

# March 16: Richard Gershon, Item Response Theory, Computerized Adaptive Testing, the Patient as Participant, and Precision Medicine



## SYNOPSIS:

This presentation will take a “fast ride” through the world of the measurement systems which make up HealthMeasures, a repository of NIH-sponsored instrument systems, including the Patient Reported Outcomes Measurement Information System (PROMIS), the NIH Toolbox for the Assessment of Neurological and Behavioral Function, and others. We will start with a brief look at item response theory (IRT) and how it is used to power Computerized Adaptive Testing (CAT) — the delivery system which underlies PROMIS and the NIH Toolbox. These systems enable brief, yet accurate, measurement of patients, and ready research components for research, with particular value for inclusion in large scale efforts such as Precision Medicine and ECHO. We will spend a bit of extra time looking at the instruments which makeup the NIH Toolbox Cognition battery — a set of instruments which take only 3-7 minutes each to administer — replacing a complete neuropsychological battery in as little as 30 minutes!

[Session details...](#)

[View the NIH Toolbox brochure](#) .

## BIO:

Richard Gershon, Ph.D., is widely recognized for his expertise in advancing the use of technology for increasing the impact and reach of psychometrically robust health measurements. Having completed Ph.D. work in both Clinical and Personality Psychology from Northwestern University, Dr. Gershon is the Vice Chair for Research in Medical Social Sciences and a Professor in Medical Social Sciences and Preventive Medicine-Health and Biomedical Informatics at Northwestern University Feinberg School of Medicine. He is a leading expert in the application of Item Response Theory (IRT) in individualized and large scale assessments and has developed item banks and Computerized Adaptive Testing (CAT) for educational, clinical, and health applications — including cognitive, emotional, and motor applications. He is the immediate past co-PI for Research Coordination Unit: Translating Basic Behavioral and Social Science Discoveries into Interventions and the National Children's Study: Vanguard Study (South ROC). He also has acted as the principal investigator for the NIH Toolbox for the Assessment of Neurological and Behavioral Function, the NIH Roadmap Patient — Reporting Outcomes Measurement Information System (PROMIS) Technical Center, AAD-PEPR: Asthma and Atopic Dermatitis Validation of PROMIS Pediatric Instruments, and as a co-investigator for the National Person-Centered Assessment Resource.

## SUMMARY:

**Topic:** Item Response Theory, Computerized Adaptive Testing, the Patient as Participant, and Precision Medicine

**Speaker:** Richard Gershon, Ph.D.

**Date:** Wednesday, March 16, 2016

**Time:** 11 AM – 12 PM ET

You are invited to listen to Dr. Gershon's presentation in Room TE406 in the NCI Shady Grove Building on Medical Center Drive or via WebEx.

**Presentation:** A screen cast of the presentation will be available for viewing after the event on the [NCI CBIIT Speaker Series YouTube Playlist](#) .

[View the presentation slides.](#)

*About the NCI CBIIT Speaker Series:*

The National Cancer Institute (NCI) Center for Biomedical Informatics and Information Technology (CBIIT) Speaker Series is a bi-weekly knowledge-sharing forum featuring both internal and external speakers on topics of interest to the biomedical informatics and research communities. For additional information, including past speaker series presentations, visit the [CBIIT Speaker Series page](#).

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