

## Production Department Keeps GSA Publications Moving

By Jim Clark

GSA's Production Department staff must think ahead—way ahead—to ensure that the *Bulletin*, *Geology*, *Abstracts with Programs*, *News & Information*, GSA books, and myriad other publications are produced economically and on time. This small group is involved in every stage of the publication process, starting well before manuscripts are even submitted to GSA.

### Groundwork—Mail Permits, Vendors' Bids

For example, in the case of our four periodicals (*Bulletin*, *Geology*, *News & Information*, and *Abstracts with Programs*), Production Manager Jim Clark (who has been with GSA for 4-1/2 years) is busy a year in advance, filing applications and entry and/or re-entry applications for the four second-class mail permits for the following year. He must also complete several detailed reports required by the U.S. Postal Service for each of these periodicals.

In addition, Jim prepares specifications and schedules for the following year's typesetting, printing, binding, packaging, mailing, and shipping of the publications. He provides these to about 30 vendors for competitive bidding. Jim reviews the resulting quotations in coordination with Executive Director F. Michael Wahl, in his capacity as Publications Manager, along with others on the staff where appropriate. Negotiations with vendors complement this process until final agreements are reached and purchase

orders are written for the following year's business. This work begins about May each year and is completed by September.

### Periodicals, Program Abstracts

Starting in October, the Production Department staff receives the first bundles of edited copy, illustrations, photos, and other items to be translated into the typeset and formatted pages for the January issues of *Bulletin*, *Geology*, and *News & Information*. The first raw material for *Abstracts with Programs* usually arrives about mid-November. Thus, the publication production year begins again. From this point on, at any given time the production staff typically will be heavily involved in three to five different issues of four different periodicals, each at a different stage of development.

Meredith Larson, Assistant Production Manager, is the newest member of the production staff; she began work at GSA on August 1, 1983. When edited manuscripts are released to the Production Department by the editors, Meredith, under Jim's general direction, has overall responsibility for keeping all periodicals on their deadline schedules through typesetting, proofreading, dummied, final corrections, and paste-up into camera-ready form. She also has specific responsibility for the coordination of *Geology* with the managing editor through typesetting, paste-up,

(continued on p. 38)



Production Manager Jim Clark oversees all—from typesetting to mailing.



Assistant Production Manager Meredith Larson schedules and coordinates periodicals, as well as developing graphics projects.



**Production Specialist June Thomas, an expert typesetter, also coordinates periodicals and memorials production and proofreading.**



**Abstracts Coordinator Miriam Hansen generates programs and indexes for GSA's section and annual meeting *Abstracts with Programs*.**

**Production Department** (continued from p. 37)

and printing, including some actual paste-up and a great deal of other detail work. She has this same type of specific responsibility for all issues of *Abstracts with Programs*, and she shares with June Thomas these responsibilities for *News & Information*.

Meredith's work includes preparation of complicated monthly shipping instructions for all periodicals, production of special graphics projects for all other departments, management of typesetting machines, litho camera, and darkroom, some responsibilities for the Publications Department computer system, and purchase of graphics and art supplies. She also is learning GSA's computing and word-processing systems.

Working with Meredith is Production Specialist June Thomas, a veteran of 11 years at GSA. June's primary responsibilities are the coordination of the *Bulletin* between managing editor and typesetter, daily management of the on-call, part-time proofreading staff of eight, some composition and paste-up work on *News & Information*, production of the numerous memorials that GSA publishes annually, and a share of the steady stream of graphics requests from other GSA departments.

Miriam Hansen, GSA's Abstracts Coordinator for the past 3-1/2 years, is not strictly a production person, but she does play a vital part in the production of the six or seven annual issues of the *Abstracts with Programs* series. She churns out programs, indexes, and other material for these issues on the computer and word processor, proofreads typeset copy, and ensures that the production for these issues meets the specifications and deadlines. When no *Abstracts with Programs* are in production, Miriam provides valuable secretarial and clerical assistance for the combined Production and Marketing departments.

Ann Fogel, a member of the Production Department since 1979, has now moved to the Marketing Department, where she is Marketing and Advertising Assistant (more about this side of Ann's work and the Marketing function in general in a future article). Ann still does some graphic production, but only in connection with Marketing Department projects such as the Publications Catalog and advertisements for new publications.

**Books, Maps and Charts**

The Production Department produces many other items besides the periodicals. The most important of these are GSA's books and maps and charts. The Production Manager must prepare specifications, seek and evaluate competitive bids, negotiate

contracts, place orders, prepare shipping instructions, and perform many other tasks connected with the typesetting, printing, binding, packaging, and shipping of GSA's *Memoirs*, *Special Papers*, *Reviews in Engineering Geology*, *Engineering Geology Case Histories*, *Memorials*, and *Membership Directory*. These responsibilities will increase significantly as GSA moves into the production stage on the *Decade of North American Geology* publications.

**Trend Is Upward**

In 1982, GSA published nearly 7,000 pages of science in its two monthly periodicals, one bimonthly periodical, three annuals, four monograph series, and reprints, plus six geologic maps. In 1983, this number grew to 9,000 pages—plus eight geologic maps. The trend is definitely upward as GSA seeks more book manuscripts. This small group of production people is doing its best to see that all the work gets done and that GSA's publications are attractive, economical, and available on a timely basis to the geologic community.

**In Memoriam**

- |   |  |
|---|--|
| Allan W.H. Bé<br>Palisades, New York          | Richard H. Jahns<br>Menlo Park, California |
| C. Harry Burgess<br>Abbeville, South Carolina | Howard E. Rothrock<br>Tyrone, New Mexico   |
| O. Frank Tuttle<br>Tucson, Arizona            |  |

**GSA News & Information**

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Prepared from contributions from the staff and membership. Executive Director: F. Michael Wahl; Managing Editor: Faith Rogers; Associate Editor: Lee Gladish; Production and Advertising Manager: James R. Clark; Assistant Production Manager: Meredith Larson; Production Assistants: Ann H. Fogel and June E. Thomas.



# CENTENNIAL NEWS

by Allison R. (Pete) Palmer

## The Geology of North America Continues to Grow

Two more Canadian synthesis volumes for the Decade of North American Geology series on *The Geology of North America* are now organized. With the publication of the two outlines below, the number of volumes of *The Geology of North America* that have formally reached

the stage of having committed authors at the chapter level has reached fifteen. Manuscript preparation for these books is now underway. The first of the books to be published should appear later this year.

### The Canadian Appalachian Region

(with a contribution on the Greenland Caledonides)

- A. Introduction—*H. Williams*
- B. Subdivisions of the Canadian Appalachians—*H. Williams*
- C. Stratigraphic and Tectonic Analyses—*H. Williams*
- D. Geophysical Characteristics—*H. G. Miller*
- E. Structural Styles and Time of Deformation—*J. D. Keppie*
- F. Metamorphism—*W. E. Trzcieski*
- G. Plutonism—*K. L. Currie*
- H. Volcanic Regimes—*D. F. Strong*
- I. Metallogeny and Resources—*P. L. Dean*
- J. Ophiolites and Melanges—*J. G. Malpas*
- K. Geochronology and Thermal History—*R. D. Dallmeyer*
- L. Faunas and Faunal Provinces—*R. B. Neuman, G. S. Nowlan*
- M. Offshore Extensions—*R. T. Haworth, J. S. Bell*
- N. Correlations and Comparisons with U.S. Appalachians—*H. Williams*
- O. North Atlantic Borderlands and the Appalachian-Caledonian Connection—*H. Williams*
- P. Greenland Caledonides as Part of the North American Plate—*Geological Survey of Greenland*
- Q. Syntheses, Models, Trends, and Outlook—*H. Williams*

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### The Cordilleran Orogen: Canada

- A. Introduction—*H. Gabrielse, C. J. Yorath*
- B. Tectonic Framework
  - 1. Plate-tectonic framework—*H. Gabrielse, C. J. Yorath*
  - 2. Tectonic assemblages—*H. Gabrielse, C. J. Yorath*
  - 3. Geological terranes—*J.W.H. Monger*
  - 4. Geological belts—*J. O. Wheeler*
  - 5. Paleomagnetic signatures—*E. Irving, J. Wynne*
  - 6. Paleontological signatures—*C. A. Ross, J.R.P. Ross, M. J. Orchard, H. W. Tipper*
- C. Crustal Geophysics—*J. F. Sweeney, R. Currie, R. M. Clowes*
- D. Basement Rocks—*R. R. Parrish*
- E. Mid-Proterozoic Assemblages—*J. D. Aitken*
- F. Upper Proterozoic Assemblages—*G. H. Eisbacher*
- G. Lower Cambrian to Middle Devonian Assemblages
  - 1. Summary—*H. Gabrielse*
  - 2. Ancestral North America

