

# Micro/Nano Technology Service Center Financial Report for FY2008

Dr. Kevin Walsh, Director  
Dr. Rob Keynton, Associate Director  
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Mark Crain, Cleanroom Manager  
Wendy S. Metcalf, Administrative Associate

The University of Louisville Micro/Nano Technology Center (MNTC) is a university-recognized recharge service center established in 2004. It is utilized for both research and teaching. This document serves as its formal financial report for the fiscal year ending June 30, 2008. The MNTC ended FY08 with a deficit of (\$83,135), compared to a surplus of \$17,326 the year before. The deficit was due primarily to 2 reasons – 1) additional operational expenditures as a result of moving into our new 10,000 sq. ft. facility from our previous 1,000 sq. ft. cleanroom, and 2) a reduction of income from external users due to the economy. As a consequence, we responded by increasing our FY09 monthly user fees\* by \$50 and creating a 3<sup>rd</sup> user category called a “power user”. Details of our financial year follow.

Table 1 presents the overall financial status of the MNTC FYE 6/30/08. Expenditures for 2008 were \$270,089 and revenues were \$186,954. Salaries for 2008 were \$65,952 and Fringe Benefits were \$14,788 for a total of \$80,740 (Table 2). Aside from salaries, our largest expenditures were liquid nitrogen (\$45K), chemicals (\$14K), laboratory supplies (\$69K), and equipment maintenance (\$30K).

Revenue for the MNTC by quarter is shown in Fig 1 and cumulative revenue is displayed in Fig 2. Of our total revenue of \$187K, 91% or \$171K came from internal users. A list of internal faculty users appears in Table 3 and Fig 3. Fig 4 breaks down our internal revenue by department, showing that 48% was generated by ECE faculty. A list of external users appears in Table 4 and external revenue (\$16K) is displayed in Fig 5 illustrating that the startup company Assenti produced almost 50% of that income. Table 5 presents a comprehensive list of all MNTC internal clients in FY08.

Comparisons of FY08 with FY07 are presented next. As shown in Fig 6, total income decreased in FY08 by \$54K from the previous year, primarily due to the dramatic reduction in external income as a result of the global recession. Expenses in FY08 increased by \$46K from the previous year, due primarily to our move into the new BRB 10,000 sq. ft. cleanroom and its higher operating expenses.

Fig 8 presents Total Income from Internal Users (\$670K) since FY04. The top 5 faculty users of the MNTC are Dr. Walsh of ECE (\$166K), Dr. Alphenaar of ECE (\$84K), Dr. Cohn of ECE (\$83K), Dr. Keynton of BE (\$45K), and Dr. McNamara of ECE (\$44K).

Fig 9 presents Total Internal Income (\$670K) by Department since FY04. The dominant department continues to be ECE at \$425K or 64%, followed by BE at 9%, Physics at 7%, Chemistry at 5% and ME at 4%.

Finally, Fig 10 shows how much total grant funds have come into the University of Louisville as a result of grants which use the cleanroom since 2001. This amount is a staggering \$32M with 41% coming from DOD and 17% from NSF. One might make the case that this funding would not have been possible without the unique resource of our micro/nano cleanroom facility.

Not captured in the MNTC Balance Sheet shown in Table 1 is the “Staff Subsidy” that the cleanroom receives through the University and 2 NSF EPSCoR Infrastructure Grants (Drs. Walsh and Alphenar PIs). The University provides CAR funding (continuing operating resources or hard money) for an administrative position (Wendy Metcalf), a technical support position (Don Yeager), and 75% of a managerial position (Mark Crain). An NSF EPSCoR Infrastructure grant supports another technical support position on soft funds (Joseph Lake). In total, this support of 3.75 positions comes to approximately \$234K of funding including fringe benefits. Such support is vital for the continued success of the MNTC. The MNTC operates all of its ~\$20M of capital equipment without any annual maintenance contracts. We therefore rely on our experienced technical staff to keep our

sophisticated equipment up and running. With new equipment additions in FY08 (\$1M LPCVD furnace system from NSF MRI, \$400K LPG from DOD, etc), we will need to expand that critical support team.

It should also be noted that UofL ranked number 9 in the world for 2008 in "Micro/Nano Commercialization" according to Small Times Magazine.

**\*Definitions:**

**Light User @ \$500/month:** A light user doesn't use the DRIE and has less than 4hrs of mask writing time in the month.

