



AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS

TECHNICAL COMMITTEE ON RESEARCH (C3)

Report of the 333rd Meetings
Wednesday, May 3, 2006 – 5:30-6:30 pm
Thursday, May 4, 2006 – 12:00-12:15 pm

The 333rd meeting of the Technical Committee on Research took place on two separate days. Steve Simonson, chair of TCR, convened the Wednesday, May 3, meeting at 5:30 pm, and the Thursday, May 4, meeting at 12:00 pm.

The following members were present at either one or both of the above meetings. The * indicates those in attendance at both meetings:

Steve Simonson, Chair*
Elizabeth Eggert, Vice Chair
Amy G. Hammonds, Secretary*

Jessica Ann
Martin J. Bide*
Stephen B. Brooks
Adi B. Chehna*
Fred L. Cook*
John Y. Daniels*
Ronald R. Dombrowski
Leonard T. Farias
Frank A. Fuss*
Harold K. Greeson Jr.

Judy B. Holden*
Nelson E. Houser
Kanti A. Jasani*
Paul L. Johnson
Norma M. Keyes*
Kerry M. King
Robert K. Lattie*
Richard A. Malachowski*
Angela B. Massengill
Luther M. Myers

Nancy E. PeBenito*
Thomas H. Perry Jr.
David L. Ramey
Carol T. Revels
James E. Rodgers III
Luisa D. Santos
Jerry G. Tew*
Brooks G. Tippet*
Rembert J. Truesdale*
Heidi Woodacre

Others Present:

Aaron Creech
Tricia F. Day*
Perry Grady*
Kristin Guranz
Suzanne Holmes
Cheryl Johnson
Karen E. Kylo*

Susan Matter
Shawn Meeks
Irene B. Miller*
Karen Mueser
Peggy J. Pickett*
Janice Rice
Marcia Quinlan

S. S. Ramkumar
LouAnn Spirito
Mauricia Tomasowa
Wanda Wilks
Simon Yakopson

Announcements: Chair Steve Simonson announced the symposia/workshops planned for the upcoming months. Kanti Jasani of the Board of Directors for the AATCC Foundation talked about the Research Grants afforded students under the AATCC Foundation and encouraged students to present their applications for aid. Contact Barbara Aylesworth of AATCC for further details.

Certificates of Service: Robert K. Lattie, AATCC President, presented *Certificates of Services* to outgoing chairs of Administrative Committees and Research Committees as follows:

Administrative Committees: Nelson A. Houser., member, Board of Directors; Randall A. Cox, member, Board of Directors; Nelson A. Houser, chair, Education Advisory Board; *Peter J. Hauser, chair, Olney Medal Award Committee; *Fred L. Cook, chair, Henry E. Millson Award for Invention Committee; and Jimm C. Barbery, chair, Harold C. Chapin Award Committee. Research Committees: Rolf G. Kuehni, chair, Color Measurement; Richard Slomko, chair, Colorfastness to Crocking; Charles W. Stewart, chair, Enzyme Activity; *Angela B. Massengill, chair, Dimensional Change; *Bill Kimbrell, chair, Stain Resistance; *Jamie Moak, chair, Appearance Retention; Harry Sparrow, Coated, Bonded and Laminated Fabrics, Ian R Hardin, member, Executive Committee on Research; and Nodie M. Washington, member, Executive Committee on Research. (* indicates person was in attendance)

RA23, Colorfastness to Water: A revision of Test Method 162 was submitted to a committee ballot to include a second technique/instrument option. This option uses a laundering machine which can handle multiple samples (up to 20). The current procedure uses a drycleaning cylinder that can only test one sample at a time. The ballot did not receive enough returns and was therefore invalid. The ballot did receive some comments and negatives which were resolved at the meeting. A revised method was resubmitted to a committee and TCR ballot prior to the May meeting. The revision still received several negatives and comments. An interlaboratory trial will be initiated with AATCC, Bureau Veritas, Warnaco, ITS and James Heal participating and will be concluded before the November meeting. ECR has approved transferring AATCC Method 15-2002, Colorfastness to Perspiration, to the jurisdiction of RA23. RA52, the committee under which it now falls, is in reference status and the method needs a committee in order to keep it current with today's industry.

