

MEMORANDUM

To: **Bill Flounders**, NanoLab Executive Director
From: **Rosemary Spivey**, Administrative Manager
Subject: 2011 Fiscal Year-End Report
Date: 31 August 2011

At the close of the 2011 fiscal year, the administrative unit under my direction comprised 4.0 FTE. This unit provided support to the NanoLab and Machine Shop in the areas of fiscal and budget management, account administration, staff management, procurement and inventory control, reporting on new lab fund raising efforts and fit-up expenditures. The following report summarizes NanoLab activities supported by the administrative unit during fiscal year 2010/11.

I. FISCAL MANAGEMENT

I prepared a fiscal year financial report detailing the budgetary activities of the NanoLab and distributed it to NanoLab Member Professors on August 5, 2011.

The report included the following highlights:

- NanoLab recharge operations ended the 2010/2011 fiscal year on target. Collected recharge revenue of \$4,039,049 surpassed expenditures by \$104,393, thus reducing the total accumulated negative carry-forward balance to \$111,065. This deficit represents 3% of the total 2010/2011 recharge operating expense budget.
- From January 2008 through June 30, 2011, total expenses for the move and installation of NanoLab equipment to the new NanoLab, installation of computer control and communication systems, transfer of chemical and materials inventory, and new laboratory furniture were \$3,177,948. Contributions from other sources covered \$1,093,447 of these expenses, while the NanoLab funded \$2,084,501 in expenses, including a deficit of \$416,252, incurred in the equipment reserve fund scheduled for repayment FY12 -14.
- Laboratory and equipment use increased 31% and 26% respectively from last fiscal year. This was made possible by the reestablishment of steady state operations.
- A total of 474 lab members utilized the Micro/NanoLab in fiscal year 2010/2011. Recharge revenue generated from UCB research groups comprised 81%, BNLA members comprised 16%, and the remaining 3% of total income by other non-UC university groups. The number of BNLA member companies was 22, a 29% increase from last year.

Salaries and Benefits (S&B)

The NanoLab operating fund supported 25.85 FTE career and student staff salaries and benefits totaling \$2,036,446 this fiscal year. Benefits premiums paid by UC increased significantly this year, which represented a 7% increase in benefits paid by our unit. In addition, 4.41 FTE career NanoLab staff salaries and benefits were supported from non-NanoLab operations budget. The Nanolab received salary support for the 3rd year from CITRIS, to assist with facilitation of the transition from the Microlab to the NanoLab. For the 4th consecutive year, as a result of the state's on-going economic crisis, no funding for merit increases was available for staff in non-represented classifications. Career and limited staff

represented by the UPTE contract received a \$1000.00 lump sum payment on 7/1/10, a 2.5% range adjustment on 10/1/10, and a 2.3% range adjustment effective 1/11. Three staff represented by CUE were without a contract, and excluded from range adjustments.

The following payroll changes are listed chronologically for FY11 – July 2010 to June 2011:

Effective 7/1/10, the flex field (BFSv9-chartfield2) supporting NanoLab staff changed from EEKKV to EEAWF, to reflect change in laboratory management.

Effective Date	Name	Action
7/01/10	Flounders, Bill	CITRIS provides 100% support to 4/30/11; 71% CITRIS/29% EECS for May and June 2011.
7/01/10	Morford, Jay	LAM Research provides 100% support FY11.
7/01/10	Voros, Katalin	ERSO Central and EECS provides 40% support each from 7/1/10 – 12/31/11.
8/13/10	Calico, Susan	Contract for Applications Programmer 2 ends.
9/01/10	Szucs, Anna	Hired as Baseline Engineer - Associate Specialist II, (replacement for Laszlo Petho)
10/13/10	Guillory, Phillip	On leave 10/13/10 – 3/1/11.
10/15/10	Petho, Laszlo	Resigned as Baseline Engineer, Associate Specialist II.
11/01/10	Chu, Eric	Reclassification from AAI to AAIII.
11/01/10	Ahtty, Lou Lucq, Lou	CITRIS provides 100% support from 11/1/10 – 3/31/11.
12/01/10	Pestal, Danny	Equity increase.
12/01/10	Flounders, Bill	Retroactive reclassification from R&D Engineer 5 to R&D Engineering Mgr 2.
12/31/10	Hester, Ed	Limited Dev Tech V position ends.
1/01/11	Voros, Katalin	NanoLab Surcharge Income fund provides 80% support through 6/30/11. (On 7/1/11 employee reduces time to 50%.)
1/03/11	Merport, Todd	On leave 1/3/11 – 3/1/11.
1/10/11	Hester, Ed	Hired as career Dev Tech V for Machine Shop on NanoLab funding.
2/01/11	Chan, Kim	IMPACT ends 40% funding – return to 100% recharge.
2/01/11	Stateler, Evan	IMPACT ends 33% funding – return to 100% recharge.
2/04/11	Wasilik, Matt	Resigned from R&D Engineer 4 position.
3/04/11	Martin, Michael	On leave from 3/4/11 – 3/28/11.
3/31/11	Ahtty, Lou	Limited 18 month Dev. Tech. V position ends.
3/31/11	Lucq, Lou	Limited 18 month Dev. Tech. V position ends.
5/02/11	Hester, Ed	Hired as career R&D Engineer 2 – no break in service.
5/02/11	Bohren, Chris	Hired as limited Dev. Tech. V through