- a. Cambrian—*W. H. Fritz*
- b. Ordovician and Silurian—*B. S. Norford, M. P. Cecile*
- c. Devonian—*A.E.H. Pedder, D. Morrow*
- 3. Allochthonous terranes—*R. B. Campbell, C. J. Dodds*
- H. Upper Devonian to Middle Jurassic Assemblages
  - 1. Summary—*S. J. Gordey, J.W.H. Monger*
  - 2. Ancestral North America—*S. J. Gordey, L. Hills, E. W. Bamber, D. W. Gibson, D. F. Stott*
  - 3. Allochthonous terranes—*J.W.H. Monger, H. W. Tipper, D. J. Tempelman-Kluit*
- I. Upper Jurassic to Paleogene Assemblages
  - 1. Summary—*C. J. Yorath, G. H. Eisbacher*
  - 2. Foredeeps—*D. F. Stott, C. J. Yorath*
  - 3. Successor basins—*G. H. Eisbacher, C. J. Yorath, R. M. Bustin, H. W. Tipper*
  - 4. Volcanic rocks—*J. G. Souther, G. J. Woodsworth*
- J. Neogene and Quaternary Assemblages—*C. J. Yorath, J. G. Souther, W. H. Mathews*
- K. Physiographic Evolution and Glaciation—*J. J. Clague, W. H. Mathews*
- L. Modern Plate Tectonic Regime—*R. P. Riddihough, R. D. Hyndman*
- M. Volcanic Regimes—*J. G. Souther*
- N. Plutonic Rocks—*R. L. Armstrong, J. A. Roddick, G. J. Woodsworth, R. G. Anderson, D. J. Tempelman-Kluit, H. Gabrielse*
- O. Regional Metamorphism—*H. J. Greenwood, G. J. Woodsworth, E. D. Ghent*
- P. Structural Styles—*D. G. Cook, D. K. Norris, R. I. Thompson, M. E. McMechan, R. L. Brown, P. S. Simony, L. C. Struik, H. Gabrielse, J. L. Mansy, D. J. Tempelman-Kluit, C. J. Dodds, G. J. Woodsworth, J.W.H. Monger, C. J. Yorath, P. B. Read, S. P. Gordey*
- Q. Tectonic Evolution and Comparative Tectonics—*R. A. Price, J.W.H. Monger, H. Gabrielse*
- R. Regional Metallogeny—*K. M. Dawson, A. Panteleyev*
- S. Energy and Groundwater Resources
  - 1. Oil and gas—*C. J. Yorath*
  - 2. Coal—*R. M. Bustin*
  - 3. Uranium—*R. T. Bell*
  - 4. Geothermal—*J. G. Souther*
  - 5. Groundwater—*E. C. Halstead*
- T. Natural Hazards—*J. J. Clague, G. H. Eisbacher*
- U. Outstanding Problems—*H. Gabrielse, C. J. Yorath*



# GSA Names Orlando New Site For 1985 Annual Meeting

By Sue Beggs

The Geological Society of America announced on January 18, 1984, that Orlando, Florida, will be the site of its 1985 Annual Meeting, October 28 through October 31.

Orlando replaces Boston, which had been chosen previously as the site of the 1985 meeting. The reason for the abrupt change is that Boston's Hynes Auditorium, which had been scheduled as the primary site of technical sessions and exhibits, will be closed for renovation. The Massachusetts Convention Authority announced on September 30, 1983, that the Hynes would be closed from early 1985 through 1987. The news reached GSA only 30 days before its 1983 Annual Meeting in Indianapolis. During that 30-day period, every effort was made to find an alternative site in Boston. Many geologists were looking forward to the Boston meeting, and the Society had no desire to change locations. Neither appropriate facilities nor viable dates were available, however, leaving no alternative but to find a new site.

James W. Skehan, general chairman for the Boston meeting, agreed that none of the options in Boston were suitable. He cordially invited GSA to try again when the Hynes Auditorium renovation has been completed.

## Convention Center

The Orlando Convention Center, an excellent facility, opened in February 1983. Fortunately, the new Convention Center and the area hotels had October 28 to October 31, 1985, open.

GSA usually schedules its meetings six to eight years in advance—because of the competition for good facilities among groups with similar size and requirements. The Society is fortunate to be able to find a good solution to a critical problem.

## Local Committee

Anthony F. Randazzo is coordinating sponsorship of the meeting. The University of Florida will be the host institution, with the cooperation of other Florida universities. Members of the local committee as we go to print are

General Chairman: Anthony F. Randazzo, University of Florida

Co-Chairman: Sam B. Upchurch, University of South Florida—Tampa

Technical Program Chairman: James F. Tull, Florida State University.

Field Trip Chairman: Douglas L. Smith, University of Florida

## Location

The Orange County Convention/Civic Center is in the heart of one of the world's most popular tourist destinations. Within a 10-minute drive are Walt Disney World®, featuring EPCOT Center and the Magic Kingdom®, and Sea World. Within a 30-minute drive is Cypress Gardens, and within a 60-minute drive are both Busch Gardens and the Kennedy Space Center. The October dates for the GSA meeting offer the advantage of good weather during a lull in the tourist season.

EPCOT Center, the Experimental Prototype Community of Tomorrow, dramatizes the history and impact of technology on modern living. EPCOT Center spotlights futuristic ideas and technologies, along with art, culture, craftsmanship, and natural wonders of great nations. Its theme areas, World Showcase and Future World, introduce new dimensions in entertainment based largely on human achievements and creative ideas shaping future possibilities. World Showcase, arranged around a 41-acre lagoon,

presents the architectural, social, and cultural heritages of nine nations. Each country's famous architectural landmarks are re-created, along with authentic town scenes. Guests can also sample native cuisine, watch artisans, or browse through shops. Future World contains seven major pavilions and exhibit areas sponsored by leading U.S. companies. They present the themes of communications, energy, transportation, agriculture, imagination, technology, and future life styles. Each, uniquely designed to complement its themes, is dominated by Spaceship Earth, the symbol of EPCOT Center.

## Transportation

The new Orlando airport is about 15 miles from the Convention Center headquarters area. Almost all of the major air carriers fly to Orlando, making it accessible from all parts of the U.S.

Regular limousine service between the hotels and airport costs about \$6. Many hotels provide complimentary vans. Rental cars are available at reasonable rates. In addition, there is complimentary transportation to most of Orlando's visitor attractions.

## Florida Geology

Florida has a complex pre-Cretaceous tectonic history, with igneous and metamorphic basement rocks as old as Cambrian. The oldest rocks exposed in the state are middle Eocene; carbonate rocks are dominant. Miocene and younger sandstone, clay, and carbonate rocks blanket most of the peninsula. Phosphatic and heavy mineral sands are abundant and represent important economic resources. Living coral reefs and associated carbonate environments of deposition occur in the Florida Keys.

Concern for the fragile ecosystem of Florida and the impact of a rapidly growing population have focused attention on environmental geology. Water-related issues include utilization and preservation of wetlands, erosion and sedimentation factors in agricultural practices, saltwater intrusion in coastal areas, shoreline erosion, groundwater contamination, disposal of hazardous waste, development of sinkholes, and the interaction of water resources and industrial activities. Other concerns include the development of Florida's extensive peat deposits as agricultural and energy resources, the exploitation of mineral deposits and petroleum reserves, and the accompanying environmental impact.

The technical program and field trips for the 1985 Annual Meeting of the Geological Society of America will address these nationally significant geotechnical issues.

## 1985 GSA Annual Meeting, Orlando, Florida

General Chairman: Anthony F. Randazzo, Dept. of Geology, University of Florida, Gainesville, FL 32611; (904) 392-6127

Technical Program Chairman: James F. Tull, Dept. of Geology, Florida State University, Tallahassee, FL 32306; (904) 644-1488

Field Trip Chairman: Douglas L. Smith, Dept. of Geology, University of Florida, Gainesville, FL 32611; (904) 392-6766

*Field-trip proposals due June 1, 1984*

*Symposia proposals due January 1, 1985*

For other information, contact Sue Beggs, Meetings Manager, GSA, P.O. Box 9140, Boulder, CO 80301; (303) 447-2020.

