

## II. THE PROPOSAL

### 1. NEW PROJECTS VS. CONTINUATION PROJECTS

Research may be proposed for a one or two year period (up to 50% of total MICRO funds will be allocated to two year grants). Proposals to fund a project beyond the original one or two-year timeline will be considered but will require a full review.

### 2. FORMAT

All proposals must conform to the following format, presenting the information in the order given below: be submitted online via the following address:

**<http://flatiron.sdsc.edu/projects/micro/main.htm>**. Sections A through E must be prepared according to the specifications outlined and in the order below; the final document will be uploaded and submitted per the user instructions on the application submission link.

- A. **COVER SHEET:** See attached format; use the attached blank cover sheet. *This sheet must be the first page of the proposal.*
- B. **TABLE OF CONTENTS AND LIST OF TABLES AND FIGURES.**
- C. **ABSTRACT:** This should be comprehensible to a non-specialist since it will be circulated to University, State and Industry officials, if the proposal is approved for funding. The abstract should be placed on a separate page, camera-ready, and its format must conform to the sample on page 12. The abstract should include at the bottom three to five keywords that collectively describe the research (see sample).
- D. **INTRODUCTION:** This section shall include a brief general discussion of the technical problem(s) to be investigated.
- E. **TECHNICAL DISCUSSION:** This is the major portion of the proposal. It should be presented concisely and at the same time be detailed enough to indicate the significance and merits of the proposed research. It should contain the information requested, clearly numbered as given below:
  - 1. **DETAILED STATEMENT OF THE PROBLEM:** The elements of the problem shall be described and the elements that are critical to the solution of the problem shall be clearly identified.

2. **PROGRESS REPORT FOR CONTINUATION PROJECTS:** Proposals for continuation projects must contain a detailed progress report demonstrating reasonable progress for the past year, which will serve as the backbone for the evaluation of the proposal. For projects whose predecessor projects were initiated more than one year ago, the proposal must describe the project's progress since January 1, 2006 and include a cumulative list of publications growing out of the project and its predecessors, dating back three years or to the beginning of the project, whichever is later. For projects representing a *first* continuation of a project initiated during the preceding year, and for which no substantial results can be reported yet by the proposal deadline, a detailed description of work initiated and underway should be given, along with any progress that can be noted. For continuation projects with multiple PIs, the contributions of each PI should be clearly stated.
3. **PROPOSED WORK:** A complete description of the approach to the solution of the problem must be given. Experiments, simulations, tests, and required facilities must be described. The relevant scientific principles and techniques on which the solution of the problem depends must also be presented. This section should conclude with a statement of work. If the scope of work is expected to take multiple years, clearly describe what is planned for the coming year.
4. **RELEVANCE TO MICRO:** A *New Project* proposal shall identify the elements of the research that support the general objectives of MICRO. The cooperating company or companies shall be identified and addresses of its (their) relevant manufacturing facilities in California must be given. The name(s) of the technical liaison person(s) from each cooperating company must be listed, and anticipated technical interaction with company personnel must be summarized. The technical discussion should clearly bring out the relevance to MICRO by emphasizing how the proposed research furthers the state of knowledge in microelectronics and computer science.

**Sections D and E together shall not exceed 15 pages, including figures and tables.** Proposals exceeding the page limit may be disqualified.

- F. **PERSONNEL:** This section must summarize the qualifications of the PI and co-investigator(s) and of others who will be involved in the project.

In proposals involving co-PIs, the role of each faculty investigator in the proposed research must be described. The percentage of effort and budget responsibility for each co-PI must be stated. Without this information, the proposal will be considered, for budgetary purposes, as a single investigator project. A description of applicable research experience on similar projects, other technical accomplishments, and educational background of all the investigators must be given in a brief curriculum vitae. Each curriculum vitae should be approximately two pages in length -- *not exceeding three pages* -- and should list publications relevant to the proposed research, as well as names of past graduate students who have received their degrees on the basis of similar research.