RA24, Fiber Analysis: A motion was unanimously passed to merge melamine fiber technical data with AATCC Methods 20 and 20A. A motion was unanimously passed for Jack Daniels to send a letter to the FTC once Bob Barker of AFMA has discussed further details with FTC. A motion was passed to set up a subcommittee to develop a more statistically advanced protocol for the cashmere/wool precision and bias work in RA24. A motion was passed to set up a subcommittee to handle sample acquisitions for precision and bias studies with Suzanne Holmes of AATCC as the liaison.

RA31, Antimicrobial Activity: The subcommittee for the New York State 63 is hoping to run another round robin trial over the summer of 2006. Test samples will be hydrophobic textiles rather than the polypropylene plaques used in the previous round robin. David Klein of Thomson Research Associates reviewed a number of points identified for discussion by the subcommittee. Each will require resolution before the trial can be organized. Microban, Milliken, NAMS, Aptex and Thomson Research Associates volunteered to participate in the testing. The committee ballot for proposed revisions of Methods 30 and 174 received one negative vote and one affirmative vote with comment for each method. In addition each method received two negative votes from members of Committee RA99, Technical Manual Editorial Review. A brief summary on the reasoning behind the negative comments were provided, and given the extent of the comments received, it will take time to review and address the negative votes. A second committee ballot will be required. A discussion was held in November 2005 regarding the reactivation of Method 90 as the method is referenced in methods from other agencies. It was decided that the method should, therefore, be reactivated. This will require extensive editorial revision, and will be done once the negative votes for Method 30 and 174 have been addressed. Luisa Santos outlined recent studies at Natick attempting to correlate test data from laboratory methods such as the AATCC Method 100 to a reduction of bacterial numbers recovered from treated vs. control textiles in field trials. An initial trial had proved inconclusive. A follow up trial correlating bacterial numbers isolate from socks, T-shirts and combat uniforms using a more quantitative assessment of bacterial (*S. aureus*) numbers has just been completed. While the results have not yet been released, several interesting patterns have evidently emerged from this trial. Patti Annis of the

University of Georgia and James Knopp of North Carolina State University presented data on reproducibility studies conducted on the transfer of microorganisms from carpet using a mechanical transfer tester.

RA33, Colorfastness to Atmospheric Contaminants: AATCC is waiting for additional dyed fabrics to be included with the white Nylon/Lycra fabric to conduct the round robin for Method 23, Colorfastness to Burnt Gas Fumes. A proposed control fabric will be included to evaluate the end point after exposure. The recent RA33 Committee Ballot for proposed revisions to Method 109, Colorfastness to Ozone, Low Humidity, received two negatives. One negative was withdrawn after it was agreed to make the changes suggested and the other negative was declared invalid for lacking a technical reason. Jacob Thekkethada of In USA reported on the results of an interlab in India, evaluating the proposed exposure conditions. The exposure conditions required to change the control ribbon used did not agree with the conditions proposed within the method revision. He will prepare a protocol and Amy Hammonds of AATCC will supply Control Fabric from Lot #12. These will be sent to interested labs and be reported on at the next meeting. The proposed revision of Method 109 will not go to TCR ballot until the results are reported. The recent TCR ballot for proposed reaffirmation of Method 164, Colorfastness to Oxides of Nitrogen, High Humidity, was approved. The interlab studies on carpet specimen for Method 129, Colorfastness to Ozone, High Humidity, and Method 164 were exposed for a single cycle. The results did not show a significant break and after further discussion it was found that many carpet specimens are evaluated after multiple cycles. Additional carpet specimen will be tested and evaluated after 1 – 2 – 3 cycles. The ISO fabric will be included. Regarding ISO activity, the low humidity exposures to Oxides of Nitrogen, will be conducted at AATCC after the apparatus is assembled.

RA34, Preparation and RA73, Warp Size Technology Joint Meeting: The recent RA34 committee ballot to revise Method 82, Fluidity of Dispersion of Cellulose from Bleached Cotton Cloth, had one negative from AATCC Committee RA99, Technical Manual Editorial Review. This negative has been resolved and the proposed revisions will go forth to a TCR summer letter ballot. The recent TCR ballot contained several items for RA34. Item 4 proposed a merger of Committees RA34 and RA73 on Warp Size Technology which was approved by TCR. No members of RA73 were in attendance at this meeting and the RA34 chair will not agree to the merger without active RA73 participation. Proposed reaffirmation of Method 81 was approved with minor editorial change and will be published in the 2007 Technical Manual. Proposed reaffirmation of Method 82 will be held up pending another TCR ballot with proposed revisions from a committee ballot. Propose reaffirmation of Method 97 received negatives which will be addressed in the upcoming revision of Method 97. Data analysis is in progress and once completed will be sent to a committee ballot.