# CORDILLERAN SECTION, GSA

## Annual Meeting, Anchorage, Alaska, May 30–31 and June 1, 1984

The Cordilleran Section of the Geological Society of America, the Seismological Society of America, and the Pacific Coast Section of the Paleontological Society will hold their annual meetings at the Anchorage Convention Center, Anchorage, Alaska, May 30–31 and June 1, 1984. This will be the 80th Annual Meeting of the Cordilleran Section, and it is sponsored by the University of Alaska, Fairbanks, the State of Alaska Division of Geological and Geophysical Surveys, the Alaska Geological Society, and the Alaska Chapter of the Earthquake Engineering Research Institute.

### REGISTRATION

Registration is required for all of those attending the meetings, field trips, exhibits, and spouse-guest programs. Registration will be held from 1700 to 2200 hours on May 29, from 0730 to 1730 hours on May 30 and 31, and from 0800 to 1300 hours on June 1 in the Mezzanine Lobby of the Anchorage Westward Hilton.

**Preregistration forms must be received by April 28, 1984.** Those planning to attend field trips should preregister by April 20, 1984. Refunds on canceled registrations will be made in full through April 28, 1984. After this date, no refunds will be made except if a field trip is canceled.

Admission to the meetings and associated functions is by badge only. A list of preregistrants will be available at the registration desk and at the information centers in the major hotels and the convention center.

### WELCOMING PARTY

A welcoming party for all those attending the meetings will be held from 1900 to 2300 hours on Tuesday, May 29, 1984, in the ballroom at the Anchorage Westward Hilton.

### TECHNICAL PROGRAM

Technical sessions will be scheduled as oral presentations and poster sessions on Wednesday, May 30, Thursday, May 31, and Friday, June 1.

#### Symposia

1. **Yukon-Koyukuk Basin and Metamorphic Borderlands.** J. Dillon, W. W. Patton.
2. **Paleogeography: Eastern Siberia–Alaska–Western Canada.** K. Fugita, H. Gabrielse, D. Stone.
3. **Quaternary Geology of the Copper River Basin.** D. Nichols, R. Thorson, J. Williams.
4. **Geology of Southwest Alaska: A Memorial to Joe Hoare.** W. Coonrad, J. Decker, R. Wilson.
5. **Accreted Terranes of the Alaska Range Region: Stratigraphy, Structure and Tectonics.** W. Gilbert, W. Nokleberg.

Joint symposium with the Pacific Coast Section of the Paleontological Society:

6. **Paleontology and Paleoecology of Active Continental Margins.** D. Bottjer, C. Newton.

Joint symposia with the Seismological Society of America:

7. **Deep Crustal Structure Studies.** K. Aki, F. Cook.
8. **The Bering Sea and Its Margins.** K. Jacob, S. Mahlburg-Kay, D. Scholl.
9. **Consuming Plate Boundaries.** G. Plafker.

Other symposia of the Seismological Society of America:

10. **Strong Ground Motions and Engineering Seismology.** S. T. Algermissen.
11. **Space Techniques in Geodesy—With Applications to Tectonics.** M. Roth.

Special symposium sponsored by the Alaska Chapter of the Earthquake Engineering Research Institute:

12. **Earthquake Engineering in Alaska.** J. Aho.

### PROJECTION EQUIPMENT

All slides used in presentations must be 2" x 2" and fit in a standard 35 mm carousel tray and projector. Only one projector and screen will be used in each of the technical sessions. A speaker ready room will be available where slides may be loaded and previewed. Extra carousels will be provided in this room.

### SPECIAL EVENTS

The dates, times, and locations of business meetings, luncheons, receptions, etc. will be given in the program and posted at the registration desk and other information centers.

### SPOUSE/GUEST ACTIVITIES, ENTERTAINMENT, AND TOURS

An interesting and informative sightseeing trip around the Anchorage area, with emphasis on Earthquake Park, will encompass downtown historical points, residential highlights, Earthquake Park, Anchorage Historic and Fine Arts Museum, and Lake Hood. This trip will last about 3½ hours and will cost \$22.00 per person.

A second trip in the Anchorage area will provide a special presentation of civic and native history at the Anchorage Historic and Fine Arts Museum, combined with lunch and a visit to a local fur factory. Cost to be determined.

Information on other entertainment and tours is available from Conventions Alaska. Call before the meeting (800-544-2224) or stop by the information booth next to the registration desk in the Anchorage Westward Hilton.

### EXHIBIT SPACE

Exhibit space will be available on the ground level of the Anchorage Convention Center. Standard (9' x 10') and double-size booths will be available for \$300 and \$600, respectively, for the three days of the meeting. A limited number of booths will be available at half-price for educational and nonprofit institutions. For additional information, contact Hans Pulpan, Geophysical Institute, University of Alaska, Fairbanks, Alaska 99701; (907) 474-7424.



## TRAVEL

All travel arrangements (air travel, hotels, registration, field trips, tours, special events) should be made through Conventions Alaska by calling their toll-free number: 800-544-2224.

Special arrangements have been made with American and Alaska Airlines to provide convenient and low-cost travel to and from Anchorage. You may book these special fares by calling Conventions Alaska at the toll-free number, 800-544-2224.

**Early Bird Special.** As an incentive to book early to facilitate our preparation for this meeting, Conventions Alaska and American Airlines are offering the following drawings among the first 300 people to purchase airline tickets through Conventions Alaska:

1. Conventions Alaska will award a free two-day, one-night excursion for two to Columbia Glacier following the meeting.
2. American Airlines will award two free round trips to any American Airlines destination in the continental United States, Hawaii, U.S. Virgin Islands, or Puerto Rico.

Air travel and registration may be paid for by check (made out to "Conventions Alaska, GSA Meeting") or by using your Master Card, VISA, or American Express charge accounts.

**Student Financial Assistance.** The Cordilleran Section has funds to subsidize travel costs for Cordilleran Section GSA Student Associate Members. Student Associates delivering a paper or poster session should apply by April 28, 1984, for financial assistance. Application forms are available from

Martin Stout  
Department of Geology  
California State University  
Los Angeles, CA 90023.

Preregistration for the meeting is required for a student to be eligible. Successful applicants will be notified prior to the meeting. Awards may be picked up at the registration desk.

## FIELD TRIPS

### Premeeting

1. **Glacial Geology of Glacier Bay, Southeastern Alaska** (May 27-28). Leader: Ross Powell. The group will arrive in Juneau, stay overnight at the Cape Fox Sheffield Hotel, and be transported to Glacier Bay, where the ship will be boarded. Historic locations of glacier fronts in Glacier Bay will be pointed out, and as the cruise continues up Muir Inlet the glacial history from the Pleistocene record will be described. Three tidewater glacier fronts will be visited, and glaciomarine sedimentation processes and lithofacies will be described. The yacht will cruise up the western arm of Glacier Bay to Tarr and Johns Hopkins Inlets, where glaciomarine sediments will be described. On the return a brief visit will be made to Queen Inlet. Return to Juneau will be in time to meet connections to Anchorage. **Limit: 30. Cost: \$360/twin; \$395/single.** Includes hotel in Juneau May 26, transportation between Juneau and Glacier Bay, guidebook, and meals on board.
2. **Bedrock Geology of a Traverse of the Chugach Mountains from Anchorage to Cape Resurrection** (May 27-28). Leaders: R. Hoekzema, M. Miller, G. Winkler. The

melange, flysch, and ophiolite "facies" of the Chugach terrane will be examined in detail from a bus between Anchorage and Seward. Brief reference stops to placer and lode gold mineralization hosted by the flysch in the Crow Creek and Moose Pass districts may be made. The overnight stay in Seward will include a visit to the University of Alaska Marine Institute and an optional movie on the 1964 Alaska earthquake at the Seward historical museum. On the second day, examination of bedrock geology will be from a charter vessel excursion on Resurrection Bay in the morning. Return by bus to Anchorage in the late afternoon. **Limit: 37. Cost: \$215,** including transportation from Anchorage, overnight accommodations, lunch both days, and guidebook.