- G. CURRENT AND PENDING SUPPORT:** The focus of the MICRO project should be different from that of any other project for which the PI has support or is requesting support. **If the proposed project is related to a currently funded or a pending project, the relationship and the value added by MICRO funding must be clearly stated and specific research outcomes must be set forth in the proposed MICRO research.** All current and pending support of the PI(s) must be listed, giving the title of the project, the funding agency, the amount of award received (or requested), and dates of the contracting period. In addition, in the case of support received or pending from the company sponsoring the current proposal, it must be clearly stated whether the proposed company funding of the MICRO project is in addition to previously committed support.
- H. LETTER OF INTENT:** A Letter of Intent from each sponsor supporting the budget must be included in the proposal. The online application system also provides instructions for including this certification of industrial intent. The letter should follow the format suggested on the sample. The company is free to add additional statements, such as a payment delivery schedule. However, *restrictive* or *conditional* clauses may cause the proposal to be disqualified if, in the judgment of the Executive Committee, these clauses are incompatible with MICRO policies or with University policies in general.

If an industrial sponsor's contribution contains non-cash items, a *Non-Cash Contributions* questionnaire, completed and signed by the sponsors, must be attached to the Letter of Intent and included in the proposal.

The company should send the Letter of Intent directly to the PI, not to the Executive Committee or the Program Coordinator. A *copy* of the Letter of Intent from each cooperating company must be included in each copy of the proposal, just preceding the budget page. Late Letters of Intent will not be accepted.

- I. BUDGET:** A detailed budget for a 12-month period ending no later than December 31, 2008 must be given on a single sheet, following the guidelines spelled out in detail in Section II.3 (*Budget Guidelines*) below. See budget sample.
- J. EXPLANATION AND JUSTIFICATION OF BUDGET ITEMS:** Any major non-salary expenditure item in the proposed budget must be adequately justified, or that item may be disqualified by the Executive Committee. A proper justification includes both: 1) a statement of the item's relevance to the program and 2) a breakdown of the expenses or other computational base used to arrive at the listed amount. More specifically, items in need of justification include the following: (a) equipment costing more than \$3,000, (b) any non-salary line item above \$2,000 that is not broken down into smaller items within the budget itself and (c) for any recharge item above \$2,000 for which the computational basis is not adequately specified. This includes items such as clean-room charges, network access fees, etc.

Since it is the intent of the MICRO Program to provide research opportunities for graduate students, the involvement and number of graduate students in the project must be adequately explained and justified. The number of graduate students should be commensurate with the scope of the proposed project. *The **total faculty, staff and administrative salaries shall not exceed graduate students' salaries.** Moreover, **administrative and technical support salaries shall not exceed five percent of the total salaries.***

These and any other budget items requiring justification should be detailed on a separate sheet and included in the proposal following the budget. See sample justification of budget items.

- K. LIST OF REVIEWERS:** Please note that this list is no longer required as part of the proposal document. Instead, the online application registration requires that the names of suggested reviewers be entered directly into the registration window online. Applicants must list five potential reviewers who have current expertise in the area of the proposal. Please exclude from this list anyone who may have a conflict of interest, such as former graduate students, advisors, direct collaborators, industrial sponsors, campus colleagues, etc. The names of suggested reviewers will go directly into a database of possible reviewers in the area of the proposal.

