

Wednesday, June 12

AM

Winchester Guildhall Foyer, 08.30 – 09.30

PRE CONFERENCE WORKSHOPS AND CONFERENCE REGISTRATION

PRECONFERENCE WORKSHOPS

Wednesday, June 12

Walton Room, 09.30 AM – 13.00 PM

1A (Continued in 1B)

INTRODUCTION TO COMPUTERIZED TEST CONSTRUCTION

Presenters: Professor Wim J van der Linden and Dr Bernard P Veldkamp,
University of Twente, Enschede, The Netherlands

Nowadays test constructors in school districts, state departments of education, commercial test publishers, national test development institutes, and universities use computerized test systems for such activities as storing test items, test item calibration, editing of tests, or the scoring of answer sheets. Recently, this toolbox with computer software has been extended with algorithms for test construction. As a consequence, it is no longer necessary to construct tests manually selecting items from a set of cards with hard copies. Instead, test constructors can use specialized computer software that produces tests with predetermined coverage of content domains and optimal psychometric properties.

Though the primary focus of the workshop is on practitioners at the above institutions, it will also be of interest to test theorists who want to be updated on algorithms and computer software for test construction.

The workshop offers the participants an introduction to procedures for computerized test assembly and hands-on experience with software for automated test construction.

In particular, the objectives of the workshop are:

1. To refresh the basic concepts and principles of classical and IRT-based test assembly;
2. To present an overview of test assembly problems as they occur in practical settings;
3. To teach the participants to formulate a test assembly problem as a problem of constrained optimization;
4. To familiarize the participants with the use of algorithms and heuristics to solve such constrained optimization problems;
5. To demonstrate the use of software for computerized test assembly;
6. To offer participants the possibility to formulate their own test assembly problems and solve them using software.

Wednesday, June 12

Mayor's Parlour, 09.30 AM – 13.00 PM

2A

ITEM BANKING IN A GLOBAL ENVIRONMENT

Presenters: Dr Betty Bergstrom, Chris Sreeton, Chris Allen & Ruben Garcia, CAT*ASI, USA

When your company operates globally, bringing subject matter experts together to participate in the test development process can be challenging. However, rapid technological advances have made item writing, item bank management and test publishing in a global environment possible. With Internet test construction, test developers in Copenhagen, Denmark and Chicago can access the same data source and utilize the same elements to build tests via the Internet. Using the Internet is an ideal solution for test development teams who wish to create and edit assessments collaboratively, online, in real time, from anywhere around the globe.

This session will look at some of the methods for performing these activities on-line, rather than in-person including the creation of item types in a global environment, working in multiple languages, incorporating test blue prints, publishing from remote locations and future directions for global programs.

Wednesday, June 12

Wintonian Room, 09.30 AM – 13.00 PM

3A

TEST VALIDATION USING STRUCTURAL EQUATION MODELLING: A PRIMER

Presenter: Professor Emeritus Barbara Byrne, University of Ottawa, Canada

The purposes of this workshop are twofold: (a) to present a nonmathematical introduction to the underlying rationale and basic concepts associated with structural equation modelling (SEM), and (b) to illustrate the steps involved in testing for the validity of a measuring instrument and for its equivalence across groups. Accordingly, participants will be shown first how to: (i) decompose hypothesized models into linear structural equations that define a model under study, (ii) evaluate the extent to which hypothesized models "fit" the data, and (iii) determine the need for, and assessment of, post hoc model-fitting. Provided with this knowledge base, participants will then be shown how to: (i) evaluate the extent to which a measure demonstrates sound psychometric structure, and (ii) test for the equivalence of these properties across a second independent sample drawn from the same population (i.e., cross-validation), as well as one drawn from a comparative sample (e.g., computer-based test scores vs non-computer-based test scores based on the same measuring instrument). Although designed for researchers having no knowledge of SEM, a basic knowledge of multiple regression is recommended and some knowledge of factor analysis may be helpful.

Wednesday, June 12

Wykeham Room, 09.30 AM – 13.00 PM

4A

THE EVOLVING WORLD OF INTERNET RECRUITMENT

Presenter: Dr Michael M Harris, University of Missouri, USA

This workshop has the goal of introducing participants to various approaches to internet recruitment. Although often depicted as a monolithic approach, there are actually several distinct models of internet recruiting. This workshop will begin by providing an in-depth discussion of key assumptions in and research regarding traditional recruitment and compare that with assumptions regarding internet recruitment. The goal will be to demonstrate that internet recruitment operates from a fundamentally different paradigm, in particular, a marketing approach; by comparison, our traditional recruitment model operates from a psychometric approach. Then, I will provide a thorough discussion of some of these internet recruiting models. For example, we will discuss in-depth the Relationship Recruitment model, which attempts to develop a long-term relationship with candidates and focuses on passive candidates. Newer methods, including an evolving approach that I call the “unobtrusive” method, will be reviewed. I will conclude with a discussion of some implications for practice, such as the need to consider the applicant as a customer, rather than a test-taker, and the use of highly integrated systems (e.g., applicant tracking systems, HR Planning, etc) for our field.