3. **Surficial Geology and Glacial Stratigraphy in the Upper Cook Inlet Basin, Alaska** (May 27, weather permitting; alternate date: June 2). Leaders: H. R. Schmoll, L. A. Yehle, C. A. Gardner, J. K. Odum. Weather permitting, this trip will offer an aerial reconnaissance west of Anchorage about one hour long, over the Tyonek area, where coal mining is proposed to begin within the next several years. We will observe (1) tidal flats of Cook Inlet, (2) the Susitna escarpment with a complex of moraines, the Castle Mountain fault, landslides, and shorelines of ancestral Cook Inlet, (3) moraines of several ages, (4) the fault scarp along Lone Ridge, and (5) the Nikolai escarpment with large-scale block movement. One stop will be made to view a 3-km-long exposure of gently warped diamicton, in part coal-bearing, of probable late Tertiary age. In the afternoon



we will go by helicopter to Fire Island near Anchorage to view a 6-km-long exposure of complexly interbedded and contorted diamicton, gravel, and sand thought to be of glacio-deltaic origin. **Limit: 22. Cost: \$295**, including transportation from Anchorage, lunch, and guidebook.

4. **Engineering Geology of the Anchorage Area** (May 28). Leaders: R. Updike and L. Dearborn. During the Prince William Sound earthquake of 1964, the city of Anchorage experienced considerable damage and loss of life due to ground shaking and landslides. Within the past five years significant advances have been made in understanding the geologic history and present-day engineering geology of this rapidly growing urban area. The field trip will be a one-day examination of localities in the city that have been the site of geotechnical, geologic, and hydrologic studies. Areas of major ground failures during the earthquake will be visited. Localities where ground and surface hydrology problems peculiar to the region exist will also be included. Emphasis will be on recent advancements and yet-to-be resolved problems, placed in a cultural and geological historic setting. **Limit: 38. Cost: \$40**, including transportation, lunch, and guidebook.
5. **Late Pleistocene and Holocene Deposits of Turnagain Arm** (May 29). Leaders: S. Bartsch-Winkler and H. R. Schmoll. In late Pleistocene and early Holocene time, predominantly glacial processes gave way to glacial, fluvial, tidal, and intertidal processes active today. Sea-level fluctuations and rebound brought on by the melting of ice sheets complicated the geologic and spatial relationships; the story is further confused by recent tectonic overprinting. Several ancient and recent glacier deposits, an intertidal deposit resulting from the great 1964 Alaska earthquake, and four facies of silt and sand deposited in the macrotidal setting of Turnagain Arm estuary will be examined. The last stop of the day will be to observe the Turnagain Arm tidal bore. **Limit: 38. Cost: \$55**, including transportation from Anchorage, lunch, and guidebook.
6. **Willow Creek Gold Mining District, with Stops at the Castle Mountain Fault and Alaska Tsunami Warning Center** (May 29). Leaders: B. Clardy, M. Blackford, G. Visconti. The dominant structural feature of the Matanuska Valley area is the Castle Mountain fault, which transects the area from southwest to northeast. The first stop of this trip will be for a tour of the Alaska Tsunami Warning Station. From there, the group will go to an outcrop showing the Castle Mountain fault. Then the bus will go through Willow on the Parks Highway to the Willow Creek Gold Mining District, where the group will transfer to four-wheel-drive vehicles for the last part of the way to the mine. The rest of the day will be spent inspecting the mine workings. A stop for dinner will be made on the return to Anchorage. **Limit: 38. Cost: \$90**, including transportation from Anchorage, lunch and dinner, and guidebook.
7. **Overflight of the Eastern Aleutian Volcanic Arc** (May 28, weather permitting, or May 29). Leaders: S. Swanson and J. Kienle. The eastern Aleutian arc is an area of active volcanism and includes the site of the largest historic eruption in North America (Valley of 10,000 Smokes, 1912). This trip is a low-level overflight of the eastern Aleutian arc from Mount Spurr near Anchorage to the Katmai area on the Alaska Peninsula. A narrative will describe the eruptive history and petrology of the volcanoes. In addition to the volcanoes, many glaciers can be seen in this region. **Limit:**

**48. Cost: \$320**, including transportation to and from airport, flight of about 4 hours, and guidebook.

#### Postmeeting

8. **Bedrock and Glacial Geology of the Glenn Highway, Anchorage to Matanuska Glacier, and the Matanuska Coal Mining District** (June 2). Leaders: B. Clardy, P. Hanley, C. Hawley, and J. LaBelle. The extensive sedimentary section in the Matanuska Valley includes rocks ranging from Jurassic to Tertiary in age and deeper marine as well as nonmarine units. Rocks of Paleocene age comprise the coal-bearing units of the Matanuska Valley. Structural features include steeply dipping beds caused by compressional tectonics and associated features related to the nearby right-lateral Castle Mountain fault. The Mesozoic and Tertiary "bedrock" is overlain by poorly consolidated Pleistocene and recent units of glacial and fluvial-glacial origin. Spectacular geomorphic features of alpine glaciation can be viewed all along the Matanuska Valley. The last stop of the trip will be at the terminus of the Matanuska Glacier. En route to the glacier, a stop will be made in the Wishbone Hill district of the Matanuska Coal Field, which contains potential economic reserves of bituminous coal in the Tertiary Chickaloon Formation. Main reserves are in the Jonesville, Premier, Eska, and Burning Bed coal groups, separated by clastic strata. Stratigraphy and structural relations are well exposed in some of the old pits, and considerable new subsurface information is available from drilling done in 1983. **Limit: 35. Cost: \$65**, including transportation from Anchorage, lunch, and guidebook.
9. **Geology of the Yukon Tanana Upland, Fairbanks to Livengood Area, Fairbanks Gold Mining District, and Subarctic Periglacial Features** (June 2-3). Leaders: F. R. Weber, T. E. Smith, and M. H. Hall. On the first day the group will examine the stratigraphy of the Precambrian through Mesozoic units present on the northwest flank of the Yukon-Tanana Upland from Fairbanks to Livengood. The Elliot Highway (beginning of the North Slope Haul Road) crosses the regional strike and affords an unusually good example of a variety of lithologies from the upland. Problems with identification, age, correlation, and structural relations of these units, present in several terranes on the south side of the Tintina Fault Zone, will be discussed. The second day's tour will emphasize geology of the historic Fairbanks mining district, including lode and placer gold occurrences, as related to the stratigraphic and structural setting of the district. Subarctic periglacial features exposed in the CRREL permafrost tunnel and in mining operations will be highlighted. **Limit: 35. Cost: \$175**. Tour starts in Fairbanks; participants will make their own arrangements to get there. Cost will include transportation both days, lunch both days, and dinner the first night. Housing not included. Hotel available on request.

#### Guidebooks

Additional copies of the field-trip guidebooks may be purchased at the registration desk. After the meeting the guidebooks may be obtained from the Alaska Geological Society, Inc., P.O. Box 1288, Anchorage, Alaska 99510.

Guidebooks prepared in conjunction with meetings are published and distributed by the sponsors of field trips held at the time of the meeting(s). GSA headquarters does not publish or sell guidebooks.



## PREREGISTRATION FORM

Cordilleran Section, GSA, 80th Annual Meeting  
May 30-31 and June 1, 1984, Anchorage, Alaska

### IMPORTANT

1. Full payment *must* accompany registration. Make checks payable to Conventions Alaska/GSA Meeting.
2. Registrations may be made by telephone by calling Conventions Alaska at 800-544-2224 (toll-free). Telephone registration must be paid for using Master Card, VISA, or American Express charge accounts.
3. Written confirmation of all arrangements for travel, registration, etc., will be mailed to you by Conventions Alaska.
4. Preregistration deadline: **Must be received or postmarked no later than April 28, 1984.** Field-trip preregistrations must be received or postmarked no later than April 20, 1984.

#### For Office Use Only

Ck/M.O. # \_\_\_\_\_ Amount \$ \_\_\_\_\_ Personal check \_\_\_\_\_ MC \_\_\_\_\_ VISA \_\_\_\_\_ AMEX \_\_\_\_\_  
Other check \_\_\_\_\_ Issued by \_\_\_\_\_

Name \_\_\_\_\_  
Last First Middle

Registered as: Professional  Student  Spouse/Guest

Spouse/Guest name for badge \_\_\_\_\_

Affiliation (abbreviate for badge) \_\_\_\_\_

Professional address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone: Business \_\_\_\_\_ Home \_\_\_\_\_

GSA Member Yes  No  Speaker Yes  No

GSA Student Associate Yes  No

Preregistration (prior to April 28)

GSA Member or SSA Member .....	\$45.00	\$ _____
Other Professional .....	\$55.00	\$ _____
GSA Student Associate .....	\$15.00	\$ _____
Other Student .....	\$25.00	\$ _____
Spouse/Guest .....	N/C	\$ _____

Registration (after April 28)

GSA Member or SSA Member .....	\$55.00	\$ _____
Other Professional .....	\$65.00	\$ _____
GSA Student Associate .....	\$20.00	\$ _____
Other Student .....	\$30.00	\$ _____
Spouse/Guest .....	N/C	\$ _____

### Field-Trip Preregistration

All field-trip participants must also preregister for the meeting. Deadline for field-trip registration is April 20, 1984.

