

**THE UNIVERSITY OF NEW MEXICO/  
LOS ALAMOS NATIONAL LABORATORY**

**JOINT SCIENCE AND TECHNOLOGY LABORATORY**

**2004 Request for Proposals**

**1. PURPOSE**

The University of New Mexico (UNM) and Los Alamos National Laboratory (LANL) share the goals of strengthening their interactions by providing opportunities for research, education, recruiting, and retention. To further these shared goals, UNM and the Regents of the University of California, operator of LANL have entered into a Memorandum of Understanding (MOU) on Research and Education, signed on October 16, 2003. Under this MOU, UNM and LANL have established the UNM/LANL Joint Science and Technology Laboratory (JSTL), a “virtual laboratory,” within which strategic partnerships will be established and directed. These strategic partnerships will allow UNM and LANL to build synergistically on areas of mutual interest that will advance UNM’s academic mission and are strategically significant to LANL.

**2. JSTL STRUCTURE AND OPERATIONS**

Within UNM, the JSTL includes the College of Arts and Sciences, the School of Engineering, the School of Medicine, and the Office of the Vice Provost for Research (to encompass UNM’s strategic research centers). At LANL, the JSTL includes potentially all divisions with activity in the research areas described in Section 3 below.

The JSTL reports to an Executive Committee composed of the UNM Vice Provost for Research, the LANL Deputy Director for Science and Technology, plus one alternate from each institution. The Executive Committee has established a joint UNM/LANL Management Committee to oversee the operations of the JSTL, including making recommendations to the Executive Committee defining the project selection process and recommending joint projects to be funded, and to conduct periodic program reviews to recommend new strategic areas for collaboration.

The UNM members of the Management Committee are the Deans of the College of Arts & Sciences, the School of Engineering, and School of Medicine, along with the Director of the Center for High Technology Materials. The foundational LANL members of the Management Committee are the Leaders of the Computer and Computational Science Division, the Materials Science and Technology Division, the Bioscience Division and the Physics Division. Appendix A gives the contact information for the members of the Management Committee.

### **3. RESEARCH AREAS**

The JSTL has initially identified four related research themes of strategic importance to both institutions that will be supported by one or more of the program components, described below:

- (1) bioscience
- (2) materials
- (3) quantum information science
- (4) computer science

### **4. PROGRAM COMPONENTS**

In principle, the JSTL can provide funding for the following collaborative vehicles as outlined in the LANL-UNM MOU:

- (1) Student Programs
  - a. Undergraduate Programs
  - b. Graduate Programs
  - c. Postdoctoral Programs
- (2) Faculty and Staff Programs
  - a. Visiting Scholars Program
    - i. UNM to LANL
    - ii. LANL to UNM
  - b. Courses, Seminars and Workshops
- (3) Collaborative Research Programs – research in one of the four areas listed in Section 3 above.

However, for the first year, the JSTL will concentrate on funding Graduate Student Programs and Collaborative Research Programs. Consequently, this Request solicits proposals for (1) and (3) above, as described more fully below. In addition, the JSTL will fund joint workshops to stimulate ideas and proposals in the following years. The plans for the joint workshops are described below as well.

All work performed within the JSTL will be unclassified.

### **5. FUNDING**

For the current fiscal year (2004), \$500K of funding has been provided to the JSTL from the University of California Directed Research and Development (UCDRD) program. It is anticipated that an additional \$500K will be made available to the JSTL for FY2005 as well. Renewal of the program for succeeding years is dependent upon the availability of funds. The maximum amount of awards and the distribution of funding will be determined through a process developed by the Executive Committee.

### **6. EVALUATION OF PROPOSALS**

Proposals submitted in response to this Request for joint collaborative research programs and graduate student research fellowships, according to the procedures detailed below, will be evaluated by the aforementioned Management Committee.

## **7. ELIGIBILITY**

UNM faculty and researchers who are eligible for Principal Investigator status may seek funding under this program. Their counterparts/collaborators at LANL are the Technical Staff Members.

## **8. SUBMISSION OF PROPOSALS**

The procedure for submitting proposals for 2004 only is described in Appendix C.

