

Program Book



American Society of Brewing Chemists 69th Annual Meeting

June 11-15, 2005 • Hyatt Regency • Savannah, Georgia



American Society of Brewing Chemists 69th Annual Meeting

*Bringing together professionals
working in distilled, malt-based,
and fermented beverage industries.*

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*Area photos courtesy of the Georgia Department of
Economic Development.*





Welcome to Savannah!

Greetings from the ASBC Program Committee. It is our pleasure to welcome you to the 2005 ASBC Annual Meeting, June 11–15 in beautiful Savannah, Georgia.

We have a great meeting planned for you, with an incredible program highlighting seven technical sessions that feature 25 oral presentations. In addition, there are 24 posters, workshops, taste sessions, and seminars. There are many opportunities to network, learn, build business relationships, and hear first-hand the latest brewing science and related research. Plus, there will be ample time to connect with colleagues and suppliers while enjoying the exhibits and hospitality sessions.

The 2005 Annual Meeting has something for each one of you, including contributions from major breweries, universities, regional breweries, craft brewers and, of course, the brewing allied industries presenting the latest industry trends and research.

Throughout the meeting, in addition to attending all the sessions, take time to view the exhibits, relax at the hospitality, catch up on the latest news in the industry, and explore all that Savannah has to offer.

The 2005 ASBC Program Committee

General Information

Registration

Registration Booth, 2nd floor

Saturday, June 11	2:00 – 5:00 p.m.
Sunday, June 12	7:00 a.m. – 5:00 p.m.
Monday, June 13	7:00 a.m. – 3:00 p.m.
Tuesday, June 14	7:00 a.m. – 3:00 p.m.
Wednesday, June 15	7:00 a.m. – 1:00 p.m.

Silent Auction

Registration Area, 2nd floor

Saturday, June 11	Drop-Off	2:00 – 5:00 p.m.
Sunday, June 12	Bidding Open	7:00 a.m. – 5:00 p.m.
Monday, June 13	Bidding Open	7:00 a.m. – 3:00 p.m.
Tuesday, June 14	Bidding Open	7:00 a.m. – 1:00 p.m.



The ASBC Foundation is hosting a Silent Auction to benefit the Brian Williams Scholarship Fund. The Foundation's goal is to build the fund to \$20,000 by June 2006. This will allow the Foundation to present at least one \$1,000 scholarship every year.

Stop by the Silent Auction and bid on a wide array of items.

Exhibits

Harborside Center

Saturday, June 11	Exhibit Set-Up	2:00 – 5:00 p.m.
Sunday, June 12	Exhibit Set-Up	7:00 – 9:30 a.m.
	Exhibits Open	11:00 a.m. – 1:00 p.m. 3:00 – 5:00 p.m.
Monday, June 13	Exhibits Open	10:00 a.m. – 12:00 p.m.
Tuesday, June 14	Exhibits Open	10:00 a.m. – 1:00 p.m.
	Exhibit Take-Down	1:00 – 6:00 p.m.

Posters

Harborside Center

Saturday, June 11	Poster Set-Up	2:00 – 5:00 p.m.
Sunday, June 12	Poster Set-Up	8:00 – 9:30 a.m.
	Posters Available for Viewing	11:00 a.m. – 1:00 p.m. 3:00 – 5:00 p.m.
Monday, June 13	Posters Available for Viewing	10:00 a.m. – 12:00 p.m.
	Authors Present	10:00 – 11:00 a.m. (Posters 1–12) 11:00 a.m. – 12:00 p.m. (Posters 13–24)
Tuesday, June 14	Posters Available for Viewing	10:00 a.m. – 1:00 p.m.
	Authors Present	10:00 – 11:30 a.m. (Posters 13–24) 11:30 a.m. – 1:00 p.m. (Posters 1–12)
	Poster Take-Down	1:00 – 6:00 p.m.

Meeting Attire

Business casual dress is encouraged for all meeting events.

Photo Release

ASBC may take photographs throughout the meeting for use in promotional materials after the meeting has concluded. By virtue of your attendance, you agree to ASBC's use of your likeness in said promotional materials.

Medical Emergencies

Medical emergencies should be communicated to an ASBC staff member at the registration desk or the hotel staff by dialing the hotel operator.

The nearest hospital is:

Mercy Hospital
4700 Waters Avenue
Savannah, Georgia
912.350.8000

Guest Program

New this year! Guests do not pay for registration. However, guests wishing to attend any of the receptions or other ticketed food functions must have tickets purchased either in advance or onsite. Guests must have name badges to attend technical sessions or hospitality, which can be obtained at the Registration Desk, 2nd floor.

Savannah is known as a great city for walking. Therefore, there is no formal guest program. With the numerous tourist options in the area, ASBC would like guests of meeting attendees to be able to take full advantage of their time in the city. Please note special offerings we are providing to ASBC guests:

Monday, June 13

Savannah Room

9:00 – 10:00 a.m.

Guest Hospitality – Speaker on Savannah. A representative from the city will share information on local attractions and assist guests in planning their activities.

10:00 a.m. – 5:00 p.m.

Guest Hospitality Room

Tuesday, June 14

Savannah Room

9:00 a.m. – 5:00 p.m.

Guest Hospitality Room

Wednesday, June 15

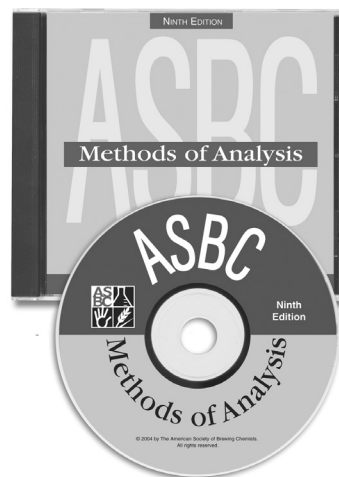
Savannah Room

9:00 a.m. – 5:00 p.m.

Guest Hospitality Room

SAVE 10% plus shipping is FREE!

Visit us at the meeting



ASBC Methods of Analysis, 9th Edition

The 9th edition of *ASBC Methods of Analysis* moves from the printed form to a technologically-advanced electronic format on CD-ROM. This exciting new volume continues to offer traditional brewing beverage analytical methods along with the most recently ASBC-approved methodologies to ensure the availability of sound analytical tools to brewing scientists worldwide.

Packed with features to ensure accuracy and improve usefulness:

- Provides 60 built-in calculators (51 method-specific calculators for easy accuracy on complicated equations and 9 conversion calculators)
- Includes first-ever video demonstration of an ASBC Method technique
- Delivers full-text search capabilities so you can find the right methods quickly
- Designed with menu-driven short cuts for fast navigation
- Adds a powerful tristimulus color converter
- Includes 19 new methods plus peer-reviewed updates of all existing methods

Also available at the meeting:

Laboratory Methods for Craft Brewers,
13 additional titles, and clothing
– all at reduced prices.