Wednesday, June 12

Winchester Conference Chamber, 09.30 AM – 13.00

P.m.

5A

CONVERTING FROM PAPER-AND-PENCIL TO COMPUTER-BASED TESTING: ISSUES TO CONSIDER AND LESSONS LEARNED

Presenter: Dr Anthony Zara, NCS Pearson, USA

The need for increased exam security, improved test formats, more flexible scheduling, and more efficient administrative processes is causing agencies to consider converting from paper and pencil exams programs to computer-based testing (CBT).

By sharing how he lead the conversion for the NCLEX[®] Examination, Dr Zara will describe the psychometric, technical and business considerations that result in a successful conversion. Tools used to establish program objectives and operational parameters, and performance metrics used to evaluate service providers will also be provided.

Attendees will leave the session with an enhanced understanding of the issues needing consideration and practical tools to assist them in converting a program from paper and pencil to CBT. Attendees will also have an opportunity to have their conversion related questions answered by an experienced practitioner.

Wednesday, June 12

Walton Room, 14.00 – 17.30 PM

1B (1A Continued)

INTRODUCTION TO COMPUTERIZED TEST CONSTRUCTION

See 1A above

Wednesday, June 12

Winchester Conference Chamber, 14.00 –

17.30 PM

2B

DELIVERING INNOVATIVE TESTS IN A GLOBAL ENVIRONMENT

Presenters: Dr Betty Bergstrom, Chris Sreeton, Chris Allen and Ruben Garcia, CAT*ASI, USA

Throughout the testing industry, organizations are realizing the power of the Internet for test delivery. Through the use of browser-based tests and higher bandwidth delivery methods, dynamic content can be presented to test takers virtually anywhere in the world. Multimedia content can be incorporated into tests to deliver items enhanced with sound and video. Interactive items can incorporate custom content applets, cases, exhibits and feedback and graphics to enhance test takers experience.

This workshop, “Delivering Innovative Tests in a Global Environment”, will touch on some of the opportunities provided by the use of the Internet in test delivery. Best processes, procedures, and actions for ensuring exam security will also be discussed through real-life examples.

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Mayor's Parlour, 14.00 – 17.30 PM

3B

METHODS FOR DETECTING PROBLEMATIC ITEMS IN TEST ADAPTATIONS

Presenters: Dr Stephen G Sireci, University of Massachusetts, at Amherst, USA and Dr Bruno D Zumbo, University of British Columbia, Canada

This workshop will present and discuss statistical techniques for evaluating translated/adapted tests. Methods for evaluating the consistency of items and test structure across different language versions of a test will be emphasized. Methods for evaluating structural equivalence that will be discussed include factor analysis, structural equation modeling, and multidimensional scaling. Methods for evaluating differential item functioning to be discussed will include delta-plots, Mantel-Haenszel, logistic regression, and methods based on item response theory. Use of these techniques (a) for evaluating the comparability of adapted tests and for improving future test adaptation efforts, and (b) in the context of computer-based testing will also be discussed.

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Wintonian Room, 14.00 – 17.30 PM

4B

DESIGNING AND DEVELOPING COMPUTER BASED EXPERT SYSTEMS: TEST INTERPRETATION AND DECISION SUPPORT

Presenters: Helen Baron, Dr Rainer Kurz and Professor Dave Bartram, SHL Group plc, UK

This workshop is an introduction to the whole topic of computer based expert reports. We will take an applied look at the creation of computer generated test interpretation and decision support systems. We will start with a review of the different types of system and the various approaches to their development and interpretation. Advances in areas such as computer based text interpretation and learning systems based on neural nets expand the potential for report generation. Examples from commercially available systems will be used to demonstrate some of the possibilities of the different techniques. However the main part of the workshop will be focused on the practical process of developing such a system: From determining the purpose and nature of the system, through encapsulating the expert knowledge to producing outputs and on to testing the effectiveness of the outcome. During the workshop we will present case studies of systems we have developed as well as providing delegates with an opportunity to explore the issues we have raised by working through the process of developing their own system.

Finally we will look at the methodologies for validating systems and consider some of the ethical issues in working with computer-generated reports including the EFPA review model for their description and evaluation.

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Wykeham Room, 14.00 – 17.30 PM

5B

CERTIFICATION TESTS ON THE WEB: DEVELOPMENT, DELIVERY AND DATA MANAGEMENT

Presenter: Dr David Foster, Galton Technologies, USA

This session will demonstrate development and publication of a computerized exam used for the evaluation of learning or for certification purposes. The exam will be delivered and taken on the Internet and immediate test results will be used to evaluate both the questions and the exam. The session will cover the technical and psychometric details that are important to such development and delivery efforts, as well as the security issues that arise when testing is used for high-stakes decisions such as certification.