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### **New Measurement Technology Enables the Revolution in the Life Sciences**

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We are living through an unprecedented period of human history in which the mysteries of life are finally being explained. After languishing for centuries as a descriptive science, biology has been transformed by a triumph of the reductionist approach. “Follow the molecules!” We now understand the fundamental mechanisms of life at the molecular level; however, we are just at the beginning of unraveling the tremendous complexity underlying even the simplest life forms. This revolution is driven by our advancing measurement capability which, in turn, is driven by exponential advances in technology over the last 50 years. Borrowing ideas from the electronics industry, millions of measurements are done simultaneously, dropping the cost of each measurement by many orders of magnitude. In this talk, I will give several examples of these measurement technologies, our advancing understanding of life, and some of the exciting prospects for the future.