RA36, Color Measurement: The proposed new evaluation procedure, "Spectrophotometer UV Energy Calibration," was reballoted to committee just prior to the May meetings. The results are due at the end of May. If approved, the draft will proceed to the summer TCR ballot. The proposed new method on "Opacity of Textile Fabrics to Light," was revised by Stephanie Marcott with the U.S. Army Natick Soldier Center and sent back to committee ballot. The new draft addressed the negatives on the previous ballot. Committee Ballot #360202 on proposed new evaluation procedure for Instrumental Degree of Staining is being re-drafted to address negatives and hopefully, will be re-balloted prior to the next meeting. David Hinks of NCSU reminded the committee that Method 173 is a calculation method. Roland Connelly of GretagMacbeth said that ECR decided that calculation only methods do not require a precision and bias statement. Amy Hammonds of the AATCC staff will make the changes to Method 173 editorially. Regarding the proposed new Gray Scale Holder from Munsell, it was noted by Mr. Connelly that a mockup needs to be shown at the November meeting. Once the FWA test method is completed, Mr. Connelly will work on bringing it to ISO as a method. Dr. Hinks reported that the Color Symposium is progressing and that a conference call for the steering committee will be held the week after the meetings. Carol Revels of The Gap reported for the Color Management Guidebook subcommittee. The subcommittee is mining

information from the AATCC archived documents to be compiled into the Guidebook and will also investigate what format/tool is needed to produce the book. Liaisons with other organization were reported. Mr. Connelly and Dr. Hinks reported ISO 105-J05 (Color inconsistency) was recently balloted and had comments. Mr. Connelly reported that Robert Dornan resigned from the Colour Measurement Working Group. This work has been put on hold until a new convener is assigned. Proposed enhancements are being made to the annual AATCC Color Measurement Workshop. The new program will focus on workflow and will no longer be limited to 25 attendees. The new workshop will be offered in spring 2007.

RA38, Colorfastness to Crocking: A standard Crockmeter Calibration Cloth was developed (Direct Navy) and tested for use with the AATCC Crockmeters. A proposed change to Method 8 was sent to committee ballot and received two negatives from Committee RA99. The negatives were addressed and accepted and this will be reballoted. A study of crock squares was conducted to determine if there is a difference in using the face or back of the squares during crocking. No difference was found. Lisa Strachan with James H. Heal will present results data for qualification of a new alternate Crockmeter at the November meeting.

RA41, Enzyme Activity: David Shank of Novozymes was nominated as the new chair effective immediately.

RA42, Dimensional Change: The committee continues to work on including the AATCC Standard Liquid Detergent in its test methods. The committee revisited the idea of withdrawing Method 99 from the Technical Manual. It was suggested that maybe RA71 should be contacted to see if they would want to assume responsibility of Method 99. The committee continues to get precision and bias statements written for their methods, and working to include verbiage about end use products in Method 150. Fabrics and garments made from the same fabric have been obtained for correlation work to be done to compare fabric skewness to garments skewness using Method 179 and the Technical Supplement method. Type II Ballast was previously removed editorially from our methods because of the lack of availability. Type II Ballast will be available again soon. This is now considered a technical change and will need to be balloted to put it back into the methods.

RA43, Professional Textile Care: AATCC Method 132 needs to be revisited regarding the use of steel balls and multifiber as requested by Amy Hammonds of the AATCC staff. Members of the committee discussed the key elements (color retention/dimensional change) of garment care and requested the feasibility of establishing a quick method.

RA49, Insect Resistance: A TCR ballot to withdraw Method 24, Insects, Resistances of Textiles to, was approved and will take effect with the next Technical Manual. The proposed long-term test method, "Assessment of the Anti House Dust Mite Properties of Textiles under Long-Term Test Conditions," went to committee ballot in December, and then to a TCR ballot in March 2006. All negatives have been resolved and the method will go forward for publication in the 2007 Technical Manual. The proposed Acute Test has been tabled for now. It appears that bedbugs are of more interest and more information will be gathered for the November meeting.