**Heavy User @ \$750/month:** A heavy user uses the DRIE, or print over 15 hrs of LPG time, or uses large amounts of precious metal, or over 4 hrs of training

**Table 1. Financial Status of the MNTC Service Center FYE 6/30/08**

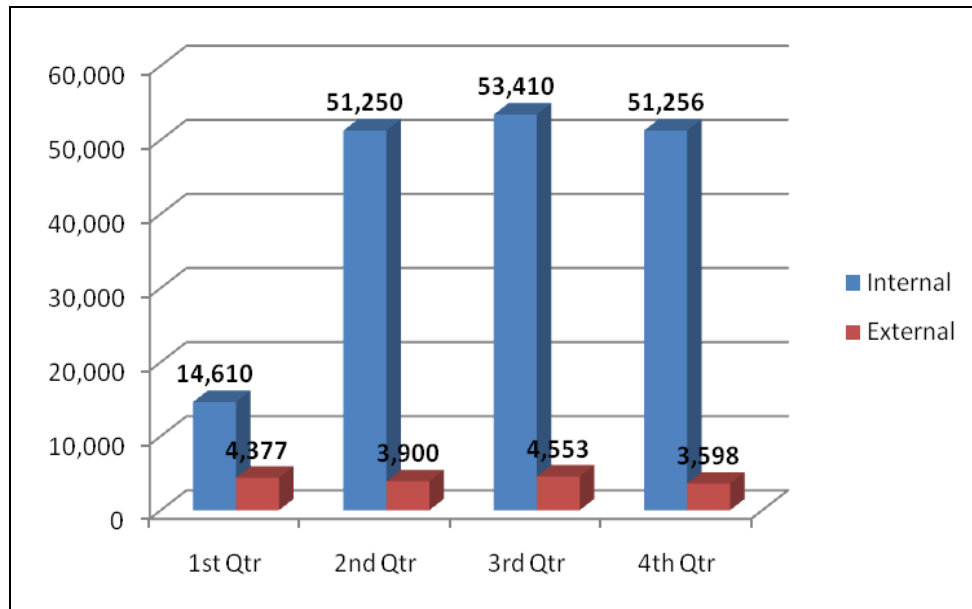
<b>BRB Micro/NanoTechnology Cleanroom Balance Sheet</b>			
<b>EXPENDITURES</b>			<b>FY 08</b>
	<b>SALARIES AND BENEFITS (S&amp;B)</b>		
		Professional & Administrative	55,015.42
		Student	6,236.67
		Grad Student	3,000.00
		Temp	1,700.00
		Health	10,766.87
		FICA	4,021.00
		<b>TOTAL</b>	<b>80,739.96</b>
	<b>SUPPLIES AND EXPENSES (S&amp;E)</b>		
		Scholarships	35.00
		Phone-Utilities	866.63
		Out-Of-State Travel	310.75
		Out -Of-State_Air	1,075.38
		Laboratory	69,155.67
		Chemicals	13,655.59
		Compressed Gas	44,648.54
		Demurrage	1,804.63
		Office Supplies	1,579.92
		Non-Library Books & Binding	39.18
		Instructional & Training	496.20
		Software Supplies	2,792.44
		Stockroom	261.15
		Meeting	1,889.08
		Maintenance Supplies	8,510.07
		Computer	1,296.62
		Software	197.05
		PSC-Legal	4,176.15
		Criminal background checks	160.00
		Freight	131.92
		Overnight and Grant Mailings	1,221.19
		Postal Service	32.27
		Catering	114.25
		Photo Duplicating/Reprints	1,223.68
		IT-Printing Svcs	746.70
		IT-Copy Finishing Svcs	215.78
		IT-Voice Network Monthly	756.00
		IT-Cellphone Charges	1,594.28
		IT-Digital Poster Svcs	60.00
		IT-Graphic Design Svcs	325.00
		IT-Lamination/Mounting Svcs	24.00
		IT-Data Network Monthly	732.46
		IT-LCD Projector Rental	200.00
		IT-Media Equipment Svcs	137.00
		IT-Pre Print Design	218.45

		Physical Plant Services	1,960.46
		IT-Voice Network Installation	342.00
		IT-Data Network Installation	75.00
		Equipment Maint	17,879.36
		Computer Maint	212.95
		Other Maintenance	2,490.00
		Registration	100.00
		Subscription	94.00
		Licensing & Permits	8.00
		Flowers/Memorials	108.02
		Business Meals	295.88
		Publicity & Promotion	5,100.00
	<b>TOTAL EXPENDITURES</b>		\$ 270,089
<b>INCOME</b>			
	<b>USER FEE</b>		
		Internal Users	\$ 170,526
		External Users	\$ 16,428
	<b>TOTAL INCOME</b>		\$ 186,954
<b>DEFICIT</b>			<b>\$ (83,135)</b>

