bernard Chuzeville, Collection Maitrise de l'Eau, Ministère de la Coopération et du Développement, Paris, France; 1991, 275 pages, tabl., Fig., Agridoc International, 27, rue Louis-Vicat, 75015 Paris, 110 Francs Français.

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# Jeoloji Takvimi

## 1997

### April

1-4 April 1997

**THE LATE QUATERNARY IN THE EASTERN MEDITERRANEAN** (International Symposium), Ankara, Turkey. (Neil Roberts, Department of Geography, Loughborough University, Loughborough LE11 3TU, UK. Telefax: 44 1509 223 930; e-mail: c.n.roberts@lboro.ac.uk)

6-9 April 1997

**AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS** (Annual Meeting), Dallas, Texas, USA. (AAPG Conventions Department, P O Box 979, 1444 S Boulder Ave., Tulsa, OK 74101-0979, USA. Phone: 918 560 2679; telefax: 918 560 2684)

7-11 April 1997

**ANALYTICAL BASED MODELING OF GROUNDWATER FLOW**, Nunspeet, The Netherlands. (Conference Secretariat, Analytical based modeling of groundwater flow, Buerweg 51, 1861 CH Bergen, The Netherlands. Phone: +31 (0) 72 58 990 62; telefax: +31 (0) 72 58 990 40)

8-9 April 1997

■ **THE NORWEGIAN SHELF—A MATURING AREA OF SIGNIFICANT FUTURE PETROLEUM POTENTIAL**, Stavanger, Norway. (Norwegian Petroleum Society, PO Box 1897, Vika, N-0124 Oslo, Norway. Phone: +47 22 12 90 08; telefax: +47 22 55 46 30)

8-10 April 1997

**PRINCIPAL GENETIC PROBLEMS RELATED TO MINERAL DEPOSITS OF MAGMATIC AFFILIATION**, Moscow, Russia. (N S Bortnikov, Secretary of the Symposium, IGE M RAS, Staromonetny per., 35, Moscow 109017, Russia. Phone: 7 095 230 8259; telefax: 7 95 230 2719; e-mail: symposium@igem.msk.su)

13-16 April 1997

**UPPER MANTLE HETEROGENEITIES FROM ACTIVE AND PASSIVE SEISMOLOGY** (NATO Advanced research workshop), Moscow Russia. (Professor K Fuchs, Geophysical Institute, Hertzstr 16, D-78167, Karlsruhe, Germany.)

14-18 April 1997

**PLUMES, PLATES AND MINERALISATION** (International Symposium), Pretoria, South Africa. (Professor S A de Waal, Department of Geology, University of Pretoria, Pretoria 0002, South Africa. Phone: 27 12 420 2454; telefax: 27 12 433430; e-mail: ppm97@scientia.up.ac.za)

17-19 April 1997

**EARTH'S UPPER MANTLE STRUCTURE BASED ON INTEGRATED GEOLOGICAL AND GEOPHYSICAL STUDIES** (EROPROBE Conference), Moscow, Russia. (Professor K Fuchs, Geophysical Institute, Hertzstr 16, D-78167, Karlsruhe, Germany.)

23 April-3 May 1997

**INTERNATIONAL ASSOCIATION OF HYDROLOGICAL SCIENCES** (5th Scientific Assembly), Rabat, Morocco. (G D Young, IAHS, Department of Geography, Wilfrid Laerier University, Waterloo, Ont N2L 3C5, Canada. Phone: 1 519 884 1970; telefax: 1 519 846 0968; e-mail: 44iahs@mach1.wlu.ca)

24-29 April 1997

**PALEOCENE/Eocene BOUNDARY EVENTS IN TIME AND SPACE** (Geological Society of America Penrose Conference), Albuquerque, NM. (Spencer Lucas, New Mexico Museum of Natural History, 1801 Mountain Road NW, Albuquerque, NM 87104. E-mail: lucas@darwin.nmnmnh-abq.mus.nm.us)

### May

5-7 May 1997

■ **ASSOCIATION OF GEOPHYSICISTS OF ALBANIA**, Tirana, Albania. (Burhan Canga, Faculty of Geology and Mining, Tirana, Albania)

10-15 May 1997

■ **PALAEOCLIMATIC MODELLING AND ANALYSIS: QUATERNARY PALAEOCLIMATE ANALYSIS**, Castelvecchio Pascoli, Italy. (Dr Josip Hendekovic, European Science Foundation, 1 quai Lezay-Mamésia 67080 Strasbourg Cedex, France. Phone: +33 3 88 767135; telefax: +33 3 88 366987; e-mail: euresco@esf.org; WWW: http://www.esf.org/euresco)