RA50, Colorfastness to Light: A request from RA64, Weather Resistance Test Methods, for possible merge of their committee with RA50 was discussed at their November 2005 meeting. RA50 and RA64 submitted a survey inquiring interest in this proposal which had a favorable outcome. A committee ballot will be submitted jointly to RA50 and RA64 with a proposed new title of the committee and a new scope. Hopefully this will be done in time to also go to the summer TCR ballot. The possibility of withdrawing Method 139 from the Technical Manual was discussed. The method does not have a precision and bias statement and no one seems interested in preparing one. It will be advertised in *AATCC Review* and the AATCC Newsletter to see if anyone in the industry still uses the method. If no response is received, then it

will proceed to a committee letter ballot for withdrawal. The status of the Blue Wool inventory was discussed. AATCC believes they can procure the dye required for the full set of blue wool. It is more expensive than the previous supply and may affect the price. Richard Slomko reported for the Method 16 subcommittee. Work will be done on the method over the next few meetings. A flow chart will be added to the method. A draft of this was read in the subcommittee. Bijan Seyfdazeh gave an update on work he is doing to correlate Method 16 to real life conditions in Florida. Nancy PeBenito gave an update on work done on Method 125. Further analysis and conclusions will be written up for the next meeting. Additional testing work will be done to evaluate issues raised about adding alkaline to the method using help from AATCC Committee RA23 (for Method 15). Nominations for new chair and secretary will be handled at the November meeting after the outcome of all the balloting on the possible merge of RA50 and RA64. Lightfastness equipment qualifications procedures were brought up. Lisa Strachan of James H. Heal Co. will present test data to qualify their lightfastness equipment at the next meeting. Discussion was raised regarding the revision to ISO 105-B08. The committee proposed dropping this from the work program.

RA56, Stain Resistance: A recent TCR ballot to reaffirm AATCC Method 193 (under the three year development review process) received one negative which will require a technical change. The method will be revised to address specimen size and submitted for a committee ballot. Steven Mansfield of Consumer Testing Lab gave a presentation on "Stain Management Testing Procedure." The subcommittee on the proposed new Stain Management procedure will be disbanded and development will be discontinued. A subcommittee was formed to finalize revision to replace perchloroethylene in Method 151. Several questions come up regarding Method 130: What is the proper amount of 1993 Standard Reference Detergent?; and What is the correct volume setting for washer, 18 gal or 22 gal?. A subcommittee was formed to look into these issues.

RA57, Floor Covering: A proposed new method "Colorfastness to Sodium Hypochlorite of Carpet Fibers" will be prepared for a committee ballot this summer. A proposed method on "Dermal Transfer of Particulates from Floor Covering," was reviewed and will be sent out to the committee for comments. The new version of the Red 40 Stain Scale has some problems with consistency. Amy Hammonds of the AATCC staff will address these issues. Looks like the inconsistencies are due to a different lamination process. Alan Battenhoff of Shaw Industries was nominated as the new chair beginning in 2007. Shane Trombley of Mohawk Industries was appointed as secretary.

RA59, Fibrous Test Materials: The recent TCR ballot for proposed reaffirmation of AATCC Evaluation Procedure 10 was approved with comments. A new chair is needed for the committee, one that is a neutral party and not a producer of test materials. If you would like to serve in this capacity, please contact Amy Hammonds of the AATCC staff at hammona@aatcc.org.

RA60, Colorfastness to Washing: The recent TCR Ballot on the removal of "commercial" references with a new title for Method 61 was approved and will be sent for publication in the 2007 Technical Manual. Method 172 will be reballoted with removal of the statement that this method is appropriate for care label development. The accelerated cold water wash will be sent to committee ballot. The hand wash protocol will be balloted with agreement from RA88, Home Laundering Technology. Qualification of equipment to go into test methods was discussed. QA International has finished testing and will be analyzed by a statistician. RA60 is requesting that ECR form a stand-alone committee for equipment qualification for ALL methods where applicable. A subcommittee was formed to work on including liquid detergent in Method 61. Jamie Moak of Procter & Gamble Co. was nominated as the new chair beginning 2007. Lisa Strachan of James H. Heal Co was appointed as secretary.