**Table 2 . Salaries for FY08**

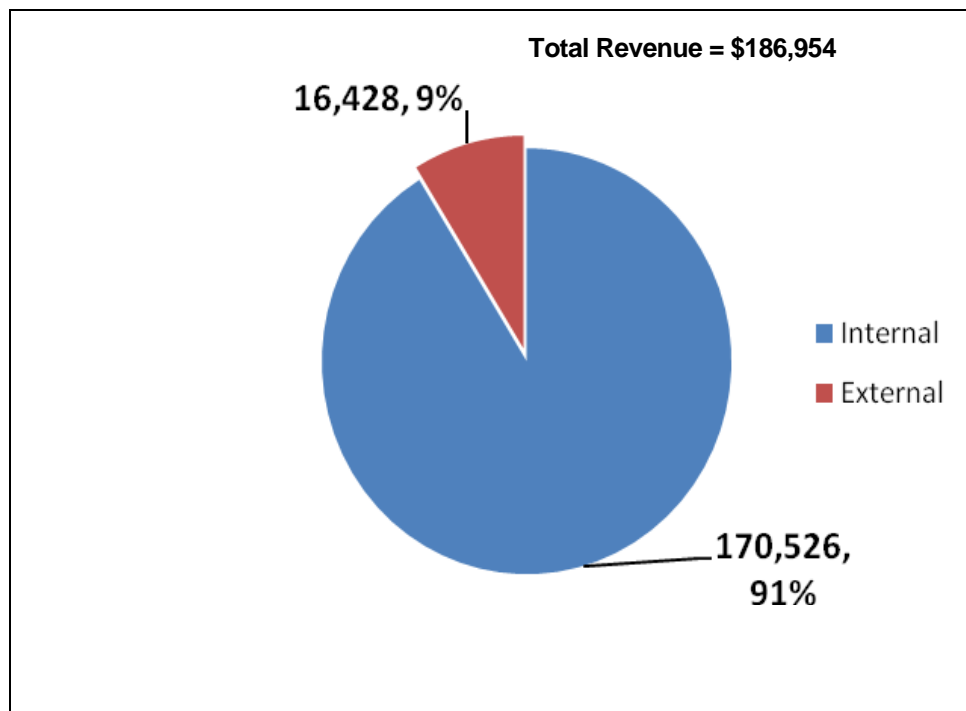
<i>Payroll Detail for:</i>	S0083 FY08		
	Salary	Fringe	Total
<i>Aebersold, Julia Weyer</i>	8,494.83	855.60	9,350.43
<i>Grothaus, Caitlin C.</i>	5,750.58	149.83	5,900.41
<i>Horan, Belinda Sue</i>	6,590.56	1,566.93	8,157.49
<i>Jackson, Douglas James</i>	6,650.07	567.10	7,217.17
<i>Kieswetter, Ana Marie</i>	33,279.96	11,156.73	44,436.69
<i>Schoen, Michael Kevin</i>	195.00	31.50	226.50
<i>Sherrard, Kenneth Andrew</i>	291.09	13.77	304.86
<i>Tegtmeier, Daniel J.</i>	3,000.00	293.54	3,293.54
<i>Yeager, Joseph</i>	1,700.00	152.87	1,852.87
	65,952.09	14,787.87	80,739.96

**Figure 1. Internal and External Revenue Generated by Quarter for FY08.**



**Total Amount of Internal Revenue = \$170,526**  
**Total Amount of External Revenue = \$16,428**  
**Total Amount of Revenue = \$186,954**

**Figure 2. Total Internal and External Revenue Generated in FY08**



**Table 3. Internal Faculty Users in FY08**

Alphenaar	ECE	42,000
Baldwin	CHEMISTRY	3,250
Cohn	ECE	9,000
Gamini	PHYSICS	11,500
Gupta	PHARM	2,016
Harnett	ECE	7,000
Higashi	CHEMISTRY	3,848
Hnat	ME	5,094
Keynton	BE	15,500
Kielkopf	PHYSICS	11,566
McNamara	ECE	18,250
Mendes	PHYSICS	10,000
Naber, John	ECE	500
Beachy	SCH OF PUB HLTH	2,131
Sethu	BE	6,000
Speed School	SPD SCH	15,927
Walsh	ECE	4,944
Yazadanpanah	ECE	1,000
Zamborini	CHEMISTRY	1,000
<b>Grand Total</b>		<b>\$170,526</b>

*Total Amount of Internal Revenue = \$170,526  
 Total Amount of External Revenue = \$16,428  
 Total Amount of Revenue = \$186,954*

