

## A Strong and Flourishing Partnership

Northrop Grumman Corporation (NGC), one of the country's top defense contractors and a leader in aerospace systems, has benefited in many ways over its 11-year relationship with UC Santa Barbara. "Based on our joint research and development programs with UC Santa Barbara and DARPA, plus the number of alumni we employ, UCSB is definitely in the top tier of the schools with which we work," says Ray Haynes, Director of University Technical Alliances.

The collaboration started modestly between the company's then Foundation Technologies division and Prof. Umesh Mishra on an Office of Naval Research contract in 1998, to develop advanced compound semiconductor materials.

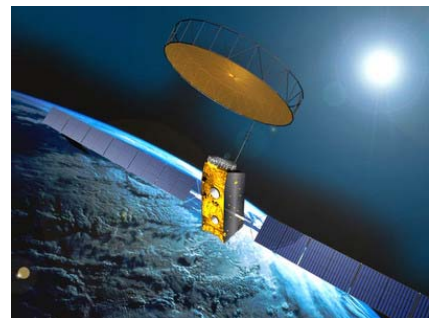


Umesh Mishra  
Professor ECE

Through the collaboration, joint NGC/UCSB research collaborations have received support from DARPA and other federal agencies and from the UC Office of the President. Over time the partnership has expanded to include three UCSB research teams that actively work side by side with NGC. The collaborations focus on exploring advanced technologies with potential applications in sensors and in communications.

Dwight Streit, Vice President of Emerging Technologies at Northrop Grumman has been involved with UCSB from the beginning. He notes that UCSB's College of Engineering and NGC's Aerospace Systems segment have an "excellent overlap in technology focus areas, including high-performance electronics, optoelectronics, MEMS and nano-engineering, and mechanical engineering."

A true partnership, the funding for the collaborations has flowed both ways between Northrop Grumman and UCSB. Grant applications have typically been developed jointly, with the principal investigators from both UCSB and NGC.



NGC works with more than 125 universities nationwide, at various levels of participation. The academic collaborations of the Aerospace Systems division are managed by Ray Haynes. As a founding member of the Corporate Affiliates, NGC continues to expand its research relationship with the College of Engineering and Science departments through speaking engagements, research partnerships, facility use, and employee recruitment.

Dwight also noted that, "UCSB has established an outstanding reputation at NGC for the quality of its students and graduates." The company employs many UCSB alumni, with B.S., M.S., and Ph.D. degrees; several have advanced to key leadership positions within NGC.