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New approaches to low-resource diagnostics

There are over two billion people on the planet who live on less than \$2.00 a day. What happens when they get sick? How can they afford to go to the doctor and find out why are they not well? The solutions for the diagnostic needs of the people living at the bottom of the healthcare pyramid can be found in our children's toy box, the kitchen counter, or on the poster advertising this weekend's rave. The creation of ASSURED diagnostic devices requires new, non-traditional approaches for the development of effective tests for parasitic diseases. In this talk, we will highlight how the principles of everyday objects and phenomena can be adapted for highly sensitive and specific medical tests. This talk will demonstrate how three different everyday objects have been successfully adopted as low resource diagnostics. The concepts originate from origami, the ancient art of Japanese paper folding, coffee rings, like those left on the kitchen counter, and glow sticks, a favorite children toy. These new devices provide new solutions to the challenges of field deployable diagnostic tests for the detection of asymptomatic malaria.

Biography

David W Wright attended Tulane University in New Orleans, Louisiana where he received his BS in Chemistry and BA in Classical Languages and Ancient History. He pursued his Graduation at Massachusetts Institute of Technology in Cambridge, MA under the supervision of Prof. William H Orme-Johnson, focused on understanding the structure and function of the FeMo-cofactor of the enzyme nitrogenase. He joined the faculty of Vanderbilt University in 2001. His research focus spans areas ranging from heme detoxification in hemophagous parasitic infectious diseases to developing tools and diagnostics for low-resource settings to understand the biomineralization of novel materials in biological systems.

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