## **9. REQUEST FOR PROPOSALS FOR COLLABORATIVE RESEARCH**

JSTL will provide support for collaborative research designed to evolve into a sustainable extramural research contract or grant. This “seed” funding will support projects that clearly merge and expand research between the two institutions and that are related to one or more of the areas of research listed above. Selections will be made on the basis of scientific quality and the extent that the proposal addresses the collaborative goals and the research themes of the JSTL.

The proposed research must be collaborative and should build upon the complementary capabilities and research facilities of UNM and LANL. The UNM and LANL co-principal investigators should jointly write the proposal and must include a complete description of the LANL/UNM collaborations (note that the LANL participants will have their own source of support). A new proposal should describe work to be performed for a period not to exceed one year. Continuation of projects beyond the first year will be contingent on the demonstration of progress and necessity. Proposals should provide significant opportunities for student and postdoctoral involvement and may be coordinated or combined with a graduate student research fellowship award and with a workshop award. These pilot awards are not intended to be a source of continuing support; it is expected that successful projects will seek extramural funding or will be supported through ongoing LANL divisional programs.

The proposal should include:

- Cover page
- Project Summary, a self-contained description not to exceed 200 words
- Details of the Proposed Project including the nature of the collaboration
- Budget
- Biographical sketch for each PI and co-PI.

Potential principal investigators should also know that JSTL funds are non-federal funds available for use as matching funds on federal grants. Additional consideration will be given to UNM/LANL collaborations that propose to use JSTL funds as matching funds in seeking larger joint funding.

## **10. REQUEST FOR PROPOSALS FOR GRADUATE STUDENT RESEARCH FELLOWSHIPS**

Funding will be provided to support graduate student fellowships and associated collaborative activities for graduate students who have indicated an interest in pursuing a Ph.D. at UNM in one of the four research areas listed in Section 3, and who will work collaboratively with staff at LANL including participating in research at LANL. Details of the expectations for the students and their faculty advisors, as well as a sample budget, are provided in Appendix B.

Applications for graduate student support should be submitted by the student's faculty graduate advisor. The intent of this component of the JSTL is to support graduate students who are or are in the position of making significant contributions to collaborative efforts. In some circumstances, a beginning graduate student might be in such a position, but the situation should be clearly described in the proposal. For beginning graduate students, the proposal should include the student's graduate application package plus a statement from the student detailing his or her interest in pursuing a Ph.D. in one of the four research areas listed in Section 3. In addition, the proposal should be accompanied by a recommendation from the faculty graduate advisor. For continuing students, the proposal should include the student's undergraduate transcript, graduate transcript, a statement from the student detailing his or her interest in pursuing a Ph.D. in one of the four research areas listed in Section 3, and a recommendation from the faculty graduate advisor.

These JSTL Graduate Fellowships are meant to be an additional collaborative vehicle and do not prevent graduate student support under the Collaborative Research Programs described in Section 9. At the beginning of the Joint Science and Technology Laboratory, the graduate student research fellowships may be directed toward support of the joint Collaborative Research Programs. However after the JSTL has successfully commenced, it is envisioned that the student fellowships will also serve as a seed for future joint collaborative research. Selections will be made on the basis of the quality of the student's record and the student's ability to carry out successful dissertation research in one of the four research areas identified in Section 3. If funding is available, the award may be renewed for a second year.

## **11. JOINT WORKSHOPS IN ONE OF THE FOUR AREAS OF TECHNICAL INTEREST**

Funding will be provided to support informal workshops in the required technical areas to be held at locations convenient for both UNM and LANL personnel. Proposals may be initiated by the principal investigators of collaborative research awards, the faculty

advisors of graduate fellowship recipients, members of the JSTL Executive Committee or other members of the UNM LANL communities. Workshop proposals should include a description of the workshop topic, a proposed location, format and agenda, as appropriate, and an estimate of the number of attendees from UNM and LANL.

