

Idaho Incubation Fund Program

Final Report Form

Proposal No. HERC IF11-004
Name: Dr. Greg Hampikian
Name of Institution: Boise State University
Project Title: MSM Micropumps

Information to be reported in your final report is as follows:

1. Provide a summary of overall project accomplishments to include goals/milestones met, any barriers encountered, and how the barriers were overcome:
Results: We constructed three prototype pumps with flexible materials that are based on “swallowing” movements in the MSM crystal. These pumps are compatible with DNA polymerase, the key enzyme for DNA copying. We evaluated the elements obtained from Peter Mullner’s lab at BSU and found they have a limited temperature range, when compared to the elements from Goodfellows, which have a broader temperature range.
2. Describe the current state of the technology and related product/service:
The pumps can be incorporated anywhere that microfluidics are used. Their advantages include the fact that they are contact free, disposable, rapid and precise.
3. List the number of faculty and student participants as a result of funding:
Faculty: 2 Graduate students: 1 Undergraduate students: 1
4. What are the potential economic benefits: The micropump market is growing as more medical, environmental, and forensic devices are being developed. We have established a relationship with a fortune 500 company that is a leader in this field. In order to further develop private sector investment in our technology, we have formed a company, Response Magnetics, in Boise. The company will work with Boise State University, investors, and private sector corporations to license intellectual property being patented by Boise State University as a result of this project.

5. Description future plans for project continuation or expansion:
We have identified a second company which appears to be the first out with a mobile genetic analyzer. We are seeking an NDA with them, as they are in need of improved pump technology. We are also looking for support from Finnish sources, since Dr. Ullakko, who worked with us, has returned to Finland.

6. Please provide a final expenditure report (attached) and include any comments here:

7. List invention disclosures, patent, copyright and PVP applications filed, technology licenses/options signed, start-up businesses created, and industry involvement.
2 patent disclosures derived from this project have been filed.

8. Any other pertinent information:

FINAL EXPENDITURE REPORT

A. FACULTY AND STAFF		
Name/Title	\$ Amount Requested	Actual \$ Spent
B. VISITING PROFESSORS		
Name/Title	\$ Amount Requested	Actual \$ Spent
C. POST DOCTORAL ASSOCIATES/OTHER PROFESSIONALS		
Name/Title	\$ Amount Requested	Actual \$ Spent
Kari Ullako, Post Doctoral Research Fellow	\$25,691.00	\$25,691.60
Mike Davis, Research Assistant		\$861.00
D. GRADUATE/UNDERGRADUATE STUDENTS		
Name/Title	\$ Amount Requested	Actual \$ Spent
Aaron Smith, Graduate Student	\$4,000.00	\$9,317.40
E. FRINGE BENEFITS		
Rate of Fringe (%)	\$ Amount Requested	Actual \$ Spent
Post Doctoral Research Fellow – 1%, Research Assistant – 60%, Graduate Student 1%	\$7,691.00	\$832.46
PERSONNEL SUBTOTAL:		\$36,702.46
F. EQUIPMENT: (List each item with a cost in excess of \$1000)		
Item/Description	\$ Amount Requested	Actual \$ Spent
1. Lab Supplies	\$10,018	\$11,390.28
2.		
3.		
4.		
EQUIPMENT SUBTOTAL:		\$11,390.28
G. TRAVEL		
Description	\$ Amount Requested	Actual \$ Spent
1. Lockheed Meeting, Charlottesville, NC	\$2,000.00	\$1,301.19
2.		
3		
TRAVEL SUBTOTAL:		\$1,301.19

H. PARTICIPANT SUPPORT COSTS:			
Description		\$ Amount Requested	Actual \$ Spent
1.			
2.			
3.			
PARTICIPANT SUPPORT COSTS SUBTOTAL:			
I. OTHER DIRECT COSTS:			
Description		\$ Amount Requested	Actual \$ Spent
1.			
2.			
3.			
OTHER DIRECT COSTS SUBTOTAL:			
TOTAL COSTS (Add Subtotals):			\$49,393.93
TOTAL AMOUNT REQUESTED:			\$49,400.00
TOTAL AMOUNT SPENT:			\$49,393.93