

## MEMORANDUM

To: Katalin Voros, Operations Manager  
From: **Rosemary Spivey**, Administrative Manager  
Subject: 2009 Year-End Report  
Date: 27 January 2009

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At the close of the 2009 calendar year, the administrative unit under my direction comprised 4.0 FTE. This unit provided support to the Microlab and Machine Shop in the areas of fiscal and budget management, account administration, staff management, procurement and inventory control, and reporting of new lab fund raising efforts. The following report summarizes Microlab activities supported by the administrative unit during 2009.

### I. FISCAL MANAGEMENT

I prepared a fiscal year financial report detailing the budgetary activities of the Microlab during 2008/2009 and distributed it to Microlab Member Professors on 22 July 2009.

The report included the following highlights:

- Microlab recharge operations ended the 2008/2009 fiscal year on target. Collected recharge revenue of \$3.27M surpassed expenditures by \$8,115.38, thus reducing the total accumulated negative carry-forward balance to \$97,672.34. This deficit represents 3% of the total 2008/2009 operating budget.
- Laboratory and equipment use increased 8% and 14% respectively from last fiscal year. This was made possible by excellent equipment availability throughout the year.
- A total of 512 lab members utilized the Microlab in fiscal year 2008/2009. Recharge revenue generated from UCB research groups comprised 82% of total income. The number of BMLA member companies was 18, a 31% decrease from last year.

#### 2009/2010 Microlab Budget

CATEGORY	YEARLY BUDGET	MONTHLY BUDGET
Salaries & Benefits	\$1,943,904.00	\$161,992.00
Supplies & Expenses	\$1,464,600.00	\$122,050.00
Deficit Recovery	\$ 97,672.00	\$ 8,140.00
Income*	\$3,506,176.00	\$292,182.00

\*Projected Overhead Income not included in Income totals.

#### Salaries and Benefits (S&B)

The Microlab operating fund supported 25.38 FTE career and student staff salaries and benefits totaling \$1,810,107 in fiscal year 2008/2009. In addition, 7.19 FTE career Microlab staff salaries and benefits were supported from non-Microlab operating funds. We ended the 08/09 fiscal year 1% over budget in this category. At the conclusion of the first half of the 09/10 fiscal year salaries and benefits are 5% under budget. This is a temporary situation while funding adjustments are being made. The S&B budget will be on target by fiscal-year end. The Microlab received a 2<sup>nd</sup> year 2.0 FTE salary support allotment from CITRIS to assist with facilitation of the transition to the Marvell NanoLab.

Again this year, no funding was available for staff merit increases. As the result of a \$637M cut in state support for the University of California for fiscal year 2009/2010, the UC Regents approved a one-year system-wide furlough/salary reduction plan for UC employees, effective 9/1/09. Microlab employees received an exemption from the furlough/salary reduction plan in order to execute the relocation of the current Microlab facility to the new Marvell NanoLab facility by 12/31/10.

The following payroll changes occurred during 2009:

<b>Effective Date</b>	<b>Name</b>	<b>Action</b>
2/15/09	Gao, Xin	Hired as PostDoc (MEMS Exchange Engineer).
4/6/09	Calico, Susan	On medical leave, 4/6/09-5/5/09 Transitional work agreement, 5/6/09-8/26/09
5/1/09	Peshette, Nancy	Begin 10% START
6/1/09	Batie, James	Hired as Dev Tech V, for limited position through 12/31/10.
6/15/09	Bala, Anjana Ip, Sarah McNally, Chris	Hired high school summer interns 6/15/09 – 8/13/09
6/22/09	Martin, A. Michael	Hired as R&D Engineer 1 on two year contract for Marvell NanoLab Fitup.
7/01/09	Flounders, Bill	CITRIS provides 75% support for FY 09/10, balance of 25% on Microlab funds.
7/01/09	Guillory, Phillip	CITRIS provides 25% support for FY 09/10, balance of 75% on Microlab funds.
7/01/09	Lake, Ben	CITRIS provides 50% support for FY 06/10, balance of 50% on Machine Shop funds.
7/01/09	Morford, Jay	CITRIS provides 50% support for FY 09/10, balance of 50% on Microlab funds.
7/01/09	Voros, Katalin	ERSO Central provides 40% support for FY 09/10, 40% balance on EECS funds.
7/01/09	Petho, Laszlo	Merit Increase to Associate Specialist, Step III.
7/15/09	Nishiyama, Leslie	Hired as Administrative Assistant II, temporary position through 9/8/09.
8/3/09	Hester, Edward	Hired as Dev. Tech. IV, for limited position through 12/31/10.
9/14/09	Chu, Eric	Hired as Administrative Assistant II, permanent position.
9/30/09	Gao, Xin	Resigned as PostDoc, (MEMS Exchange Engineer). Returned to home country.

