FROM THE PRESIDENT
Anne R. Fitzpatrick, Educational Testing Service

Hello, Everyone!

I hope to see many of you in New York City this month for NCME’s annual meeting. On page 4 of this newsletter, some of the events planned for the meeting are described.

The training sessions being offered before the meeting address an array of interesting topics, and they are being led by a remarkable group of instructors. The Training and Development Committee (Alina von Davier, Jodi Casabianca, Jazzme Blackwell) is to be commended for making the needed arrangements for these sessions to occur.

The meeting itself also has a wonderful program, thanks both to the quality of the research being presented and the stupendous efforts of Program Co-chairs Karen Barton and Tasha Beretvas. They organized all of the sessions, identified chairs and discussants for these sessions, and made sure that the program was finished and made available to you on the website by February 1, 2008. Please visit NCME’s website (www.NCME.org) to view and/or download the program as well as other information that is relevant to the annual meeting. There have been some slight revisions in the schedule and these revisions have been made in the program posted on the website. These changes will also be noted in an addendum to the printed program; this addendum will be available at the meeting.

As many of you know, NCME Board members who have completed their terms rotate off the Board at the annual meeting, and newly elected members move onto the Board. In March Dan Eignor will complete his term as immediate past president of NCME, and Judith Koenig and Hariharan Swaminathan will complete their terms as directors. I want to thank these three individuals for their fine work on behalf of NCME over the past three years. In turn, please I would like to welcome to the Board Terry Ackerman, who will serve as vice-president in 2008 and president in 2009. Also Kadriye Erickan and Susan Loomis are to be welcomed as new directors beginning their three-year terms. Mark Reckase begins his term as president of NCME in March, and I know that the association will do very well in his capable, multidimensional hands.

In what follows, I want to highlight some of the things that have occurred over the past year. Then I will provide some closing remarks about my term as NCME president.

Some Highlights of the Past Year

The events and accomplishments listed below have resulted from the efforts of NCME’s membership, its committee chairs and members, and NCME’s Board of Directors to find ways to improve the organization and functioning of NCME. They deserve the credit for making this past year a very productive one.

Administrative Area

• A new, three-year contract for management services was signed by NCME and The Rees Group.

A formal evaluation of the central office services that The Rees Group (TRG) provides to NCME was completed in June, 2007. Participating in the evaluation were the NCME Board of Directors as well as all committee chairs that directly interacted with TRG staff over the past year. The services and support that TRG had provided were rated very highly by these participants. In light of these findings, a new three-year contract for management services was signed by NCME and TRG at the beginning of last summer.

• A new, three-year contract for meeting services was signed by NCME and AERA.
In the last three years, AERA has made the hotel arrangements and orchestrated both meeting registrations and hotel reservations for NCME members. NCME values its relationship with AERA for a host of professional reasons, and its assistance with these logistical matters related to the annual meeting have been very important to us. In April, 2007, AERA and NCME signed a new contract for the provision of meeting services that will cover this year’s annual meeting as well as the annual meetings to be held in 2009 and 2010.

• NCME’s Budget and Finance Committee and NCME’s Central Office staff have successfully managed the transition of NCME’s fiscal year so that it now begins on January 1 each year. This change offers multiple benefits. For example, the fiscal year used to begin on July 1. This meant that all revenues and expenses from the annual meeting had to be identified and recorded by the end of June. Sometimes meeting this deadline was extremely difficult to do. Under the terms of the new fiscal year, accounts can remain open until the end of December, making it far easier to obtain accurate, final figures for the annual meeting. The committee is also doing a fine job of tracking NCME’s income and expenditures, and it is taking good care of NCME’s assets.

Governance

In the fall of 2007, NCME’s membership overwhelmingly approved minor revisions in the NCME bylaws that had been proposed by NCME’s Board of Directors. The most important revision was that of amending the balloting process to allow for electronic as well as paper voting; the current bylaws were not clear about whether electronic voting was permissible. Electronic voting has several benefits. For example, there is evidence that it can improve voter turnout, and it clearly is less expensive. We will keep you informed as we design the electronic voting system.

Website

• The website was moved to a new platform that has enabled us to improve the functionality and friendliness of the site.

• A Members Only section was added to NCME’s website. In this section, a directory of NCME members is provided. Also in this section NCME members may update their address information and provide feedback to NCME about its workings and its publications. Finally, NCME members now have the ability to renew their memberships online, a functionality that NCME members have been requesting for a long time!

• A new website management committee is being formed as I write! The committee will be responsible for the look and the content of NCME’s website. Also, it will be responsible for proposing materials for the website, organizing the website, reviewing submitted materials, updating existing materials, and considering new additions to the website.

Initiatives

• Over the past year, NCME’s Board of Directors has been considering various ways in which it can develop more visibility as a professional organization and have a role in discussions of public policy. To date, the Board has consulted with Jerry Sroufe, AERA’s Director of Governmental Affairs, who generously provided a great deal of information to the Board about legislative bodies and how they work.

• The Board of Directors also has been considering ways in which NCME can broaden its stakeholder base and become a resource to organizations having related interests. To this end, NCME’s Outreach Committee, chaired by Chad Buckendahl, has contacted numerous organizations over the past year to discuss ways in which NCME might serve them better.

• The Membership Committee and the Graduate Student Issues Committee have developed a wonderful array of methods to welcome and involve new members of NCME. New members are given ribbons for their badges, for example, and they are invited to be guests at the No-Host Reception scheduled during the conference. New members have been very appreciative of the efforts made on their behalf.

• NCME was invited to serve on an Advisory Group for Morgan State University in Baltimore. The group will help to guide a new program in psychometrics being developed at the university. The program will develop a cadre of training individuals with technical expertise and will increase the number of minorities involved in psychometrics. Kurt Geisinger serves as NCME’s representative on the Advisory Board

Publications

The online manuscript submission system, Manuscript Central, was launched last year when Dan Eignor was president. NCME editors, Jim Carlson (JEM) and Sue Brookhart (EM/IP), have now been using it for almost a full year. Jim and Sue are
enthusiastic about the system, saying it is much more efficient than a paper-based system. They also have been pleased with the technical support they have received from both from the vendor and from Blackwell, the publisher of NCME’s journals.

