

Proposal for the Establishment of Institutes or Centers

Center for Ultralow Temperatures Research

Name of Institute or Center

II  
Type

June 1, 1988

Proposed Implementation Date

Institutions financial commitment from state appropriations for the first year and the second year of the proposed institute or center

\$ no new funds .

PROPOSAL FOR ESTABLISHMENT OF  
CENTER FOR ULTRALOW TEMPERATURE RESEARCH

This proposal is to request authorization to form the Center for Ultralow Temperature Research. The formation of this Type II interdisciplinary center will not require additional personnel or call for the establishment of new courses or otherwise cause significant change in operation of the University.

**Purpose of the Center**

Currently there are University of Florida faculty members in several departments who are involved in research in condensed matter sciences (see list of faculty to be included in the center). The emphasis of several members of this group is in research at ultralow temperatures (ULT) and others of the group would like to have ULT facilities accessible to them for occasional use. One of the purposes the Center is to draw together this existing UF faculty with strong common interest in this area of research.

Existing programs in several departments will be enhanced and strengthened through formation of the Center. This will occur through a variety of means such as sharing research ideas, samples and sample preparation facilities, technical expertise, and specialized equipment. The Center will promote joint proposals among its members for funding from outside agencies. The broader knowledge and expertise of several members of the Center will strengthen funding prospects.

The Microkelvin Laboratory now under construction will be the major experimental facility for research of several members of the Center. In addition, this laboratory will provide access to others in the Center who have occasional need for the ultralow temperatures available.

A second major purpose of the Center will be to arrange and conduct a visitors program for scholars who wish to spend extended periods here. It is "expected that the Microkelvin Laboratory, as one of the premier facilities for ULT research in the world, will attract visitors to collaborate in research.

Proposals to establish joint research programs are currently being discussed with Helsinki University of Technology, University of Leiden, and University of Paris. In addition to experimentalists who wish to do research at the Microkelvin Laboratory, other visitors will collaborate in various programs in condensed matter, both experimental and theoretical. The Center will facilitate these arrangements whether joint research proposals are involved or the visit is on a less formal basis.

## **Sources of Funding**

The primary sources of funds for the research of Center faculty members will consist of their individual grants and contracts from various agencies, new funds which they obtain through joint or separate proposals, and existing commitments from the Departments to members of the Center. No new State funds are requested.

Operating funds for administration of the Center will be relatively modest since there will not be a large administrative structure. The primary sources of these funds will be (a) returned overhead on grants and contracts that are designated to the Center (The overhead of some members of the Center is committed to repayment of \$150,000 in construction funds for the Microkelvin Laboratory.) and (b) Departmental funds currently being supplied to Center members (primarily Physics). Funds in the latter category currently provide for secretarial services and various other uses.

Subject to availability of State funds, the Department of Physics will continue to provide funding at a similar level, reflecting inflation and growth in the Center and Department.

## **Permanent Staff Positions**

At the present time the permanent staff positions within the Department of Physics which will continue as Physics Department positions designated for the Center are as follows:

One administrative secretary \*

One cryogenic engineer III

One cryogenic engineer I

One engineering technician IV

One engineering technician III

\* (one-half state; one half grant)

## **Participating Faculty and Departments**

### Department of Physics

E. Dwight Adams, Professor

Michael Burns, Assistant Professor

Gary G. Ihas, Professor

Pradeep Kumar, Associate Professor

Mark W. Meisel, Assistant Professor

Khandaker Muttalib, Assistant Professor

Steve Nagler, Assistant Professor

Greg Stewart, Professor

Neil S. Sullivan, Professor

Yasumasa Takano, Associate Professor

David Tanner, Professor and Chairman

Department of Chemistry

Martin Vala, Professor

William Weltner, Professor

Department of Electrical Engineering

Peter Landsberg, Graduate Research Professor

Gys Bosman, Associate Professor

Department of Materials Science and Engineering

Joseph Simmons, Professor

Foreign members

Maurice Chapellier, Professor, University of Paris

Georgio Frassati, Professor, University of Leiden

Olli Lounasmaa, Professor, Helsinki University of Technology

Additional members may be appointed to the Center upon application to the Executive Committee and approval by two-thirds of the faculty memberships.

**Administrative Structure**

The Center for Ultralow Temperature Research shall be administered by a Director and an Executive Committee, with the Director serving as a voting Chairman of the Executive Committee. In addition there will be an Associate Director who will act as Director in the Director's absence.

The Director and Associate Director will be elected by the members of the Executive Committee to serve for two-year terms. Election shall be by secret ballot during the next-to-last month of the academic year, following the election of the Executive Committee (see below). The terms of office will commence at the beginning of the next academic year.

Policy decisions on operation of the Center will be made by the Executive Committee, with implementation by the Director. Annually, with revisions as required, the Director shall prepare a budget for expenditures of funds allocated to the Center. The budget will require approval of the Executive Committee.

The Director will keep the Executive Committee informed on questions and decisions in the operation of the Center. Meetings of the Executive Committee shall be scheduled by the Director on a regular basis (at least every two months).

The Executive Committee shall be composed as follows: three members from experimentalists in Physics, one from other experimentalists in the Center, and one condensed matter theorist. The Executive Committee shall be elected by the Center faculty in the same manner as for election of Director.

Activities and policies of the Center shall be reviewed by an Administrative Advisory Board consisting of the Provost, the Associate Vice President for Academic Affairs, the Vice President for Research, the Deans of Colleges and Department Chairpersons represented by Center faculty, and the Center Director. The Administrative Advisory Board shall meet at least once annually to review the activities of the Center. An organizational chart showing the administrative structure is attached.

Proposed Administrative Structure of the  
Center for Ultralow Temperature Research