9-11 May 1997

**SECOND BRITISH COLUMBIA PALEONTOLOGICAL SYMPOSIUM**, Vancouver, British Columbia, Canada. (Vancouver Paleontological Society, Centre Point Post Office, PO Box 19653, Vancouver, BC V5T 4E7)

11-14 May 1997

**NEVES CORVO FIELD CONFERENCE** (Meeting of SEG), Lisbon, Portugal. (F J A S Barriga, GEOFCUL, Edificio C2, Piso 5, Campo Grande 17000 Lisbon, Portugal. Phone: 351 1 750 0066; telefax: 351 1 759 9380; e-mail: Fernando.Barriga@fc.ul.pt; www: http://NevesCorvo.geo.fc.ul.pt)

17-19 May 1997

■ **EUROPE'S MAJOR GOLD DEPOSITS** (International conference and field trip), Newcastle, County Down, Northern Ireland. (Kerr Anderson, Navan Resources plc, Kennedy Road, Navan, Co. Meath, Ireland. Phone: 353 46 22363; telefax: 353 46 22372; e-mail: navanr@iol.ie)

19-21 May 1997

**OTTAWA '97** (Geological Association of Canada, 50th Anniversary Celebrations), Ottawa, Canada. (Conference Secretariat, Ottawa '97, Geological Survey of Canada, 601 Booth St, Ottawa, Ontario, Canada K1A 0E8. Phone: 613 947 7649; telefax: 613 947 7650; e-mail: ottawa97@emr.ca; www: http://www.emr.ca/~ottawa97/ftp.nrcan.gc.ca, directory gsc/ottawa97)

22-25 May 1997

**CANADIAN COASTAL CONFERENCE 1997**, Guelph, Ontario, Canada. (Canadian Coastal Conference '97, c/o Department of Geography, University of Guelph, Guelph, Ontario, Canada N1G 2W1. www: http://www.cciw.ca/ccsea/intro.html)

25-30 May 1997

**GEOCHEMICAL EXPLORATION** (18th International Symposium of AEG), Jerusalem, Israel. (IGES Secretariat, PO Box 50006, Tel Aviv, 61500 Israel. Telefax: 972 5140000; e-mail: iges@mail.igs.gov.il)

26-30 May 1997

**EUROPEAN ASSOCIATION OF GEOSCIENTISTS AND ENGINEERS (EAGE)** (59th Conference), Geneva, Switzerland. (EAGE, E H Bornkamp, PO Box 298, NL 3700 AG Zeist, Netherlands. Phone: 31/3069 62 655; telefax: 31/306962 640)

### June

1-5 June 1997

■ **GEOANALYSIS '97**, Vail, Colorado, USA. (Belinda Arbogast, USGS, Federal Center, Box 25046, MS 973, Denver, CO 80225, USA. Telefax: +1-303-2363200; e-mail: geo97@helios.cr.usgs.gov)

1-6 June 1997

**SEDIMENTATION, SEDIMENTARY EVENTS AND HYDROCARBON SYSTEMS** (Annual joint CSPG-SEPM Convention), Calgary, Canada. (CSPG Office, 505 206 7th Avenue SW, Calgary, Alberta, Canada T2P 0W7)

2-4 June 1997

■ **SECOND GENERAL ASSEMBLY OF THE EUROPEAN ASSOCIATION FOR THE CONSERVATION OF THE GEOLOGICAL HERITAGE (PROGEO)**, Tallinn, Estonia. (Rein Raudsep, Geological Survey of Estonia, Kadakee tee 80/82, EE0026 Tallinn, Estonia. Phone: (372) 2 593 964; telefax: (372) 6 579 664; e-mail: egk@estpak.ee)

4-12 June 1997

■ **TETHYAN AND BOREAL CRETACEOUS** (Working Group Meeting of IGCP Project 362), Baku, Azerbaijan. (Mascha Tiemessen, Laboratory of Palaeobotany and Palynology, Budapestlaan 4, 3584 CD Utrecht, The Netherlands. Phone: +31 30 2532629; +31 30 2535096; e-mail: M.Tiemessen@boev.biol.ruu.nl)

10-12 June 1997

■ **STRUCTURE AND EVOLUTION OF THE MINERAL WORLD**, Syktyvkar, Russia. (Dr V Rakin, Institute of Geology Komi Sci. Centre Ural Div. RAS, 54 Pervomayskaya str., Syktyvkar 167610, Russia. Phone: (8212) 42 00 37; telefax: (8212) 42 53 46; e-mail: semw@geo.dereza.komi.su)

15-18 June 1997

**SOUTH AMERICAN SYMPOSIUM ON ISOTOPE GEOLOGY**, São Paulo, Brazil. (Professor Miguel A S Basei, PO Box 11348, São Paulo, Brazil. Phone: (55-11) 818 3994; telefax: (55-11) 8183993; e-mail: baseimas@usp.br)