Figure 3. Internal Users in FY08

Total Internal Revenue = \$170,526

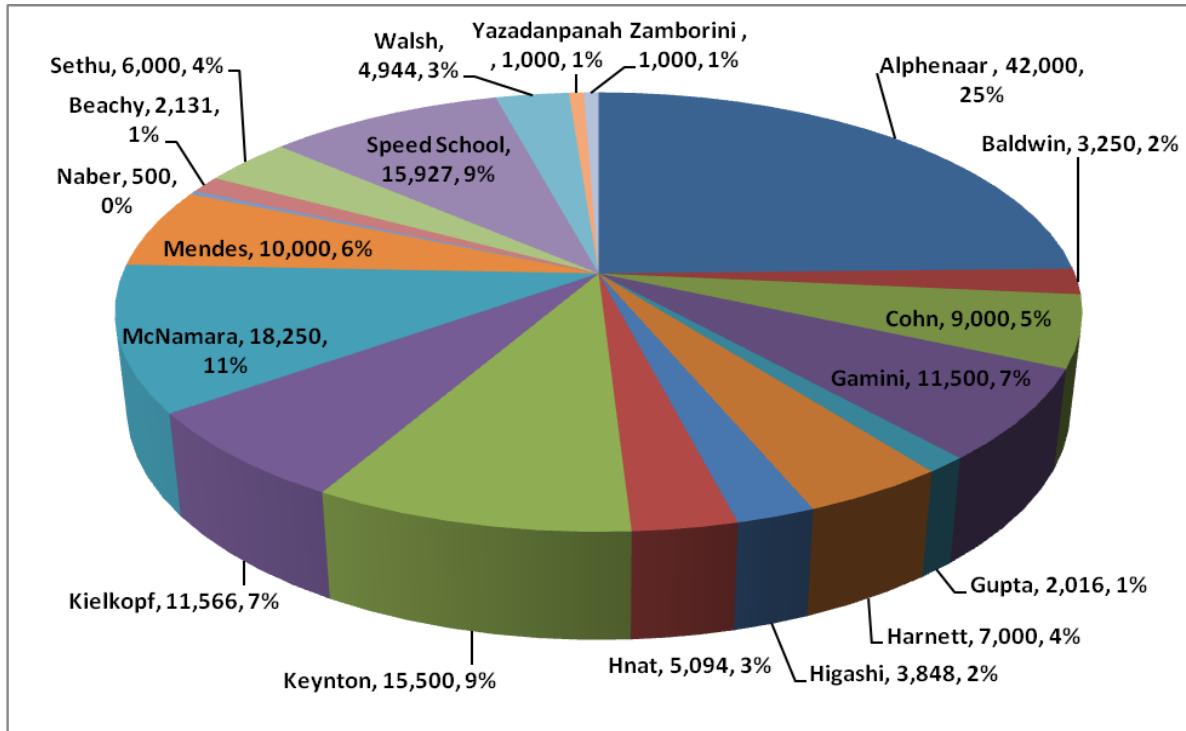


Figure 4. Internal Revenue by Departments in FY08

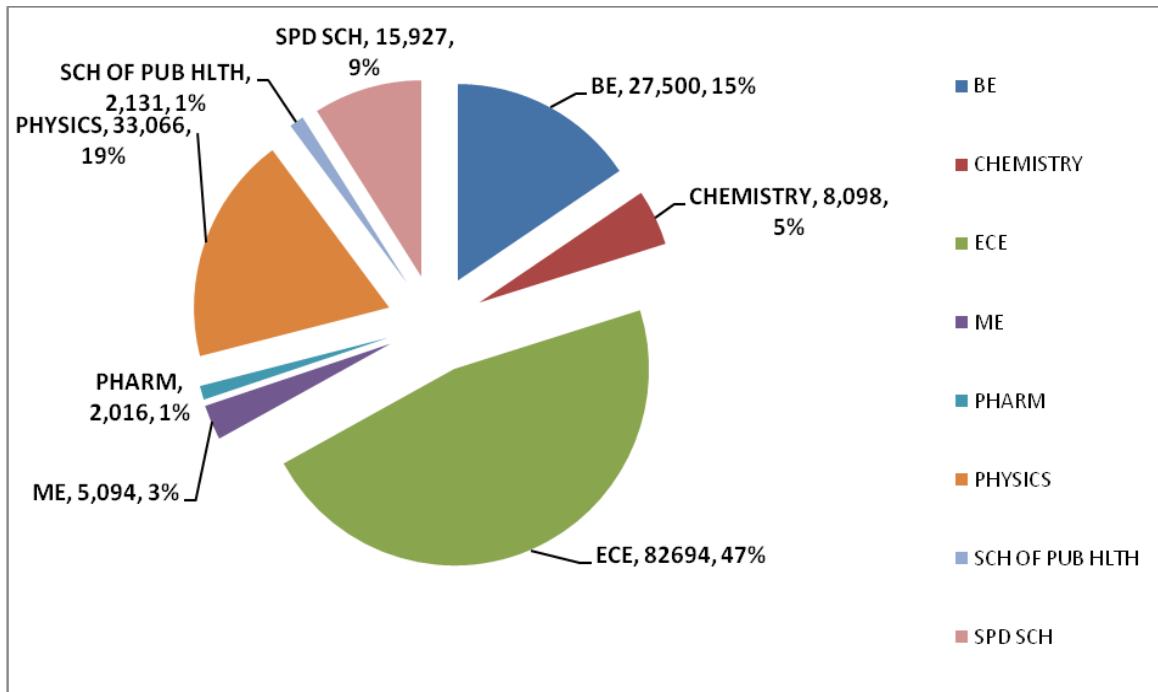