Standards Area

• Suggestions for revisions to the current *Standards for Educational and Psychological Testing* (APA, AERA, NCME, 1999) were collected in 2007, and they have now been collated and distributed for review. Doug Becker, Chair of NCME’s Standards and Test Use Committee, has just sent this material out to a panel of reviewers, who will synthesize the suggestions and provide the results to NCME’s Board of Directors for review. We are grateful to all NCME members who provided suggestions and to this panel of reviewers for their work. NCME is also co-sponsoring with AERA-Division D a symposium at the annual meeting to solicit more ideas on possible revisions.

• During Dan Eignor’s tenure as NCME President, NCME and other organizations worked with the American National Standards Institute (ANSI) to form a technical advisory group that would enable a representative to be sent to meetings of the International Organization for Standardization (ISO) where work on international standards is being done. Dan Eignor provides details about the current work of the technical advisory group later in this newsletter.

• Because there is so much interest in and activity surrounding international test standards, this year NCME formed an Ad Hoc International Standards Committee to keep track of issues related to these standards. Dan Eignor is serving as chair of this committee. André de Champlain and Kadriye Ercikan are members.

Awards

Last fall, the Board of Directors approved the offering of a new award pertaining to classroom assessment. The award is designed to recognize individuals or groups of individuals that have contributed to the improvement of classroom assessment practices. The preliminary plan is to recognize either (1) an outstanding dissemination of information about classroom assessment practices, (2) an outstanding efforts to support the implementation of best practice in classroom assessment, or (3) an outstanding contribution to the theoretical/empirical literature on classroom assessment. These diverse categories of accomplishment are expected to enable NCME to recognize the work of individuals working in a variety of settings, including universities, elementary or secondary schools, as well as state or federal agencies. We will keep you informed as planning for this award progresses.

Closing Remarks

NCME has played a central role in my professional life for many, many years. It has given me innumerable opportunities to learn more about educational measurement, to become involved with the association, and to meet and work with many talented professionals. During this past year, my appreciation for NCME has only grown, as my role has given me a chance to work with even more of you.

I have been deeply grateful for your willingness to help NCME, for your assistance, and your trust. It has been my great pleasure to serve you as NCME’s president and to have had the opportunity to give something back to an organization that has given so much to me.

INTERNATIONAL STANDARDS

*Daniel R. Eignor, Educational Testing Service (ETS)*

After a number of meetings of ISO and the ISO subgroup charged with drafting the Standards, a first draft has been prepared. The Standards, which ISO refers to as a single Standard, contains requirements and recommendations for procedures and methods used in the professional assessment of people for work-related purposes. The draft does not contain any technical or psychometric requirements, and does not appear to be in conflict in way with the AERA/APA/NCME Joint Standards. Members of the ANSI Technical Advisory Group (Kurt Geisinger and Dan Eignor representing NCME) have reviewed the first draft and have provided comments. We have also provided comments on the comments/reactions to the draft Standard from six European ISO members. There will be a meeting of ISO on March 10th & 11th in Madrid where the comments will be discussed and work on a revised draft undertaken. Kurt Geisinger will represent NCME (and also AERA and APA) at this meeting.
NATIONAL COUNCIL ON MEASUREMENT IN EDUCATION
2008 ANNUAL MEETING: PROGRAM HIGHLIGHTS

March 25 – 27 in New York City

Presidential Address

The Impact of Anchor Test Configuration on Students’ Proficiency Classifications
Anne Fitzpatrick

Career Award Recipient Address

Schrödinger’s Cat, Rasch’s P, and the Most Dangerous Equation
Howard Wainer; Moderator: Stephen Sireci; Discussant: Andrew Gelman

Invited Symposia

Open Hearing on Revising the 1999 Standards for Educational and Psychological Testing
Organizers/Moderators: Wayne Camara, David Frisbie; Organizer/Presenter: Suzanne Lane; Presenters: Bob Brennan, Eva Baker, Michael Kane, Michael Kolen, Robert Linn, Randy Bennett, Martha Thurlow, Joan Herman, Dan Eignor
Co-sponsored by NCME and AERA Division D

Policy, Technical, and Operational Issues and School Accountability for Growth
Organizer/Presenter: Huỳnh Huỳnh; Presenters: Charity Smith, Robert Kennedy, Anita Rawls, Do-Hong Kim, Eugene Kennedy; Discussants: Peter Behuniak, William Schafer

Accessibility, Comparability, and Validity: Evaluating Test Score Equivalence across Test Forms and Subpopulations

The Intersection of Accountability and Measurement: Policy and Psychometrics
Organizer/Moderator: Phoebe Winter; Presenters: Kerri Briggs, David Abrams, Joseph Martineau, Rebecca Kopriva, Karen Barton; Discussant: Robert Linn

Professional Development Programs in Formative Classroom Assessment: Do Changes in Teacher Practice Improve Student Achievement?
Organizer/Presenter: Christina Schneider; Presenters: Caroline Wylie, Courtney Bell, Dylan Wiliam, Shelley Ragland, Ching Ching Yap, Pamela Kaliski, Susan Brookhart, Connie Moss, Beverly Long; Discussant: Bruce Randel

Dualities of Validity in an International Context
Organizer: William Lorié; Presenters: Michelle Boyer, Juan Enrique Froemel, Vyjayanthi Sankar, Sridhar Rajagopalan, Eugenio Gonzalez

Committee-Sponsored Symposia

Future Directions for the Field of Educational Measurement
Gregory Cizek, Howard Wainer, Catherine Welch, Daniel Koretz
Sponsored by the Graduate Student Issues Committee

English Language Learners and NCLB 101
Organizer: Cara Cahalan Laitusis; Presenters: Jamal Abedi, Micheline Chalhoub-Deville, Charlene Rivera, John Young
Sponsored by the Diversity Issues in Testing Committee

Cutting Edge Indicators of Educational Quality for Predicting Global Competitiveness
Organizer: Bonnie Strykowski
Sponsored by the National Association of Testing Directors
Graduate Student Poster Session

Organizer: Graduate Student Issues Committee

This 11th annual poster session of NCME’s Graduate Student Issues Committee provides an opportunity for graduate students to share their work and receive feedback from professionals and their peers.

NCME Fitness Run/Walk

Organizer: Brian F. French

Run a 5K or walk a 2.5K course in Riverside Park, Manhattan’s most spectacular waterfront park. Commemorative T-Shirts will be given to all participants. Check the NCME website for details.

PRE-CONFERENCE TRAINING SESSIONS • MARCH 23-24, 2008

• The 2008 NCME pre-conference training sessions will be held at the Crowne Plaza Times Square in New York City on Sunday, March 23, 2008, and Monday, March 24, 2008.