RA61, Appearance Retention: Test Methods 88B, 88C, 124, and 143 were re-balloted to TCR after changing the wording to be consistent across all methods. All negatives were resolved and the new

methods will be published in the next Technical Manual. A draft survey was written to evaluate the level of interest in Test Method 128 and to see if there is interest in developing a test method that would improve the correlation of the results of the test method to the results seen by consumers during end use of an apparel item. After review of the survey, a comment was made to include a photo of the test equipment in the survey. The survey will be distributed to the C2C Interest group as well as committee members. A brief discussion was held in November about the SA replicas. At the May meeting, it was concluded by the committee that there is no need for development of any additional SA replicas. No further action will be taken. A presentation was made on Instrumental Grading for Test Method 124 by Norma Keyes of Cotton Incorporated and Ian Smith of Roaches. The presentation reviewed *Opti Rate SAS*, a new piece of equipment that digitally measures the degree of wrinkling in fabrics and reports results equivalent to AATCC 124 replicas. A motion made by Mrs. Keyes was approved to explore an option to add smoothness digital rating to Test Method 124. A motion was made by Karen Kylo and approved to form a task group to write a protocol and identify standard fabrics to be used in qualifying digital grading systems. The task group volunteers, Norma Keyes, Karen Kylo, Jamie Moak and Ian Smith, will present the protocol at the November meeting for committee review. Kanti Jasani spoke on behalf of the AATCC Foundation and advised that although the budget for research grants has been increased to \$4,000 per year, this is an insignificant dollar value to support the research projects submitted. The foundation is looking for additional funding and is encouraging companies to support our research campaign.

RA63, Water Resistance, Absorbency and Wetting Agent Evaluation: Committee and TCR letter ballot results for the following test methods were reviewed. Method 79, Absorbency of Textiles received one negative from TCR. The negative was editorial and found persuasive. The revised test method will be in the 2007 Technical Manual. Norma Keyes of Cotton Incorporated will work on adding the "quick medicine dropper test" to the test method. Method 35, Water Resistance: Rain Test, was reaffirmed as is and will be in the next Technical Manual. A committee ballot on proposed new test method titled, "Liquid Moisture Management Properties of Porous Materials- Textile Fabrics," received three affirmatives with comments and eight negatives. The comments from the committee ballot will be included in the revision and will be sent for committee re-balloting, with the hopes it will make the summer TCR ballot. The committee ballot for proposed new method, "Vertical Wicking of Textiles," received three negatives which were resolved. Section 9 will be revised to include different options of setting up the specimens and be resubmitted to committee ballot and a joint TCR ballot. Method 42, Water Resistance: Impact Penetration Test, will be going to a joint committee and TCR ballot for reaffirmation. Tom Fabian of Underwriters Lab will review and revise the proposed method on "Drying Time" to go to committee ballot. The manufacturer of the Blotting paper used on Methods 35, 42 and 70 has gone out of business. A new supplier has been identified and has produced blotting paper to the required specifications. Committee members will be evaluating the new paper against the three above mentioned test methods. Luisa Santos will evaluate against Method 70; Steve Simonson will evaluate against Method 35 and AATCC will evaluate against Method 42. AATCC still has some metal hoops required for Method 22, Spray Test. However, once this supply has been depleted, these hoops will be replaced with plastic hoops since there is no longer a supplier of the metal hoops. Tom Fabian has been nominated for Chair and Nancy PeBenito from Nike was appointed as secretary starting in 2007.

RA64, Weather Resistance: Lisa Strachan will review and comment on the protocol for the equipment approval prior to sending Method 169 out to the committee for ballot prior to the November meeting. Amy Hammonds of the AATCC Staff will complete the form needed to have the AATCC's lab develop test materials for Method 169. The committee discussed a possible new test method for colorfastness to light and pool water or sea water. Amy Hammonds will investigate a modified Method 125 using Method 169, Option 2 exposure conditions (Daylight Filters and high humidity). This will be discussed further at the November meeting. A request from RA64 for possible merge with Committee RA50 was discussed. RA50 and RA64 submitted a survey inquiring interest in this proposal which had a favorable outcome. A

committee ballot will be submitted jointly to RA50 and RA64 with a proposed new title of the committee and a new scope. Hopefully this will be done in time to also be included in the summer TCR ballot. A proposed withdrawal of Method 192 from the Technical Manual was discussed. It will be advertised in *AATCC Review* and the AATCC Newsletter to see if anyone in the industry still uses the method. If no response is received, then it will proceed to a committee letter ballot for withdrawal.