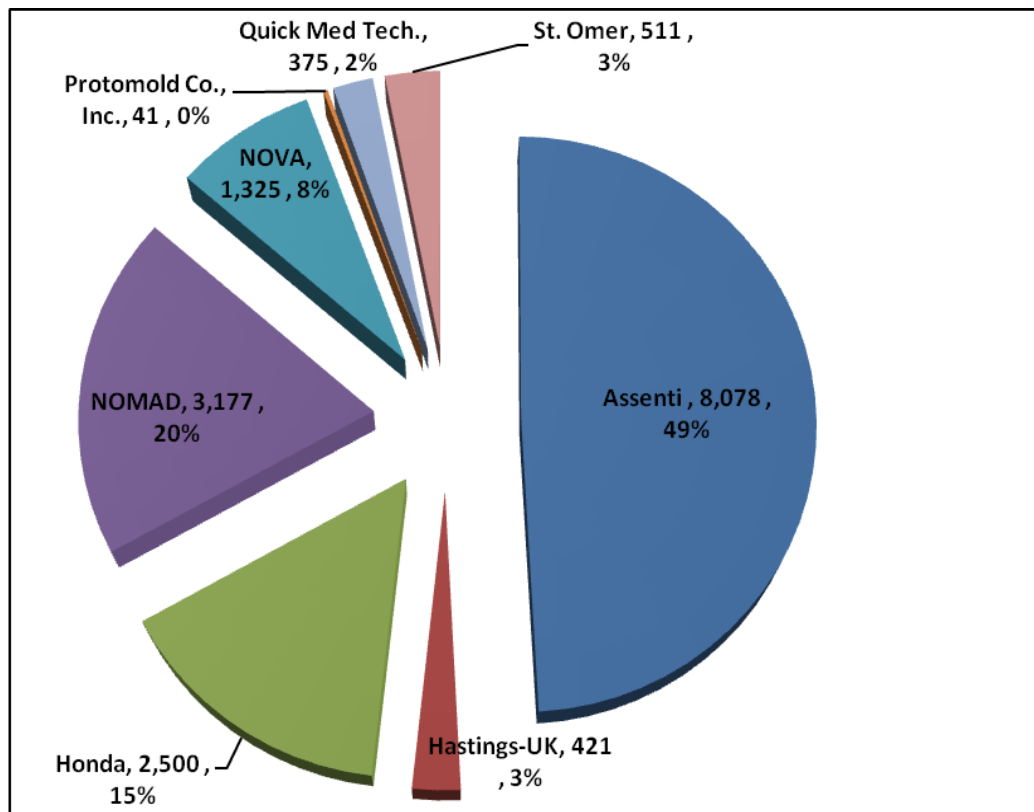


Table 4. External Users in FY08

Assenti	8,078
Hastings-UK	421
Honda	2,500
NOMAD	3,177
NOVA	1,325
Protomold Co., Inc.	41
Quick Med Tech.	375
St. Omer	511