• Advance registration for the training sessions is strongly encouraged. The only way to register in advance for the training sessions is to use NCME’s on-line registration system. To do this, please go to http://www.ncme.org.

• Registration on-site will be available only for those training sessions that have not been filled through advance registration.

• Refunds of registration fees for the training sessions cannot be made after February 15, 2008.

• Please note that internet connectivity will be unavailable in the hotel meeting rooms. When applicable, participants should download the software required prior to the training sessions.

Sunday, March 23, 2008

Developing Noncognitive Assessments

Presenters: Patrick Kyllonen, Educational Testing Service; Richard Roberts, Educational Testing Service

Fee: $80; Time: 8:00 a.m. - 5:00 p.m.

Noncognitive qualities are increasingly recognized as important determinants and reflections of success in education from K-12 through graduate and professional school. This session will review the process of developing and evaluating noncognitive assessments. The following topics will be covered:

• noncognitive construct frameworks, models, and theories (personality, attitudes, values, beliefs, and other constructs)
• developing assessments from construct definitions and item pools, including the international personality item pool (IPIP)
• various methods for assessing non-cognitive qualities (self-assessments, others’ ratings, situational judgment tests, conditional reasoning, implicit association tests)
• item writing dos and don’ts
• the problem of faking on self-assessments (preventing, detecting and correcting for it)
• delivery platforms (web and paper-and-pencil)
• exploratory factor analysis and other data-structure exploration methods
• confirmatory factor analysis
• advanced methods (IRT, latent class models, unfolding models)
• special topics (rating-scale issues [optimal number of points, presence of neutral point, “do not know”] and reverse-key items)
• indirect measures (e.g., from school records)
• example noncognitive assessments (self-help for community college, institutional reporting for K-12, high stakes for graduate school)

Each of these topics will be organized as a 30-minute (approximately) session with empirical examples provided, Q&A, and some hands-on exercises where appropriate.
Student Involvement and Formative Feedback in Classroom Assessment: Measurement Concepts and Issues  
**Presenters:** Jeffrey Beaudry, University of Southern Maine; Leslie Lukin, Lincoln Public Schools; Lori Nebelsick-Gullet, Lincoln Public Schools  
Fee: $80; Time: 8:00 a.m. - 5:00 p.m.

The purpose of this session is to examine current theory and best practice regarding classroom assessment and grading, how to use this knowledge to promote student learning, and understanding how students benefit from direct involvement in assessment and grading. A key element of this discussion will focus on the development and use of formative assessment and feedback as an important part of the learning process. Learning activities will center on issues of assessment quality and utility. Through the discussion of in-depth case studies of practitioners, participants will explore the following topics:

- development of a shared language for classroom assessment literacy
- development of an understanding of the similarities and differences between assessments that are used for system accountability versus assessments used in classrooms to support the learning process
- development and implementation of interpretable and useable formative feedback
- development of a fair and equitable learning environment
- how to create an environment at the systems level that supports the implementation of best practice in the areas of assessment and grading in classrooms
- use of data for student learning, teacher planning, and system improvement

**Item Response Theory: Parameter Estimation Techniques**  
**Presenter:** Seock-Ho Kim, University of Georgia  
Fee: $135; Time: 8:00 a.m. - 5:00 p.m.

Unidimensional models, statistical methods, and computer applications of item response theory to educational and psychological test data will be presented with a specific emphasis on the item and ability parameter estimation techniques. Theory and methods for the educational and psychological measurement of latent variables using item response theory methodology will be discussed. The one-parameter logistic or Rasch, the two-parameter logistic, and the Birnbaum’s three-parameter models for dichotomously scored item response data will be reviewed from a theoretical viewpoint with an emphasis on the various estimation techniques of the model parameters. Applications of these models to practical measurement situations will be studied using item response theory computer programs. Topics of the course will consist of item calibration, scoring, information, and some applications to instrument construction (e.g., equating, differential item functioning, test construction). Models for polytomously scored items will be briefly discussed.

- Prerequisites include knowledge equivalent to one graduate course in theoretical educational measurement and familiarity with differential and integral calculus treated in undergraduate mathematics courses.
- Participants are encouraged to bring their own laptop computers.
- Participants will be provided with the book *Item Response Theory: Parameter Estimation Techniques* (Baker & Kim, Eds., 2004), which will be used as a principle reference in the training session.

**Linking and Aligning Scores and Scales**  
**Presenters:** Neil Dorans, Educational Testing Service; Jinghua Liu, Educational Testing Service; Mary Pommerich, Defense Manpower Data Center; Michael Walker, Educational Testing Service  
Fee: $110; Time: 8:00 a.m. - 12:00 noon

The communication of linking issues to test score users is a critical component to ensuring the validity of a linkage. This session will seek to facilitate communication about the appropriate use and interpretation of linked scores by emphasizing the different meanings that can be attached to different linkages and the necessary requirements to achieve solid linkages. It is targeted toward testing professionals who conduct linkages and/or convey the results of linkages to nonpractitioners and test score users with a measurement background. A foundations portion of the session will present a historical perspective on score linking, provide definitions and distinctions between types of linkages, discuss relevant data collection designs, and give an overview of linking methodology and assumptions. A linking scenarios portion will make expanded distinctions between types of linkages and discuss practical issues using real world examples. Topics of discussion will be equating, tests in transition, concordance, vertical scaling, and linking group assessments to individual assessments. A tools portion will discuss indices that can be used to choose an appropriate linkage type and methods that can be used to evaluate linkage quality. A score interpretation portion will focus on the appropriate usage and interpretation of linked scores, comparing and contrasting across the different linking scenarios.

- Participants will be provided with the book *Linking and Aligning Scores and Scales* (Dorans, Pommerich, & Holland, Eds., 2007), plus a copy of the instructional slides.
Test Security: Practices, Policies, and Punishment

Presenters: James Impara, Caveon Test Security; Ardeshr Geranpayeh, University of Cambridge ESOL Examinations; Jamie R. Mulkey, Caveon Test Security

Fee: $45; Time: 1:00 p.m. - 5:00 p.m.

Test security is a growing concern for learning institutions, credentialing organizations, and businesses. Each week, news stories with incidents of cheating, student coaching, teacher intervention, and even outright test theft are exposed. While there is an increase in these activities, new tools and methods are being developed to detect testing irregularities that are most likely caused by test fraud and theft.