10/01/09	Ahtty, Louis	Hired as Dev. Tech. IV, for limited position through 12/31/10.
10/1/09	Horvath, Attila	Hired as R&D Engineer 2 for limited position through 11/30/09.
11/15/09	Petho, Laszlo	Extended Associate Specialist position through 11/14/10.
12/17/09	Batie, Jim	Resigned from Dev. Tech. V limited position.

After working for many months in 2009 with ERSO HR Director on preparation and submission/re-submission of job descriptions for new Career Compass job titles for non-represented career Microlab staff, all requested staff titles were granted except for one.

Retroactive to 5/1/09, the following Career Compass job titles have been assigned to non-represented career Microlab staff:

<b>Career Employee Name</b>	<b>Career Compass Title</b>
Calico, Susan	Information Systems Analyst 2
Chan, Kim	R&D Engineer 2
Chang, Jimmy	R&D Engineer 4
Donnelly, Joseph	R&D Engineer 3
Flounders, A. William	R&D Engineer 5
Guillory, Phillip	Pending
Hamilton, Robert	R&D Engineer 5
Kellogg-Smith, Susan	Buyer II
Kushner, Marilyn	R&D Engineer 2
Lake, Benjamin	Engineering Technical Supervisor 2
Linan, Michael	R&D Engineer 3
Lo, David	R&D Engineer 3
Meng, Xiaofan	R&D Engineer 4
Merport, Todd	Applications Analyst 4
Morford, Jay	R&D Engineer 3
Parsa, Siavash	R&D Engineer 5
Pestal, Danny	R&D Engineer 3
Proskurowski, Alexander	Applications Programmer 3
Spivey, Rosemary	Administrative Officer 4
Stateler, Evan	R&D Engineer 4
Voros, Katalin	R&D Engineering Manager 2
Wasilik, Matthew	R&D Engineer 4
Yin, Changrui	Information Analyst 3

As of 12/09, the Campus is still engaged in discussions with bargaining units regarding Career Compass job standards for represented positions. The Microlab has been asked to participate on the review committee for Engineering Operational & Technical job standards, but to date no meetings have been scheduled.

### **Supplies and Expenses (S&E)**

Microlab supplies and expenses (S&E) totaled \$1,451,648 in fiscal year 2008/2009. Major S&E expenditures paid by the Microlab included general use liquid nitrogen, \$179,336.69; chemicals, \$153,711.68; parts and maintenance for misc. equipment such as cpd, heatpulse, iondep, quintel, technics, \$93,520.85; computer operations/CIS fees, \$74,103.10 and quartzware, \$59,321.30. Expenditures on vacuum, cryo, booster, and dry pumps continued to decrease FY 08/09. A total of \$48,345.93 was spent compared to \$84,899.98 spent in FY 07/09 and \$182,186.35 spent in FY 06/07. Projected S&E costs in FY 09/10 for core Microlab operations is \$1,464,600.00. At mid-year S&E expenses are 6% over budget. This overage is attributed to a turbo pump set required for the STS; out-of-house repair and parts for the GCAPG&WS and leo.

Recharge income collected from BMLA/sundry laboratory use overhead fees in fiscal year 2008/2009 continued to support the development and testing of the new Microlab management information system (Mercury). In addition, a purchase order for \$91,490.21 is currently encumbered on overhead funds for the upgrade of the Leo Scanning Electron Microscope.

During 2009, all BMLA membership fee contributions were directed to the Marvell NanoLab fit-up project. Since January 2008, a total of \$451,423.74 has been spent from this fund source on fit-up related expenses. To track expense categories, 148 flex fields have been created. On a monthly basis, a detailed report is prepared and submitted to the Marvell NanoLab Manager for review and planning purposes.

Additionally, in FY 09/10, \$286,005.33 from Microlab Equipment Depreciation funds was spent on Silpac/Pressfit Tool, Wafab/Sinks, CAE/Environmental Control System, Allwin21/Rapid Thermal Processor Exchange for Etchers, Applied Materials/Upgrade for Centura.