Total Amount of External Revenue = \$16,428

Figure 5. External Users in FY08

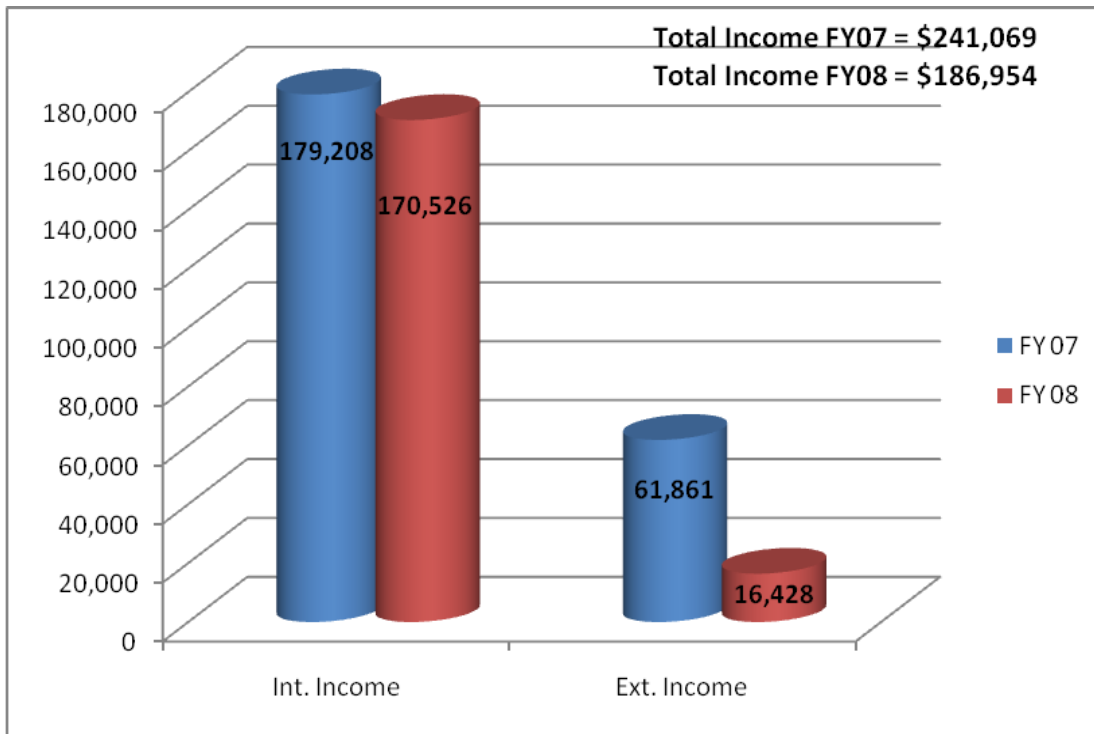




**Table 5. FY 08 Internal Cleanroom Clients**

Faculty Advisors	Students/Post Docs/Researchers	
Dr. Bruce Alphennar	Bansal	Tanesh
Dr. Richard Baldwin	Aebersold	Julia
Dr. Robert Cohn	Ahern	Keith
Dr. Cindy Harnett	Arva	Sreenath
Dr. Robert Keynton	Aslan	Mustafa
Dr. Sergio Mendes	Berry	Scott
Dr. Shamus McNamara	Brangers	Baylor
Dr. John Naber	Byard	Courtney
Dr. Palaniappan Sethu	Carroll	Susan
Dr. Gamini Sumanasekera	Cooper	Nick
Dr. Kevin M. Walsh	Croley	Shawn
Dr. Mehdi Yazdanpanah	Desai	Sharvil
Dr. Francis Zamborini	Dobrokhov	Vladimir
	Dong	Huihang
	Dorairaj	Rathissh
	Douida	Abdelmajid
	Fletcher	Patrick
	Franco	Danielle
	Gopinath	Prasanth
	Gordon	Joseph
	Gowrishetty	Usha
	Hayes	Colin
	Hewaparakrama	Kapila
	Jalilian	Romaneh
	Lin	Ji-Tzuon
	Martin	Michal
	Mohite	Aditya
	Moiseeva	Evgenia
	Moore	Emmett
	Nagabhirava	Bhaskar
	Nguyen	Dung
	Pabba	Santosh
	Pai	Abhijeet
	Paranyon	Tereza
	Pereira	Marcelo
	Pharas	Kunal
	Safir	Abdelilah
	Scott	Rebecca
	Senousy	Yehya
	Shah	Hemant
	Tegtmeier	Daniel
	Trada	Hiren
	Turner	Matthew
	White	William
	Wiederkehr	Rodrigo
	Williams	Stuart
	Yamarthy	Chakry