This session will take a case study approach to solving test security issues. Participants will first gain an understanding of the impact of test theft on test takers and constituents. They will then be given a primer on statistical analysis techniques used to detect testing irregularities, including a review of current statistical tools that detect answer copying and test administration irregularities. Using the results of statistical analysis techniques, participants will then use a case study to make decisions about applied policies and sanctions.

Nonlinear Mixed Models Approach to Item Response Theory

Presenters: Paul De Boeck, K.U. Leuven; Frank Rijmen, Educational Testing Service; Francis Tuerlinckx, K.U. Leuven; Mark Wilson, University of California-Berkeley

Fee: $65; Time: 8:00 a.m. - 12:00 noon

The central message of the session is that it is beneficial to see item response theory (IRT) models as extensions of generalized linear regression models that seek to model facets of the measurement situation. These facets are most typically persons and items, but the set may be extended to incorporate other facets such as raters and may also be re-labeled to suit particular applications. While the link function and the random component of the regression model remain the same, the most interesting part of the extension concerns the structural part of the model: (1) the kind of predictive function (linear or nonlinear, e.g. bilinear), and (2) the effects (weights) of the predictors (fixed effects or random effects).

Starting from some well-known IRT models, other less well-known models will be framed in this approach, based on a volume published by Springer: Explanatory Item Response Models: A Generalized Linear and Nonlinear Approach (De Boeck & Wilson, Eds., 2004). This session will illustrate how the models can be estimated with the SAS procedure NLMIXED. This session will also discuss and illustrate how multilevel modeling and structural equation modeling (SEM) for categorical data can be expressed from the perspective of nonlinear mixed modeling and vice versa. This will be illustrated with various software related approaches for multilevel analysis and SEM.

• Participants are recommended to buy the book, Explanatory Item Response Models: A Generalized Linear and Nonlinear Approach (De Boeck & Wilson, Eds., 2004). There will be a discount available for those who buy the book at the Springer Booth at the AERA Conference after the training session.

An Introduction to the Application of BMIRT: Bayesian Multivariate Item Response Theory Software

Presenters: Lihua Yao, CTB/McGraw-Hill; Daniel M. Lewis, CTB/McGraw-Hill

Fee: $65; Time: 1:00 p.m. - 5:00 p.m.

This session is intended to support new users of BMIRT (Yao, 2003, Yao, 2004; Yao, & Boughton, 2005; Yao, & Schwarz, 2005), a computer program that uses the Markov Chain Monte Carlo (MCMC) method to estimate item and ability parameters in the multidimensional IRT framework; exploratory and confirmatory approaches are supported. BMIRT has been licensed for research purposes since 2006 and has a growing audience of users. This session is intended for researchers interested in working with dichotomous or polytomous data that is multidimensional in nature and that may be generated from single or multiple groups. BMIRT supports the 3PL, 2PPC, Graded-response, and Testlet models.

• Participants should bring laptop computers and any data they would like to use.
• Data requirements and formats, sample data, and input files will be provided to participants prior to the session. Participants will be required to complete licensing agreements prior to the session. One day licenses will be available for those who have not completed the full license agreement prior to the session.
Test Equating Methods and Practices  
*Presenters: Michael J. Kolen, University of Iowa; Robert L. Brennan, University of Iowa*  
Fee: $135; Time: 8:00 a.m. - 5:00 p.m.

The need for equating arises whenever a testing program uses multiple forms of a test that are built to the same content and statistical specifications. Equating is used to adjust scores on test forms so that scores can be used interchangeably. The goals of the session are for attendees to be able to understand the principles of equating, to conduct equating, and to interpret the results of equating in reasonable ways. Equating will be contrasted with related linking processes, traditional and IRT equating methodology will be described, and practical issues will be discussed.

The focus is on developing a conceptual understanding of equating through numerical examples and discussion of practical issues. Recent developments in equating and linking performance assessments and computer-based tests will be considered. The session is designed for upper level graduate students, new PhD’s, testing professionals with operational or oversight responsibility for equating, and others with interest in learning about equating methods and practices.

- Participants should have at least one graduate course in measurement and two graduate courses in statistics.
- Participants will be provided with the second edition of *Test Equating, Scaling, and Linking: Methods and Practices* (Kolen & Brennan, 2004).

Applying Hierarchical Models to Causal Inference  
*Presenters: Guanglei Hong, OISE/University of Toronto; Stephen Raudenbush, University of Chicago*  
Fee: $80; Time: 8:00 a.m. - 5:00 p.m.

The purpose of this session is to introduce recent developments of causal inference concepts and methods for evaluating educational policy and program effects in multi-level settings when randomized experiments are infeasible. Hierarchical linear and nonlinear models in combination with propensity score-based methods for causal effect estimation will be presented. Education examples will be used throughout lecture, discussion and hands-on practice. The session is intended for researchers interested in investigating the effectiveness of educational policies, intervention programs, and various educational practices.

- Participants are expected to bring a laptop computer with SPSS installed. Participants should also download and install the free 15-day trial edition of the HLM 6 software available at [http://www.ssicentral.com/hlm/downloads.html](http://www.ssicentral.com/hlm/downloads.html) prior to attending the session.

Considerations in Setting Performance Standards  
*Presenters: Mary Pitoniak, Educational Testing Service; Michael Zieky, Educational Testing Service*  
Fee: $80; Time: 8:00 a.m. - 5:00 p.m.

This session intends to answer questions regarding how to choose a standard setting method, which methods are currently being used, and how to know if the cut scores set for an assessment yield valid interpretations within the context of a particular testing program. The fundamentals of standard setting will be presented, including required steps for all methods. Information on vertically moderated standards and adjusting committee-recommended cut scores will also be discussed. Methodologies currently being used by the states in setting performance standards will be reviewed.

Hands-on practice time will be given to allow participants to thoroughly understand the cognitive tasks involved in making the judgments for two of the most commonly used methods, Bookmark (Lewis, Mitzel, & Green, 1996) and modified Angoff (Angoff, 1971). This exercise will also prepare participants to plan and run Bookmark and modified Angoff standard setting workshops.

Finally, significant time will be devoted to studying the validity of standard setting procedures and the resulting cut scores. Using Kane’s (1994, 2001) framework, the session will explore three sources of evidence: procedural, internal, and external. This session is intended for anyone who needs to understand how to run a standard setting session and the complexities involved.