#M8077-5/05

American Society of Brewing Chemists

Schedule at a Glance

Saturday, June 11	Sunday, June 12	Monday, June 13	Tuesday, June 14	Wednesday, June 15
<p>Short Course: Brewing Chemometrics 7:30 a.m. – 4:30 p.m.</p> <p>Registration 2:00 – 5:00 p.m.</p> <p>Hospitality 3:00 – 9:00 p.m.</p> <p>Past Presidents/First Timers/Students Reception 6:30 – 8:00 p.m.</p>	<p>Speaker Orientation/Breakfast (Orals 1–3, Posters 1–12) 7:00 – 8:00 a.m.</p> <p>Registration/Silent Auction 7:00 a.m. – 5:00 p.m.</p> <p>ASBC General Business Meeting 9:30 – 10:45 a.m.</p> <p>Technical Subcommittee Meetings 11:00 a.m. – 12:00 p.m.</p> <p>Objectives and Organizational Structure of ASBC 11:00 a.m. – 12:00 p.m.</p> <p>Exhibits and Hospitality/Poster Session 11:00 a.m. – 1:00 p.m.</p> <p>Welcome and Technical Session I — Hops 1:00 – 2:20 p.m.</p> <p>New Products and Services Session 2:30 – 3:15 p.m.</p> <p>Exhibits and Hospitality/Poster Session 3:00 – 5:00 p.m.</p> <p>Distilled Beverages Taste Session 4:30 – 5:30 p.m.</p> <p>Welcome Reception 6:00 – 9:30 p.m.</p>	<p>Speaker Orientation/Breakfast (Orals 4–11, Posters 13–24) 7:00 – 8:00 a.m.</p> <p>Registration/Silent Auction 7:00 a.m. – 3:00 p.m.</p> <p>Technical Session II—Barley/Malt 8:00 – 10:00 a.m.</p> <p>Exhibits and Hospitality 10:00 a.m.– 12:00 p.m.</p> <p>Poster Session Authors at Posters 1–12 10:00 – 11:00 a.m. Authors at Posters 13–24 11:00 a.m. – 12:00 p.m.</p> <p>Technical Subcommittees 11:00 a.m. – 12:00 p.m.</p> <p>Recognition Lunch 12:15 – 1:45 p.m.</p> <p>Technical Session III—Micro/Yeast 2:00 – 4:00 p.m.</p> <p>Hospitality 4:00 – 11:00 p.m.</p>	<p>Speaker Orientation/Breakfast (Orals 12–25) 7:00 – 8:00 a.m.</p> <p>Silent Auction 7:00 a.m. – 1:00 p.m.</p> <p>Registration 7:00 a.m. – 3:00 p.m.</p> <p>Technical Session IV—Process/Product 8:00 – 10:00 a.m.</p> <p>Exhibits and Hospitality 10:00 a.m. – 1:00 p.m. 11:30 a.m. – 1:00 p.m. (lunch)</p> <p>Posters Session Authors at Posters 13–24 10:00 – 11:30 a.m. Authors at Posters 1–12 11:30 a.m. – 1:00 p.m.</p> <p>Technical Subcommittees 11:00 a.m. – 12:00 p.m.</p> <p>Technical Session V—Analytical I 1:00 – 2:20 p.m.</p> <p>Critical Issues Facing Your Growing Brewery Workshop 2:35 – 4:30 p.m.</p> <p>Hot Topics Forum and Seminar 2:35 – 4:30 p.m.</p> <p>Subcommittee Statistics Using Youden Unit Block Design Seminar 2:35 – 4:30 p.m.</p> <p>Hospitality 3:00 – 11:00 p.m.</p>	<p>Registration 7:00 a.m. – 1:00 p.m.</p> <p>Technical Session VI—Analytical II 8:00 – 9:20 a.m.</p> <p>Technical Session VII—Flavor/Sensory 9:35 – 11:15 a.m.</p> <p>A Journey in Brewing—Continuous Learning as Captured in Fishbone Diagrams 1:30 – 3:30 p.m.</p> <p>Sensory Threshold Testing Workshop 1:30 – 3:30 p.m.</p> <p>Keynote Presentation: Slow Beer – Thoughts on Flavor Diversity/ Food and Beer 3:30 – 4:15 p.m.</p> <p>Closing Reception 7:00 p.m. – 12:00 a.m.</p>

Program

Friday, June 10		
8:00 a.m. – 5:00 p.m.	Technical Committee Meeting and Lunch	Verelst, 2nd Floor
Saturday, June 11		
7:30 a.m. – 4:30 p.m.	ASBC Short Course: Brewing Chemometrics	Verelst, 2nd Floor
8:00 a.m. – 5:00 p.m.	Board of Directors Meeting and Lunch	Vernon, 2nd Floor
2:00 – 5:00 p.m.	Exhibit/Poster Set-Up	Harborside Center
2:00 – 5:00 p.m.	Registration	Registration Desk, 2nd Floor
3:00 – 9:00 p.m.	Hospitality	Waterfront, Lobby Level
5:00 – 6:30 p.m.	Past Presidents Meeting	Percival, 2nd Floor
6:30 – 8:00 p.m.	Past Presidents/First Timers/Students Reception	Savannah, Lobby Level
Sunday, June 12		
7:00 – 8:00 a.m.	Speaker Orientation and Breakfast: Orals 1–3, Posters 1–12	Sloane, 2nd Floor
7:00 – 9:30 a.m.	Exhibit Set-Up	Harborside Center
7:00 a.m. – 5:00 p.m.	Registration	Registration Desk, 2nd Floor
7:00 a.m. – 5:00 p.m.	Silent Auction Open	Registration Area, 2nd Floor
8:00 – 8:30 a.m.	Program Committee Meeting and Breakfast	Verelst, 2nd Floor
8:00 – 9:00 a.m.	Local Section Officers Meeting and Breakfast	Vernon, 2nd Floor
8:00 – 9:30 a.m.	Poster Set-Up	Harborside Center
9:30 – 10:45 a.m.	ASBC General Business Meeting	Regency Ballroom B, 2nd Floor
10:45 – 11:00 a.m.	Break	Mezzanine, 2nd Floor
11:00 a.m. – 12:00 p.m.	Technical Subcommittee Meetings	
	• Malt Extract Under High Gravity Conditions	Regency Ballroom D, 2nd Floor
	• Methods for Measurement of Yeast Viability by Fluorescent Staining	Regency Ballroom E, 2nd Floor
	• Method for Preparation of Wort for Color Determination	Verelst, 2nd Floor
	• Method for Reference Standard for Total Package Oxygen	Regency Ballroom F, 2nd Floor
11:00 a.m. – 12:00 p.m.	Objectives and Organizational Structure of ASBC	Verelst/Percival, 2nd Floor
11:00 a.m. – 1:00 p.m.	Exhibits and Hospitality	Harborside Center
11:00 a.m. – 1:00 p.m.	Poster Session	Harborside Center
1:00 – 2:20 p.m.	Welcome and Technical Session I — Hops Tom Shellhammer, Moderator	Regency Ballroom B, 2nd Floor
1:05 – 1:30 p.m.	O-1. Aroma hop varieties developed for production in the USA — A review. G. PROBASCO, S. Kenny, J. Henning, J. Perrault	
1:30 – 1:55 p.m.	O-2. Bitterness modifying properties of hop polyphenols extracted from spent hop materials. T. SHELLHAMMER, I. McLaughlin	
1:55 – 2:20 p.m.	O-3. Analysis of hop alpha- and beta-acids and beer iso-alpha- acids by micellar electrokinetic chromatography and diode-array detection during beer production. E. LEBEDEVA	
2:20 – 2:30 p.m.	Break	Mezzanine, 2nd Floor
2:30 – 3:15 p.m.	New Products and Services Session Robert Maruyama, Moderator	Regency Ballroom B, 2nd Floor
2:35 – 2:43 p.m.	optek-Danulat, Inc. – “DT9011 Haze Control.” A. WORLEY	
2:45 – 2:53 p.m.	VLB Berlin – “International Training Courses for Professional Brewers at VLB Berlin.” O. HENDEL	
2:55 – 3:03 p.m.	Headmasters Limited – “Headmasters Limited Calibrators for Dissolved Gas Analyzers.” B. FITZGERALD	
3:05 – 3:13 p.m.	LECO Corporation – “Liquid Autosampler for Nitrogen/Protein Determinator.” P. PIROZZOLA	
3:00 – 5:00 p.m.	Exhibits and Hospitality	Harborside Center
3:00 – 5:00 p.m.	Poster Session	Harborside Center
4:30 – 5:30 p.m.	Distilled Beverages Taste Session	Verelst/Percival, 2nd Floor
6:00 – 9:30 p.m.	Welcome Reception	Regency Ballroom B, 2nd floor

Sunday Sessions

New Products and Services Sessions

2:30 – 3:15 p.m.

Descriptions

optek-Danulat, Inc. – “DT9011 Haze Control”

Presentation description: Laboratory turbidimeter.

VLB Berlin – “International Training Courses for Professional Brewers at VLB Berlin”

Presentation description: The VLB Berlin offers two programs for basic education and further training in the field of brewing for international clients. Dates are September 5– 23, 2005 (advanced); Jan. – June 2006 (basic).

Headmasters Limited – “Headmasters Limited Calibrators for Dissolved Gas Analyzers”

Presentation description: The Headmaster calibrators provide a continuous flow of precisely gassed water to test oxygen, carbon dioxide, and nitrogen analyzers.

LECO Corporation – “Liquid Autosampler for Nitrogen/Protein Determinator”

Presentation description: LECO offers a new liquid autosampler for the TruSpec® series of elemental determinators. The liquid autosampler provides seamless automation for liquid samples—eliminating the need for sample containers that are used on the conventional carousel autoloader. This kit is recommended for most liquid applications with low viscosity like waters, beverages, slurries, urea, and light oils.

Distilled Beverages Taste Session

4:30 – 5:30 p.m.