### **3. BUDGET GUIDELINES**

- A. GENERAL:** The budget should be separated into two major categories: salary costs and other direct costs. Justification for major equipment and other non-salary items must be given in Section J of the proposal. **Disallowed funds will be subtracted from the amount awarded to the project.**

**Salary Costs:** Faculty, technical staff, and administrative salaries should reflect a reasonable balance with the proposed level of graduate student support. **At least 50 percent of the total salaries must be allocated to support graduate students' salaries.** Moreover, **administrative and technical support salaries shall not exceed 5 percent of the total salaries.** Personnel are not supported full time under the MICRO program. Partial support not to exceed 25 percent time for research professionals and 33 percent time for adjunct faculty and postdocs will be considered. A maximum of two months summer salary across all projects submitted by a Principal Investigator is allowed for Academic Senate faculty. MICRO funding cannot be used to supplement sabbatical leave salary or buyouts for teaching. Nor can it be used for special leave salary, unless it is clearly demonstrated in the proposal that a leave from regular faculty duties will further the quality and scope of research. Funding for graduate student tuition and fees are allowed, including out-of-state tuition, provided: (a) the student is supported at a level of at least 25 percent of full-time, and (b) at least half of the student's annual support comes from MICRO.

**Other Direct Costs:** General expenditures, including office equipment, furnishings and infrastructure fees that are not specifically targeted to the proposed research are not allowed. Computer systems support charges, not to exceed \$50 per month, are allowed for each user supported on the grant at 49 percent time or greater; active PIs are allowed \$600 per year. Foreign travel may be charged only to the industrial funds, after proper justification by the PI and approval by the Technical Liaison. Since the University's match includes the indirect research costs, no indirect-cost line is necessary in the budget.

- B. CASH EQUIVALENTS FOR NON-CASH CONTRIBUTIONS:** If the minimum \$10,000 cash component is provided, non-cash contributions to the research project are allowed as long as specific criteria are met. (See Sections I.3F and I.3G). In that case, the attached questionnaire *Non-Cash Contributions* must be filled in by the sponsoring companies and submitted with the Letter of Intent. Item 1.5 of the form needs to be filled in by the PI if more than one piece of the same or a similar item is offered. In addition, a detailed justification of the need for the equipment or software must be given in Section J of the proposal.

For the purpose of determining the level of University cash contribution, industrial non-cash contributions must not be valued at "market value" or "list price," but at the lowest cost at which the item would be available to university customers qualifying for maximum academic discounts (see 1.3 on the questionnaire *Non-Cash Contributions*). The equipment must match the needs of the project. It is crucial to provide the appropriate justification of the use of non-cash contributions in the body of the proposal.

Given the Assessed Value of all non-cash contributions from a single industrial sponsor of a project, the MICRO Cash Equivalent is calculated using the following table:

**TABLE 1**

<b>ASSESSED VALUE:</b>	<b>MICRO CASH EQUIVALENT:</b>
Less than \$50,000	50%
\$50,000 to \$150,000	\$25,000 + 15% of amount over \$50,000
Above \$150,000	\$40,000 + 5% of amount over \$150,000

Both the Assessed Value and its Cash Equivalent as computed from Table 1 should be entered on the proposal cover page. The Cash Equivalent is added to any actual cash contributions to the project, and their sum is used to calculate the Maximum University Cash Contribution, described in the following section.

- C. UNIVERSITY CASH CONTRIBUTION:** For 2007-08 MICRO proposals, the University Cash Contributions requested in the budgets must not exceed the amount calculated from Table 2. The Industrial Contribution is the sum of Cash committed by all industrial sponsors to a project and the Cash Equivalent of all non-cash contributions.

**TABLE 2**

<b>INDUSTRIAL CONTRIBUTION:</b>	<b>MAXIMUM UNIVERSITY CASH:</b>
\$50,000 or less	100%
\$50,001 to \$100,000	\$50,000 + 75% of amount over \$50,000
Above \$100,000	\$87,500 + 20% of amount over \$100,000

This method of allocating University funds awards small- and medium-sized projects with a University supplement at a higher rate than large-sized projects, which are assumed to derive the bulk of their funds from industry. It encourages investigators to collaborate when properly justified, without giving the incentive to a PI to proliferate proposals.

The attached *MICRO Budget Worksheet* was designed to assist the PI in calculating the University Cash Contribution and takes into consideration all of the factors described above. However, it is not required that the worksheet be included in the proposal.