- Participants will be provided with a booklet containing a series of articles relevant to the field, as well as some sample standard setting materials.
Bayesian Networks in Educational Assessment  
*Presenters*: Russell G. Almond, Educational Testing Service; Robert J. Mislevy, University of Maryland; David M. Williamson, Educational Testing Service; Duanli Yan, Educational Testing Service  
Fee: $80; Time: 8:00 a.m. - 5:00 p.m.

The Bayesian paradigm provides a convenient mathematical system for reasoning about evidence. Bayesian networks provide a graphical language for describing complex systems and reasoning about evidence in complex models. This allows assessment designers to build scoring that has fidelity to cognitive theories about the domain and yet is mathematically tractable and can be refined with observational data. Topics covered in this session will include evidence-centered assessment design, basic Bayesian network representations and computations, available software for manipulating Bayesian networks, refining Bayesian networks using data, and example systems using Bayesian networks.

- It is recommended that participants bring a laptop to run sample exercises using the student version of Netica (http://www.norsys.com/).

Writing Diagnostic Items  
*Presenters*: Dylan Wiliam, Institute of Education, University of London; Caroline Wylie, Educational Testing Service  
Fee: $65; Time: 8:00 a.m. - 12:00 noon

Increasingly, test developers are being asked to generate items and tests that not only identify what a student can and can’t do, but why and what to do about it. A number of approaches to this challenge have been explored, including the use of sub-scales and standard-by-standard reporting. At Educational Testing Service, a team has been investigating the construction of diagnostic items which can either be used singly by the teachers as part of normal classroom practice or assembled into testlets to support summative inferences. The crucial characteristic of such items (Wylie & Wiliam, NCME 2007) is that they enable teachers to distinguish between students who are operating with a correct or an incorrect cognitive rule (Bart et al., 1994). Specifically, by using the items, teachers are able to identify students who can get the correct answer using incorrect reasoning. This session will present the item-writing process, illustrate the steps with a series of examples, and show the iterative approach to refining items. Participants will have an opportunity to write, critique, and review items.

Skills Diagnosis with Latent Variable Models  
*Presenters*: Jeffrey Douglas, University of Illinois, Urbana-Champaign; Hua-Hua Chang, University of Illinois, Urbana-Champaign; Jimmy de la Torre, Rutgers University; Robert Henson, University of North Carolina-Greensboro; Jonathan Templin, University of Georgia  
Fee: $75; Time: 8:00 a.m. - 12:00 noon

The primary aim of skills diagnosis is to develop and analyze tests in ways that reveal information with more diagnostic value when compared with traditional approaches. In the methods for skills diagnosis, mastery of particular skills or states of knowledge can be represented by a list of binary latent variables indicating mastery of each of a finite set of skills under diagnosis. The main objective of skills diagnosis is to classify examinees according to this list of skills. In this training session, several popular modeling and classification approaches will be discussed. Three conjunctive latent class models known as the DINA, NIDA, and Fusion models will be introduced, and software for fitting these models with Mplus will be demonstrated. Because of the multidimensional nature of these models, estimation benefits greatly if it can adapt to previous responses. To address this, computerized adaptive testing (CAT) is considered. Because Fisher information does not apply to discrete latent variables, alternative and computationally simple item selection rules are introduced. For CAT settings in which both traditional and diagnostic models are being used, CAT algorithms are introduced for ensuring reliable information for these dual objectives. In addition to sequential methods of test construction, indices for use in fixed-length test construction are also given. The training session is meant to provide practical guidelines for implementing skills diagnosis and considers the essential topics of identifying the attributes measured by items as well as test equating.

- Participants will be given access to a website where they can download software that can be used with Mplus for fitting latent variable models for skills diagnosis.
- It is recommended that participants bring a laptop computer with Mplus installed.

ICL and ETIRM: Open Source IRT Estimation Software for Researchers  
*Presenters*: Alan D. Mead, Illinois Institute of Technology; Werner Wothke, American Institutes for Research; Yanwei Zhang, American Institute of Certified Public Accountants  
Fee: $65; Time: 1:00 p.m. - 5:00 p.m.

This session will focus on Hanson’s (2002) IRT Command Language (ICL) and the Estimation Toolkit for Item Response Models (ETIRM) used by researchers. Participants will learn: (1) how to use ICL to fit dichotomous and polytomous IRT models, as well as advanced ICL features; (2) ICL features for simulation research; and (3) how ETIRM is used. The session
will begin with a short “IRT refresher,” but the course is designed for participants who already have at least a basic understanding of item response theory.

ICL is a stand-alone computer program for estimating parameters of dichotomous and polytomous IRT models. ICL computes maximum likelihood or Bayes modal estimates of item parameters using the EM algorithm and handles both single and multiple group estimation. The estimation routines are available separately as the ETIRM. Both ICL and ETIRM were released as open source by their author, Bradley Hanson, and may be copied and modified; ETIRM may be incorporated into other software.

- Participants should bring a Windows or Linux laptop (ICL is also available for Apple computers).

Building and Documenting a Valid Assessment System for Students with Disabilities: Psychometric and Practical Considerations for Alternate and Modified Assessments  
**Presenters:** Karen Barton, CTB/McGraw-Hill; Lara Osleson, CTB/McGraw-Hill; Dianne Lefly, Colorado Department of Education  
Fee: $65; Time: 1:00 p.m. - 5:00 p.m.

This session is intended for psychometricians, researchers, state Departments of Education personnel, and test development experts who wish to design, build, and document in technical format, reliable, valid, defensible assessments, particularly alternate and modified assessments for students with disabilities. Topics range from assessment policy, design, and development to appropriate statistical design and analysis, special studies, and technical documentation. The session will provide the audience with sound psychometric tools and practices to assure alternate (as well as modified and general) assessments can meet high standards of technical adequacy with practical tips and solutions for documenting evidence in a legally defensible manner.

Participants will be guided through each step in designing and building a valid and defensible alternate assessment, with approaches to collecting appropriate validity evidence linked to the Standards (AERA, NCME, APA) and Critical Elements. Parallels and distinctions will be made between alternate assessments and both modified and general assessments.

Exploring the Validity of State Accountability Systems  
**Presenters:** Brian Gong, Center for Assessment; Marianne Perie, Center for Assessment  
Fee: $65; Time: 8:00 a.m. - 12:00 noon

School accountability systems have been instituted as policy mechanisms for improving student achievement since the 1990’s. Since the passage of the No Child Left Behind Act of 2001, we as a field have learned many lessons on developing strong accountability systems. However, although standards for educational testing and program and student evaluation have been developed, there are no universally adopted standards for accountability systems. This session will use a validity framework to explore the elements required of a quality accountability system, providing guidance for both developing new systems and evaluating existing systems.