#### Field Trips

1. Glacial Geology of Glacier Bay (May 27-28) .....	\$360/\$395	\$ _____
2. Bedrock Geology in Chugach Mountains .....	\$215.00	\$ _____
3. Surficial Geology and Glacial Stratigraphy, Upper Cook Inlet Basin, Alaska .....	\$295.00	\$ _____
4. Engineering Geology of Anchorage Area (May 28) .....	\$ 40.00	\$ _____
5. Pleistocene and Holocene Deposits, Turnagain Arm (May 29) .....	\$ 55.00	\$ _____
6. Willow Creek Mining, Castle Mountain Fault, Tsunami Warning Center (May 29) .....	\$ 90.00	\$ _____
7. Overflight of Eastern Aleutian Volcanoes (May 28 or May 29) .....	\$320.00	\$ _____
8. Geology along Glenn Highway, Matanuska Coal (June 2) .....	\$ 65.00	\$ _____
9. Geology of Yukon Tanana Upland (June 2-3) .....	\$175.00	\$ _____
<b>Total fees</b> .....		<b>\$ _____</b>

#### Mail completed preregistration forms and fee remissions to

GSA Conference Registrar  
Conventions Alaska  
201 East Third Avenue  
Anchorage, AK 99501

Refunds on canceled preregistrations will be made in full until April 28, 1984. After that date no refunds will be made except for canceled field trips.



## HOUSING FORM

Cordilleran Section, GSA, May 30-31 and June 1, 1984  
Anchorage Convention Center, Anchorage, Alaska

### DEADLINE FOR RESERVATIONS: April 28, 1984

Reservations will be held until 6:00 p.m. local time. To hold reservations beyond this time the room must be guaranteed by a check for the first night's lodging or by credit card.

- Arriving before 6:00 p.m.  
 Room guaranteed after 6:00 p.m.

Check included (payable to  
Conventions Alaska/GSA Meeting)

Credit card: Type \_\_\_\_\_  
Number \_\_\_\_\_  
Expiration date \_\_\_\_\_  
Signature \_\_\_\_\_

Indicate first and second choice:

- Anchorage Westward Hilton  
 Captain Cook  
 Holiday Inn  
 Sheffield Anchorage  
 Sheraton Anchorage Hotel  
 Northern Lights Inn  
 Student Housing\*  
 single  twin

Name \_\_\_\_\_ Phone \_\_\_\_\_  
Affiliation \_\_\_\_\_  
Address \_\_\_\_\_  
Arrival \_\_\_\_\_  
Departure \_\_\_\_\_  
Name(s) of person(s) sharing room \_\_\_\_\_

\*Some very low-cost student housing will be available. Priority will be given to student associates giving papers, remainder on a first-come, first-served basis; cost will be determined later.

Send to **GSA Conference Registrar  
Conventions Alaska  
201 East Third Avenue  
Anchorage, AK 99501**

OR Make all of your travel arrangements by calling Conventions Alaska at 800-544-2224 for air travel, housing, field trips, tours, and special events.

### HOUSING

Rooms have been blocked in six hotels convenient to the Convention Center. Hilton, Holiday Inn, and Sheraton are familiar names. The Cook is a first-class hotel; the Sheffield and Northern Lights are good hotels at a little less cost—both have free limo service to Anchorage International Airport. Note that the Northern Lights is not within walking distance of the Convention Center; municipal bus and free limo service are available.

Anchorage Westward Hilton—2 blocks from  
Convention Center; \$59/single, \$69/double

Captain Cook—4 blocks from Convention  
Center; \$88/single, \$98/double

Holiday Inn—4 blocks from Convention  
Center; \$60/single, \$68/double

Northern Lights—29 blocks from Convention Center;  
\$44/single, \$49/double

Sheffield Hotel—2 blocks from Convention Center;  
\$59/single, \$59 double

Sheraton Anchorage—8 blocks from Convention  
Center; \$62/single, \$67/double

# PREREGISTRATION DEADLINE

## April 28, 1984

## MEETINGS

1984

**Society of Exploration Geophysicists and Office of Naval Research 4th Symposium on Three-Dimensional Marine Data Collection, Processing, Interpretation, and Presentation**, March 13-15, 1984, Bay St. Louis, Mississippi. Information: Myron Webb, University of Southern Mississippi, Long Beach, MS 39560; (601) 688-3054.

**Third International Symposium on Land Subsidence**, March 19-25, 1984, Venice, Italy. Information: A. Ivan Johnson, Woodward-Clyde Consultants, 7600 East Orchard Rd., Harlequin Plaza North, Englewood, CO 80111.

**Exploration for Ore Deposits of the North American Cordillera**, March 25-28, 1984, Reno, Nevada. Information: Chester E. Nichols, P.O. Box 9777, University Station, Reno, NV 89507.

**Second International Conference on Ground-Water Quality Research**, March 27-29, 1984, Tulsa, Oklahoma. Information: Norman N. Dunham or Ann Redelfs, University Center for Water Research, Oklahoma State University, 203 Whitehurst, Stillwater, OK 74078; (405) 624-6995.

**Mid America Paleontology Society National Fossil Exposition VI**, April 13-15, 1984, Macomb, Illinois. Information: Doug Johnson, P.O. Box 184, Donnellson, IA 52625; (319) 835-5957.

**Canadian Institute of Mining and Metallurgy 86th Annual General Meeting**, April 15-19, 1984, Ottawa, Ontario. Information: CIM Headquarters, 400-1130 Sherbrooke St. W., Montreal, Quebec H3A 2M8, Canada; (514) 842-3461; Telex 055-62344.

**Texas A&M Geodynamics Research Program, Sixth Annual Symposium**, April 26-27, 1984, College Station, Texas. Information: Texas A&M Geodynamics Office, College Station, TX 77843-3114; (409) 845-8477.

**International Conference on Case Histories in Geotechnical Engineering**, May 6-11, 1984, St. Louis, Missouri. Information: Shamsheer Prakash, University of Missouri—Rolla, Rolla, MO 65401; (314) 341-4461.

**International Energy Conference**, May 14-19, 1984, Regina, Saskatchewan. Information: Chairman, Energex '84, University of Regina, Regina, Saskatchewan S4S 0A2, Canada.

**International Groundwater Symposium on Groundwater Resources Utilization and Contaminant Hydrogeology**, May 21-23, 1984, Montreal, Canada. Information: A. Kohut, Ministry of the Environment, Victoria, British Columbia V8V 1X5, Canada.

**25th U.S. Symposium on Rock Mechanics**, June 25-27, 1984, Evanston, Illinois. Information: Charles H. Dowding, Dept. of Civil Engineering, Northwestern University, Evanston, IL 60201; (312) 492-7270.

**International Symposium on Deep Structure of the Continental Crust: Results from Reflection Seismology**, June 26-28, 1984, Ithaca, New York. Information: Muawia Barazangi, Dept. of Geological Sciences, Cornell University, Ithaca, NY 14853; (607) 256-6411; Telex 937478.

**Canning Basin Symposium**, June 27-29, 1984, Perth, Western Australia. Information: Phil Connard, Shell Development (Australia) Pty. Ltd., G.P.O., Box W2050, Perth, W. A. 6001, Australia.

**Western Research Institute and U.S. Department of Energy Tar Sand Symposium**, June 27-29, 1984, Vail, Colorado. Informa-

tion: L. C. Marchant, Western Research Institute, P.O. Box 3395, University Station, Laramie, WY 82071.

**Fossil Fuels of Europe Conference**, July 15-18, 1984, Geneva, Switzerland. Information: AAPG, P.O. Box 979, Tulsa, OK 74101; (918) 584-2555.

**8th World Conference on Earthquake Engineering**, July 21-28, 1984, San Francisco, California. Information: EERI-8WCEE, 2620 Telegraph Ave., Berkeley, CA 94704.

**Current Issues in Systematics**, international meeting, July 1984, London, England. Information: C. J. Humphries, Dept. of Botany, British Museum, Cromwell Rd., London SW7 5BD, England; 01-589 6323, ext. 405.