August (end) 1997

- **CARBON-CONTAINING FORMATIONS IN GEOLOGICAL HISTORY** (Regional Conference), Petrozavot'sk, Russia. (Dr S I Rybakov, Institute of Geology of Karelian Division of RAS, ul. Pushkina, 11 Petrozavot'sk, 185000 Russia)

## September

1-5 September 1997

- **CHALLENGES TO CHEMICAL GEOLOGY '97** (10th meeting of the Association of European Geological Societies), Carlsbad, Czech Republic. (Dr M Novák, Czech Geological Survey, Geologická 6, 152 00 Prague 5, Czech Republic, telefax: +42-2-5818748; e-mail: maegs@cgu.cz; www: <http://www.cgu.cz/maegs.html>)

1-5 September 1997

- **GEOLOGY AND ENVIRONMENT**. (Part of 50th Geological Congress of Turkey), Istanbul, Turkey. (Associate Professor Dr Ilyas Yilmazer, Yenisehir Bayindir Sokak 7/1, PO Box 464, Yenisehir 06444, Ankara, Turkey. Phone: 90 312 435 07 17; telefax: 90 312 434 23 88; e-mail: [tmobj-o@servis2.net.tr](mailto:tmobj-o@servis2.net.tr); www: <http://www.info-mine.com/events/access/970901geo.html>)

1-5 September 1997

- **IEC '97: FIFTH INTERNATIONAL ECLOGITE CONFERENCE**, Ascona, Switzerland. (Professor V Trommsdorff and Dr R Schmid, Mineralogy IEC 97, ETH centre, 8092 Zurich, Switzerland. Phone: XX41 1 632 3791; telefax: XX41 1 6321088; e-mail: [rolf@erdw.ethz.ch](mailto:rolf@erdw.ethz.ch))

2-4 September 1997

- **AQUIFER SEDIMENTOLOGY**, Heidelberg, Germany. (T Aigner, Institute of Geology, University of Tübingen, Sigwarstr 10, 72076, Tübingen, Germany. Phone: +49 (0) 7071 29 59 23; telefax: +49 (0) 7071 29 69 90; e-mail: [t.aigner@uni-tuebingen.de](mailto:t.aigner@uni-tuebingen.de))

2-4 September 1997

- **PALAEONTOLOGY AND STRATIGRAPHY OF SOUTH AMERICA** (2nd European Meeting, in conjunction with the 18th IAS Regional Meeting on Sedimentology), Heidelberg, Germany. (Peter Bengtson, Geologisch-Palaontologisches Institut, Im Neuenheimer Feld 234, D-69120 Heidelberg, Germany. Phone: 49 6221 548293; telefax: 49 6221 548640; e-mail: [Peter.Bengtson@urz.uni-heidelberg.de](mailto:Peter.Bengtson@urz.uni-heidelberg.de); WWW: <http://ix.urz.uni-heidelberg.de/~dc8/geo/1st-sam.html>)

2-4 September 1997

- **SOUTH ATLANTIC MESOZOIC CORRELATIONS** (Regional Meeting of IGCP Project 381), Heidelberg, Germany. (Peter Bengtson, Geologisch-Palaontologisches Institut, Im Neuenheimer Feld 234, D-69120 Heidelberg, Germany. Phone: 49 6221 548293; telefax: 49 6221 548640; e-mail: [Peter.Bengtson@urz.uni-heidelberg.de](mailto:Peter.Bengtson@urz.uni-heidelberg.de); WWW: <http://ix.urz.uni-heidelberg.de/~dc8/geo/1st-381.html>)

2-7 September 1997

- **GOLD MINERALIZATION AND GRANITOID MAGMATISM IN THE NORTHERN PACIFIC**, Magadan, Russia. (Scientific Secretary of the Conference, 16 Portovaya, SVKNII DVO RAN, Magadan 68500, Russia. Phone: 413-22-30850; telefax: 413-22-30051; e-mail: [root@neistri.magadan.su](mailto:root@neistri.magadan.su))

7-10 September 1997

- **AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS** (International Conference and Exhibition), Vienna, Austria. (AAPG Convention Department, Box 979, Tulsa, OK 74101, USA. Phone 1/918 560 26 79; telefax: 1/918 560 26 84)

10-12 September 1997

- **INTRAPLATE MAGMATISM AND TECTONICS OF SOUTHERN AFRICA**, Harare, Zimbabwe. (The Conference Secretary, Geological Society of Zimbabwe, PO Box CY1719, Causeway, Harare, Zimbabwe. E-mail: [hmunyan@geology.uz.zw](mailto:hmunyan@geology.uz.zw))