Presented by Steve Wright, this session will feature a discussion of tequila manufacturing processes and follow with a comparative tasting and descriptive analysis of tequila. It will provide instruction on characterization of the sensory profile of tequila through tasting different tequila styles and exposure to flavor reference standards selected to represent the prominent flavor attributes of tequila. *Sign up onsite.*

Monday, June 13

7:00 – 8:00 a.m.	Speaker Orientation and Breakfast: Orals 4–11, Posters 13–24	Sloane, 2nd Floor
7:00 a.m. – 3:00 p.m.	Registration	Registration Desk, 2nd Floor
7:00 a.m. – 3:00 p.m.	Silent Auction Open	Registration Area, 2nd Floor
8:00 – 10:00 a.m.	Technical Session II — Barley/Malt Erin Armstrong, Moderator	Regency Ballroom B, 2nd Floor
8:05 – 8:30 a.m.	O-4. Enzyme development during germination of barley. R.J. KUNTZ, C.W. Bamforth	
8:30 – 8:55 a.m.	O-5. A single PCR marker for predicting the activity levels of various enzymes responsible for cell wall and starch degradation during malting. M. VOETZ, I. Fechter, F. Rath	
8:55 – 9:10 a.m.	Break	Mezzanine, 2nd Floor
9:10 – 9:35 a.m.	O-6. Fate of ergot alkaloids in brewing. P. SCHWARZ, G.E. Rottinghaus, N.S. Hill	
9:35 – 10:00 a.m.	O-7. Serological quantification of <i>Fusarium graminearum</i> in barley. N.S. HILL, P. Schwarz, S. Neate, B. Cooper, L. Dahleen, R. Horsley	
9:00 – 10:00 a.m.	Guest Hospitality – Speaker on Savannah	Savannah, Lobby Level
10:00 a.m. – 12:00 p.m.	Exhibits and Hospitality	Harborside Center
10:00 a.m. – 12:00 p.m.	Poster Session – Authors Present Authors Present: Posters 1–12, 10:00 – 11:00 a.m. Authors Present: Posters 13–24, 11:00 a.m. – 12:00 p.m.	Harborside Center
11:00 a.m. – 12:00 p.m.	Technical Subcommittee Meetings • Method for Alpha-Amylase Determination in Malt by Automated Flow • Review of Can Packaging Methods	Pervical, 2nd Floor Vernon, 2nd Floor

12:15 – 1:45 p.m.	• Spectrophotometric Analysis of Protein in Hopped Wort and Beer	Sloane, 2nd Floor
1:45 – 2:00 p.m.	• Methods for Measurement of Yeast Vitality	Verelst, 2nd Floor
	Recognition Lunch	Regency Ballroom E, 2nd Floor
	Break	Mezzanine, 2nd Floor
2:00 – 4:00 p.m.	Technical Session III — Micro/Yeast	Regency Ballroom B, 2nd Floor
	Kathryn Smart, Moderator	
2:05 – 2:30 p.m.	O-8. Application of shotgun DNA microarray technology to gene expression analysis in lager yeast. N. KOBAYASHI, M. Sato, S. Fukuhara, S. Yokoi, M. Takashio, T. Yokoi, Y. Kaku, T. Saito	
2:30 – 2:55 p.m.	O-9. The analysis of ergosterol concentration in yeast: Its influence on fermentation. M. GOMI, T. Imai, Y. Ogawa, M. Ohkochi	
2:55 – 3:20 p.m.	O-10. Improving maltotriose fermentation by <i>Saccharomyces cerevisiae</i> . B. STAMBUK, C. Hollatz, S. Alves Jr., R. Herberts, L. Miletti	
3:20 – 3:55 p.m.	O-11. Novel technologies in dispense hygiene. S. LIVENS, C. Giles	
4:00 – 11:00 p.m.	Hospitality	Waterfront, Lobby Level
Evening	Open – Free Time	

Tuesday, June 14

7:00 – 8:00 a.m.	Speaker Orientation and Breakfast: Orals 12–25	Sloane, 2nd Floor
7:00 a.m. – 1:00 p.m.	Silent Auction Open	Registration Area, 2nd Floor
7:00 a.m. – 3:00 p.m.	Registration	Registration Desk, 2nd Floor
8:00 – 10:00 a.m.	Technical Session IV — Process/Product	Regency Ballroom B, 2nd Floor
	Fred Strachan, Moderator	
8:05 – 8:30 a.m.	O-12. Effect of subcritical water treated malt on beer quality. K. NAGAO, K. Nakahara, T. Inui, N. Fukui	
8:30 – 8:55 a.m.	O-13. Advancements in diatomaceous earth processing reduces iron and other solubles to improve flavor stability and shelf life. P. LENZ, K. Walsh	
8:55 – 9:10 a.m.	Break	Mezzanine, 2nd Floor
9:10 – 9:35 a.m.	O-14. Prevention of protein-polyphenol haze in beer using a proline-specific protease. H. CRAIG, M. Lopez, L. Edens	
9:35 – 10:00 a.m.	O-15. The effect of pH on beer stabilization. K. SIEBERT, P.Y. Lynn	
10:00 a.m. – 1:00 p.m.	Exhibits and Hospitality	Harborside Center
10:00 a.m. – 1:00 p.m.	Poster Session – Authors Present	Harborside Center
	Authors Present: Posters 13–24, 10:00 – 11:30 a.m.	
	Authors Present: Posters 1–12, 11:30 a.m. – 1:00 p.m.	
11:00 a.m. – 12:00 p.m.	Technical Subcommittee Meetings	
	• Check Services	Verelst, 2nd Floor
	• Elemental Analysis of Beer and Wort by Inductively Coupled Plasma – Atomic Emission Spectroscopy	Regency Ballroom F, 2nd Floor
	• New & Alternate Methods of Analysis	Regency Ballroom E, 2nd Floor
	• Soluble Starch	Regency Ballroom D, 2nd Floor
11:30 a.m. – 1:00 p.m.	Lunch Available in Exhibit Hall	Harborside Center

1:00 – 2:20 p.m.	Technical Session V — Analytical I Julie Felske, Moderator	Regency Ballroom B, 2nd Floor
1:05 – 1:30 p.m.	O-17. Liquid automation for nitrogen determinators. P. PIROZZOLA	
1:30 – 1:55 p.m.	O-16. Analysis of sulfur compounds in beer and happo-shu. Y. KUROKAWA, S. Iinuma, K. Fukano, Y. Narita, T. Yasui, M. Ohkochi	
1:55 – 2:20 p.m.	O-18. Comparison of methods for assessing polyphenols in beer. K. SIEBERT, P.Y. Lynn	
1:00 – 6:00 p.m.	Exhibit/Poster Take-Down	Harborside Center
2:20 – 2:35 p.m.	Break	Mezzanine, 2nd floor
2:35 – 4:30 p.m.	Critical Issues Facing Your Growing Brewery Workshop	Verelst/Percival, 2nd Floor
2:35 – 4:30 p.m.	Hot Topics Forum and Seminar	Regency Ballroom B, 2nd Floor
2:35 – 4:30 p.m.	Subcommittee Statistics Using Youden Unit Block Design Seminar	Regency Ballroom DE, 2nd Floor
3:00 – 11:00 p.m.	Hospitality	Waterfront, Lobby Level
Evening	Open – Free Time	

Tuesday Sessions

Critical Issues Facing Your Growing Brewery Workshop

2:35 – 4:30 p.m.

This workshop is designed to address the concerns and needs of a growing business and will cover the areas of environment, health, and safety, as well as the challenges of meeting water treatment demands. This workshop will contain a question-and-answer session to give attendees the opportunity to candidly discuss the daily issues they face in these areas. Gina Kelly of New Belgium Brewing Company will moderate. Topics and presenters will include:

- EH&S Programs for Brew Pubs to Regional Breweries – Meeting Business Demands by Andrew T. Troccoli, CHMM
- Water Treatment Demands for a Growing Brewery by Mandy Miller

Hot Topics Forum and Seminar


2:35 – 4:30 p.m.

This forum will provide an opportunity to review current issues facing our industry with colleagues. Issues impacting global brewing and allied industries will be identified and assessed with regards to ASBC. Emerging trends and policies in the brewing and allied industries will also be discussed. Time will be allotted for audience participation in the form of discussion, questions, and answers.

Subcommittee Statistics Using Youden Unit Block Design Seminar

2:35 – 4:30 p.m.

This seminar will explain the details of the Youden Unit Block statistical design used by ASBC subcommittees evaluating analytical methods. The design is particularly useful in collaborative studies for estimating method precision. A recent ASBC subcommittee study will be used as an example to illustrate the features of the design. In addition to subcommittee members, others interested in how subcommittees carry out their work would find this topic of interest.



*For more than 70 years, ASBC has aided malting and brewing laboratories in improving data accuracy and technical proficiency. The **Check Sample Service** offered by the ASBC allows subscribers to evaluate method **accuracy** and **precision** and **instrument performance** on a regular basis.*

Test samples available for beer, hops, barley, and malt.

Pick up literature and speak with an ASBC Representative at the meeting.

