MBAA-Rocky Mountain District
2012 Technical Summit
Friday, June 22, 2012, 07:30-17:00
At
Main Ballroom, Lory Student Center
500 University Avenue, Fort Collins, CO 80521
Ph: (970) 491-5402; www.conferences.colostate.edu

Sponsored by

Colorado State University

Department of Food Science & Human Nutrition

BBi BEVERAGE BUSINESS institute

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When: Friday, June 22, 2012, 07:30-17:00

Where: Main Ballroon, Lory Student Center Lory Student Center, 500 University Avenue Fort Collins, Colorado 80521; Ph: (970) 491-5402; www.conferences.colostate.edu

Cost: ***Registration deadline: Friday, June 8***
Register *at http://knudsenbeverageconsulting.com/*

Fee structure	Member	non-member
Pre-registration fee by June 8	$50	$75
Late registration fee starts June 9	$75	$100
At the door meeting fee	$100	$125

Lodging option:

On campus Private Hall (hotel) Room & Board packages
Includes, two nights (Thursday June 21 and Friday June 22), Four Cafeteria style meals, use of Student Recreation Center, on Campus parking

All room and commuter reservations and payments must be received by MBAA -RMD online hotel reservations end on June 11!!

Fee Structure	**Per person**	**Per room**	**Per room**
Reservation Deadlines	**On or before May 21**	**On or before May 21**	**On and after May 22 until June 11**
Resident Single	$174.81	**$174.81**	**$184.76**
Resident Double	$126.77	**$253.40**	**$273.44**

Accommodation Check-In:
The reception desk (usually open until 11PM) at Ram's Horn, 800 Pitkin Street, Colorado 80521; Ph: 970.491.5807.
Ram's Horn is located in the Academic village.
If you arrive later than 11PM on Thursday, there is an on-call staff member available to check you in. The number to call will be posted outside the building.

Our Green Initiatives

Green Dining

Practicing a trayless dining system has reduced plate waste by 50 percent and saves thousands of gallons of water by not having to wash trays.

Each year 7,200 gallons of used cooking oil are collected to be refined to create biodiesel and other products.

The Ram's Horn and Braiden Dining Centers are equipped with pulpers that collect food and paper waste for composting, reducing the waste stream by up to 70 percent and water usage by 80 percent.

Over 20 percent of the food served in our dining centers is organic or locally grown and/or supplied.

Green Power

Housing & Dining Services has made the commitment to purchase renewable energy in all public areas including dining centers, lobbies, lounges, and administrative buildings.

Recycling on Campus

Recycling bins are provided in every residence hall room and use a single-stream recycling system. This means that all recyclable items can go in one bin – no need to sort!

Bike Loan Program

You can borrow a bike to use for the duration of your stay on campus for free! The Fort Collins Bike Library has teamed up with the Lory Student Center to offer bikes at no charge for conferees. Call the LSC Info Desk at (970) 491-6444 for more information.

Campus Safety

In the event of an emergency, dial 911. To report any dangerous or suspicious activity on campus, contact campus police at (970) 491-6425.

Thor Guard

Campus is equipped with the Thor Guard Lightning Prediction System, an important tool for enhancing safety. All outdoor activities must cease when the alarm sounds, and anyone outside must take shelter.

Do's and Don'ts

- DO check the front desk for messages
- DO leave your room in the condition that you found it
- DO take advantage of the free Wi-Fi
- DO park properly on campus (map on reverse side)
- DO wear sunscreen and drink plenty of water
- DO return your dishes to the dish return carousel at the dining center
- DO take advantage of the state-of-the-art Rec Center
- DO check out at 10 a.m. and return your key and meal card to the front desk
- DON'T un-loft your bed (fee will be assessed)
- DON'T remove any screens from the windows ($40 fee)
- DON'T lose your key ($60 fee)
- DON'T forget campus quiet hours: 11 p.m. - 7 a.m.
- DON'T bring alcohol on campus
- DON'T FORGET TO HAVE FUN!