10-15 September, 1997

- **FAULTS AND SUBSURFACE FLUID FLOW: FUNDAMENTALS AND APPLICATIONS TO HYDROGEOLOGY AND PETROLEUM GEOLOGY** (Geological Society of America Penrose Conference), Albuquerque and Taos, New Mexico. (William C. Haneberg, New Mexico Bureau of Mines and Mineral Resources, New Mexico Institute of Mining and Technology, 2808 Central Avenue SE, Albuquerque, NM 87106. E-mail: [haneberg@nmt.edu](mailto:haneberg@nmt.edu))

10-15 September 1997

- **PALEOGEOGRAPHICAL AND GEODYNAMIC CONDITIONS OF VOLCANIC-SEDIMENTARY ORE FORMATION**, Miass, Russia. (Professor V E Popov, Sredny 74, VSEGEL, 199026 St Petersburg, Russia. Telefax: 7 812 213 5738; e-mail: [vsg@sovam.csom](mailto:vsg@sovam.csom))

10-25 September 1997

- **THE ECOLOGICAL SETTING OF EUROPE—FROM THE PAST TO THE FUTURE: HUMAN INFLUENCE ON THE ECOLOGICAL SETTING OF EUROPE SINCE THE BEGINNING OF THE HOLOCENE**, Castelvecchio Pascoli, Italy. (Dr Josip Hendekovic, European Science Foundation, 1 quai Lezay-Mamésia 67080 Strasbourg Cedex, France. Phone: +33 3 88 767135; telefax: +33 3 88 366987; e-mail: [euresco@esf.org](mailto:euresco@esf.org); WWW: <http://www.esf.org/euresco>)

11-14 September 1997

- **ALEWICA-ALPINE EVOLUTION OF THE WESTERN CARPATHIANS AND RELATED AREAS** (International Conference held on the occasion of the 100th anniversary of the birth of Professor D Andrusov), Bratislava, Slovakia. (Dr József Hóc, Slovak Geological Society, Mlynská Dol. 1, SK-81704, Bratislava, Slovak Republic. Phone: +42-7-3705445; telefax: +42-7-371940; e-mail: [hoc@guds.sanet.sk](mailto:hoc@guds.sanet.sk))

9-12 September 1997

- **OFFSHORE EUROPE '97** (Oil and Gas Exhibition and Conference), Aberdeen, Scotland, UK. (Offshore Europe Partnership, Ocean House, 50 Kingston Road, New Malden, Surrey KT3 3LZ, UK)

14-18 September 1997

- **EXPLORATION '97** (4th Decennial International Conference), Toronto, Canada. (I MacLeod, Geosoft Inc., Suite 500, 204 Richmond Street W, Toronto, Ontario ON M5H 2G4, Canada)

15-18 September 1997

- **EAGO/EAGE/SEG MOSCOW '97** (International Conference and Exhibition), Moscow, Russia. (EAGE, PO Box 298, 3700 AG Zeist, The Netherlands)

15-25 September 1997

- **SOUTHERN NEW ENGLAND OROGEN, AUSTRALIA** (SCCS Field and General Meeting 1997), Armidale, Australia. (Dr Ian Metcalf, Department of Geology and Geophysics, University of New England, Armidale, NSW 2351, Australia. Phone: 61 67 73 2860; telefax: 61 67 73 3300; e-mail: [imetcal@metz.une.edu.au](mailto:imetcal@metz.une.edu.au))

16-19 September 1997

- **PLACERS AND WEATHERED-ROCK MINERAL DEPOSITS** (11th International Symposium), Moscow-Dubna, Russia. (N Patyk Kara, Institute of Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry of RAS, Staromostny per., 35, Moscow, 109017, Russia. Phone: 007 095 2308427; telefax: 007 095 230 2179; e-mail: [pkara@igem.msk.su](mailto:pkara@igem.msk.su))

20-25 September 1997

- **POLAR REGIONS AND QUATERNARY CLIMATE: QUATERNARY CLIMATE—INTERHEMISPHERICAL COUPLING**, Acquafredda di Maratea, Italy. (Dr Josip Hendekovic, European Science Foundation, quai Lezay-Mamésia 67080 Strasbourg Cedex, France. Phone: +33 3 88 767135; telefax: +33 3 88 366987; e-mail: [euresco@esf.org](mailto:euresco@esf.org); WWW: <http://www.esf.org/euresco>)

21-27 September 1997

- **GROUNDWATER IN THE URBAN ENVIRONMENT** (27th IAH Congress), Nottingham, UK. (Professor J D Mather, Geology Dept., Royal Holloway and Bedford New College, Egham, Surrey TW20 0EX, UK. Telefax: 784 471780)