		9/20/11 – Machine Shop.
5/23/11	Ahtty, Lou	Hired as career Dev. Tech. V – Machine Shop.
6/01/11	Peshette, Nancy	Equity Increase.
6/03/11	Guillory, Phillip	Retired - 27 years at UC.
6/13/11	Krase, Ian Lu, Marie O'Brien, Kate	High school Summer Intern to 8/19/11 High school Summer Intern to 7/28/11 (Volunteered 8/2-19) High school Summer Intern to 7/28/11
6/20/11	Martin, Michael	On leave 6/20/11 – TBD.
6/20/11	Peterson, Alan	On leave 6/20/11 – TBD.

Supplies and Expenses (S&E)

NanoLab supplies and expenses (S&E) totaled \$1,720,204.56 in fiscal year 2010/2011. Major S&E expenditures paid by the NanoLab included general use liquid nitrogen, \$205,424.89; chemicals, \$191,712.93; turbo/vacuum/dry/booster pumps, \$99,731.04; computer operations/CIS fees, \$79,006.27. To ensure required delivery of all NanoLab purchase transactions, I must access BFSv9 and approve ePro Requisitions and PO Change Orders in a timely manner. As well, I must approve all Voucher payments and reconciled bluCard statements for four staff under my prevue, to guarantee vendor payments are made within the approved payment schedule. This year, flex field numbers tracking expenditures for equipment with similar process capabilities were consolidated, (i.e. amst, oxford2, parylene, picosun = dep).

Recharge income collected from BNLA/sundry laboratory use surcharge fees in fiscal year 2010/2011 continued to support the development and testing of the new NanoLab management information system (Mercury); CMOS Baseline process; and Steering Committee coordinating all aspects of the 2012 UGIM Symposium, which will be held in Sutardja Dai Hall.

During FY11, BNLA membership fee contributions were directed to payments 7 & 8 of 12 total scheduled wire transfer payments for the e-beam lithography system; and for the NanoLab fit-up project. A total of \$437,111 was spent from this fund source for fit-up related S&E expenses this year. Expenditures included \$84,569 on facilities and utilities parts and fittings; \$77,982 to decommission, move, and recommission GCAPG/WS1,2,6; \$29,516 for wet process stations and other sinks related purchases; and \$27,071 on aln2 system startup, training, and parts. Pending ongoing amat/epi and centura installation expenses, expenditures for this project are winding down. A detailed report will be prepared upon completion of the project.

Total operating expenditures for the Baseline Project for FY10/11 were \$76,671.05, covering laboratory fees, materials and implantation costs, and for 1.21 staff FTE. The 8th CMOS Baseline Process report is currently being written.

The NanoLab utilized the services of UC Overstock & Surplus to dispose of parts from the ASML PAS 5500/90 DUV stepper and KLA Tencor RS100. After deduction of a 20% surcharge accessed by UC Overstock & Surplus, a net balance of \$84,800 was collected from these sales, and deposited to the campus surplus fund designated for our use.

Income

Recharge revenue generated in fiscal year 2010/2011 reached the milestone figure of \$4,039,049, 3% above expectations. Recharge revenue generated from UC and other university sources comprised 84% of total income; while industrial member revenue remained steady at 16% of total recharge revenue. With nearly all critical lab equipment operational, lab membership continued to increase from both academic and industry sources. To meet projected operational costs, allocated debt and equipment depreciation payments, the NanoLab must generate \$4,420,093 in FY12. Based on current lab activity, I am confident that we will meet this goal.