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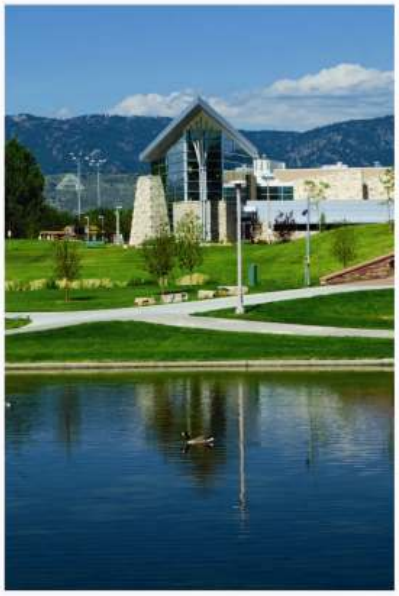

Colorado State University
CONFERENCE SERVICES

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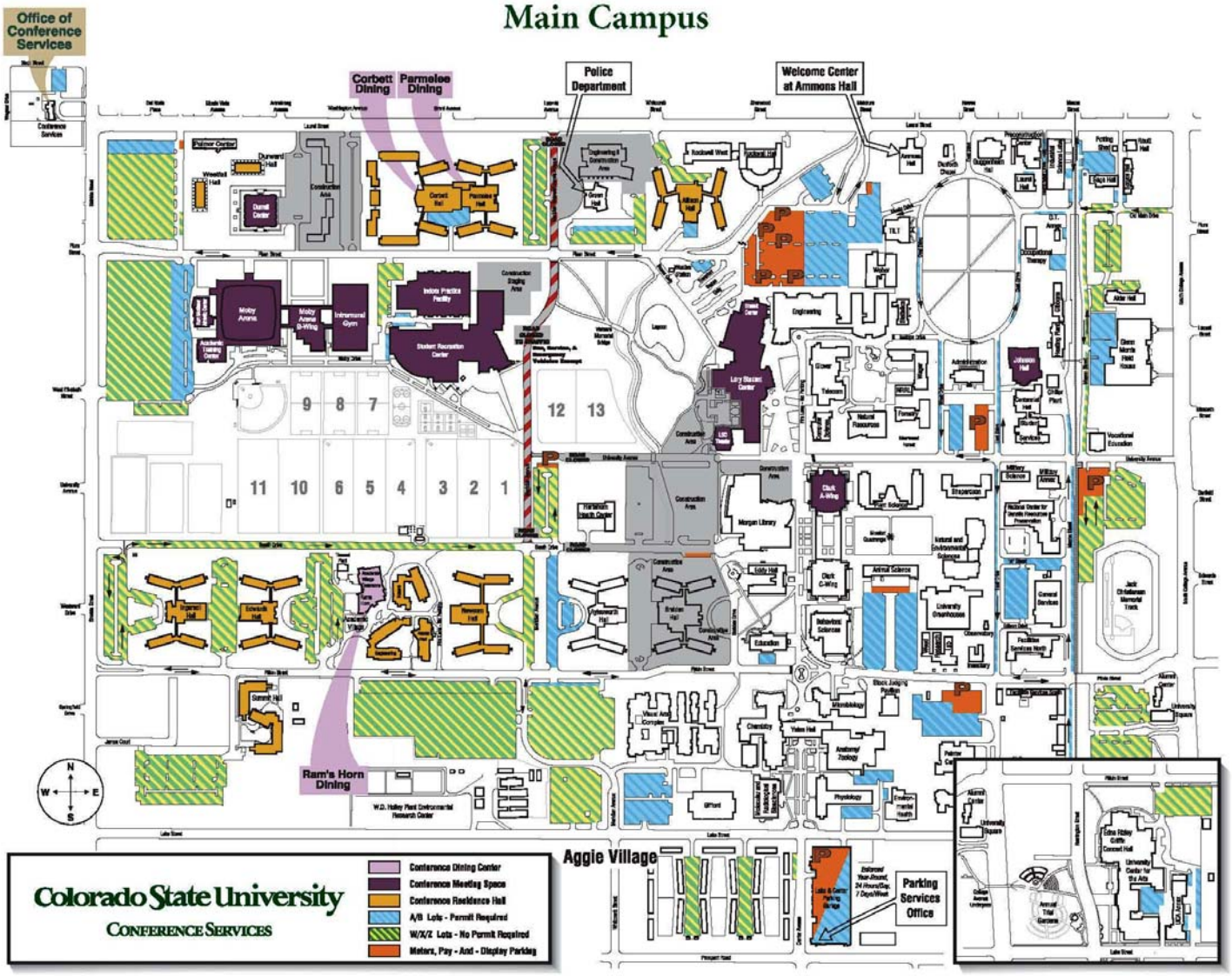