22-24 September 1997

- **ELBA ISLAND: A KEY PUZZLE LINKING THE CORSO-SARDINIAN MASSIF AND ADRIA**, Elba Island, Italy. (Mrs Ornella Pollastri, E.I.C.A. Secretary, Dipartimento di Scienze Terra, Università di Firenze, via La Pira 4, Firenze 50121, Italy. Telefax: (39) (55) 2302302; e-mail: [ofio@cesit1.unifi.it](mailto:ofio@cesit1.unifi.it))

23-28 September 1997

- **TECTONICS OF CONTINENTAL INTERIORS** (Geological Society of America Penrose Conference), Brian Head Resort near Cedar City, Utah (Michael Hamburger, Dept. of Geological Sciences, Indiana University, Bloomington, IN 47405, USA. E-mail: [hamburg@ucs.indiana.edu](mailto:hamburg@ucs.indiana.edu))

28 September-2 October 1997

- **BRAZILIAN GEOPHYSICAL SOCIETY**, (5th International Congress), Sao Paulo, Brazil. (Technical Program Committee, Icaro Vitorello, INPE, Caixa Postal 515, 12201-970 Sao Jose dos Campos, Sao Paulo, Brazil)



15-21 June 1997

- **11TH INTERNATIONAL CLAY CONFERENCE**, Ottawa, Ontario, Canada. (Jeanne Percival, Geological Society of Canada, 601 Booth St, Ottawa, Ontario K1A 0E8, Canada. Telefax: 613 943-1287)

16-17 June 1997

- **BIOSTRATIGRAPHY IN PRODUCTION AND DEVELOPMENT GEOLOGY**, Aberdeen, UK. (M Simmons, Department of Geology and Petroleum Geology, University of Aberdeen, Meston Building, King's College, Aberdeen AB9 2UE, UK)

18-19 June 1997

- **LATE QUATERNARY COASTAL TECTONICS**, London UK (Claudio Vita-Finzi, Geological Sciences, University College, Gower St, London WC1E 6BT. Phone: 44 171 3877050 ext 2383; telefax: 44 171 3887614; e-mail: uclbcvf@ucl.ac.uk)

20-25 June 1997

- **TOURMALINE 1997** (International Symposium), Nové Město na Moravě, Czech Republic. (M Novák, Department of Mineralogy and Petrography, Moravian Museum, Zelný trh 6, 659 37 Brno, Czech Republic. Telefax (05)42 21 27 92)

23-27 June 1997

- **ENGINEERING GEOLOGY AND THE ENVIRONMENT** (International Symposium of LAEG), Athens, Greece. (Symposium Secretariat, PO Box 19140, GR-117 10 Athens, Greece. Telefax: 301 381 3900; 301 924 2570)

26-27 June 1997

- **UNRAVELLING TECTONIC AND CLIMATIC SIGNALS IN SEDIMENTARY SUCCESSIONS**, London, UK. (L Frostrick, University of Hull, Cottingham Rd, Hull HU6 7RX, UK.)

## July

1-4 July 1997

- **EUROPEAN CURRENT RESEARCH ON FLUID INCLUSIONS**, Nancy, France. (XV E-CROFI, CREGU, BP 23, 54501 Vandœuvre-lès-Nancy Cédex, France. Phone: +33-83-441900; telefax: +33-83-44029; e-mail: crofi@cregu.cnrs.nancy.fr)

7-10 July 1997

- **REMOTE SENSING TECHNOLOGY, MEASUREMENTS AND ANALYSIS** (3rd International Conference), Copenhagen, Denmark. (Robert Rogers, ERIM Conferences, Box 134301, Ann Arbor, MI 48113-4001, USA. Phone: 313 994 1200; telefax: 313 994 5123; e-mail: raeder@erim.org; WWW: <http://www.erim.org/CONF/>)

7-11 July 1997

- **SEG/IFMO/EAGE ISTANBUL '97** (International Geophysical Conference and Exposition), Istanbul, Turkey. (EAGE Conferences bv, PO Box 298, 3700 AG Zeist, The Netherlands)

12-17 July 1997

- **VERTEBRATE MORPHOLOGY** (5th International Congress), Bristol, UK. (J M V Raynor, School of Biological Sciences, University of Bristol, BS8 1UG, UK. Phone: 44 117 928 111; telefax: 44 117 025 7374; e-mail: icvm97@bristol.ac.uk)

18-20 July 1997

- **WATER POLLUTION MODELING, MEASURING AND PREDICTION** (4th International Conference), (Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton SO40 7AA, UK. Phone: 44 1703 292853; e-mail: WIT@wessex.witmi.ac.uk; <http://www.witmi.ac.uk>)

20-24 July 1997

- **HYDROTHERMAL REACTIONS** (5th International Symposium), Gatlinburg, Tennessee, USA. (ISHR '97, ORNL, Bldg 4500S, PO Box 2008, Oak Ridge, TN 37831-6110, USA. Phone +1-423-576-5109; +1-423-574-4961; e-mail: ddp@ornl.gov)