In one part of the session, the focus will be on conceptualizing the validity of accountability systems as contrasted with validity of assessments, drawing on the work of Messick and Kane. This approach provides two lenses for exploring the validity of accountability. Another part of the session will present a framework of guiding questions and key elements that should be addressed in any accountability system. Examples of actual systems and lessons learned will be shared. The challenges inherent in combining the values and goals of state and federal accountability systems will also be discussed.

Tips for Graduate Students: Advice for Finishing School, Obtaining a Job, and Starting a Career  
**Presenters:** Deborah J. Harris, ACT; Julio Sanclemente, CTB/McGraw-Hill; Andrew Ho, University of Iowa  
Fee: $15; Time: 1:00 p.m. - 5:00 p.m.

The training session will have three main components of discussion to include finishing up the PhD, obtaining a job, and beginning a career. Specifics that will be discussed include:

- finding a dissertation topic and how to maximize experiences while still a student (classes, internships, work experiences, networking, professional associations)
- locating where jobs are available (universities, testing companies, school districts, state departments, professional/ licensing organizations, etc.), how to apply for jobs (including targeting cover letters, references, and resumes) and the interview process
- understanding job politics, adjusting to the environment, career path, publishing, professional service, being a mentor/ finding a mentor, balancing work and life, and what to do if you hate your job.
NCME CONFERENCE HIGHLIGHTS FOR GRADUATE STUDENTS:
EVENTS NOT TO BE MISSED IN NEW YORK CITY
Tracey Magda, University of Iowa
Chair, NCME Graduate Student Issues Committee

The NCME Graduate Student Issues Committee (GSIC) consists of six students and two faculty advisors from around the country who work year round to ensure that the interests of students are well-represented and addressed within NCME. Our goal is to present students with ample opportunities to learn, progress, and benefit from membership in our organization. NCME’s annual meeting provides the perfect setting to present such opportunities; therefore our committee focuses its efforts on planning events for graduate students at this meeting.

As a graduate student attending the NCME conference, the program can appear somewhat daunting with its long list of sessions. It is hard to know how time would be best spent when the possibilities abound. As an attempt to guide students, below are a few NCME events that may be of particular interest to graduate students, some of which were arranged by GSIC. All events listed will be held at the Crowne Plaza hotel.

Future Directions for the Field of Educational Measurement – A Symposium
Tuesday March 25th, 4:05-6:05, Broadway Ballroom Act II

Every year, the GSIC is asked to organize one session specifically targeting graduate students. Our topic this year focuses on looking toward the future in educational measurement, and specifically, where graduate students and young professionals can contribute. We have assembled a group of four experienced and accomplished professionals: Gregory Cizek from the University of North Carolina, Chapel Hill, Howard Wainer from the National Board of Medical Examiners, Catherine Welch from the University of Iowa and Daniel Koretz from Harvard University. They plan to make the session both informative and entertaining. The committee is grateful to all four members of the panel for their participation.

No-Host Welcome Reception
Tuesday March 25th, 6:15-7:30, Times Square Ballroom

This event provides a rare opportunity for professionals, graduate students, and new NCME members to meet and socialize. The reception presents a more relaxed setting in which to meet fellow students as well as professionals in the field. In the past, this reception has always been well attended, perhaps to some extent, because all graduate students are offered a free drink voucher. If you are a new NCME member, don’t forget to stop by the Membership table to pick up complimentary resources.

NCME Breakfast
Wednesday March 26th, 8:15-10:15, Broadway Ballroom

The NCME Breakfast attracts perhaps the largest gathering of professionals in the field at the entire conference. Come see and meet the educational measurement professionals whose work you read throughout your academic tenure. Anne Fitzpatrick will give this year’s Presidential Address, the highlight of the breakfast. Her presentation is titled The Impact of Anchor Test Configuration on Students’ Proficiency Classifications. Various NCME awards are also presented at the breakfast.

Graduate Student Poster Session
Wednesday March 26th, 4:05-6:05, Broadway Ballroom Act I

The majority of our work as a committee focuses on this session. We take pride in providing many students an opportunity to present their work at the conference. This session consists solely of graduate student research. It presents an excellent occasion for students to view the work of their peers. Participants in this session receive feedback both from student reviewers as well as a professional discussant. We hope that attendance at this session will encourage students to submit their research to next year’s session.
SOME FAVORITE NEW YORK CITY RESTAURANTS
College Board Research and Analysis Staff and Friends

<table>
<thead>
<tr>
<th>Price Guide</th>
<th>$</th>
<th>Under $20</th>
<th>$$$</th>
<th>$31-40</th>
<th>$</th>
<th>$21-30</th>
<th>$$$$</th>
<th>Over $40</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

American (New)

Bistro Ten 18  (Not in conference area) $$$
1018 Amsterdam Avenue
At 110th Street
(212)662-7600
www.bistroten18.com
Excellent American food at good prices. They take reservations.

Blue Smoke  $$
116 East 27th Street
Between Lexington & Park Avenue
(212)447-7733
www.bluesmoke.com
One of the best places for ribs. You can also venture downstairs and listen to good jazz at the Jazz Standard. This casual restaurant is worth the trip. A nice selection of bourbons and excellent sides.

Heartland Brewery & Chophouse $$
127 West 43rd Street
Between 6th Avenue & Broadway
(646)366-0235
www.heartlandbrewery.com

Heartland Brewery – Radio City $$
1285 6th Avenue
At 51st Street
(212)582-8244
www.heartlandbrewery.com

Keens Steakhouse $$$$  
72 West 36th Street
(212)947-3636
www.keens.com
Classic steakhouse (120 years) with a lot of atmosphere. Excellent flights of scotch and the collection of smoking pipes from famous patrons may earn you CEU’s. Excellent service.

Whym $$$
889 9th Avenue
At 58th Street
(212)315-0088
www.whymnyc.com
This contemporary American restaurant offers traditional food with an interesting twist. The atmosphere is trendy, yet relaxed, and the service is fantastic. A great spot for lunch or brunch.
Cajun, Creole

Delta Grill $$$
700 9th Avenue
At 48th
(212)956-0934
http://thedeltagrill.com/
The closest thing to New Orleans food within walking distance of Times Square. Sometimes you'll get entertained with live music. So, with your Abita beer have an order of mac of cheese or a bowl of gumbo. Casual setting, and it can get crowded. There are a couple of vegetarian dishes, too.