**Figure 6. Comparison of Income for FY07 and FY08**



**Figure 7. Comparison of Expenses for FY07 and FY08**

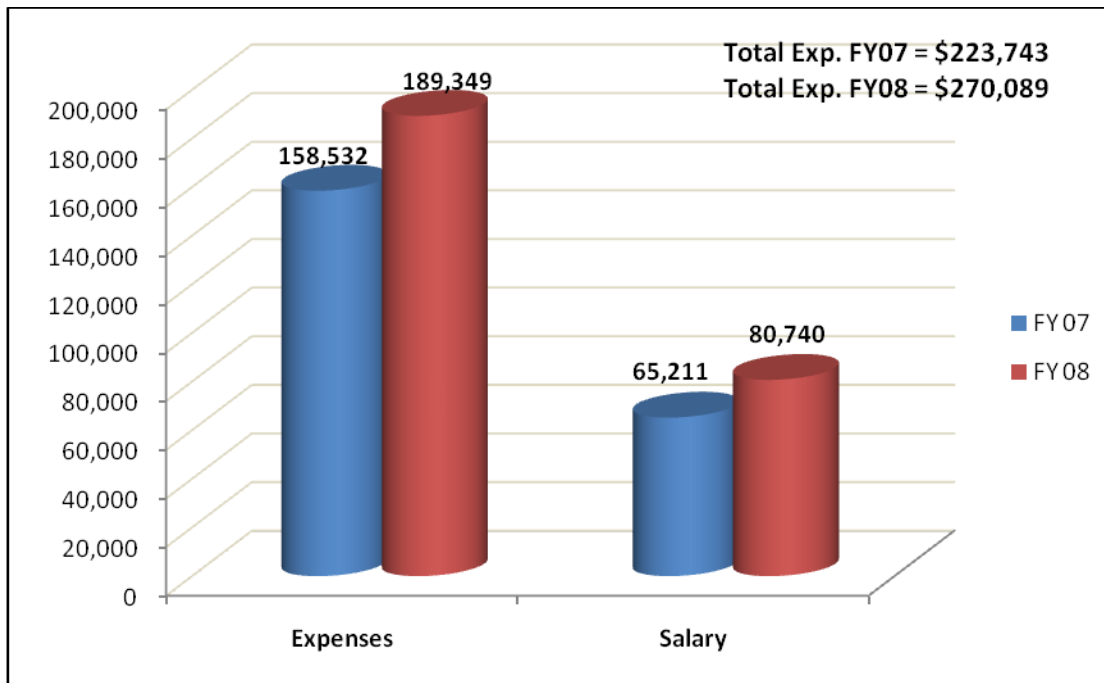


Figure 8. Cumulative Income for Internal Users since FY2004

Total Internal Income = \$669,375

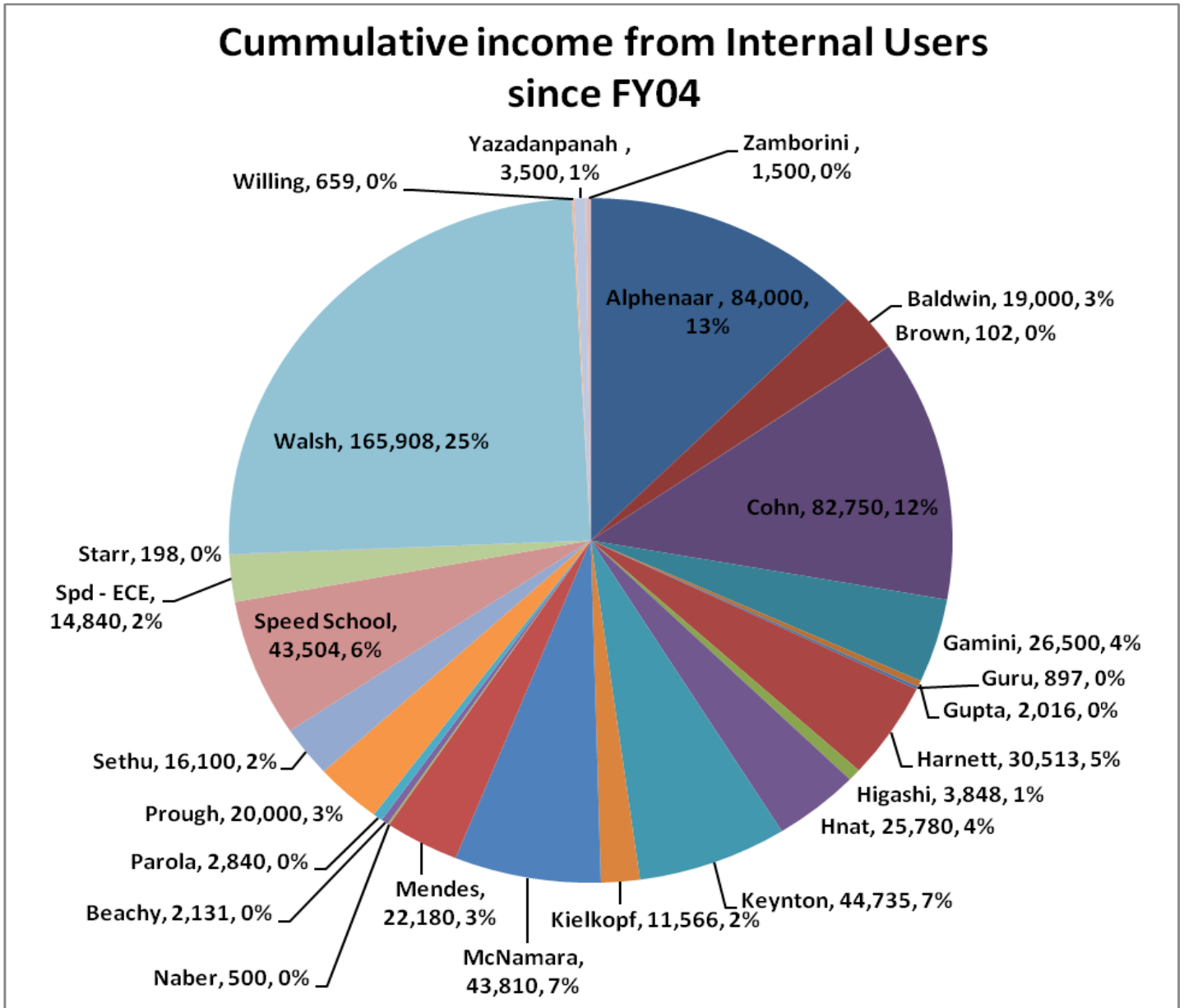