AMERICAN SOCIETY OF
Brewing Chemists

#M8075-5/05

Wednesday, June 15

7:00 – 8:00 a.m.	Technical Committee Breakfast	Vernon, 2nd Floor
7:00 a.m. – 1:00 p.m.	Registration	Registration Desk, 2nd Floor
8:00 – 9:20 a.m.	Technical Session VI — Analytical II Lance Lusk, Moderator	Regency Ballroom B, 2nd Floor
8:05 – 8:30 a.m.	O-19. Beta-linked carbohydrate in beer. S.C. GAMBILL, C.W. Bamforth	
8:30 – 8:55 a.m.	O-20. Best practices: How to manage the beer foam quality. F. VERKOELEN	
8:55 – 9:20 a.m.	O-21. The formulation of a model foam standard. W. VUNDLA, P. Torline	
9:00 a.m. – 5:00 p.m.	Guest Hospitality	Savannah, 2nd Floor
9:20 – 9:35 a.m.	Break	Mezzanine, 2nd Floor
9:35 – 11:15 a.m.	Technical Session VII — Flavor/Sensory Grady Hull, Moderator	Regency Ballroom B, 2nd Floor
9:35 – 10:00 a.m.	O-22. Comparing flavor of Japanese beer using sensory and instrumental analyses. K. OZAKI, M. Kobayashi, H. Yamashita, T. Aishima	
10:00 – 10:25 a.m.	O-23. Development of a biometric system for measurement of swallowing motion during drinking. H. KOJIMA, H. Kaneda, M. Takashio, A. Murayama, T. Hayashi	
10:25 – 10:50 a.m.	O-24. Identification of astringent substances in beer. N. KAGEYAMA, T. Inui, H. Komura, K. Nakahara, N. Fukui	
10:50 – 11:15 a.m.	O-25. Measurement of changes in human emotion during the smelling of beer flavors using a measurement system for brain waves. H. KANEDA, H. Kojima, M. Takashio	
11:30 a.m. – 1:15 p.m.	Program Committee Meeting and Lunch	Sloane, 2nd Floor
11:30 a.m. – 1:15 p.m.	Publications Committee Meeting and Lunch	Suite 415, 4th Floor
11:30 a.m. – 1:15 p.m.	Technical Committee and Subcommittee Chairs Meeting and Lunch	Vernon, 2nd Floor
1:15 – 1:30 p.m.	Break	Mezzanine, 2nd Floor
1:30 – 3:30 p.m.	A Journey in Brewing – Continuous Learning as Captured in Fishbone Diagrams	Regency Ballroom DE, 2nd Floor
1:30 – 3:30 p.m.	Sensory Threshold Testing Workshop	Verelst/Percival, 2nd Floor
3:30 – 4:15 p.m.	Keynote Presentation: Slow Beer - Thoughts on Flavor Diversity/Food and Beer	Regency Ballroom B, 2nd Floor
7:00 p.m. – 12:00 a.m.	Closing Reception	Harborside Center

Wednesday Sessions

A Journey in Brewing – Continuous Learning as Captured in Fishbone Diagrams

1:30 – 3:30 p.m.

How do design specifications for products, brewing materials, and brewing technology impact beer quality across the supply chain, and how do these interact with each other? How do operator-controllable recipe, maintenance, and processing considerations impact the ability to maintain process control for critical product quality attributes and plant productivity metrics? How does yeast respond to process changes, especially as it relates to drivers of beer drinkability and flavor stability? How do you troubleshoot product and process concerns in a formal and systematic manner?

Insights into these questions will be provided in this two-hour workshop where Greg Casey, Director of Brewing Services at Molsons-Coors, will cover information gained over the years on identifying and correcting root causes during troubleshooting events. Examples of cause-and-effect fishbone diagrams will be reviewed, along with an interactive discussion of the foundational principles followed over the years in their creation. This workshop will provide participants with a flavor of the type of information contained in the fishbone chapter of the ASBC publication *Brewing Chemistry and Technology in the Americas*, scheduled for release later in 2005.

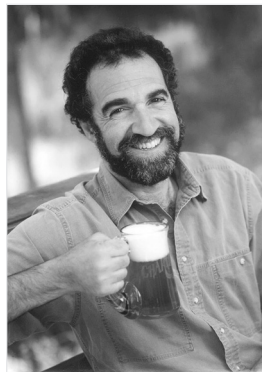
Sensory Threshold Testing Workshop

1:30 – 3:30 p.m.

One use of threshold testing in brewing is to determine the sensitivities of individuals to an added substance. Threshold testing may be part of the process for selecting and training expert panel members. Conducting threshold tests and calculating group best estimate thresholds can be complicated. This workshop will offer participants a

“hands-on” guide to threshold testing. The ASBC Method of Analysis, “Threshold of Added Substances – Ascending Method of Limits Test,” will be explained in detail including test procedure, statistical analysis, and interpretation of results. At the completion of this workshop, the difference threshold of an added substance will be calculated for the class. Workshop size will be limited to 30 participants. *Sign up onsite.*

Keynote Presentation



Slow Beer
Thoughts on Flavor and Diversity - Food and Beer

Charlie Papazian
3:30 – 4:15 p.m.

Beer is an expression of the human spirit. We use technical science as a tool to create it, psychology to market and help sell it, but its essence is and always will be a form of art. Stylizing beer is the art of combining hundreds of factors to create a consistent combination of beer characters. Beer’s complexity and diversity expresses the variety of the world’s lifestyles more than any other beverage. Beer’s diversity lends itself perfectly as a complement to the world’s cuisine and food culture. Learning about and developing our sense of taste leads to more pleasure. Creating or enjoying a variety of taste sensations with food and beer combinations helps develop a healthy beer culture and one that beer drinkers will appreciate and be interested in.

Thursday, June 16

8:00 a.m. – 12:00 p.m. Board of Directors Meeting Sloane, 2nd Floor

Cheers to you, ASBC members!

Without you, ASBC would not be the thriving association that it is!

With members in more than 43 countries, ASBC provides access to the information you need when you need it. Here’s what members receive:

- Critical technical information
- Professional development and recognition
- Valuable networking opportunities
- Exclusive member discounts on ASBC reference materials, courses, and meetings
- Subscriptions to Journal of the ASBC and the Newsletter

If you have suggestions for making ASBC membership even better, or questions regarding your membership, visit *ASBCnet* or contact Cheryl Sundquist at +1.651.454.7250.

Posters

Susan Kay, Moderator

- P-1** Brewing process and nitrogen compounds in beer. M.D. FUMI, G. Donadini, R. Galli
P-2 Expanding malt barley production in the semi-arid west. T. BLAKE
P-3 Evaluation of brewing yeast vitality through uptake and catabolism of a maltose analog. B. STAMBUK, R. Herbets, M. Dário, M.L. Cordioli
P-4 Results of field analysis of carbon dioxide quality in retail dispense. C. DUFFELL; presented by Leanne Messinger
P-5 A comparison of beer polyphenols for their antioxidant abilities as measured using a range of assays. C. MAY, C.W. Bamforth
P-6 Beer photooxidation creates three 3-methyl-2-butene-1-thiol related lightstruck aroma compounds. L. LUSK, A. Murakami, L. Nielsen, S. Kay, D. Ryder
P-7 Reference material artifacts for calibration and quality control of molecular absorption spectrophotometers. J. MESSMAN
P-8 Characterization of barley tissue-ubiquitous beta-amylase. C. HENSON, S.E. Clark, P.M. Hayes
P-9 Effects of malting and mashing conditions on the molecular weights of arabinoxylan and beta-glucan in wort. P. SADOSKY, P. Schwarz, R. Horsley
P-10 Impact of crop desiccants on barley and malt quality. R. HORSLEY, J.D. Pederson, R.D. Horsley, J. Barr, P.B. Schwarz
P-11 Relationships among starch-degrading enzymes, fermentable sugars and real degree of fermentation. D. LANGRELL, M. Edney, Y. Li, R. McCaig
P-12 The differences in fermentable carbohydrates of major Canadian malting barley varieties and their effects on fermentation. Y. LI, R. McCaig, A. Egi, K. Sawatzky
P-13 Characterization of retronasal aroma in beer. A. WANIKAWA, K. Ozaki, M. Kobayashi, H. Yamashita
P-14 Control of oxidation during mashing by an added antioxidant—Influence on lipid composition and flavour stability. S. POYRI, A. Kaukovirta-Norja, H. Virtanen, P. Lehtinen, P. Hartwall, P. Reinikainen, J. Siirila, S. Home
P-15 New insights into the role of polyphenols in aged beer astringency. S. COLLIN, D. Callemien, M. Bennani
P-16 Perceptions of wine and beer. C.A. WRIGHT, C.W. Bamforth
P-17 Removal of hydrophobic components from beer by synthetic resins—Positive influence on flavor stability of beer. C. SHIMIZU, Y. Kikuchi, M. Takashio
P-18 Bitterness contribution of alpha-acids in lager beer. A. FRITSCH, T.H. Shellhammer
P-19 Separation and identification of stereoisomers of isomerized a-acids derivatives by HPLC/DAD and electrospray HPLC/MS/MS. P. TING, S. Kay, D. Ryder
P-20 Application of denaturing gradient gel electrophoresis on inspection of microbes in a brewery. S. TADA, H. Taguchi, M. Ohkochi
P-21 Combined applications of three typing methods for assessment of microflora in brewery environments. A. TAKEUCHI, K. Suzuki, K. Ozaki, H. Yamashita
P-22 Concentrates from brewing yeast as protein and vitamin source. I. STROIA, M. Begea
P-23 Phospholipid profiling of *Saccharomyces carlsbergensis* isolates using electrospray ionisation mass spectrometry. W. TOSCH, D.B. Drucker, G.D. Robson, V. Boote
P-24 Wastewater improvements in a regional brewery. J. FELSKE, T. Haire



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Cheers to you, ASBC Corporate Members!

