

**Dr. John Connelly**

Senior Scientist  
Diagnostics For All

Dr. John Connelly is a Senior Scientist who has been with Diagnostics For All since 2011 and has been instrumental in the development of the nucleic acid diagnostic platform. He has a broad background in nanofabrication, microfluidics, lateral flow techniques, molecular and microbiology, with more than 10 years of experience in developing immunological and nucleic acid amplification-based bioanalytical systems for pathogen detection. Dr. Connelly received his PhD from Cornell University where he studied under Professor Antje Baeumner. There, his research focused on the development of a micro total analysis system ( $\mu$ TAS) for integrated sample-to-result detection of waterborne viruses and parasites.

***“Delivering Healthcare in the Developing World: Addressing Challenges with Innovative Solutions.”***

In developed nations, monitoring for drug-induced liver injury through serial measurements of serum transaminases [aspartate aminotransferase (AST) and alanine aminotransferase (ALT)] in at-risk individuals is the standard of care. Despite the need, monitoring for drug-related hepatotoxicity in resource-limited settings is often limited by expense and logistics, even for patients at highest risk. This article describes the development and clinical testing of a paper-based, multiplexed microfluidic assay designed for rapid, semi quantitative measurement of AST and ALT in a fingerstick specimen. Using 223 clinical specimens obtained by venipuncture and 10 fingerstick specimens from healthy volunteers, we have shown that our assay can provide visual measurements of AST and ALT in whole blood or serum. These data suggest that the ultimate point-of-care fingerstick device will have high impact on patient care in low-resource settings.

**Hosted by the Biotechnology Training Program**

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