On December 3, 2009, Property Loss Claim# 20091013546 was submitted to The Office of Risk Management for \$1,562,668.76. This was the result of a fire that occurred on 10/6/09 in the exhaust duct servicing the VLSI area, which activated the lab sprinkler system and destroyed three Lam Etchers, Tystar Bank2, STS turbo pump controller and severely damaged the exhaust system. On 1/19/10, I was notified by the UC Insurance Examiner, that the Microlab will receive payment to purchase replacement equipment and repair the exhaust system.

### **Income**

Recharge revenue generated in fiscal year 2008/2009 was \$3,269,871, which was 5% below expectations. Recharge revenue generated from campus sources was again higher than the previous fiscal year; industrial member revenue decreased 4.9% from the previous year, and comprised only 16.5% of our total recharge revenue. At mid-year 09/10 \$1,744,270.81 has been generated in recharge revenue, which is on target for mid-year projections. Although we had a solid start to the fiscal year, revenue for the 3<sup>rd</sup> quarter will fall below target. This is the result of inaccessibility to critical lab equipment due to damage caused by the 10/6/09 lab fire and equipment downtime necessary to relocate and install equipment in the Marvell NanoLab. Lab membership remains stable at 332, and I am hopeful that as high demand equipment is again available, 4<sup>th</sup> quarter revenue will rally sufficiently to meet our targeted goal of \$3.5M by fiscal-year end.

Microlab income is generated based on recharge rates. Recharge rates were adjusted to reflect a decrease in ERSO salary support for administrative positions and projected decrease in equipment utilization. Laboratory and Equipment cut-off limits increased 5% to \$1260.00 and \$1470.00 per month respectively.

**Recharge Rates Effective 1 July 2009**

<b>Access Fee</b>	<b>\$88.00/month</b>
<b>General Lab Use Rate</b> (Includes 87 operating systems)	<b>39.60/hour</b>
Special Equipment Use Rate For complete list go to: <a href="http://microlab.berkeley.edu">http://microlab.berkeley.edu</a> Membership Information – Recharge Rates	<b>\$35.40 - \$40.20/hour</b>
<b>Staff Services Rate</b>	<b>\$69.00/hour</b>

Included in the Fiscal Year 2009/2010 Microlab Recharge Rate Proposal, was an eight-year \$1.2M deficit recovery plan for projected Microlab/NanoLab transition shortfall estimated by NanoLab Manager, A. William Flounders. The long-term deficit recovery plan was approved by the Campus Recharge Committee; however, the Chancellor overruled the Recharge Committees decision and approved only half of the total \$1.2M projected deficit. The UC Budget Office Coordinator recommends that the full waiver request be submitted again for FY 2010/2011.

**II. BUDGET & ACCOUNT MANAGEMENT**

**Financial Reports**

As in past years, monthly and annual Financial Summaries for the Microlab were submitted. The reports provided budgetary analysis of account activity including detailed analysis of recharge specific project codes and flex fields. The reports were distributed to the Faculty Director, PIs, and managers of the Microlab.

Various reports, including the Microlab FY 09/10 Recharge Rate Proposal, NanoLab Gift Fund Activity Reports, CNRI MEMS Exchange Summary Report, Cyro Group Summary Report, Process Group ETR Summary Report, etc., were prepared as required.

**Cory Hall Machine Shop**

The 2009/2010 Recharge Rate Proposal for the EECS/ERSO Machine Shop projects total annual revenues of \$393,583. The hourly recharge rate decreases 4% to \$69.50, which is possible because of salary support from CITRIS for the Marvell NanoLab fit-up project, for which Machine Shop services are critical.

My staff continued to be responsible for purchasing and accounting functions of the Machine Shop's operations. Nancy Peshette prepared monthly financial reports for the Machine Shop detailing expenditures, (S&B/S&E), income, work hour accounting and YTD pro forma hours provided to EECS. In addition, she provided various charts to the Technical Supervisor to assist with detailed budgetary analysis.

At the close of 2009, Machine Shop operating funds support 0.50 FTE Technical Supervisor, three FTE mechanics, and one 0.50 FTE AAIII position. The remaining 0.50 FTE of the Technical Supervisor's position is currently being funded by CITRIS, which is providing salary support during the transition to the Marvell Laboratory. In addition, a temporary Development

Technician IV position was filled on 8/3/09 for the purpose of providing machining services to the Marvell NanoLab. This position is under the supervision of the Shop Supervisor, but is funded separately. At mid-year, the Machine Shop is operating above target estimates. The Shop's current Job Request list is extensive, and will keep all staff fully engaged through the fiscal year.