**27th International Geological Congress**, August 4-14, 1984, Moscow, USSR. Information: Secretary General, 27th International Geological Congress, Institute of the Lithosphere, USSR Academy of Sciences, 22, Staromonetny, Moscow, 109180, USSR; 231-48-36; Telex: LITOS 411484.

**International Cartographic Association 12th Conference and 7th General Assembly**, August 6-10, 1984, Perth, Australia. Information: ICA Conference Director, P.O. Box 6208, Hay St. East Perth, Western Australia 6001; Telex AA95791 Minewa.

**American Quaternary Association Eighth Biennial Meeting**, August 13-15, 1984, Boulder, Colorado. Information: AMQUA, Office of Conference Services, Campus Box 153, University of Colorado, Boulder, CO 80310; (303) 492-5151.

**NATO Advanced Study Institute Field Excursion in the British Caledonides**, August 19-September 2, 1984. Information: A. L. Harris, Jane Herdman Laboratories of Geology, University of Liverpool, Brownlow St., P.O. Box 147, Liverpool L69 3BX, England.

**Symposium on Evolution of the Caledonide-Appalachian Orogen**, September 3-8, 1984, Glasgow, Scotland. Information: Matt Bates, A. T. Mays, 12 Nineyard St., Scottcoats, Scotland KA21 5HP, U.K.

**Oceans 84: Industry, Government, and Education—Designs for the Future, Conference and Exposition**, September 10-12, 1984, Washington, D.C. Information: Oceans 84, Marine Technology Society, 1730 M St., N.W., Suite 412, Washington, DC 20036; (202) 659-3251.

**International Gas Research Conference**, September 10-13, 1984, Washington, D.C. Information: L. Hirsch, 8600 West Bryn Mawr Ave., Chicago, IL 60631; (312) 399-8300; Telex 253812.

**Recent Advances in Petroleum Exploration and Development**, September 24-28, 1984, Beijing, China. Information: BHP Petroleum, G.P.O. Box 1911R, Melbourne, 3001, Australia.

**Clay Minerals Society Annual Meeting**, September 30-October 3, 1984, Baton Rouge, Louisiana. Information: Ray E. Ferrell, Dept. of Geology, Louisiana State University, Baton Rouge, LA 70803; (504) 388-5306.

**International Symposium on Recent Investigations in the Zone of Aeration**, October 1-5, 1984, Munich, West Germany. Information: P. Udluft, Inst. für Wasserchemie der TU München, Marchioninstr. 17, 8000 München 70, West Germany; telephone 089/7095 7086-98-80.



**American Institute of Professional Geologists Annual Meeting**, October 17-19, 1984, Orlando, Florida. Information: Bobby J. Timmons, Timmons Associates, P.O. Box 50606, Jacksonville Beach, FL 32250; (904) 246-4533.

**North Atlantic Palaeoceanography Conference**, November 6-7, 1984, London, England. Information: N. Shackleton, Dept. of Quaternary Research, Godwin Laboratory, Free School Lane, Cambridge CB2 3RS, England.

**International Conference on Ground-Water Technology**, November 12-17, 1984, Johannesburg, South Africa. Information: David M. Nielsen, National Water Well Association, 500 West Wilson Bridge Rd., Worthington, OH 43085; (614) 846-9355.

**Ophiolites through Time**, November 13-15, 1984, Nancy, France. Information: Jacqueline Desmons, Université de Nancy I, Faculté des Sciences, Laboratoire de Petrologie, B.P. n° 239, F-54506 Vandoeuvre-les-Nancy Cedex, France. (Abstracts deadline is September 1, 1984.)

## 1985

**International Association of Hydrogeologists 17th International Congress, Hydrogeology of Rocks of Low Permeability**, January 7-12, 1985, Tucson, Arizona. Information: Eugene S. Simpson, Hydrology & Water Resources, University of Arizona, Tucson, AZ 85721.

**Salts and Brines '85**, February 24-28, 1985, New York. Information: William C. Larson, Twin Cities Research Center, Bureau of Mines, 5629 Minnehaha Ave. S., Minneapolis, MN 55417; (612) 725-3464. (Abstracts due April 30, 1984.)

**26th U.S. Symposium on Rock Mechanics**, June 26-28, 1985, Rapid City, South Dakota. Information: Eileen Ashworth, Dept. of Mining Engineering, South Dakota School of Mines and Technology, Rapid City, SD 57701-3995; (605) 394-2344.

**International Symposium on Karst Water Resources**, July 7-19, 1985, Ankara and Antalya, Turkey. Information: A. Ivan Johnson, Woodward-Clyde Consultants, 7600 East Orchard Rd., Harlequin Plaza North, Englewood, CO 80111.

**Sixth Gondwana Symposium**, August 19-23, 1985, Columbus, Ohio. Information: Sixth Gondwana Symposium, Institute of Polar Studies, Ohio State University, Columbus, OH 43210; (614) 422-5431.

**American Institute of Professional Geologists Annual Meeting**, September 17-21, 1985, St. Paul, Minnesota. Information: Robert E. Pendergast, Geotechnical Engineering Corp., 1925 Oakcrest Ave., Roseville, MN 55113; (612) 636-7744.

## GSA 1984

### Section Meetings

**Northeastern Section**, March 15-17, 1984, Providence, Rhode Island

**South-Central Section**, March 26-27, 1984, Dallas, Texas

**North-Central and Southeastern Sections**, April 4-6, 1984, Lexington, Kentucky

**Rocky Mountain Section**, May 11-12, Durango, Colorado

**Cordilleran Section**, May 30-June 1, Anchorage, Alaska

**Annual Meeting, GSA and Associated Societies**, November 5-8, 1984, Reno, Nevada

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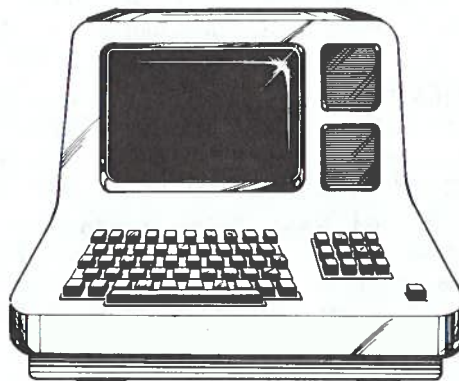
### Looking for a new job?

The GSA Employment Service offers an economical way to locate a new position in the field of geology. Potential employers use the service to find the qualified individuals they need.

You may register any time throughout the year. Your name will be provided to all participating employers seeking individuals with your qualifications. If possible, take advantage of GSA's Employment Interview Service conducted each fall in conjunction with the Society-wide Annual Meeting (this year in Reno, Nevada, Nov. 5-8), where potential employers will be available for face-to-face interviews.

To register, complete the application form on the following page, compose a one- to two-page typewritten résumé, and mail with your check, money order, or MasterCard or VISA account number to the address given below. One-year listing for GSA Members and Student Associates in good standing: \$25, nonmembers: \$45.

**NOTE:** Completed application forms, résumé, and payment must be received at GSA headquarters **no later than August 20, 1984**, in order for your record to be included on the computer printouts sent to employers prior to the meeting. **Get the maximum exposure by getting your forms in early, and don't forget to indicate whether you are attending the meeting for interviewing purposes!**



### For additional information and submission of forms, contact

Clara Hodgson  
Membership Coordinator  
Geological Society of America  
P.O. Box 9140 • Boulder, Colorado  
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Your nation-wide search for geoscientists can be as simple as filling out the Employer's Request for Earth Science Applicants on the following page. You specify educational and professional experience required and specialty area or areas, and GSA's computerized file will take it from there. You will be provided with a printout that includes applicants' names, addresses, phone numbers, areas of specialty, type of employment desired, degrees held, years of professional experience, and current employment status. For 1984, the cost of a printout of one or two specialty codes is \$120. Each additional listing is \$40. A printout of the entire applicant listing in all specialties may be purchased for \$325.

GSA also conducts the Employment Interview Service each fall in conjunction with the Society-wide Annual Meeting (this year in Reno, Nevada, Nov. 5-8). Interview space may be rented in half-day increments. Our staff will schedule all interviews with attending job applicants for each recruiter. Additional services available for employer participants include a message service, complete listing of applicants, copies of résumés at no additional charge, and posting of all vacancies.