ASBC Corporate Members contribute their knowledge, expertise and professional involvement to ensure the continued strength of ASBC and promote excellence in the science and technology of brewing. We appreciate their support of ASBC and encourage you to contact them directly for detailed information on their company-specific products.

Alaskan Brewing Co	Intl Specialty Products
AMC Technologies Inc	Ionics Instruments
Analysis Laboratory	J Boag & Son Brewing Ltd
Anheuser-Busch Inc	John I Haas Inc
Anton Paar USA	Kalsec Inc
Astoria Pacific Inc	Karl Strauss Breweries
BASF Corporation	Kirin Brewery Co Ltd
Beer Ind Assoc Shandong China	Labatt Breweries of Canada
Bio-Chem Lab Inc	Mark Anthony Group
Brewing Research Intl	Miller Brewing Co
Briess Malting Co	Molson Breweries
Bruker BioSpin Corp	Moosehead Breweries Ltd
Busch Agric Resources Inc	Neogen Corp
Cargill Malt	Northern Breweries Ltd
Carlsberg Research Center	Novozymes North America Inc
Casco Inc	Optek-Danulat Inc
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Coors Brewing Co	Profamo Inc
Crochiere & Associates LLC	Pure Malt Products Ltd
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DB Breweries Ltd	Sierra Nevada Brewing Co
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Empresas Polar	Sudmo North America
Firestone Walker Brewing Co	The PQ Corporation
Foss North America	Union de Cervecerias Peruanas
Gusmer Enterprises Inc	Vicam
Hach Ultra Analytics	World Minerals Inc
High Falls Brewing Co LLC	Yakima Chief Inc
International Malting Co	Yuengling Brewing Co of Tampa Inc

Exhibition

Harborside Center

We welcome the 2005 ASBC Annual Meeting Exhibitors and thank them for their participation at this year's meeting.

The Exhibition showcases the latest products and services in the brewing industry. Exhibitors will demonstrate items ranging from ingredients and instruments to equipment and services. In addition to serving as your resource to leading industry suppliers, the exhibit hall provides a great opportunity to network with peers over refreshments.

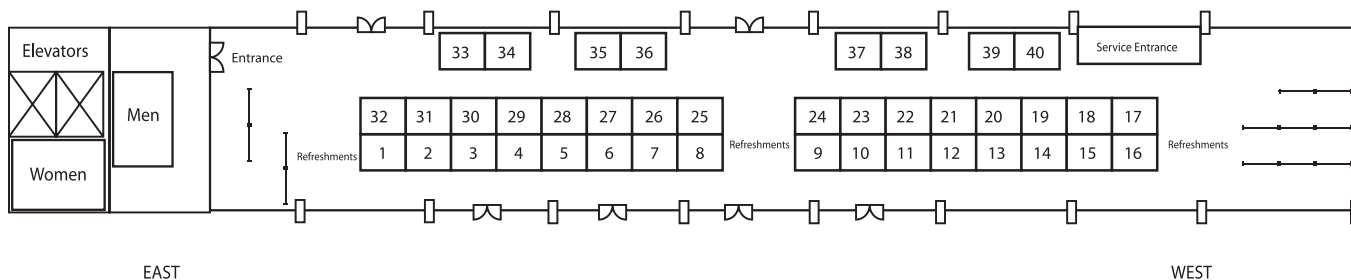
Snacks will be available on Sunday and a buffet lunch will be served in the hall on Tuesday. On Monday following the close of exhibits, attendees and exhibitors are invited to ASBC's annual Recognition Lunch in Regency Ballroom DEF, 2nd floor.

Drawings for prizes will also take place in the Exhibit Hall on Monday, June 13, at 10:30, 11:00, and 11:30 a.m.

Show your support for the contributions of these suppliers by visiting the exhibits at every opportunity.

Exhibit Hall Floor Plan

Harborside Center



2005 Exhibitors Numerical Listing

† Indicates Corporate Member

- | | |
|---|---|
| 1 PROFAMO INC. † | 21 CAMAG Scientific, Inc. |
| 2 CE Elantech, Inc. | 22 Westfalia Separator, Inc. |
| 3 PureMalt Products Ltd. † | 23 LECO Corporation |
| 4 DIAGNOSTIX | 24 VLB Berlin |
| 5 LEAP Technologies | 25 Gusmer Enterprises, Inc. † |
| 6 domnick hunter inc. | 26 HAFMANS B.V. |
| 7 Kalsec Inc. † | 27 Astoria-Pacific International † |
| 8 Bruker BioSpin Corporation, EPR Division † | 28 Bio-Chem Laboratories † |
| 9 Anton Paar USA † | 29 EaglePicher Filtration & Minerals |
| 10 INEOS Silicas | 30 Cargill Sweeteners North America † |
| 11 Teledyne Tekmar | 31 Genencor International |
| 12 Lumex International LLC | 32 optek-Danulat, Inc. † |
| 13 GenPrime Inc. | 33 GE-Ionics Instruments † |
| 14 PerkinElmer Life and Analytical Sciences | 34 Ecolab, Inc. † |
| 15 Carmi Flavor & Fragrance Co., Inc. | 35 BASF Corporation † |
| 16 Frings America Inc. | 36 MEURA |
| 17 Siebel Institute of Technology/World Brewing Academy | 37 Skalar Inc. |
| 18 White Labs, Inc. Pure Yeast & Fermentation | 38 Novozymes † |
| 19 EST/PTS | 39 Hach Company |
| 20 International Specialty Products † | 40 Hach Ultra Analytics (formerly Orbisphere) † |

Exhibitor Descriptions

† Indicates Corporate Member

† Anton Paar USA – Booth 9

10215 Timber Ridge Dr., Ashland, VA 23005; Phone: 1.800.722.7556, Fax: +1.804.550.9074, Website: www.anton-paar.com. *Products or Services:* Anton Paar specializes in the development and production of highly accurate instrumentation to measure CO₂, alcohol, real and original extract of beer both online and in the lab. Our line of density meters, sound velocity sensors, and carbonation meters are designed to perform reliably in the most demanding of environments. Our dedication is to producing high-quality, high-performance products that deliver reliable and accurate results to our customers, ensuring control of product quality within tight tolerance limits.

† Astoria-Pacific International – Booth 27

P.O. Box 830, Clackamas, OR 97015-0830; Phone: +1.503.657.3010, Fax: +1.503.655.7367, Website: www.astoria-pacific.com. *Products or Services:* Astoria-Pacific International is an emerging growth company that designs, produces, markets, and services analytical laboratory instruments using the technology of micro-continuous flow analysis. Our instruments detect and measure chemical compounds in samples for food, beverage, industrial, environmental and pharmaceutical laboratories. Astoria-Pacific's management team has been in business for over 30 years, with 350 years of cumulative experience in automated wet-chemistry analysis and laboratory operations. Astoria-Pacific offers the malt/beer laboratory the ability to provide prompt and precise quality control via a compact, robust, and powerful tool, The Astoria@2, for the analysis of diastatic power, α -amylase, bitterness, free amino nitrogen, and β -glucan.

† BASF Corporation – Booth 35

100 Campus Dr., Florham Park, NJ 07932; Phone: 1.800.527.9881, Website: www.humannutrition.basf-corp.com. *Products or Services:* Divergan®. Beer haze is caused primarily by polyphenol-protein complexes. Divergan F and RS stabilizers selectively adsorb the polyphenols that cause turbidity. Removing these polyphenols reduces the turbidity and improves the colloidal stability of beer. The use of Divergan also improves the stability of the taste, as the flavonoid polyphenols, in particular, are prone to polymerize to products of higher molecular weight that have a bitter taste. Divergan HM polymer is an excellent absorber of heavy metal and is used to remove unwanted heavy metals from beverages. It alleviates metallic bitterness, oxidative changes in taste and appearance, haze, and turbidity.

† Bio-Chem Laboratories – Booth 28

1049 28th St. S.E., Grand Rapids, MI 49508; Phone: +1.616.248.4900, Fax: +1.616.248.4904, Website: www.bio-chem.com. *Products or Services:* Bio-Chem Laboratories, Inc. is a full-service laboratory providing a variety of services to the brewing industry. Bio-Chem delivers quality analytical testing in a timely manner through the use of state-of-the-art technology and outstanding customer service.

† Bruker BioSpin Corporation, EPR Division – Booth 8

44 Manning Rd., Billerica, MA 01821; Phone: +1.978.663.7406, Fax: +1.978.670.8851, Website: www.bruker-biospin.com. *Products or Services:* Bruker BioSpin Corporation manufactures EPR spectrometers for use in flavor-stability applications. Bruker's EMX spectrometer is a high-throughput research system for both liquid and solid samples. The *e-scan* bench-top spectrometer provides rapid, automated analysis for optimizing your beer's shelf life.