NanoLab income is generated based on recharge rates. Recharge rates were increased by 2% in General Lab Use and Special Equipment Use, to reflect increased benefits rates, and the rising costs of consumables, replacement parts, and equipment services maintenance. Laboratory and Equipment cut-off limits remain at \$1260.00 and \$1470.00 per month respectively.

Recharge Rates Effective 1 July 2011

Access Fee	\$89.00/month
General Lab Use Rate (Includes 87 operating systems)	\$40.20/hour
Special Equipment Use Rate For complete list go to: http://NanoLab.berkeley.edu Membership Information – Recharge Rates	\$37.80/hour
Staff Services Rate	\$69.00/hour

Included in the Fiscal Year 2010/2011 NanoLab Recharge Rate Proposal, was a three-year deficit recovery plan to pay down the \$416,252 shortfall incurred in the equipment reserve fund, which paid for essential semiconductor processing and nanotechnology research equipment necessary for campus, government, and industry members to achieve their research goals. The three-year deficit recovery plan was approved by the Campus Recharge Committee; however, the UC Budget Office requires that a waiver request be submitted each year until the deficit is fully paid.

II. BUDGET AND ACCOUNT MANAGEMENT

Financial Reports

As in past years, monthly and annual Financial Summaries for the NanoLab were submitted. The reports provided budgetary analysis of account activity including detailed analysis of recharge specific flex fields. The annual report was distributed to the Faculty Director, PIs, and managers of the NanoLab on August 5, 2011.

In addition to preparing financial summaries on NanoLab recharge operations, I provided the NanoLab Executive Director with monthly summaries detailing expenditures for fitup activity from twelve separate fund sources. On an as needed basis, I provided tables and charts of data requested for analytical purposes.

I am delighted with the variety of laboratory activity reports now available on the Mercury Database. Olek Proskurowski has implemented new reports as requested, and has demonstrated great patience with the administrative staff while we learn to utilize the Mercury Database. NanoLab PIs and grant administrators have provided positive feedback on reports received. It is especially appreciated that we now have the capability to provide reports in PDF, Excel, Word, or PowerPoint formats.

2011/2012 NanoLab Budget

CATEGORY	YEARLY BUDGET	MONTHLY BUDGET
Salaries & Benefits	\$2,296,957.00	\$191,413.00
Supplies & Expenses	\$1,811,640.00	\$150,970.00
Deficit Recovery	\$ 111,065.00	\$ 9,255.00
Equip Depreciation Payment	\$ 200,431.00	\$ 16,704.00
Income*	\$4,420,093.00	\$368,342.00

*Projected surcharge income from BNLA lab use not included in income totals.

Total NanoLab Accounts

Throughout the 10/11 fiscal year 474 labmembers were funded by 92 principal investigators for which 372 separate fund sources were charged. The average number of active labmembers on a monthly basis was 342. The administrative staff requested 159 new NanoLab computer accounts for members this fiscal year. I established and/or maintained NanoLab accounts for these members, which included fund changes, split funding requests, fund transfers and reversals.

Effective February 2011, the account activation procedure shifted from implementation in the silicon database to the Mercury database. The new account activation process requires multiple steps, which has been documented for administrative staff review and implementation. In addition, it is now possible for a lab member to have a single login name with multiple projects charged to different funds. Lab members' currently utilizing this feature are very pleased with the ease of choosing a project name from a drop down menu, rather than having to remember a separate login name/password for each project.

External Accounts

Berkeley NanoLab Affiliates (BNLA)

Laboratory income generated by BNLA/sundry sources totaled \$598,836 in fiscal year 2010/2011, accounting for 16% of NanoLab operating revenue. In addition to income generated from lab fees, the net amount collected from BNLA members to the NanoLab through the annual membership fee was \$267,670. As previously mentioned, BNLA membership fees from this year and prior years' savings were applied to NanoLab fitup expenses. At the end of fiscal year 2010/2011, there were 22 companies and 43 individuals participating in the program. I have sole responsibility for the financial management of this program. For each member company, I ensure that there is a Memorandum of Cooperative Agreement signed by the BNLA lab member, company official, and NanoLab PI; fully signed Agreement between the BNLA member company and The Regents of the University of California; Purchase Order; and Certificate of Liability Insurance listing the Regents of UC as additional insured on file. As well, I prepare amendments to BNLA member contracts defining changes to the contract. I am also responsible for invoicing and collecting BNLA membership fees through University Relations/Cashier's Office, donor acknowledgement letters, account administration, and recordkeeping.