According to Fiscal Year 2008/2009 figures a total of 56 PIs from the departments of EECS, BNC/QB3, Chemistry, Chemical Engineering, Physics, Mechanical Eng, MSE, Nuclear Engineering, Astronomy, Biology and UCSF supported the Machine Shop and 338 jobs were completed for customers. The Microlab/NanoLab was recharged \$119,994.60 for 133 jobs completed, accounting for 39% of the Machine Shop's total revenue. Through careful management, the Machine Shop eliminated the previous years' carry-forward deficit and closed fiscal year 2008/2009 with a positive balance of \$841.53.

### **Baseline Process Project**

Total operating expenditures for the Baseline Project for 2009 were \$88,111.04, for laboratory fees, materials and implantation costs, and for 1.00 staff FTE. Baseline Report VII., *0.35 $\mu$ m CMOS Process on Six-Inch Wafers*, was published on 12/7/09.

### **Microlab Accounts**

Throughout the 08/09 fiscal year 546 labmembers were funded by 91 principal investigators. The average number of active labmembers on a monthly basis was 335. The administrative staff requested 131 new Microlab computer accounts for members with active, guest, courtesy and staff accounts in 2009. Additionally, 88 "billing only" accounts were requested. I established and/or maintained Microlab accounts for these members, which included fund changes, split funding requests, fund transfers and reversals.

Effective 11/09, the Microlab monthly charge statement was generated from MercuryWeb. The new report captures and consolidates use of the Microlab and NanoLab, and is electronically distributed to campus grant administrators and Microlab/NanoLab supporters. I received positive feedback on the updated format from campus administrators.

### **External Accounts**

#### *Berkeley Microlab Affiliates (BMLA)*

Laboratory income generated by BMLA/sundry sources totaled \$498,363.76 in fiscal year 2008/2009, accounting for 16.5% of Microlab operating revenue. In addition to income generated from lab fees, BMLA members contributed to the Microlab through the annual membership fee. At the end of fiscal year 2008/2009 there were 17 companies participating in the program, a 35% decrease in member companies from last fiscal year. I have sole responsibility for the financial management of this program, including invoicing, processing checks through University Relations/Cashier's Office, donor acknowledgement letters, account administration and recordkeeping. As well, I ensured that each new industrial member read and signed the Microlab Memorandum of Cooperative Agreement and prepared or amended Business Contract Agreements between The Regents of the University of California and the industrial member company.

#### *Engineering Test Requests (ETR)*

Microlab process staff continued to provide research services to member companies and non-UC Universities in 2009. The administrative staff managed purchase orders requests and invoiced for other specialized services including mask making for Arizona State U., CalTech, U. of Maryland, U. of Michigan, U. of New Jersey, San Francisco State U., Stanford U., Texas A&M U.,

U. of Maryland, U. of Puerto Rico, U. of Texas Austin, U. of Utah, Vanderbilt U., Washington U. in St Louis, Korea Advanced Institute of Science and Technology and Vestfold University College Norway. As in past years, I worked closely with the process staff to ensure that all purchase orders were valid and charges were collected for work performed. Within the UC system only 5 active accounts for Davis, Los Angeles and San Francisco have been established and/or maintained this year.

#### *Lawrence Berkeley National Laboratory (LBNL)*

I managed 18 LBNL contract agreements for Microlab use in 2009. One of the contracts within the LBNL Materials Science Division, is funded by 13 PIs with 22 separate projects, and has been open continuously since March 2005. I am responsible for reviewing, approving, billing and preparing "close-out" documentation for each contract in compliance with Department of Energy regulations. I worked with LBNL procurement and accounting personnel to guarantee accurate accounting of these contracts.

#### *Corporation for National Research Initiatives (CNRI)*

The Microlab's participation in the MEMS fabrication service to U.S. academic and industrial researchers continued at a minimal level this year. A total of 10 process runs were completed during the 2009 calendar year, for which I invoiced CNRI \$11,483.52. To provide the required detailed billing specified in the current CNRI contract, I set-up a *billing* account for each run and then charged for individual modules referencing the unique account name. At the end of 2009 CNRI project support was closed.

