Director

The Director establishes research objectives, unit policy, and directs research, administrative and support activities of the Hawaii Institute of Geophysics (HIG). The Institute serves as the research arm of the University in the earth and marine sciences concerned with volcanology, geology, solid earth geophysics, geochemistry, physical oceanography, deep-water marine biology, and planetary geosciences and as an adjunct to graduate instruction in those departments of instruction concerned with the above branches of earth and marine sciences.

The primary objectives of the Institute are to provide graduate instruction, research and public service through its eight research divisions: Marine Geochemistry, Marine Geology and Geophysics, Materials Science, Oceanic Biology, Physical Oceanography, Planetary Geosciences, Seismology and Solid Earth Geophysics, and Volcanology, Geochemistry and Petrology. The scope of HIG research operations is local, national, and international.

The principal functions of the Director's Office are as follows:

1. Provides liaison between HIG as an institute and the Vice-President for Research and Graduate Education, the University administration, the Director of the Research Corporation of the University of Hawaii (RCUH), and outside bodies with whom an official point of contact with HIG is desirable.

2. Approves all appointments, proposals, reports, travel, tenure, salaries, etc. involving HIG personnel.

3. With the aid of the HIG administrative staff, establishes each year an expenditure plan for that year, the budget requirement for the following year, and the upgrading each year of the projected 5-year program.

4. Chairs the HIG Advisory Council.

5. Handles all matters not specifically delegated to others on the HIG administrative staff or to special committees, and serves in an ex officio capacity on all HIG special committees (personnel, ship operations, space allocation, budget, etc.).

Associate Director

The Associate Director assists the Director in all functions of that office as required and appropriate and assumes the duties of the Director in his absence from the campus with full power of representation.
The principal functions of the Associate Director's Office in addition to the above are as follows:

1. Maintains an overview of the overall scientific program in the Institute and brings areas of program weakness to the attention of the Director and the HIG Council.

2. Serves as liaison between HIG and the affiliated departments of instruction.

3. Serves as an ex officio member along with the Director on all HIG special committees and the HIG Council.

Advisory Council

The principal advisory body to the Office of the Director is the HIG Advisory Council. Its particular concern is long-range scientific planning.

Assistant Director

The Assistant Director provides assistance to the Director for overall administrative, financial, operational and personnel management of the Institute. He reports directly to the Director while handling all normal day-to-day management problems of the Institute, serves as an ex officio non-voting member on the HIG Council, and acts as Director in the absence of both the Director and the Associate Director.

The principal functions of the Assistant Director's Office are as follows:

1. Acts as Personnel Officer, Safety Officer, EEO Officer and serves on the following committees:
   - APT Personnel Committee
   - Safety Committee
   - Budget Committee
   - University Ship Scheduling Committee

2. Provides administrative and fiscal oversight for:
   - Fiscal Office
   - University Marine Center
   - Engineering Support Facility
   - Publications Facility
   - Library
   - Research Computing Facility
   - Analytical Support Facility

3. Provides fiscal and personnel management as well as liaison on all contracts and grants handled through RCUH.

4. Direct operational and fiscal management of University Ship Operations Facility.
Fiscal Office

The HIG Fiscal Officer provides fiscal services, and along with the Assistant Director monitors the financial aspects of HIG operations including various contracts and grants as well as general (State) funds allocated to the various HIG divisions.

The principal functions of the Fiscal Officer are as follows:

1. Assists Principal Investigators in preparing budgets for proposals.
2. Advises and assists the Director in preparing the HIG budget.
3. Serves as an ex officio non-voting member of the HIG Council.
4. Serves on the HIG Budget Committee.
5. Acts as budgetary liaison contact between HIG, the University Business Office, and the Budget Officer of the Office of Research Administration.
6. Supervises expenditures on all grants and contracts handled through the Office of Research Administration.
7. Supervises the expenditures of general (State) funds allocated to HIG.

University Marine Center

The University Marine Center (UMC) which houses three ships and shore support facilities provides ship operational support to HIG and University research programs as required. The UMC is administered by a Marine Superintendent.

The principal functions of this center are as follows:

1. Provide ship operation, logistical, and maintenance services to maintain ship's schedules developed by the HIG Scientific Coordinator for Marine Operations.
2. Provide shipboard marine technician (electronic and deck) services in support of HIG and University marine geophysics and oceanography research programs.
3. In conjunction with the HIG Scientific Coordinator's Office, maintains liaison with U.S. and foreign port authorities, the U.S. Navy Hawaiian Sea Frontier and the U.S. Coast Guard.
Engineering Support Facility

The principal functions of this unit are:

1. To provide machine shop design and production services in support of HIG research contracts and grants in the fabrication and repair of precision scientific instruments.

2. To provide electronics design, production, and maintenance service in support of HIG research contracts and grants.

3. To provide electromechanical design and development services for HIG scientists having unique scientific instrumentation development requirements.

Publications Facility

The principal functions of this unit are as follows:

1. To provide editorial review of all technical manuscripts submitted by researchers and edit for clarity, continuity, coherence and grammatical construction.