20-27 July 1997

- **DEVONIAN CYCLICITY AND SEQUENCE STRATIGRAPHY** (Subcommission on Devonian Stratigraphy Symposium and field trips), Rochester, New York, USA. (William Kirchgasser, Department of Geology, SUNY Potsdam, Potsdam, NY 13676-2294, USA. Phone: 315 267 2295; telefax: 315 267 3170; e-mail: kirchgwt@potsdam.edu)

27-31 July 1997

- **OSTROCODA** (13th International Symposium), Greenwich, UK. (ISO '97, School of Earth Sciences, University of Greenwich, Medway Towns Campus, Chatham Maritime, Kent ME4 4AW, UK. E-mail: iso97@greenwich.ac.uk)

30 July-9 August 1997

- **CELEBRATION OF THE BICENTENARY OF CHARLES LYELL AND JAMES HUTTON**, London and Edinburgh, UK. (P Jackson, BGS, Keyworth, Nottingham NG12 5GG. Phone: 0115 936 3100; telefax: 0115 936 3200)

28 July-1 August 1997

- **GEOSCIENCE EDUCATION** (2nd International Conference), Hilo, Hawaii. (Dr Frank Watt Ireton, GeoSciEd II Local Arrangement Coordinator, American Geophysical Union, 2000 Florida Avenue, NW, Washington DC 20009, USA. E-mail: fireton@kosmos.agu.org)

28 July-2 August 1998

- **THE UPPER PERMIAN STRATOTYPES OF THE VOLGA REGION**, Kazan, Russia. (Dr Natalia K Esaulova, Kazanian State University, 18 Kremlyovskaya str., Kazan 420008, Tatarstan, Russia. Phone: (7) 843 2315 425; telefax: (7) 843 2364 704)

## August

August 1997

- **ECONOMIC SUPERACCUMULATIONS OF METALS IN THE LITHOSPHERE** (3rd Annual Meeting of IGC/P Project 354), Puerto Ordaz, Venezuela. Professor P Rongfu, Institute of Mineral Deposits, Chinese Academy of Geological Sciences, Baiwanzhung Rd, Beijing 100037, China. Telefax: 86 10 683 10894)

August 1997

- **GRANITES AND ASSOCIATED MINERALIZATIONS** (2nd International Symposium), Salvador, Brazil. (SGM-2nd ISGAM, General Secretariat, Av. 3, 390, Plataforma IV, CAB 41746-900, Salvador, Bahia, Brazil. Telefax: 5571 231 5655)

3-10 August 1997

- **FIFTEENTH BRAZILIAN CONGRESS OF PALAEOONTOLOGY**, Rio Claro, Brazil. (Reinaldo J Bertini, Department of Sedimentary Geology, Institute of Geoscience/UNESP Rio Claro-SP, 13506-900 Brazil. Phone: 019 534 0522, ext. 234; telefax: 019 534 0327; e-mail: bertini@geo001.uesp.ansp.br)

4-8 August 1997

- **VII CHILEAN GEOLOGICAL CONGRESS**, Antofagasta, Chile. (Comité Organizador, VIII Congreso Geológico Chileno, Departamento de Ciencias Geológicas, Universidad Católica del Norte, Antofagasta, AV. Angamos 0610, Casilla 1280, Chile. Phone: +56-55241148 (205/368); telefax: +56-55-248198; e-mail: dgeologi@socompa.cccun.ucn.cl)

4-8 August 1997

- **SEG/EAGE ISTANBUL '97 INTERNATIONAL GEOPHYSICAL CONFERENCE AND EXPOSITION**, Istanbul, Turkey. (SEG, PO Box 702740, Tulsa, Oklahoma 74170, USA)

6-8 August 1997

- **IX PERUVIAN GEOLOGICAL CONGRESS**, Lima, Peru. (Comité Organizador del IX Congreso Peruano de Geología, C/o Sociedad Geológica del Perú, Arnaldo Marquez 2227, Lima 11, Peru. Phone: +511-4633947; telefax: +511-2612362)

11-13 August 1997

- **RESEARCH AND EXPLORATION — WHERE DO THEY MEET?** (4th Biennial Meeting of the Society Applied to Mineral Deposits) (Congress Office/SGA Meeting 1997, University of Turku, Lemminkaisenkatu 18-18B, FIN-20520 Turku, Finland. Phone: +358-21-333 6342; telefax: +358-21-333 6410, e-mail: cescon@utu.fi)

17-21 August 1997

- **PALEO FORAMS '97**, Bellingham, Washington, USA. (Charles A Ross, Department of Geology, Western Washington University, Bellingham, WA 98225-9080, USA. Phone: 360 650 3634; telefax: 360 650 3148; e-mail: rossjrp@henson.cc.wvu.edu)

