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**Research summary:**

Research interests include the design, layout, fabrication and testing of micromechanical and nanomechanical devices, characterization of the materials properties of devices at this scale, characterization of the catalytic behavior, mechanical, and environmental interaction at the interface between two metal contacting surfaces, and developing novel methods to realize nanoscale devices for use as sensors and actuators.

**Selected recent publications:**

David A. Czaplewski, Garth M. Kraus, and Christopher D. Nordquist, “Nanomechanical switches for power savings in CMOS applications”, To be published in Electronic Letters.

David A. Czaplewski, David R. Tallant, Gary A. Patrizi, Joel R Wendt, and Bertha Montoya, “Improved etch resistance of ZEP 520A in reactive ion etching through heat and ultraviolet light treatment”, Journal Vacuum Sci. Tech., Vol. B27, No. 2, pp. 581-4, 2009.

H. G. Craighead, B. Ilic, D. A. Czaplewski, R. H. Hall, *High sensitivity mechanical resonant sensor*, U.S. patent #07148017.

D. A. Czaplewski, C. W. Dyck, H. Sumali, J. E. Massad, J. D. Koppers, I. Reines, W. D. Cowan, and C. P. Tigges, “A Soft Landing Waveform for Actuation of a Single-Pole Single-Throw Ohmic RF MEMS Switch”, J. Microelectromech. Syst., Vol. 15, No. 6, pp 1586-1594, Dec. 2006.

D. A. Czaplewski, J. P. Sullivan, T. A. Friedmann, and J. R. Wendt, “Mechanical dissipation at elevated temperatures in tetrahedral amorphous carbon,” Diamond and Related Materials, Vol. 15, pp. 309-312, 2006.