CAMAG Scientific, Inc. – Booth 21

515 Cornelius Harnett Dr., Wilmington, NC 28401; Phone: 1.800.334.3909, Fax: +1.910.343.1834, Website: www.camagusa.com. *Products or Services:* We are a Swiss company, specializing in thin-layer chromatography. TLC can be used in the brewing industry for the analysis of carbohydrates, sucralose, and glycols. Our complete TLC system features the automatic TLC sampler for sample application, the automatic developing chamber for plate development, and the TLC scanning densitometer for plate evaluation. Also we have a video image acquisition, storage, and analysis system, as well as ancillary equipment. Our TLC Applications Lab provides application support, training, and contract work in a cGLP environment.

† Cargill Sweeteners North America – Booth 30

15407 McGinty Rd. W., Wayzata, MN 55391; Phone: +1.937.237.1236, Fax: +1.937.237.1238, Website: www.cargill.com. *Products or Services:* Cargill Sweeteners North America, SNA, is a leading provider of liquid and solid brewing adjuncts and innovative brewing solutions to the worldwide brewing industry. Products featured from SNA include the world's most complete line of high maltose and clearbrew liquid adjunct brewing syrups, IsoClear 42% and 55% high fructose corn syrups, highly fermentable dextrose syrups, and refined grits (brewing starch). All products can be shipped anywhere beer or a beverage is made. Let the Cargill team help you create great beverages for your customers. Feel free to visit the SNA booth at the ASBC annual convention or call!

Carmi Flavor & Fragrance Co. Inc. – Booth 15

6030 Scott Way, Commerce, CA 90040; Phone: +1.323.888.9240, Fax: +1.323.888.9339, Website: www.carmiflavors.com. *Products or Services:* Carmi Flavors offers a complete line of liquid or powder-form flavors for food and beverage industries and also turnkey packages for granita and gelato operations. Carmi Flavors has warehouses and manufacturing facilities in Los Angeles, CA; Waverly, IA; Long Island, NY; Vancouver, BC, Canada; Beamsville, ON, Canada; and Bourcherville, Montreal.

CE Elantech, Inc. – Booth 2

170 Oberlin Ave. N., Suite 5, Lakewood, NJ 08701; Phone: +1.732.370.5559, Fax: +1.732.370.3888, Website: www.ceelantech.com. *Products or Services:* Exclusive North American distributor for Thermo Electron Combustion Elemental Analyzers: The Flash EA1112 is available in a wide range of configurations: N/Protein through CHNS/O for both solid and liquid (direct automatic injection) samples. This design features improved performance, large sample size capacity (up to 1 gram and 100 µl for liquids), and economical operation. The latest Eager 300 Software offers a higher level of automation. Upgrade kits for previous Carlo Erba instruments are also available. In 2004, CE Elantech also became the exclusive North American distributor for the NIR Technology Australia line of Near Infrared Analyzers.

DIAGNOSTIX – Booth 4

400 Matheson Blvd. E. #15, Mississauga, ON L4Z 1N8, Canada; Phone: +1.905.890.6023, Fax: +1.905.890.6024, Website: www.diagnostix.ca. *Products or Services:* DIAGNOSTIX remains committed to simplifying analytical solutions for brewers, maltsters, millers, and grain handlers. Our EZ-Quant line of mycotoxin test kits is the most repeatable and accurate rapid-test method available for identifying contamination from DON, aflatoxin, fumonesin, zearalenone, and T2. Information is quickly available at www.diagnostix.ca/don or by calling 1.800.282.4075 from anywhere in North America.

domnick hunter inc. – Booth 6

5900-B Northwoods Pkwy., Charlotte, NC 28269; Phone: 1.800.345.8462, Fax: +1.704.921.1960, Website: www.domnickhunter.com. *Products or Services:* domnick hunter is working in partnership with breweries to continually develop filtration products for applications in the brewery. domnick hunter's products are designed to complement other brewery processes to enhance product quality at each stage of production, without adversely affecting desirable characteristics. Products include: PCO₂ Carbon Dioxide Purifiers, Yeast Removal/CO₂ Polishing Filters, Trap Filtration, Final Membrane Filtration, Point-of-Use CO₂ Polishing Filters, Hydrogen, Nitrogen and Zero Air Laboratory Gas Generators and Compressed-Air Dryers and Filters.

EaglePicher Filtration & Minerals – Booth 29

9785 Gateway Dr., Suite 1000, Reno, NV 89521; Phone: +1.775.824.7600, Fax: +1.775.824.7601, Website: www.eaglepicher.com. *Products or Services:* EaglePicher Filtration & Minerals is a leading global filtration company specializing in the production of low beer soluble iron filter aids, with over 20 years of experience in the brewing industry. Our products and experience allow us to optimize the filtration process by reducing filter aid usage, increasing throughput while meeting all your quality standards.

† Ecolab Inc. – Booth 34

370 Wabasha St. N., St. Paul, MN 55102; Phone: +1.651.293.2233, Fax: +1.651.293.2260, Website: www.ecolab.com. *Products or Services:* Ecolab is the leading provider of critical environment sanitation products and systems to the brewery industry, with the EcoShield program that delivers superior brand protection and improved operational efficiencies. Products and programs include brewhouse cleaning, fermentation and maturation cleaning, bottle cleaning, conveyor lubrication technologies, and CIP engineered systems and services.

EST/PTS – Booth 19

503 Commercial Dr., Fairfield, OH 45014; Phone: +1.513.642.0100, Fax: +1.513.642.0109, Websites: www.estanalytical.com or www.ptsltd.com. *Products or Services:* EST Analytical, Inc. is proud to demonstrate the Thermo Konelab Arena Industrial Analyzer at the 69th Annual ASBC Meeting. The Konelab Arena instruments are fully automated photometric analyzers. Their rugged design make them a perfect solution for industrial (applications). Disposable cuvettes eliminate carryover and contamination between samples and reagents. Automatic dilution capabilities up to 1 + 119 are built into the methods. Ability to run multiple chemistries at the same time without user intervention. Flexibility, (accuracy and) precision, and the quality control you need to make your business successful. From low ppb to high ppm to % level analyses, the Konelab Arena delivers the speed and process control you're looking for.

Frings America Inc. – Booth 16

1413 Sherman Rd. #30, Romeoville, IL 60446; Phone: +1.630.783.1407, Fax: +1.630.783.1410, Website(s): www.fringsamerica.com or www.frings.com. *Products or Services:* Equipment and systems for biotechnology and chemical technology, yeast propagators for high-density cell growth, mechanical defoamers, and alcohol probe for real-time in-line measurement and control of alcohol concentration.

† GE-Ionics Instruments – Booth 33

6060 Spine Rd., Boulder, CO 80301; Phone: +1.303.444.2009 or 1.800.255.6964, Fax: +1.303.444.9543, Website: www.ionicsinstruments.com. *Products or Services:* The New Sievers® Dual Plasma™ Sulfur and Nitrogen Chemiluminescence Detectors (SCD and NCD) with new Dual Plasma Burner and Controller, expand detection capabilities with better sensitivity, selectivity, and reliability of results. New productivity and convenience features include electronic in-line flow sensors and a digital display for easy method development and monitoring flow rates in real time, a drop-in burner mount for fast installation on all major GC brands, a burner safety shroud, long-lived ceramic tubes, and an NCD nitrosamines mode. As an upgrade to your existing SCD or NCD, or as part of a new Sievers chemiluminescence system, the Dual Plasma Burner and Controller will maximize analytical performance, minimize maintenance, and provide the fastest start-up and equilibration times of all detector systems.

Genencor International – Booth 31

200 Meridian Centre, Suite 300, Rochester, NY 14618; Phone: +1.585.256.5200, Fax: +1.585.256.6952, Website: www.genencor.com. *Products or Services:* Genencor International is a global biotechnology company that develops and produces products for industrial applications and for the healthcare market. Genencor is the second-largest supplier of enzymes. Enzymes are used in the manufacture of a wide range of industrial and consumer products. For example, enzymes serve as important processing aids for producing beer, distilled spirits, cheese, bakery products, and many other foods and beverages. Genencor is among the largest biotechnology companies, with approximately \$410 million in revenues in 2004. Genencor employs approximately 1300 people and sells roughly 350 different products in over 80 countries. Genencor has a significant intellectual property portfolio with over 80 patent applications filed in 2003.

GenPrime, Inc. – Booth 13

157 S. Howard, Suite 605, Spokane, WA 99201; Phone: +1.509.624.9855, Fax: +1.509.462.2847, Website: www.genprime.com. *Products or Services:* The Easy Count is a rapid fluorescent method for measuring yeast activity. The Easy Count can be used for pitching rate adjustment, fermentation/propagation tracking, and for other applications involving cell enumeration or quality determination. This bench-top technology requires little technical skill, and measurements can be taken in as little as 5 minutes.