RA75, Correlation of Laboratory Tests with End Use Performance: Karen Mueser presented a modified names and scope for RA75 to the committee. LouAnn Spirito spoke about a new Chlorine and Non-Chlorine Method being developed in Committee RA60. She talked about a proposed method, "Procedure for Appearance of Apparel and Other Textile End Products after Repeated Home Laundering," that will be sent to ASTM for balloting.

RA80, Printing Technology: Brooks Tippet with Pantone reminded the committee that the creation of a digital printing handbook has been circulating as an agenda item for several years with little progress. The committee was asked if they still had interest in this book and/or if anyone was willing to champion the effort. A subcommittee will be formed to champion this effort (volunteers were requested). Fletcher Stone informed the committee that he is currently working with Cotton Incorporated to create a technical bulletin regarding digital textile printing. Mr. Stone will ask Cotton Incorporated if they would be interested in making the development a joint effort with RA80/AATCC. Chair King brought as a topic of new business the need for expanding the activity and membership of RA80. Due to the loss of textile printing production in North America, RA80 has lost many of its active members. The floor was opened for discussion and the following ideas were presented: (1) Offer an educational symposium more regularly (every two years rather than once every three years); (2) Possibly co-sponsoring/working with another established organization that offers digital printing to bring a new audience to our symposium topics; (3) Possibly join the efforts of CITDA and RA80. Peggy Pickett with AATCC and Chair King will discuss the best methods of soliciting CITDA/C2C involvement. Chair King presented an update on digital printing technology.

RA87, Applied Dyeing and Characterization of Dyes: The recent TCR ballots for reaffirmation of Methods 140, 146, 154, 170 and 176 were all reaffirmed. There was a negative vote for Method 170 which was resolved after discussion within the committee. A proposed revision of Method 146 is being looked into and will be discussed at the next meeting. A proposed dyeing symposium has been brought to the committee which would hopefully include on the steering committee representatives from the Chemical Application Interest Group, the Materials Interest Group and RA87. Possible dates would be late summer 2007 or late January 2008.

RA88, Home Laundering Technology: A presentation was given by Glenn Jordan of Procter and Gamble on High Energy (HE) Machines: Consumer Laundering Habits & Practices." Consumers are moving toward HE machines and are using larger loads (about 8 lbs). HE detergents should be used with these machines in order to deliver the appropriate sudsing to minimize machine issues caused by high sudsing non-HE detergents. There are implications for AATCC test methods as we move to HE machines. A preliminary template for "Standardization of Home Laundry Conditions for HE Machines" as prepared by Dr. Jordan was discussed with the committee. The Lower Energy and Water subcommittee will continue to work this template with updates provided at the November meetings. The Lower Energy & Water subcommittee will also develop a monograph on trends in HE machines, inclusive of implications for consumers and perspective on HE detergents. This subcommittee will request the chairs of RA42, RA56, RA60 and RA61 become members of its subcommittee in order to identify issues/concerns on including HE testing into their test methods. Liz Eggert shared final testing of HE detergent, showing it performs within the range of leading market detergents across stain removal, color retention and dye transfer. The detergent was approved by the committee. RA88 will work with Amy Hammonds to determine next steps for this detergent.

The softener monograph has been approved and will appear in the 2007 AATCC manual. The committee approved the disbanding of the subcommittee on Qualification of Washing Machines. After extensive work, the committee was not able to identify a fabric of fabric set that could consistently identify changes in machine variations. The committee will write an article for *AATCC Review* sharing its results.

RA89, Hand Evaluation: Ning Pan of the University of California gave a presentation on "Introduction of a New Instrument for Fabric Sensory Performance Evaluation-Fabric Hand, Drape and Wrinkle Recovery, S. S. Ramkumar of Texas Tech University also gave a brief talk on "Validation of Sliding Friction Method." The recent TCR ballot for proposed reaffirmation of AATCC Evaluation Procedure 5 was approved and will be noted in the next Technical Manual. An action items approved was to collect a list of existing standards that measure individual attributes of hand. Dr. Ramkumar noted that a paper had been published recently that accomplished this. Therefore, this work by the committee did not need to be pursued. The subcommittee recommended that RA89 not pursue the development of a standard instrumental test method for the hand based on the Kawabata Evaluation System. The subcommittee recommended that the development of hand reference fabrics be undertaken to aid the qualification of emerging instrumental hand test methods. This recommendation included the aspect that several fabrics with different hand attributes would be determined. There was also a recommendation that a database be developed for new technologies.