### **III. PROCUREMENT & INVENTORY MANAGEMENT**

#### **Purchasing/Inventory**

**Susan Kellogg-Smith** provided comprehensive procurement and inventory management for the Microlab and backup service for Machine Shop during 2009. For detailed information on Microlab procurement and inventory see Susan's report.

### **IV. MANAGEMENT OF ADMINISTRATION**

#### **Supervision of Staff and Office Administration**

**Susan Kellogg-Smith** performed her duties in an exemplary manner in 2009. Susan succeeded in maintaining Microlab procurement and inventory requirements, while simultaneously providing complex procurement services for new lab fit-up and equipment installation needs. In preparation of moving the current Microlab operation to the new Marvell NanoLab, Susan worked with the NanoLab Manager and Microlab development engineers to create comprehensive RFQ's for numerous specialized parts and semi-conductor equipment. In particular, Susan meticulously prepared a very complex RFQ for wet process stations that included six specification files, six drawing files, bid submittal requirements, contract timetable, instructions to bidders, evaluation factors, etc. Although the dollar amount of this purchase exceeded Susan's purchasing authority by a significant amount, she independently prepared the PO contract for submission to the Senior Buyer. During 2009, Susan attended by-monthly Buyer Training classes and well as Central Purchasing staff meetings. It is of value to our unit that Susan attend these classes and meetings as she receives up-to-date policy information, excellent source information and contacts. Additionally, Susan did an excellent job of managing Microlab donations this year, which included a helium leak detector, 26 pieces of stainless steel laboratory furniture, coat/develop track from a Japanese manufacturer, and an EPI Centura

Model 5200 HTF refurbished system valued at \$2.2M. By mid-2009, it was clear that administrative services required for the transition of the Microlab to the NanoLab and simultaneous operation of both facilities was beyond the capability of the current administrative staff. As a result, an exception to the hiring freeze was approved by the Dean of COE to hire a full-time permanent Administrative Assistant II. Under Susan's supervision, Eric Chu was hired on 9/14/09 to provide administrative support in the areas of office management, shipping and receiving and inventory control, and to provide direct assistance to staff and 300+ active lab members. Susan and her staff work diligently everyday to fulfill the needs of our operation.

**Nancy Peshette** provided excellent administrative support to Machine Shop customers and staff in 2009. At the start of FY 2008/2009 the Machine Shop was carrying an out-of-tolerance deficit. Nancy was aware of the importance of keeping expenses at a minimum and put considerable effort in researching sources for products that saved Shop funds, while delivering goods and services as specified. As well, Nancy was diligent about collecting all recharge revenue due. With the influx of new job requests and Nancy's careful administrative support, the Shop ended the fiscal year with a positive balance. Since January 2009, the Machine Shop has received 69 job requests related to the fit-up of the new NanoLab. As a result, purchasing and accounting requirements increased significantly. Nancy's flexibility and willingness to provide administrative support in multiple areas is a great asset and essential to the Shop's success. In addition to duties in the Machine Shop, Nancy handled recharge billing for the Microlab. She collected \$3.4M in revenues from hundreds of UCB fund sources, other UC fund sources, industry PO's, LBNL IUTs, etc. This task required extreme attention to detail and she accomplished this with great success. In 2009, Nancy attended several training classes and workshops to include *Cash Handling 101, Module 1 & 2, Budget Concepts for Managers, Part 1, Overview of UC Budget Sources, Annual Budget Process*, etc. On 5/1/09, as a result of family needs Nancy decreased her total work hours from 100% to 90% time. Even with this reduced schedule Nancy was able to meet the challenges of an increased workload with great skill and efficiency.

### **Personnel Support**

I provided personnel related support for career staff and associated researchers of the Microlab and Machine Shop, a total of 36 during 2009. This involved new employee hires, performance evaluations, equity increase requests, limited waiver of recruitment requests, and one medical leave case. As was the case last year a significant amount of time was focused on mapping 23 non-represented staff positions to new UCB Career Compass job standards. Initially, we received approval for classification of 14 job titles as requested, but nine had to be re-written and submitted for reconsideration. To date, all but one job title has been approved as requested.

## **V. CONCLUSION**

In 2009 the Microlab and Machine Shop administrative unit under my direction focused on services required for the transition of the current Microlab operation to the new NanoLab operation. Although all has not been seamless, we are dedicated to providing outstanding service through the transition process.