Engineering Test Requests (ETR)

NanoLab process staff continued to provide research services to member companies and non-UC Universities during FY11. The administrative staff managed purchase order requests and invoiced for specialized services and mask making for CalTech, Concordia U. Montreal, Lawrence Livermore National Labs, RTI International, Stanford U., University of Jyvaskyla/Finland, U. of Michigan, U. of North Carolina at Chapel Hill, U. of Puerto Rico, and U. of TX at Austin. 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 9 billing accounts for Davis, Irvine, and Santa Barbara were established and/or maintained this year.

Lawrence Berkeley National Laboratory (LBNL)

I managed 27 LBNL contract agreements for NanoLab use in FY 2010/11. One of the contracts within the LBNL Materials Science Division, is funded by 16 PIs with 23 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.

On 1/10/11, I was notified by the Director of Billing and Payment Services of a meeting between campus and LBNL officials to review the status of outstanding balances on their various accounts billed through the Central Accounts Receivables system prior to 2002. The outcome of the meeting was that LBNL would not pay for any outstanding balances due on invoices prior to 2002, and that that the campus department from which the invoice originated would be charged back the unpaid amount. As LBNL had an outstanding balance of \$26,593.56 due to the NanoLab for invoices billed prior to 2002, I requested that I be allowed to provide backup documentation for review by LBNL. I received approval to provide the backup, (which took numerous hours as invoices dated back to 1998 - 2002), but to no avail. On 6/30/11, the NanoLab revenue coa was charged the full amount owed by LBNL for outstanding invoices prior to 2002.

As a result of this action, I am no longer relying on Central Accounts Receivables (CARS) to manage collections for our unit, even though the 7% AFC charged on all invoices billed through CARS includes this service. As part of the monthly billing process, the administrative staff sends collection notices for all outstanding invoices. NanoLab accounts for LBNL members with past due invoices are inactivated until payment is received.

Corporation for National Research Initiatives (CNRI)

The NanoLab's participation in the MEMS fabrication service to U.S. academic and industrial researchers continued again at a minimal level this year. A total of 8 process runs were completed during the FY10/11, for which I invoiced CNRI \$5,005. 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.

III. PROCUREMENT AND INVENTORY MANAGEMENT

Purchasing/Inventory

Susan Kellogg-Smith provided comprehensive procurement and inventory management for the NanoLab operations and backup service for Machine Shop during FY 2010/11. For detailed information on NanoLab procurement and inventory see Susan's report.

IV. MANAGEMENT OF ADMINISTRATION

Supervision of Staff and Office Administration

On 10/16/10, after 27 years in Cory Hall the NanoLab administrative operation moved to 520 Sutardja Dai Hall. This was a significant transition for my unit, as the relocation of all financial records, purchase order files, catalogs, and most significantly the entire materials inventory had to be transferred within the course of a weekend to minimize disruption to lab members. The goal to provide seamless administrative service to NanoLab members during this transition was mostly achieved. Another major adjustment for the administrative unit this year was the implementation of new stock keeping unit (sku) numbers for 1600+ chemicals and materials inventory. The three digit numbers that my group had committed to memory, were converted to a series of five digit numbers required by the Mercury inventory program.

To act as team lead for the NanoLab administrative unit is a pleasure. All staff under my direction are dedicated to providing quality and efficient support services to NanoLab PIs, staff, and members. This year we devoted time to cross-training, documenting procedures for a variety of administrative tasks, and posting documentation on the admin shared drive <\\microlab2\projects\admin-staff>.

Personnel Support

I provided personnel related support for career and limited staff and associated researchers of the NanoLab and Machine Shop, a total of 37 during FY10/11. This involved requests for exception to hire, requests for limited waiver of recruitment, new employee hires, requests for equity increase, request for reclassification, performance evaluations, and medical leave cases.

V. CONCLUSION

The NanoLab administrative staff is a cohesive group that takes pride in providing outstanding support services for our programmatic unit. I am proud of the reputation we have developed within ERSO and the campus at large. Now that we are firmly established in SDH, I look forward to developing new procedures that streamline and enhance our current support services.