## APPENDIX A

### 2004 MEMBERS OF THE JSTL MANAGEMENT COMMITTEE

#### *UNM:*

Dean Reed Dasenbrock  
College of Arts and Sciences  
Ortega Hall, Room 201  
MSC01 1140  
1 University of New Mexico  
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Dean Joseph L. Cecchi  
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(505) 277-1422 (fax)

Dean Paul Roth, M.D.  
School of Medicine  
MSC09 5300  
1 University of New Mexico  
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(505) 272-3322

Steven R. J. Brueck, Director  
Center for High Technology Materials  
1313 Goddard, SE  
MSC04 2710  
1 University of New Mexico  
Albuquerque, NM 87106  
(505) 272-7800  
(505) 2727801 (fax)

#### *Los Alamos National Laboratory:*

Bill Feiereisen, CCS-DO  
Computer and Computational Sciences Division

Paul Follansbee, MST-DO  
Materials Science and Technology Division

Jill Trehwella, ADTR (alternate: Nathan Schwade, B-DO)  
Biosciences Division

Susan Seestrom, ADWP  
Physics Division

Mailing Address:  
Los Alamos National Laboratory  
P.O. Box 1663  
Los Alamos, NM 87545

## APPENDIX B

### DETAILS OF JSTL STUDENT PROGRAMS

Emphasis in the student programs is on ensuring that students are placed in rewarding education and research assignments that complement both the UNM program and Laboratory needs. In general, students are expected to complete their course work at UNM and perform research at the Laboratory at an appropriate time to be determined by the student's UNM faculty advisor in concert with the Laboratory mentor. Subject to availability of funds and approval by the Executive Committee, funding opportunities may be provided for undergraduate and graduate students, and postdoctoral researchers. Faculty participation and advising is expected for both the on-campus and off-campus components of the program. The selection of student participants, mentors, and research projects under this MOU will be made through a process developed by the Executive Committee.

A faculty advisor will be assigned to each student. The advisor in concert with the Laboratory mentor will be responsible for guiding the student's research. Faculty advisors and Laboratory mentors will monitor progress to assure that the students have a positive experience in this program. For research expected to result in academic credit, final credit decisions and academic evaluations will be made by UNM, with appropriate input from UC and/or Laboratory personnel. UNM will have full access to all of the students' work for review and evaluation and pedagogical purposes, except as specifically provided to the contrary in any implementing agreement executed by the parties.

A sample of the budget categories and *estimates* of budgeted amounts are given below. Departmental variations and verification of actual costs will alter these amounts.

Salary: (12 months total)	20,000
Fringe Benefits (1%)	200
Health Insurance	800
UNM Tuition	1,500
Summer Living-Expense (Stipend for 3 months)	<u>1,000</u>
Subtotal:	23,500

Students may receive academic credit, compensation from either UNM or UC, or both, as determined by the Executive Committee for the particular program or situation.

It is anticipated that graduate students will be offered several opportunities for participation. Subject to UNM policies, practices, and procedures, thesis work will be supervised by the graduate advisory committee of the student and performed both at the Laboratory and at UNM. Work performed at the Laboratory is subject to Laboratory policies and procedures for graduate students and thesis activities. Subject to availability of funds, the recommendation of the Management Committee and approval by the



Executive Committee, full fellowships for doctoral dissertations may also be supported. The parties anticipate that funding support will typically include some combination of fellowship, graduate student research grant, and tuition and fee remission. Selection of graduate students and funding support will be determined through a process developed by the Executive Committee.

## APPENDIX C

### SUBMISSION DETAILS for 2004

#### *Important Dates:*

##### **June 15<sup>th</sup>:**

All proposals must be submitted via e-mail with a subject line of "JSTL Proposal" to

Kevin Malloy  
Associate Dean for Research  
School of Engineering  
malloy@chtm.unm.edu

Proposal budgets should describe budget categories and approximate amounts but do not need an official budget or a UNM proposal data sheet.

##### **July 15<sup>th</sup>:**

Evaluations and recommendations by the JSTL Management Committee forwarded to the JSTL Executive Committee

##### **August 15<sup>th</sup> to September 1<sup>st</sup>:**

Approximate start date for successful proposals