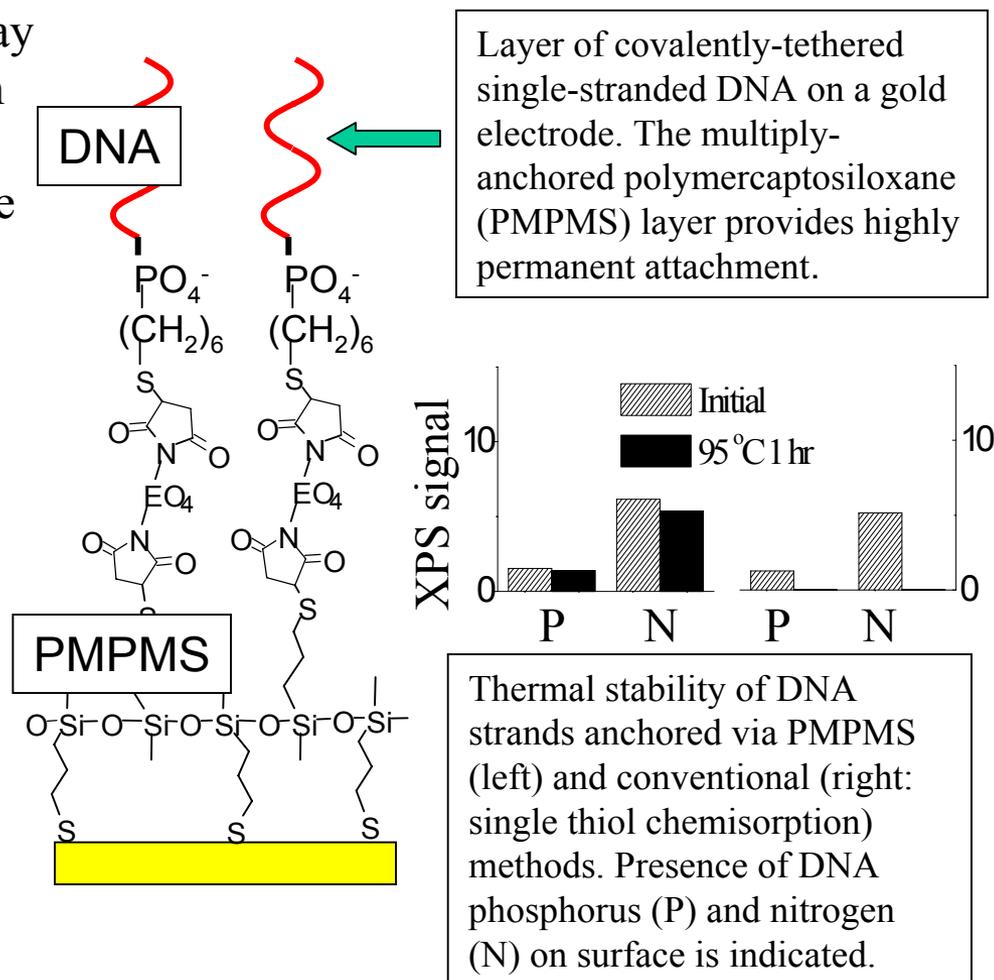


Synthesis of Highly Robust DNA Polymer Layers on Metal Surfaces

Rastislav Levicky, Columbia University, DMR-0093758

Biological polymers, such as DNA, play vital roles in applications ranging from clinical diagnostics to fundamental polymer studies. In many instances, the nucleic acid must be immobilized on a solid support. On metal surfaces, attachment is often labile and impermanent. Here, a highly robust methodology for attaching DNA was developed based on a polymer anchor layer. This advance will facilitate studies of charged polymers at interfaces and the development of first generation microelectronic devices for biological diagnostics.

Langmuir (2003), in press.

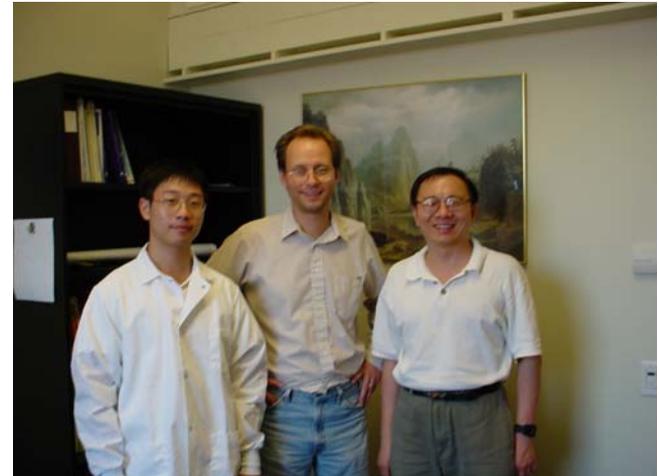


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Education:

One high school science teacher (Youning Wang, Murry Bergtraum High School), two high school students (Alice Jia, Pei Da Guo), two undergraduates (Ana Acosta, Agnes Yeboah), and two graduate students (Patrick Johnson, Youlei Weng) contributed to research aspects of the project. Teacher Youning Wang also developed cooperative learning lesson plans for high school science classrooms during his tenure with the P.I. in summer 2003. Ana Acosta enrolled in graduate school (MIT) in Fall 2002. Pei Da Guo is submitting his project to the Intel/Westinghouse competition for Fall 2003. Patrick Johnson, Youlei Weng, and Agnes Yeboah are continuing their research.



P.I (center) with high school summer research student Pei Da Guo (left) and high school science teacher Youning Wang (right), both from Murry Bergtraum High School in Manhattan, New York.