APPLICANT AND EMPLOYER FORMS ARE  
BACK-TO-BACK ON THE FOLLOWING PAGES

## Penrose Conference on Transport Processes in Fractured Rock Planned

A Penrose Conference, "Transport Processes in Fractured Rock," will be held September 24-28, 1984, at the Yarrow Hotel and Conference Center, Park City, Utah. Conveners are Leslie J. Smith, Department of Geological Sciences, University of British Columbia, Vancouver, British Columbia V6T 2B4, Canada, and Frank W. Schwartz, Department of Geology, University of Alberta, Edmonton, Alberta T6G 2E3, Canada.

This conference will bring together hydrogeologists, geophysicists, and others with an interest in transport processes in fractured rocks. Participants will have an opportunity not only to review recent theoretical developments in this field, but also to become aware of the practical problems associated with site-specific studies. The program itself will focus on three main areas: the physics of mass and heat transport in fractured media, methods used and experience gained in simulating these processes, and techniques available to collect and interpret hydrogeological data. The first of these will include such topics as the role of fracture geometry in flow and transport, diffusion of

solutes and conduction of heat from fractures into intact rock blocks, free and forced convection in fracture networks, heat and mass transport in the unsaturated zone, and immiscible displacement. Topics related to the second area include continuum, discrete and multiple interacting continuum approaches to modeling, advances in solving transport equations, and the practical application of mathematical techniques for risk assessment. Topics related to the field and experimental techniques will include in situ testing, methods for the determination and the statistical characterization of fracture geometries, and field studies of flow systems in fractured rocks.

If you want to attend this conference, apply in writing to Leslie J. Smith (address above) before **April 30, 1984**. Include a brief summary of your current research interests and specific reasons for wishing to attend the conference. Don't miss this opportunity to exchange ideas, make or renew collaborative ties, and breathe the mountain air.





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Table with 5 columns: College or University, Degree (rec'd or expected), Year, Major, Minor

Postgraduate work beyond highest degree in (field) Number of years

SPECIALTY CODES

Select those that best describe your ability. Use codes in bold face only when other breakdowns are inadequate.

- 100. Economic Geology
101. coal geology
102. geothermal, etc.
103. metallic deposits
104. nonmetallic deposits
105. mining geology
120. Engineering Geology
150. Environmental Geology
160. Public Education & Communication
200. General Geology
220. Geochemistry
221. organic
222. high temperature
223. low temperature
224. stable isotopes
225. geochronology
250. Geomorphology
251. Pleistocene geology
300. Geophysics
301. seismic
302. gravity/magnetics
303. seismicity
304. paleomagnetism
320. Hydrogeology
321. hydrochemistry
322. ground water
323. surface water
330. Library
350. Mathematical Geology
351. computer science
352. statistical geology
400. Mineralogy
401. crystallography
402. clay mineralogy
410. Museum (curator)
420. Oceanography
421. marine geology
422. coastal geology
450. Paleontology
451. invertebrate
452. vertebrate
453. micropaleontology
454. paleobotany
455. paleoecology
500. Petroleum Geology
501. exploration
502. subsurface stratigraphy
520. Petrology
521. igneous
522. metamorphic
523. sedimentary (clastic)
524. sedimentary (carbonate)
525. experimental
550. Planetology
600. Regional Geology
620. Remote Sensing
621. photogeology
622. photogrammetry
630. Science Editing
650. Sedimentology
651. sedimentary processes
652. sedimentary environments
720. Stratigraphy
750. Structural Geology
751. tectonics
752. tectonophysics
753. rock mechanics
800. Volcanology

\* Résumé must be attached, limited to two pages, typewritten on one side only, to be acceptable for reproduction to employers. Include your name, address, and phone number; concise details of work experience; and majors/minors on degrees.

\* Fee: \$25 if you are a Member or Student Associate of GSA in good standing (Member #) \$45 if you are not a member of GSA. Payment in U.S. funds (check or money order; or charge information, MasterCard or VISA) MUST ACCOMPANY FORM.

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I will attend the 19 GSA Annual Meeting in

\* SIGNATURE (required)

\* THESE ITEMS ARE ABSOLUTELY NECESSARY TO PROCESS THIS APPLICATION

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(Area code) Number

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List the specialty code numbers that you wish to order, or  check here if you want entire file of applicants in ALL specialties.

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_ 5. \_\_\_\_\_ 6. \_\_\_\_\_

### SPECIALTY CODES

100. Economic Geology	224. stable isotopes	351. computer science	500. Petroleum Geology	630. Science Editing
101. coal geology	225. geochronology	352. statistical geology	501. exploration	650. Sedimentology
102. geothermal, etc.	250. <b>Geomorphology</b>	400. <b>Mineralogy</b>	502. subsurface	651. sedimentary processes
103. metallic deposits	251. Pleistocene geology	401. crystallography	stratigraphy	652. sedimentary environments
104. nonmetallic deposits	300. <b>Geophysics</b>	402. clay mineralogy	520. <b>Petrology</b>	720. <b>Stratigraphy</b>
105. mining geology	301. seismic	410. <b>Museum (curator)</b>	521. igneous	750. <b>Structural Geology</b>
120. <b>Engineering Geology</b>	302. gravity/magnetics	420. <b>Oceanography</b>	522. metamorphic	751. tectonics
150. <b>Environmental Geology</b>	303. seismicity	421. marine geology	523. sedimentary (clastic)	752. tectonophysics
160. <b>Public Education &amp; Communication</b>	304. paleomagnetism	422. coastal geology	524. sedimentary (carbonate)	753. rock mechanics
200. <b>General Geology</b>	320. <b>Hydrogeology</b>	450. <b>Paleontology</b>	525. experimental	800. <b>Volcanology</b>
220. <b>Geochemistry</b>	321. hydrochemistry	451. invertebrate	550. <b>Planetology</b>	
221. organic	322. ground water	452. vertebrate	600. <b>Regional Geology</b>	
222. high temperature	323. surface water	453. micropaleontology	620. <b>Remote Sensing</b>	
223. low temperature	330. <b>Library</b>	454. paleobotany	621. photogeology	
	350. <b>Mathematical Geology</b>	455. paleoecology	622. photogrammetry	

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#### Minimum degree required

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#### Minimum professional experience

- None  
 1-5 yrs.  
 6-plus

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Committees are the key to GSA's accomplishments in promoting the science of geology. Committee members and representatives contribute their expertise and experience to all areas of GSA endeavor. Listed here are those currently serving the Society and the science as committee members and as GSA representatives to other scientific groups.

### Executive Committee

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Joel S. Watkins, 1984–1985

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Grant Garven, 1984–1985  
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**Quaternary Geology and Geomorphology Division Panel on Kirk Bryan Award**

