

## REPORT OF PROPOSALS

For the Month of December/2002

| <u>Department</u>                                | <u>Investigator</u>                            | <u>Sponsor</u>             | <u>Title</u>  | <u>Amount</u> |
|--|--|----------------------------|---|---------------|
| <b>CHEMISTRY &amp;<br/>BIOCHEMISTRY</b>          | Arguello, J.<br>*Fairchild, C.                 | NSF                        | Functional Roles of the Heavy Metal Transport CPx-AT<br>Pase Family in Arabidopsis Thaliana                                       | \$ 803,560    |
| <b>CIVIL &amp; ENVIRONMENTAL<br/>ENGINEERING</b> | Mallick, R.<br>*Miller, J.                     | NSF                        | CCLI: Concrete Experience with Civil Engineering:Using<br>Kolb's Cycle to Develop Skills for Life Long Learning                   | \$ 73,988     |
| <b>COMPUTER SCIENCE</b>                          | Claypool, M.<br>*Wills, C.                     | NSF                        | ITR: Bridging the Gap: Integrating Measures of Network<br>Performance with User Perception  | \$ 444,853    |
| <b>ELECTRICAL &amp; COMPUTER<br/>ENGINEERING</b> | Looft, F.<br>*Apelian, D.<br>*Michalson, W.    | Air Force                  | WPI-NANOSAT Program   | \$ 100,000    |
|  | Makarov, S.                                    | MIT                        | Comparative Study of Different Radiating Elements for<br>a Low-Cost Wideband Wide-Angle Scanning Array in the<br>Band 120-240 MHZ | \$ 5,020      |
| <b>FIRE PROTECTION ENG'G.</b>                    | Lucht, D.                                      | 3M Speciality<br>Materials | Clean Extinguishing Agents (CEA) Research   | \$ 55,000     |
| <b>MATHEMATICAL SCIENCES</b>                     | Heinricher, A.<br>*Weekes, S.<br>*Vernescu, B. | Boston University          | Focus on Mathematics: Creating Learning Cultures for<br>High Student Achievement  | \$ 414,421    |

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| <b>MECHANICAL ENG'G.</b> | Tryggvason, G.                                 | NASA              | Droplets Impacting Liquid Films: Coalescence or Splash                       | \$ 194,365 |
|                          | Johari, H.<br>*Tryggvason, G.<br>*Esmaeeli, A. | NASA              | Electrohydrodynamics of Droplet Suspensions in Channel Flow                  | \$ 348,802 |
|                          | Tryggvason, G.<br>*Esmaeeli, A.                | NASA              | Direct Numerical Simulations of Forced Convection Boiling                    | \$ 444,329 |
|                          | Bar-On, I.                                     | General Motors    | Mechanical Behavior of Gas Diffusion Layers (GDL) under Compression Loading  | \$ 67,152  |
|                          | Tryggvason, G.<br>*Apelian, D.                 | NSF               | ITR: Simulation of Microstructure Formatting During Solidification           | \$ 500,000 |
|                          | Tryggvason, G.<br>*Esmaeeli, A.                | Boston University | Investigations of Bubbly Flows Using Direct Numerical Simulations            | \$ 519,028 |
|                          | Gatsonis, N.                                   | MIT               | Space Grant Projects at WPI  | \$ 9,999   |
|                          | Rong, Y.                                       | Delphi            | Extensions of PEMS into Turning Applications                                 | \$ 25,000  |
|                          | Rong, Y.                                       | Delphi            | Lean Manufacturing Process Design and Implementation For Wheel Manufacturing | \$ 25,000  |
| <b>*CPI</b>              |  | <b>Total</b>      | <b>\$ 4,030,517</b>  |            |