Chinese

Shun Lee West $$$
43 West 65th Street
Between Columbus Avenue & Central Park West
(212) 595-8895
www.shunleewest.com
It's elegant and delish and fairly pricey.

Tang's Pavilion (Shanghai) $$$
65 West 55th Street
Between 5th & 6th Avenue
(212) 956-6888
Spacious and elegant and you can actually eat here for $40 (!) for two people and get two entrees and an appetizer and drink nothing but tea and water. May be the only restaurant in the city with an authentic chef from Shanghai. The shrimp with walnuts is dynamite! They take reservations.

Tomoe Sushi (Not in conference area) $$$
172 Thompson Street
Between Bleeecker & Houston Street
(212)777-9346
The best relatively inexpensive sushi on the planet. GET THERE EARLY-by 5:15 PM or wait in line to get in. Cash only. No reservations. Excellent service!

Cuban, Caribbean

Cafe con Leche $$$
424 Amsterdam Avenue
Between 81st & 82nd Streets
(212) 595-7000
http://www.cafeconlechenyc.com/

Calle Ocho $$$
446 Columbus Avenue
Between 81st & 82nd Street
(212)873-5025
www.calleochonyccom

Guantanamera $$$
939 8th Avenue
Between 55th & 56th Street
(212)262-5354
www.guantanameranyc.com
Reasonably priced, yummy, with excellent service. Make a reservation if you can't get there early. Excellent margaritas! (but expensive drinks- margarita’s can be $11.00.)
Victor's Cafe *(Note: fairly expensive) $$$*
236 West 52nd Street
Between 8th Avenue & Broadway
(212)586-7714
www.victorscafe.com

**Ethiopian**

Meskerem $$
468 West 47th Street
Between 9th & 10th Avenue
(212)664-0520

This BYOB Ethiopian restaurant in Hell’s Kitchen is a great option if you are looking for delicious, flavorful, and very affordable food. I highly recommend the vegetarian combo platter (for sharing with another person or two) along with the avocado salad or tuna. Do not expect any atmosphere here at all – it’s drab and sorely in need of an update. The service is not necessarily stellar either, but these shortcomings can be easily overlooked when you try the tasty food and see how inexpensive the bill was.

**French**

Landmarc - Time Warner Mall $$$$  
10 Columbus Circle, 3rd Floor  
60th Street at Broadway  
(212)823-6123  
http://www.landmarc-restaurant.com/twc/  
Reasonable food and excellent wines at good prices at the Time Warner Center. Sit near the window to get nice views of Columbus Circle.

**Greek**

Molyvos $$
871 7th Avenue
Between 55th & 56th Street
(212)582-7500  
http://www.molyvos.com/  
One block away from Carnegie Hall, this is an upscale Greek restaurant offering authentic Greek food. The decor is beautiful and the restaurant is full of activity. Moderate to high prices.

Thalassa *(Seafood) $$$*
179 Franklin Street
Between Greenwich & Hudson Street
(212)941-7661  
http://www.thalassanyc.com

Stylish Greek restaurant in Tribeca. Excellent food and real upscale atmosphere. The fresh fish are great, but expensive. Have the grilled octopus as an appetizer with some Greek wine and you'll think you're in Greece.

**Indian**

Chola $$
232 East 58th Street
Between 2nd & 3rd Avenue
(212) 688-4619
www.fineindiantining.com
Upscale, elegant, dynamite food, kind of pricey. The best Indian food we've had anywhere!
**Indonesian**

Bali Nusa Indah $$
651 9th Avenue
Between 45th & 46th Street
(212) 974-1875

This understated but warm and inviting Indonesian restaurant is a great option for lunch or dinner – definitely overlook its outdated exterior on Ninth Avenue. It is affordable, flavorful, interesting, and (from what I’m told) authentic. There are special tasting menus - even a separate one for vegetarians - at very reasonable prices that allow you to sample various Indonesian dishes. If you’re in the mood to try something a little different, Bali Nusa Indah is a great option.

**Italian**

Basso 56 $$$
234 West 56th Street
Between 8th Avenue & Broadway
(212)265-2610
[www.basso56.com](http://www.basso56.com)

This inventive Italian restaurant hits the mark on food, wine, service, and atmosphere. Chef Paolo Catini is expert at creating dishes that are traditional yet unusual at the same time. I highly recommend the baked smoked buffalo scamorza cheese topped with sliced speck and black truffle oil ($9.50) appetizer and the homemade crepes filled with confit of fresh lobster oven baked and served with a tomato and chive velouté sauce ($19.50) entree, but I have never been disappointed at Basso 56. The prices are extremely reasonable for the quality of the food and the entire dining experience.

Cafe Fiorello $$$$
1900 Broadway
Between 63rd & 64th Street
(212)595-5330
[www.cafefiorello.com](http://www.cafefiorello.com)

I guarantee that you won't find pizza with thinner crust. And if you're traveling alone, the bar area provides a great atmosphere to sample Italian delicacies and enjoy a glass of wine. Be careful of crowds, though; with Lincoln Center across the street, this restaurant hosts a sizeable contingent of theatre goers who like to enjoy a quick meal before the show.

Gabriel's $$
11 West 60th Street
Between Broadway & Columbus
(212)956-4600

Excellent food in this hidden gem of a restaurant. During lunch be prepared to see celebrities hanging out eating casually. Prices are on the high-end, but service and food are great.

Pisticci (Not in conference area) $$$
125 La Salle Street
Near Broadway
(212)932-3500
Get here EARLY, by 5, for dinner, especially on weekends.

Roberto Passon $$$
741 9th Avenue
At 50th Street
(212)582-5599
[www.robertopasson.com](http://www.robertopasson.com)

Very reasonably priced and food is delish! Casual atmosphere and attentive service.

Sosa Borella (Italian/Argentine) $$$
832 8th Avenue
Between 50th & 51st Street
(212)262-8282
[www.sosaborella.com](http://www.sosaborella.com)

Wonderful food, reasonable prices, casual atmosphere and attentive service.
**Supper (Not in conference area) $**
156 East 2nd Street  
(212) 477-7600  
[www.supperrestaurant.com](http://www.supperrestaurant.com)  
AMAZING Italian. Cash only. Get there EARLY!