18-29 August 1997

- **INTERNATIONAL ASSOCIATION OF SEISMOLOGY AND PHYSICS OF THE EARTH'S INTERIOR** (29th General Assembly), Thessaloniki, Greece. (29th IASPEI general assembly geophysical laboratory, University, GR-54006, Thessaloniki, Greece. Phone: 30/31 998 528; e-mail: iaspei@olymp.ccf.auth.gr)

19-20 August 1997

- **MINERAL EQUILIBRIA AND DATA BASES** (International Meeting), Helsinki, Finland. (Pentti Hölttä, Geological Survey of Finland, SF-02150 Espoo, Finland. Phone: 358 0 46932312; telefax: 358 0 462205)

28 August-3 September 1997

- **GEOMORPHOLOGY** (4th International Conference of International Association of Geomorphologists), Bologna, Italy. (Planning Congressi, s r l Via Crociali 2, I-40138 Bologna, Italy)



29 September-5 October 1997

- **TETHYAN AND BOREAL CRETACEOUS** (Annual Assembly of IGCP Project 362), Stará Lesná, High Tatra Mountains, Slovakia. (Mascha Tiemessen, Laboratory of Palaeobotany and Palynology, Budapestlaan 4, 3584 CD Utrecht, The Netherlands. Phone: +31 30 2532629; +31 30 2535096; e-mail: M.Tiemessen@boev.biol.ruu.nl)

30 September-3 October 1997

- **CONCEPTS AND MODELS FOR SUSTAINABLE WATER RESOURCES MANAGEMENT** (FRIEND '97 Conference on Regional Hydrology), Postojna, Slovenia. (Dr M Brilly, FGG Hydraulics Division, Hajdrihova 28, 6100 Ljubljana, Slovenia. Phone: (386) 61 1254 333; telefax: (385) 61 219 897; e-mail: mitja.brilly@uni-lj.si)

30 September-5 October 1997

- **MAIN CHANGES IN THE MARINE AND TERRESTRIAL ATLANTIC REALM DURING THE NEOGENE** (2nd Regional Congress), Salamanca, Spain. (Departamento de Geología (Palaeontología), Facultad de Ciencias, Universidad de Salamanca, 37008 Salamanca, Spain. Phone: 34 23 294497; telefax: 34 23 394514; e-mail: Civis@gugu.usal.es/Angel@gugu.usal.es)

## October

5-10 October 1997

- **ENVIRONMENTAL GEOCHEMISTRY** (4th International Symposium), Vail, Colorado, USA. (R C Severson or I P Gough, US Geological Survey, DFC, Box 25046, MS 973, Denver Colorado 80225, USA. Telefax: (1) 303 236 3200)

6-10 October 1997

- **MATHEMATICAL METHODS IN GEOLOGY** (Part of the Mining Příbram Symposium), Prague, Czech Republic. (V Němec, Kryničtím 17, 100 00 Praha 10-Strašnice, Czech Republic. Phone: 422 7811801; telefax: 42306 23169)

6-11 October 1997

- **THE BALTIC** (International 5th Marine Geological Conference), Vilnius, Lithuania. (Professor Algimantas Grigelis, Lithuanian Institute of Geology, LT 2600 Vilnius, Lithuania. Phone: +370 2 236504; telefax: +370 2 236408; e-mail: grigelis@geology.aiva.lt)

12-16 October 1997

- **TECHNOLOGY AND GLOBALISATION: LEADING THE PETROLEUM INDUSTRY INTO THE 21ST CENTURY**, (15th World Petroleum Congress), Beijing, China. (Organising Committee, c/o China National Petroleum Corporation, PO Box 766, Liu PU Kang, Beijing 100724, China)

20-22 October 1997

- **IMPROVED OIL RECOVERY** (9th European Symposium), The Hague, The Netherlands. (IOR '97, EAGE, PO Box 298, 3700 AG Zeist, The Netherlands)

20-23 October 1997

- **GEOLOGICAL SOCIETY OF AMERICA ANNUAL MEETING**, Denver, Colorado, USA. (GSA Meetings Department, PO Box 9140, Boulder, CO 80301, USA. Phone: 800 472 1988)

26-29 October 1997

- **PETROLEUM GEOLOGY OF NORTH-WEST EUROPE** (5th Conference and Exhibition), London, UK. (CASIL, 4 Cavendish Square, London, W1M 0BX, UK. Phone 44/171 499 0900; telefax: 44/171 629 3233)

## November

2-7 November 1997

- **THE NEXT DIMENSION** (SEG International Exposition and 67th Annual Meeting), Dallas, USA. (Lynne Edleston/Mike McCormack, Technical Program Co-Chairmen, SEG 1997 International Exposition and 67th Annual Meeting, PO Box 702740, Tulsa, OK 74170-2740, USA)