† Gusmer Enterprises, Inc. – Booth 25

1165 Globe Ave., Mountainside, NJ 07092; Phone: +1.908.301.1811, Fax: +1.908.301.1812, Website: www.gusmerenterprises.com. *Products or Services:* For more than 80 years, Gusmer Enterprises has been dedicated to providing service with knowledge to the brewing industry. Gusmer Enterprises supplies the brewing, malting, and distilling industries with a wide variety of products. Instrumentation, malt mills, malting equipment, filtration media, processing aids, and spent-grain handling equipment are just a few examples of our product line.

Hach Company – Booth 39

P.O. Box 389, Loveland, CO 80539; Phone: +1.970.669.3050 or 1.800.227.4224, Fax: +1.970.669.2932, Website: www.hach.com. *Products or Services:* Hach Company manufactures and distributes analytical instruments and reagents used to test the quality of water and other aqueous solutions. Our systems are designed to simplify analysis, and they include complete, easy-to-follow methods, high-quality prepared reagents, accurate instrumentation, with life-time technical support. Our goal is to offer quality products and competent, friendly support.

† Hach Ultra Analytics (formerly Orbisphere) – Booth 40

481 California Ave., Grants Pass, OR 97526; Phone: +1.541.472.6500, Fax: +1.541.479.3057, Website: www.hachultra.com. *Products or Services:* Know your dissolved gas concentration from wort to packaged beer! Hach Ultra Analytics, formed through the merger of Orbisphere, Anatel, and Pacific Scientific Instruments, manufactures analyzers for dissolved oxygen, carbon dioxide, and nitrogen. Measurement parameters include inline, portable, and complete TPO package analysis. Convenient onsite service contracts available.

HAFFMANS B.V. – Booth 26

P.O. Box 3150, NL-5902 RD Venlo, The Netherlands; Phone: +31 77 3232300, Fax: +31 77 3232323, Website: www.haffmans.nl. *Products or Services:* HAFFMANS B.V., is a member of NORIT–The Purification Company and a provider of products and services for the worldwide beverage industry. The Haffmans product assortment consists of Q.C. equipment covering the measurement of CO₂, O₂, foam, turbidity, plus the monitoring of pasteurization processes and washing processes of bottles and kegs; CO₂-Systems-Units for water-deaeration, blending and carbonation of beer and other carbonated beverages; and CO₂ Systems-CO₂ Recovery Plants and accessories.

INEOS Silicas – Booth 10

111 Ingalls Ave., Joliet, IL 60435; Phone: +1.815.727.3651, Fax: +1.815.727.5312, Website: www.ineossilicas.com.

Products or Services: Global supplier of silica-based beer stabilizers, including the Lucilite and Chill-Garde product range. Please stop by to learn about our products for protein and tannoid removal and discuss how we can help reduce costs and improve beer quality.

† International Specialty Products – Booth 20

1361 Alps Rd., Wayne, NJ 07470; Phone: +1.973.872.4403, Fax: +1.973.628.3886, Website: www.ispcorp.com.

Products or Services: ISP is recognized worldwide for its Polyclar line of products (PVPP) used for the stabilization and clarification of beer. The line includes products to remove haze-causing polyphenols (Polyclar 10 and Polyclar Super R) and for the simultaneous balanced removal of haze-causing polyphenols and proteins (Polyclar Plus 730). ISP is also a basic supplier of alginates (PGA) to enhance and stabilize foam in beer. Polyclar Brewbrite is a new addition to our product line; it is a wort clarifier and stabilizer and also gives higher wort yield, reduced fermentation time, and longer filter run lengths.

† Kalsec Inc. – Booth 7

P.O. Box 50511, Kalamazoo, MI 49006; Phone: +1.269.349.9711, Fax: +1.269.382.3060, Website:

www.kalsec.com. *Product or Services:* Kalsec®, a privately owned company located in Kalamazoo, MI, USA, is a major producer of pre-isomerized and reduced hop products marketed worldwide. We are a primary supplier of specialty hop products to the world's leading brewers, including Tetralone®, Hexalone®, Reduced Isolone® and others. The applications vary, but our products are used for precise bitterness control, light stability, beer foam enhancement, hop aroma, and flavor. Kalsec® holds numerous patents for specialty hop products and is the originator of tetra-hydroisohumulone derived from beta-acids and hexa-hydroisohumulone. We are proud of our quality commitment, technology leadership, and customer service.

LEAP Technologies – Booth 5

P.O. Box 969, Carrboro, NC 27510; Phone: +1.919.929.8814, Fax: +1.919.929.8956, Website:

www.leapte.com. *Products or Services:* LEAP provides precise robotics and efficient sample prep. LEAP's Combi PAL is a multipurpose autosampler adaptable to any GC, uses no benchspace, and has no valves, loops, or transfer lines. With ATAS Optic 3, it combines direct liquid injection, static headspace, SPME, and thermal desorption in a single instrument. The injector has split/splitless injection modes, rapid large-volume injection, difficult matrix injection, and direct thermal desorption. BalancePAL workstation combines liquid transfers with gravimetric determinations,

for accurate internal standard measurements. PAT PAL facilitates sampling from a process stream in the lab or manufacturing. The syringe picks samples and injects to GC.

LECO Corporation – Booth 23

3000 Lakeview Ave., St. Joseph, MI 49085; Phone: 1.800.292.6141 or 1.269.983.5531, Fax:

+1.269.982.8977, Website: www.leco.com. *Products or Services:* LECO offers a full line of instruments for organic analysis and elemental determination in foods, feeds, plants, soils, fertilizers, and energy. Our new DI-PAL liquid autosampler, available for our TruSpec® series, reduces downtime and increases productivity in the laboratory by providing seamless automation for the analysis of liquid samples. Rinsing, disposal, and injection are all done quickly within the 4-minute analysis time of the unit.

Lumex International LLC – Booth 12

2009 14th St. N., Suite 212, Arlington, VA 22201; Phone: +1.703.243.7103, Fax: +1.703.243.3771, Website:

www.lumexint.com. *Products or Services:* Our lines of products include capillary electrophoresis systems, fluorometers, near-IR spectrometers, and in-line water hardness analyzers. For research in the field of brewing processes, our capillary electrophoresis systems of Capel series are used for qualitative and quantitative analysis of water-soluble cations, anions, beer bitter acids, humulones and isohumulones, amino acids, vitamins, various carbohydrates, and preservatives. In-line analyzers of the AKMC series are used for continuous automatic monitoring of water hardness in the narrow low range required in beer production. Lumex analytical instrumentation is used both for development and industrial monitoring brewing processes at different stages.

MEURA – Booth 36

Rond Point J.-B. Meura, 1, B-7600 Péruwelz, Belgium; Phone: +32 69 886988, Fax: +32 69 886980, Website:

www.meura.com. *Products or Services:* Founded in 1845 by Jean-Baptiste Meura in Belgium, MEURA specializes in conception, design, engineering, and the production of state-of-the-art brewery equipment. With more than 170 Meura 2001 mash filters installed all over the world in 14 years, MEURA is incontestably the world leader in mash filtration using thin-bed membrane filter-presses. Moreover, MEURA is renowned for its innovative spirit and offers up-to-date technologies based on the requirements of brewers in terms of productivity, quality, and profitability. MEURA has developed a large range of high-quality solutions: milling in water (Hydromill), milling under CO₂ (Carbomill), complete brewhouses, mash filters (Meura 2001), wort stripping, yeast management systems.

† **Novozymes – Booth 38**

77 Perry Chapel Church Rd., Youngsville, NC 27525; Phone: +1.919.494.3000, Fax: +1.919.494.3415, Website: www.novozymes.com. *Products or Services:* The key to smooth brewing—Brewing can be unpredictable, but enzymes from Novozymes help smooth the process.

Fluctuations in malt quality, long lautering time, and diacetyl off-flavors are just some of the challenges that impact the process and costs. Novozymes has been supplying innovative enzyme products to the brewing industry for many years. The Novozymes range of brewing enzymes provides the specific solutions you need to expand your options and refine your brewing operations. Use enzymes to improve capacity and efficiency while retaining the high quality of the beer in every brew. Enzymes are a natural processing aid and are the key to a smooth operation by ensuring consistent processes and results.

† **optek-Danulat, Inc. – Booth 32**

N118 W18748 Bunsen Dr., Germantown, WI 53022; Phone: 1.800.371.4288, Fax: +1.262.437.3699, Website: www.optek.com. *Products or Services:* optek in-line instrumentation provides precise, reliable control of fermentation, yeast pitching, filtration, and separation. optek photometers and insertion probes can effectively control color, haze, concentration, DE and PVPP dosing, and more. Achieve uninterrupted processing of the best possible product with reduced product loss, improved profitability, and greater efficiency. For more information, contact: Al Worley, Senior Market Specialist, 1.800.371.4288 or aworley@optek.com.

