

Supports for Research Projets

A. Resources and Facility User Grants

1. A. Karoui, G. A. Rozgonyi, J. Kasichinalula, Submicrometer Resolution X-Ray Diffraction and Stress-Strain Mapping in Strained Silicon on Silicon Germanium Heterostructures, Nitrogen doped Silicon, and SOI Materials, User grant for Beam-line 733 in Advanced Synchrotron Light Source beamline, Lawrence Bekeley National Lab. Oct.1, 2004 - Dec. 31, 2005 (extendable up to 6 semesters).
2. A. Karoui, T. Buonassisi, A. A. Istratov, G. A. Rozgonyi, E. R. Weber “Characterization of Nitrogen, Oxygen, and Carbon Impurities In Crystalline Silicon Solar Cell Material Using High Resolution FTIR” User grant for Advanced Synchrotron Light Source beamline, Jan. 1 2003 -Dec. 31, 2005 (extendable up to 6 semesters).
3. A. Sahtout Karoui, A. Karoui North Carolina Supercomputer Center User-Grant Awards, Jan. 1 ‘98 to Juin 30, ‘03 for the following projects:
 - i. Computer Simulation of Defects in High Purity Silicon for IC Technology
 - ii. Simulation of Point Defect Clustering to Control Iron Gettering in CZ-Silicon.
 - iii. Stability at High Temperature of N Related Chemical Complexes in High Purity Silicon

B. Proposal Recently Submitted:

1. Karoui, H. N. Asemota, E. Williams, C. Njue, Fozia K. Sahtout, Investigating COX-ROFECOXIB interactions using Nanotechnology: Nano-optoelectronic Analysis of Cyclooxygenases Anchored on Diamond Like Carbon Films And Development of COX Nanobiosensor for Grading Pain, North Carolina Biotechnology Center, RTP, for the Multidisciplinary Research Grant (MRG) Program, Sep. 2, 2005.
2. A. Karoui, E. Williams, H. Asemota, F. Sahtout Karoui, Nanotechnology for Homeland Security (NHS) Congressional funding (Plus UP), FY 2006.

C. Submitted Proposal but Not Funded:

1. E. Williams, A. Karoui, H. Asemota, Dupont-Shaw University For Nanoscience and Nanotechnology Research and Teaching: Enchancement & Prospects, Submitted to Dupont Dec. 2004
2. C. M. Osburn, L. C. Kimerling, M. C. Ozturk, G. A. Rozgonyi, A. Karoui, Thermal Agglomeration in Nanoscale Silicon Thin Films: Thermodynamics/Modeling of the Instability with Applications to Directed Self-Assembly of Devices, Proposal to submitted to NSF/NIRT program: Silicon Nanoelectronics and Beyond (SNB) on Nov. 12, 2004.
3. A. Karoui, E. Williams, J. L. Whitten, F. Sahtout Karoui, G. A. Rozgonyi, Directed Self Assembly Nanostructure Growth on Nitrogen Doped Silicon Substrates, Multiscale Modeling, Simulation and Experimental Validation, Proposal to submit to NSF/NIRT, on Nov. 12, 2004.

4. A. La Rosa, A. Karoui, G. Rozgonyi, F. Zenhausern, R. Lenigk, Q. Wei, P. Moeck, Chunfei Li, Optical Near-field Imaging Dynamics Processes in Nanomaterials, Proposal submitted to NSF, July 2004.
5. RTP
6. NSF
7. NREL (New Horizon)

D. Industry Funded Projects:

1. 6 small projects funded by Silicon Wafer Engineering and Defect Science (SiWEDS)
 - i. N-CZ Silicon
 - ii. SiGe
 - iii. Lifetime
2. Sumitomo Sitix
 1. Karoui, Rozgonyi Defect Studies for RTP Tool Development by Electrical nad X-Ray Non Contact Characterization Techniques, Mattson Technology Inc., Fremont, CA (1996-2000)
 4. ibid Karoui, G.A.Rozgonyi Defect Studies for RTP Tool Development by Electrical nad X-Ray Non Contact Characterization Techniques, Applied Materials,....
 5. G.A.Rozgonyi, Impurity Gettering by MeV Implantation Micron Inc.