The University Cash Contribution is calculated for each PI across all proposals in which that PI will participate. The following four examples demonstrate how this allocation formula is applied to cover most cases.

- A PI submitting only one single-investigator proposal should directly use Table 2 to calculate the maximum University Cash Contribution eligible for that proposal.
- A PI submitting more than one single-investigator proposal must use Table 2 to calculate the maximum University Cash Contribution on the sum of all Industry Contributions to all proposals. A fraction of the calculated amount must be allocated to each proposal, in proportion to the industry contribution toward that project relative to the sum of all Industry Contributions.
- Multiple PIs submitting one joint proposal must pro-rate the total Industry Contribution for each PI according to the level of effort specified in the proposal, compute the University Cash Contribution per PI using Table 2, and sum the results to obtain the maximum University Cash Contribution for the proposal.

- Each PI appearing on more than one proposal with co-PIs must pro-rate the total Industry Contribution for each proposal according to his/her specified level of effort, sum these pro-rated amounts across all proposals, and then calculate the maximum University Cash Contribution for that PI from Table 2. This amount must then be redistributed to each proposal proportional to the pro-rated Industrial Contribution. The process is repeated for every PI. The sum of these amounts calculated for all PIs on a proposal will constitute the maximum University Cash Contribution for that proposal.

#### 4. CRITERIA FOR AWARD

Proposals will be reviewed by referees selected by the MICRO Executive Committee. Funding may not be provided to PIs whose Project Report obligations are not current. A detailed technical review based on the following criteria will be the primary basis for decisions on research awards:

- Quality and originality of the proposed research. Emphasis will be on innovation. Contribution of the project to train graduate students at the forefront of technical innovation.
- For renewals, the emphasis will be on progress gained under prior MICRO support.
- Qualifications of PI(s) and other investigators.
- Adequacy of facilities for the proposed research.
- Potential of the project to fulfill MICRO objectives.
  
- Reasonableness of the budget: adequate justification for major expense items; relevance and justification of the valuation of industrial non-cash matching contributions; consonance of the budget with the technical work proposed.
- Available State funds.

It is not possible to fund all meritorious proposals at the level requested. Overall evaluation of the relative merits of different proposals will be based on peer review, as reviewed and normalized by the Executive Committee.

#### 5. PROPOSAL DELIVERY

**Please note all proposals must be submitted online. The application URL is:**

<http://flatiron.sdsc.edu/projects/micro/main.htm>

**For technical assistance and guidance, please contact Lauren O’Connell by email at: [micro@ucop.edu](mailto:micro@ucop.edu) or by phone at: (510) 987-0493.**

**Please contact the UC MICRO office if you have other questions.**

Lauren O’Connell, Program Officer  
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1111 Franklin Street, 11<sup>th</sup> Floor

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(510) 987-0493

Submissions must be posted no later than 5:00 p.m., Friday, March 23, 2007. All PIs will receive an acknowledgment that their proposal(s) has been successfully submitted.

## **6. NOTIFICATION AND PROCESSING OF AWARDS**

Awards will be announced in August, 2007. Principal Investigators and campus Contracts and Grants Offices will be notified of projects that have been approved, their funding level and the steps required to have MICRO funds released. MICRO funds will be treated as intramural funding and will be transferred to the Principal Investigator's department, or Organized Research Unit, via the campus Accounting Office. Support from cooperating companies will constitute extramural funding, and will be processed as awards by the campus's Contracts and Grants Office. If the support is given as a gift, its acceptance as such will be handled by the appropriate office on each campus.

Inquiries regarding awards should be directed to the RO Program Coordinator.

## **7. APPEALS**

Appeals must be submitted in writing (email acceptable) to the MICRO Program Coordinator by October 1, 2007 for consideration by the MICRO Executive Committee. Appeals received after that date will not be considered. Funding decisions are based on what is submitted in the proposal by the due date and under no circumstances will a proposal be reconsidered on the submission of missing information.