PerkinElmer Life and Analytical Sciences – Booth 14

710 Bridgeport Ave., Shelton, CT 06484; Phone: 1.800.762.4000, Fax: +1.203.944.4914, Website: <http://las.perkinelmer.com>. *Products or Services:* PerkinElmer, a leading provider of drug discovery, life science research, and analytical solutions, offers a wide variety of solutions for the food and beverage industries, including analytical instrumentation for QA/QC applications for the brewing industry.

† **PROFAMO INC. – Booth 1**

7506 Albert Tillinghast Dr., Sarasota, FL 34240; Phone: +1.941.379.8155, Fax: +1.941.379.8699, Website: www.profamo.com. *Products or Services:* PROFAMO INC. is pleased to present at ASBC 2005 some of its finest line of equipment from its various manufacturing partners, including, among others, Dr. Thiedig's well-known Digox 5 portable and on-line dissolved-oxygen meters and newly developed in-line CO₂ meter; Steinfurth's CO₂ meters, temperature and pressure loggers, and portable and bench-top torque testers; Headmaster's dissolved oxygen and CO₂ calibrators; ACM's Degasser and in-line beer monitor; OxySense's non-invasive

oxygen meter; Pfeuffer's Tannometer, Friabilimeter, Sortimat and Viscomat; Lg Automatic's foam tester, mash bath, sampling device, bottle turner and hazemeter; Rotech's keg monitoring system; Keofitt's sterile sampling systems; and finally Gerhardt's systems for sample digestion, distillation, shakers, and hot plates.

† **PureMalt Products Ltd. – Booth 3**

Victoria Bridge, Haddington, Scotland, EH41 4BD, United Kingdom; Phone: +44 1620824696, Fax: +44 1620822018, Website: www.puremalt.com. *Products or Services:* Following on from the successful range of BrandMakers, which deliver flavor and color management for variety beers in the cellar, PureMalt's program of continuous improvement has developed an outstanding malt base for the production of nonalcoholic and reduced-alcohol beers. This will be demonstrated at our booth in Savannah.

Siebel Institute of Technology/World Brewing Academy – Booth 17

Suite 2F, 1777 N. Clyborne Ave., Chicago, IL 60614; Phone: +1.312.255.0705, Fax: +1.312.255.1312, Website: www.siebelinstitute.com. *Products or Services:* Featuring information about World Brewing Academy and Siebel Institute courses, yeast services, and laboratory media, Siebel Institute consultancy services, and Siebel Institute laboratory services. Contact us by e-mail at info@siebelinstitute.com.

Skalar Inc. – Booth 37

5995 Financial Dr., Suite 180, Norcross, GA 30071; Phone: +1.770.416.6717, Fax: +1.770.416.6718, Website: www.skalar.com. *Products or Services:* Skalar presents the Skalar Malt/Beer analyzer for fast and accurate automation of the time-consuming and difficult analyses. Skalar offers complete automation for simultaneous determination of any combination of alpha-amylase, anthocyanogen, bitterness, carbon dioxide, color, density, diacetyl, diastatic power, ethanol, free amino nitrogen, beta-glucan, pH, polyphenols, sulfur dioxide, thiobarbituric acid value, turbidity, viscosity. Skalar also presents the Primacs-SN analyzer for total nitrogen/protein analysis of malt samples.

Teledyne Tekmar – Booth 11

4736 Socialville Foster Rd., Mason, OH 45040; Phone: 1.800.874.2004, Fax: +1.513.229.7050, Website: www.teledynetekmar.com. *Products or Services:* Teledyne Tekmar (formerly Tekmar-Dohrmann) is the premier manufacturer of gas chromatography sample-introduction instruments and total organic carbon/total nitrogen analysis instruments. We provide the latest in fully automated and productivity-enhancing technology. Our knowledgeable sales and service engineers offer unparalleled expertise to help our customers find the right instrument for their analytical needs and support to get the most from their instrument systems.

VLB Berlin – Booth 24

Seestrasse 13, 13353 Berlin, Germany; Phone: +49 30 45080-255, Fax: +49 30 45080-210, Website: www.vlb-berlin.org. *Product or Services:* Versuchs- und Lehranstalt fuer Brauerei in Berlin (VLB), research, teaching, consulting, information, and service for the brewing, malting, and beverage industries since 1883. VLB Berlin (Research and Teaching Institute for Brewing in Berlin, Germany) provides training, research and service for the brewing industry. Our 3-week seminar “Excellence in Brewing Technology and Management” will be held this year from September 5-23 in Berlin, Germany. It covers up-to-date aspects of brewing technology, raw materials, filling/packaging, quality assurance, and technical management. It is designed for senior managers from the brewing industry. The course language is English. The seminar will be complemented by a study tour of German breweries and a visit to the drinktec 2005 in Munich, the No. 1 world’s fair for beverage and liquid food technology. Further information: www.vlb-berlin.org/training.

Westfalia Separator, Inc. – Booth 22

100 Fairway Court, Northvale, NJ 07647; Phone: +1.201.767.3900, Fax: +1.201.767.3416, Website: www.wsus.com. *Products or Services:* Westfalia Separator, Inc. is a leading manufacturer and distributor of high-quality centrifuges and systems for a wide variety of applications within the brewing industry. Westfalia has been manufacturing centrifuges since 1893 and has its North American headquarters in Northvale, NJ, with sales and service centers in Elgin, IL; Hayward, CA; The Woodlands, TX; Winter Haven, FL; and Burlington, ON. Westfalia is a full-service organization offering complete service, testing, engineering, repair, and spare parts capability. For more information, contact Westfalia Separator, Inc. at +1.201.767.3900 or visit the company’s website at www.wsus.com.

White Labs, Inc. Pure Yeast & Fermentation – Booth 18

7564 Trade St., San Diego, CA 92121; Phone: 1.888.5.YEAST.5, Fax: 1.888.693.1026, Website: www.whitelabs.com. *Products or Services:* Since 1995, White Labs has specialized in, and has been producing, certified pure liquid yeast for brewers, distillers, and vintners. Our full-service laboratory provides product and microbial analysis, proprietary yeast banking, lab media, and lab supplies as well as easy-to-use quality control test kits and brewing accessories. Our mission is to provide the highest-quality product at a fair price with unparalleled service. White Labs’ corporate office is San Diego-based, with our sales staff operating out of Colorado.

Connect with ASBC

2004-2005 ASBC Board Members

The following individuals, through their leadership on the Board of Directors, generously donate their time and talents to guide ASBC. Board members play a major role in determining what programs and services should be provided by ASBC in order to advance the industry and you professionally. ASBC is an association run by the members, for the members—an association where your voice is not only welcome, but considered vital. If you have input, please do not hesitate to contact a board or staff member.

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Thank you

ASBC volunteer members tackle important issues, keep members informed, manage the details, and basically make things happen.

A sincere thanks to everyone who has given their time and talents to make a difference in ASBC and the brewing industry!

ASBC especially thanks the following committee and section chairs:

Kendra Bowen, *St. Louis Local Section #2*
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Robert J. Stewart, *Canada Local Section #6*
David A. Thomas, *Foundation Board*
Suzanne Y. Thompson, *Constitution & Bylaws Committee, Nominating Committee*
Sylvie M. Van Zandycke, *Methods for Measurement of Yeast Vitality*

2005-2006 ASBC Foundation Scholarship Recipients

Scholarships are supported by funds of the ASBC Foundation and annual contributions by individuals and companies. ASBC congratulates all scholarship recipients on their accomplishments! The Foundation Board also thanks the donors for making these scholarships possible.

Annette Fritsch

Oregon State University
\$2,500 Ecolab Scholarship

Marco Garcia

University of California at Davis
\$2,500 Brian Williams Scholarship

Jeremy Roza

University of California at Davis
\$2,500 Anheuser-Busch Quality Assurance Scholarship

Nancy McGregor

Technische Universitat München - Weihenstephan
\$1,000 Coors Scholarship

Christopher McGregor

Technische Universitat München – Weihenstephan
\$1,000 Sierra-Nevada Scholarship

2005 Eric Kneen Memorial Award Recipients



Barry Axcell



Sandra van Nierop



Anna Cameron-Clarke

The Eric Kneen Memorial Award is given to members who authored the year's best paper in the ASBC Journal. Axcell, van Nierop, and Cameron-Clarke won for their paper, "Enzymatic Generation of Factors from Malt Responsible for Premature Yeast Flocculation" published in ASBC Journal Vol. 62, No. 3.

Mark Your Calendars

ASBC is heading to California for the 70th Annual Meeting of the American Society of Brewing Chemists



Courtesy of the La Quinta Resort & Club.



Photo by Tracy Breshears. Courtesy of the La Quinta Resort & Club.

Mark your calendars and join us June 17-21, 2006 at the La Quinta Resort & Club in Palm Springs.

ASBC

2006
Annual Meeting
June 17-21
La Quinta, CA

Abstract submission deadline—January 19, 2006



AMERICAN SOCIETY OF
Brewing Chemists

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