RA99, Technical Manual Editorial Review: The recent TCR ballot for proposed revision of the *AATCC Style Guide for Writing AATCC Test Methods* received negatives from Kent Suddeth and Martin Bide. The chair responded to Mr. Suddeth's negative; however, Dr. Bide's negative will require input from ECR. The chair invited Robert Cleaver to respond to questions regarding precision and bias statements developed by Mr. Cleaver for Methods 20A, 82 and 129. Mr. Cleaver attended the meetings and agreed to modify the P&B Statements. RA24 for Method 20A reported that the P&B Statement was found to be unusable so they will do another interlab perhaps as part of the AATCC Proficiency Program. A majority of the negatives issued by RA99 on items out for committee and TCR ballots were resolved. In a couple of instances items with unresolved negative on committee ballots were permitted to continue onto TCR ballot. This should not be permitted. ECR decisions affecting AATCC policy are not publicized enough; different members have different concepts of AATCC's policy. Perhaps an executive summary of ECR decisions can be published so all members are more informed.

RA103, Spectroscopic Technologies: The current standing of the polyester/cotton NIR research project was discussed. James Rodgers and Keith Beck have co-authored an article that will be published in an online NIR journal. They will adapt the article to make it suitable for publication in *AATCC Review*. Good agreement was found between the data collected at NCSU and at Solutia. Use of normalization techniques, such as SNV, helped improve the performance of the calibration. PLS was a better calibration method than MLR. On at least 70% of the validation samples, the error was about ∇ 3%. As a follow-up, the NCSU and Solutia data will be compared to a calibration on the XDS at Cotton Incorporated and a calibration on the Bruker instrument at USDA-SRRC. The next phase would be to expand the calibration set to include knits and solid colors. The minimum size of the calibration sample and the minimum number of samples needed for calibration and validation also need to be investigated. The long-term plan is to find a set or a calibration that AATCC could sell as a QC aid. Another possibility would be instruments that would be pre-calibrated by the manufacturer. The instrument survey will be passed along to Dr. Rodgers. A future symposium was another topic of the meeting. If a symposium is held, it was suggested that it be focused toward the retailers and brands by covering uses in those areas, instead of having a focus on the research and instrumentation that is available. If anyone has a suggestion for a speaker for the fall 2006 meeting, please send it to Dr. Rodgers. The status of various labs and capabilities and types of analyses will be a topic for the next meeting in November 2006.

RA106, UV Protective Textiles: Kathryn Hatch with the University of Arizona was to give a presentation but could not make it so Len Farias, chair of RA106, briefly reviewed research performed by Bommer and Sedlacek on method of stretching fabric and measurement of UPF of various fabrics. Discussion of need to complete precision and bias statement for Method 183 was discussed. There was a review and discussion of expanding the method to include stretched fabrics focusing on how to stretch fabric to test for UPF. A request of attendees to supply information related to equipment availability in testing laboratories for testing fabrics for stretch. A suggestion to develop a Technical Supplement from AATCC combining document ASTM 6603, D 6544 and AATCC Method 183 protocols was discussed. This would give a single source of information for fabric preparation, test procedures and labeling. A suggestion was made to contact the equipment manufacturer to develop an attachment for LabSphere and Varian instruments. Discussion was held that the future of the committee may be to change to include technology and education.

RA109, Flammability Technology: William Younts of DI2 Technologies LLC gave a talk on Practical Consideration for the Development and Implementation of Compliance Programs for Standard for the Flammability (Open Flame) of Mattresses.

How to Participate: The next series of committee meetings will be held November 14-16, 2006 at the Radisson Hotel in Research Triangle Park, N. C. For information regarding these meetings and how to take part in committee work, contact Tricia F. Day, AATCC technical assistant, P.O. Box 12215, Research Triangle Park, N.C. 27709; telephone: 919/549-3534; FAX: 919/549-8933; E-mail: dayt@aatcc.org.

June 12, 2006