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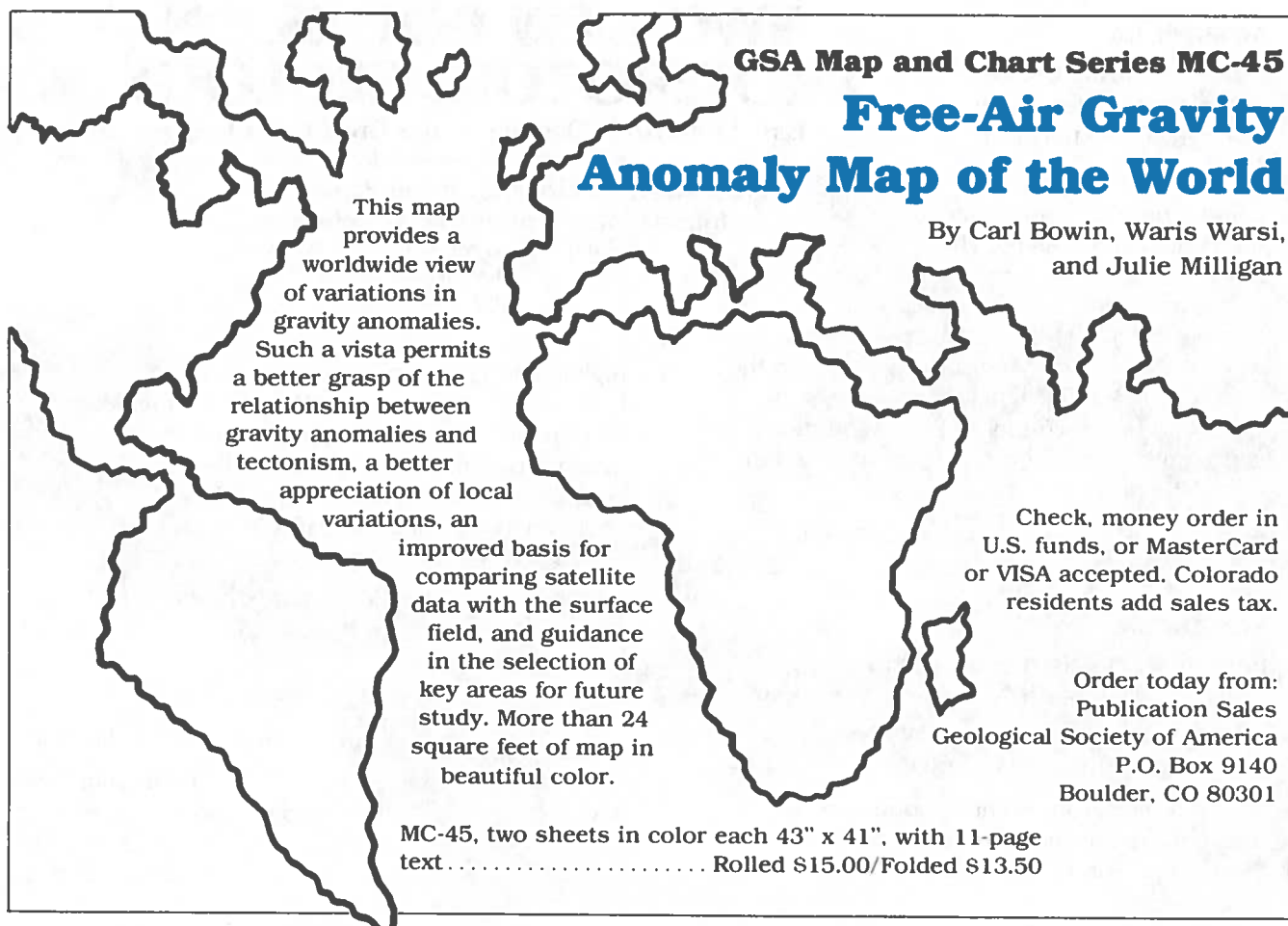
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*(continued on p. 54)*



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Gunter Faure, 1984–1986  
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William A. Thomas, Editor of the *Bulletin*  
Campbell Craddock, Editor of Memoirs and Special Papers  
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Conferee: James F. Hays, 1983–1984

### Treatise on Invertebrate Paleontology Advisory Committee

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David A. Lopez  
Louis C. Pakiser, Jr.

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Leon T. Silver, 1981–1986  
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Geology and Geography  
Richard R. Parizek, January 9, 1982–May 28, 1985, Section W—  
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Norman P. Lasca, Jr.. 1982-1985  
Charles W. Copeland, Jr.. 1983-1986  
Patrick K. Sutherland. 1984-1987

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GSA-Association of Engineering Geologists Committee  
on Engineering Geology**

John B. Ivey. July 1. 1978-June 30. 1984  
Cole R. McClure, Jr.. July 1. 1979-June 30. 1985

**GSA Representative to National Research Council Committee  
on Ground Failure Hazards Mitigation Research**

Thomas L. Holzer

**GSA Representative to U.S. National Committee  
on Rock Mechanics**

George A. Kiersch. July 1. 1980-June 30. 1986

**GSA Representative to U.S. National Committee  
on Tunneling Technology**

Lloyd B. Underwood. January 1. 1981-June 30. 1986

**GSA Designees to GSA-Soil Science Society of America  
Interdisciplinary Committee**

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**GSA Designee to Steering Committee of Correlation  
of Stratigraphic Units of North America**

Robert R. Jordan

**GSA Representative to U.S. Committee for the International  
Association of Hydrogeologists**

David A. Stephenson. 1978-1984

---

**PEOPLE**

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GSA Fellow **John A. Clendening**, Amoco Production Co., Houston, has been elected 1983-1984 president of the American Association of Stratigraphic Palynologists.

Fellow **Warren Hamilton**, U.S. Geological Survey, Denver, has been elected an Honorary Member of the Geological Society of London. He is currently a Distinguished Lecturer for the American Association of Petroleum Geologists.

Fellow **John W. Rold**, director of the Colorado Geological Survey, will receive an American Association of Petroleum Geologists' Public Service Award for 1984.

Fellow **Floyd F. Sabins, Jr.**, Chevron Research Co., La Habra, California, received the 1983 William T. Pecora Award from the National Aeronautics and Space Administration and the Department of the Interior.

Fellow **John G. Weihaupt** has been appointed Vice Chancellor for Academic Affairs at the University of Colorado, Denver.

Fellow **Sherman A. Wengerd**, emeritus professor at the University of New Mexico, has been elected emeritus member of the Four Corners Geological Society.

## **GSA Past-President Richard H. Jahns, 1915-1983**

Richard H. Jahns, emeritus dean of the School of Earth Sciences at Stanford University and 1971 president of the Geological Society of America, died December 31, 1983, after a major heart attack. He was 68.

Jahns earned his B.S. from the California Institute of Technology in 1935, his M.S. from Northwestern University in 1937, and his Ph.D. from Cal Tech in 1943. He worked for the U.S. Geological Survey from 1937 to 1948, was a professor of geology at Cal Tech from 1949 to 1960, and served as chairman of the Division of Earth Sciences at Pennsylvania State University from 1960 to 1965. He was dean of the Stanford School of Earth Sciences from 1965 to 1979.

A nationally prominent expert on earthquakes, Jahns was also an inspiring teacher. His former students are leaders in the U.S. Geological Survey, at major U.S. universities, and in industry.

The letter below, from a GSA member, illustrates the effect Jahns had on students.

Eulogies, memorials and tributes will no doubt be written by distinguished and important people regarding Richard Jahns's many splendid achievements. What I would like to say springs from a humbler perspective—that of a student, a perspective that perhaps is sometimes neglected.

That Jahns was a brilliant scientist is unquestioned. That he believed in placing science at the service of society is well known. That he was a remarkable human being is legendary. But for many of us, his former students, he was even more remarkable in another and special way: he was an extraordinary teacher, a true inspiration.

His classes invariably were lively, productive, enjoyable, and different. In the early sixties, I was his teaching assistant for courses such as Structural Geology and Field Methods. In that capacity, I not only learned a great deal, but also got much feed-

back from the students, who were uniformly fired up and delighted by Jahns's teaching. On occasion, I also had to stand in for Dick's lectures when he was away, and it was then that I comprehended with stark clarity just how impossible it was to fill his shoes. Yet, there was a role of his that was even more important than that of teacher, and that is the role of mentor. I shall illustrate from personal experience.

In the mid- and late fifties, I found myself as an undergraduate at a tough and highly competitive institute. Fresh from Europe, I was unaccustomed to American ways, I was bewildered. I was alone. Needing to support myself, I found the academic competition very heavy sailing indeed. My performance was anything but brilliant. It was Jahns who had the generosity and the compassion to see beyond the machine that performed well or indifferently, as the case might be, to the struggling human being underneath. He encouraged me, he gave me strength and the will to persevere. And I went on. Whether this has been an immense boon to the profession remains to be seen, but Dick did his part: subsequent successes and failures are my doing. This is my personal story, but it can be repeated again and again for other students, many of whom stumbled at the start, were encouraged by Dick, and went on to distinguished careers.

In the early sixties, there was a confraternity of graduate students at Penn State who were shaped and molded by two men: Dick Jahns and Paul Krynine. Krynine taught us to think, to ask why. He gave us perspective. Jahns gave us the tools of the trade, he gave us joy in our work, and he gave us self-confidence. So strong is the imprint that this now-scattered band of students can be instantly recognized by those in the know. I have no doubt that the other members of the band would join me in recognizing this debt that can never be paid.

Vale, Dick. We shall miss you far more than you, not an arrogant man, would have ever understood or believed possible.

Ivo Lucchitta  
Flagstaff, Arizona

# A GENTLE REMINDER



Deadline for receipt of abstracts at GSA headquarters for the Annual Meeting in Reno is June 8, 1984. Abstract forms are available from Abstracts Secretary, Geological Society of America, P.O. Box 9140, Boulder, CO 80301. Volunteered abstracts should be mailed to the same address in time to arrive on or before June 8.

## ABSTRACTS DEADLINE JUNE 8

### INSIDE \_ \_ \_

New site named for 1985 Annual Meeting .....	p. 40
Cordilleran Section Meeting, 1984 .....	p. 41
Employment Service .....	p. 48



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