Figure 9. Cumulative Internal Income by Department since FY2004

Total Internal Income = \$669,375

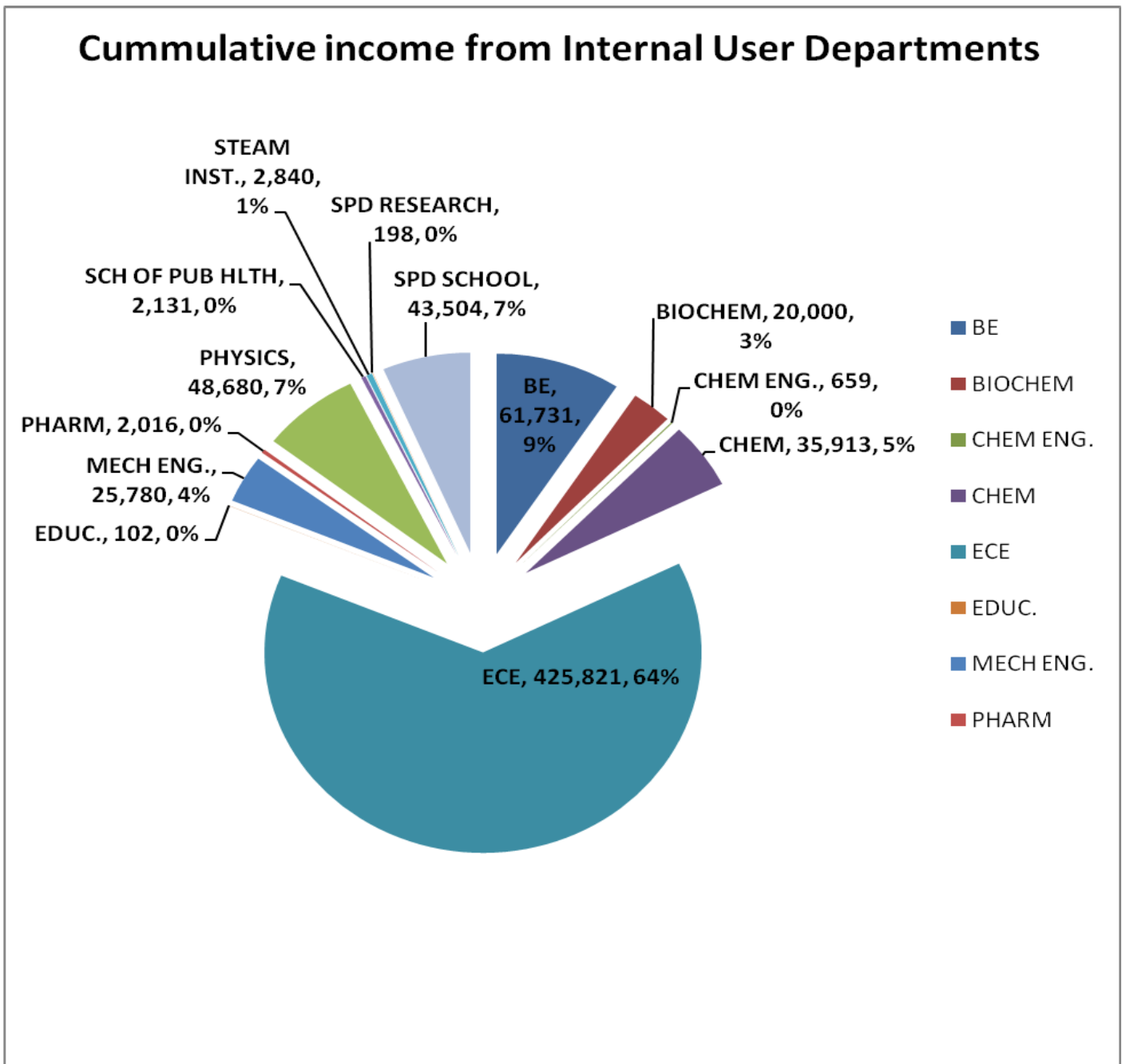


Figure 10. Total Grant Dollars that have used the Cleanroom since October 2001

Total grant dollars = \$32,223,118