**Japanese**

**Yakitori Totto (Japanese skewers) $**
251 West 55th Street  
Between 8th Avenue & Broadway  
(212) 245-4555  
Dynamite Japanese Yakitori (*skewered meat, vegetables, tofu, etc*). Gets very crowded so get there super early or make a reservation.

**Korean**

**Bann $$$$**
350 West 50th Street  
Between 8th & 9th Avenue  
(212)582-4446  
[www.bannrestaurant.com](http://www.bannrestaurant.com)  
Very upscale place, with friendly and efficient service. The food here is amazing! We didn't do the barbeque at the table, but had two dynamite appetizers (hot-in temp); *the black cod* (traditional) and *the dol sot bi bim bop* (the best I've ever had). It's nice inside- and very spacious! But it does get busy, so either make a reservation or go early-by 6 PM.

**Mexican (Southwestern)**

**Las Ramblas (Tapas) (Not in conference area) $**
170 West 4th Street  
Between Cornelia & Jones Street  
(646) 415-7924  
The best tapas on the planet. GET THERE EARLY-by 5:15 PM or wait in line to get in. No reservations. Excellent service!

**Rodeo Bar & Grill $**
375 3rd Avenue  
At 27th  
(212)683-6500  
[www.rodeobar.com](http://www.rodeobar.com)  
For those wishing to travel across town, this restaurant has good Tex mex food at moderate to low prices. Frozen margaritas (strawberry and regular) are continuously churning in huge slush machines behind the bar. The folklore suggests never having more than two of these!! There's free music every night starting at 11 pm. You'll never go wrong with the fajitas and rodeo steak. And, yes, at the bar, you get free peanuts and you can throw the shell son the floor, as the stuffed full-size buffalo looks over the patrons.

**Zarela (Not in conference area) $$$$**
953 2nd Avenue  
Between 50th & 51st  
(212)644-6740  
[www.zarela.com](http://www.zarela.com)  
This is very upscale Mexican. Chili rellenos are the best anywhere, whole fish is awesome-basically, everything we've eaten there has been wonderful. Upstairs is quieter than downstairs, but equally festive. And during dinner, Zarela goes from table to table to see how you're enjoying the food. They take reservations.
**Pizza**

**Posto** *(Not in conference area)*  
$310 2^{nd} Avenue  
At 18^{th} Street  
(212)716-1200  
[www.postothincrust.com](http://www.postothincrust.com)

Divine pizza, thin crust, and the freshest ingredients. It gets very busy and you can't make a reservation, so you must get there early-before 6 PM, no matter what night it is.

**Seafood**

**City Crab & Seafood Company $\$**

235 Park Avenue South  
Northeast Corner of Park & 19^{th}  
(877)849-8152 and (212) 529-3800  
[www.citycrabny.com](http://www.citycrabny.com)

Excellent seafood with a tank of live lobsters and fresh raw bar. Good selection of wines. Moderate to high prices and good service.

**Spanish**

**El Charro** *(Not in conference area)*

4 Charles Street  
Between 7^{th} Avenue & Greenwich Avenue  
(212) 242-9547  
[www.el-charro-espanol.com](http://www.el-charro-espanol.com)

Excellent food, great service, and they take reservations. Kind of pricey. Great drinks.

**Thai**

**Holy Basil** *(Not in conference area)*  
$149 2^{nd} Avenue  
Between 9^{th} & 10^{th} Avenue  
(212) 460-5557  
[www.holybasilrestaurant.com](http://www.holybasilrestaurant.com)

Excellent food.

**Land Thai Kitchen**

450 Amsterdam Avenue  
Between 81^{st} & 82^{nd} Street  
(212)501-8121  
[www.landthaikitchen.com](http://www.landthaikitchen.com)

Good Thai food at great prices.

**Pam Real Thai $\$**

404 West 49^{th} Street  
Between 9^{th} & 10^{th} Avenue  
(212)333-7500  
[www.pamrealthai.com](http://www.pamrealthai.com)

Inexpensive and delish! Again, gets busy early and you can't make reservations. The service is dynamite.

**Topaz $\$**

127 West 56^{th} Street  
Between 6^{th} & 7^{th}  
(212)957-8020  
Food is excellent and reasonably priced. It's next to Le Parker Meridian Hotel.
Wondee Siam II
813 9th Avenue
Between 53rd & 54th Street
(917) 286-1726 or (917) 286-1727
www.championstamp.com/wondee.htm

Turkish

Akdeniz $$
19 West 46th Street
Between 5th & 6th Avenue
(212)-575-2307
www.akdenizturkishusa.com
Excellent food, great service, small space, but they take reservations. They have wonderful fixed price meals (for around $20.00!) that include dessert (yummy) that are offered all evening.

Vegetarian

Zen Palate $$
663 9th Avenue
(212) 582-1669
At 46th Street
www.zenpalate.com
Excellent, inexpensive, and fresh food.

Vietnamese

Saigon Grill  (Not in conference area) $$
620 Amsterdam Avenue
At 90th Street
(212)875-9072
Dynamite food and very inexpensive. Huge place. Another one in the Village. No need for reservations.

NEWSLETTER ADVISORY BOARD

MARY LYN BOURQUE, Mid-Atlantic Psychometric Services
SUSAN BROOKHART, Brookhart Enterprises LLC
SUSAN L. DAVIS, Alpine Testing Solutions
ELLEN FORTE, edCount LLC
SARA S. HENNINGS, Pearson Educational Measurement
JOAN HERMAN, CRESST/UCLA
THEL KOCHER, Edina Public Schools, Minnesota
JIAME CID, James Madison University (Grad Student Representative)

WENDY MCCOLSKEY, SERVE
GERALD MELICAN, College Board
CAROL S. PARKE, Duquesne University
S.E. PHILLIPS, Consultant
DOUGLAS RINDONE, Consultant
GARY SCHAEFFER, CTB/McGraw-Hill
DONNA SUNDRE, James Madison University

SCOTT BISHOP, Editor, Data Recognition Corporation
Send articles or information for this newsletter to:
Scott Bishop
Data Recognition Corporation
13490 Bass Lake Road
Maple Grove, MN 55311
Phone: 763.268.2029
Fax: 763.268.2529
e-mail: SBishop@DataRecognitionCorp.com

The NCME Newsletter is published quarterly. The Newsletter is not copyrighted; readers are invited to copy any articles that have not been previously copyrighted. Credit should be given in accordance with accepted publishing standards.