2. To provide national and international distribution of and exchange of HIG publications with other research institutions.

3. To proofread galley and pages of materials from publishers of HIG papers.

4. To collect and organize material for the HIG annual report, which describes HIG research programs and accomplishments for each year.

5. To provide the following graphic design and production services to HIG scientists in the publication of research papers and reports: cartographic charts and graphics, single and multi-color; scientific illustrations; slide materials (visuals); calligraphy and layout.

6. To provide photographic services to researchers, staff and students for scientific publication, instruction, presentation, or display.

Library

The principal function of this unit is to provide specialized scientific and technical library services to HIG researchers and graduate assistants. In conjunction with instructional and research staff, periodicals and books necessary for teaching and research are acquired and maintained. The Library contains over 1600 linear feet of library material.
Research Computing Facility

The purpose of this facility is to provide specialized computers for HIG researchers and other campus-wide researchers in need of these specialized facilities. Current computers in this facility are several VAX's, Harris 800 and Alliant FX8. They are connected to terminals in various offices and laboratory areas.

Analytical Support Facility

This facility provides central management of various chemical analytical activities that take place in the Institute. The equipment managed by this facility includes an induction coupled plasma spectrophotometer, atomic absorption spectrophotometer, scanning and transmission microscopes, an electron microprobe, an autoanalyzer and various other equipment as assigned.

Research Divisions

1. Marine Geochemistry -- studies the chemistry of the earth as determined from the marine environment, including the studies of chemical processes in modern marine systems and how they are involved in the formation of sedimentary rocks and the chemistry of submarine magmatic cycles and submarine mineral formation.

2. Marine Geology and Geophysics -- investigates the geology and tectonics of the earth beneath the sea and the geologic process that have shaped our earth in the past; provides evaluation of resources in marine environments; studies coastal and deep-sea environments and ancient analogues of the modern marine environment in marine and non-marine systems whether buried or exposed.

3. Materials Science -- focuses on employing new technologies of investigate and characterize the physical and structural properties of various earth materials (minerals, rocks, sediments, silicate glasses and melts, metals, and alloys) under simulated high-pressure and high-temperature conditions in Earth's deep interior.

4. Oceanic Biology -- includes the study of biological processes as they relate to oceanography involving the study of oceanic productivity and the influence of biology on marine geochemistry, particularly with regard to the role of macro and microorganisms in the cycling of carbon, essential nutrient and energy in the sea.

5. Physical Oceanography -- focuses on the study of the circulation of the ocean both observationally and theoretically including the interaction with the atmosphere and the sea floor.
6. Planetary Geosciences -- studies the origin, evolution and present state of the solar system by studying the composition and geology of solid bodies in the solar system -- including the Earth, other planets, satellites, asteroids and comets -- and in applying this knowledge to develop and utilize terrestrial and near-Earth space resources.

7. Seismology and Solid Earth Geophysics -- includes the study of earthquakes throughout the Pacific, studies of elastic wave propagation through the Earth, and detailed studies of the structure of the Hawaiian Islands and the Pacific Ocean crust.

8. Volcanology, Geochemistry, and Petrology -- focuses on the study of the dynamics of volcanoes, geothermal energy exploration and development, identification of geologic hazards from eruptions, dating of the earth, and the study of the origin of the ocean basins and their volcanic islands.

The research activities of HIG are maintained on a discipline basis irrespective of department affiliations and whether the individuals are on the State payroll or supported out of grant and contract funds. The Division Chairmen are appointed by the Director of HIG on the basis of recommendations made by members of each disciplinary group. The division chairmen serve as members of the HIG Council, set the tone of the research program in each division, and serve on special HIG committees at the request of the Director.

Principal functions of the individual division chairmen are as follows:

1. Submit budgets and programs for their respective research divisions.

2. Administer HIG state funds allocated to each division.

3. Screen all proposals, reports and papers generated in a division before they are submitted to the Director for approval.

4. Serve as the first arbiter in resolving problems within a division.

5. Make recommendations to the HIG administrative staff regarding division matters and personnel.

6. Maintain active liaison with the HIG administrative staff, the other HIG research divisions, and along with the Associate Director, the affiliated departments of instruction.
Research Projects

Two major research projects administered by the Hawaii Institute of Geophysics are:

1. Joint Institute for Marine and Atmospheric Research (JIMAR)
   - jointly sponsored by the University of Hawaii and the National Oceanic and Atmospheric Administration, JIMAR pursues research involving both theoretical and observational studies on climate, equatorial oceanography, and tsunamis.

2. Hawaii Undersea Research Laboratory (HURL)
   - established by a cooperative agreement between the National Oceanic and Atmospheric Administration (NOAA) and the University of Hawaii. HURL primarily supports research projects that require data acquisition at depths greater than scuba limits and concentrates its research efforts using submersibles in these areas: fisheries; pollution; sea floor properties and processes; and ocean technology and services.

Approved by: [Signature]
Title: Director, Hawaii Institute of Geophysics
Date: May 18, 1987