7-8 November 1997

- **ORDERING THE FOSSIL RECORD—CHALLENGES IN STRATIGRAPHY AND PALEONTOLOGY**, (Cor Drooger symposium), University of Utrecht, The Netherlands. (Ank Pouw, Institute of Earth Sciences, Utrecht University, Budapestlaan 4, 3584 CD Utrecht, The Netherlands. Phone: 31-(0) 30-2535117; telefax: 31-(0) 30-2535117; e-mail: apouw@omega.earth.ruu.nl)

11-13 November 1997

- **SECOND NEPAL GEOLOGICAL CONGRESS**, Kathmandu, Nepal. (Dr B N Upreti, President and Convenor, Nepal Geological Society, PO Box 231, Kathmandu, Nepal. Phone: 977-1-416386, telefax: 977-1-414804)

17-19 November 1997

- **APPLIED GEOLOGIC REMOTE SENSING**, (12th International Conference and Workshop), Denver, Colorado, USA. (Robert Rogers, ERIM, Box 134001, Ann Arbor, MI 48113 4001 USA. Phone: (1) 313 994 1200; telefax: (1) 313 994 5123; e-mail: raeder@erim.org)

## December

4-12 December 1997

- **JURASSIC/CRETACEOUS CARBONATE PLATFORM—BASIN SYSTEMS—MIDDLE EAST MODELS**, Al Ain, United Arab Emirates. (Judy Tarpley, SEP, 17311: 71st Street, Tulsa, OK 74136-5108, USA. Phone: 918 493-3361 ext.22; telefax: 918 493-2093)

11-14 December 1997

- **ALPINE EVOLUTION OF THE WESTERN CARPATHIANS AND RELATED AREAS**, Bratislava, Slovakia. (Josef Hök, Slovak Geological Society, Mlynska dol.1, 817 04 Bratislava. Phone: (00427) 37 05 445; telefax: (00427) 37 19 40; e-mail: hok@gds.sanet.sk)

# 1998

## CANADIAN INSTITUTE OF MINING,

**METALLURGY AND PETROLEUM** (100th annual general meeting), Quebec, Canada. (John Gaydos, Meetings Manager, Canadian Institute of Mining and Metallurgy, 1 Place Alexis Nihon, 1210-3400 de Maisonneuve Boulevard West, Montreal, Quebec H3S 3B8, Canada. Phone: (514) 939-2710; telefax: (514) 939-2714)

## January

28-30 January 1998

- **EXPLORATION METHODS '98: PATHWAYS TO DISCOVERY** (International Meeting following annual Cordilleran Roundup), Vancouver, Canada. (BC and Yukon Chamber of Mines, Attn. Technical Chair, 840 West Hastings St., Vancouver, British Columbia, Canada V6C 1C8. Telefax: 604 681 2363)

## April

13-17 April 1998

- **15TH INTERNATIONAL SEDIMENTOLOGICAL CONGRESS**, Alicante, Spain. (15th International Sedimentological Congress, Departamento de Ciencias de la Tierra y Medio Ambiente, Facultad de Ciencias, Campus de San Vicente de Raspeig, Universidad de Alicante, Apdo 99, 03080 Alicante, Spain. Phone: 34 65903552; telefax: 34 65903552; e-mail:ctierra@vm.cpd.ua.es)

13-17 April 1998

- **KIMBERLITES** (5th International Conference), Cape Town, South Africa. (J J Gurney, 71KC, Department of Geological Sciences, University of Cape Town, Private Bag, Rondebosch 7700, South Africa. Phone: 27 21 531 3162; telefax: 27 21 650 3783; e-mail: 71KC@GEOLOGY.UCT.AC.ZA URL: <http://www.uct.ac.za/depts/geolsci/71KC/>)

14-18 April 1998

- **GEOSCIENCE '98**, Keele University, UK. (The Conference Department, The Geological Society, Burlington House, Piccadilly, London W1V 0JU, UK. Phone: 0171 434 9944; telefax: 0171 439 8975; e-mail: conf@geolsci.city-cape.co.uk)

19-23 April 1998

- **COMPUTER APPLICATIONS IN THE MINERALS INDUSTRY—APCOM '98** (27th International Symposium), London, UK. (Conference Office, Institution of Mining and Metallurgy, 44 Portland Place, London W1N 4BR, UK. Phone: +44 (0)171 580 3802; telefax: +44 (0)171 436 5388; e-mail: 106115.233@compuserve.com)

20-22 April 1998

- **GEO '98** (Middle East Geosciences Exhibition and Conference), Bahrain. (Stephen Key, Arabian Exhibition Management WLL, PO Box 20200, Manama, Bahrain. Phone: 973 550033; telefax: 973 553288)