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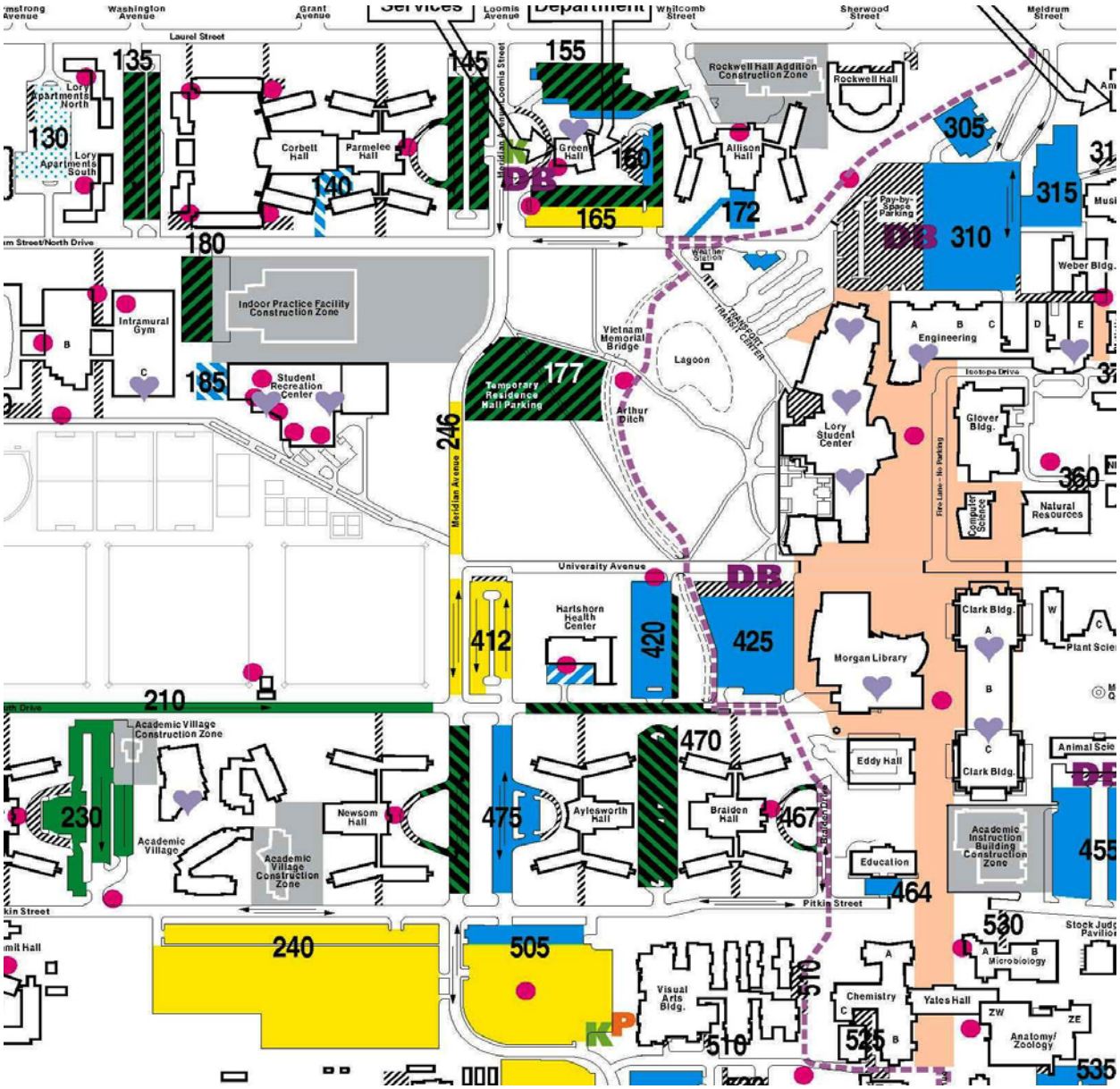
Parking:

The guests staying on campus will not need parking permit to park in the lots **#230** & **#240** surrounding the Academic Village. Attendees will receive their parking permits when registering for the lots closest to the LSC, **#310** & **#425**.



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Event and Meeting Spaces

East Ballroom	260
Main Ballroom	261
Registration Booth	252
West Ballroom	262

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Donated beers from:

AC Golden Brewing, Golden

Anheuser-Bush, Fort Collins

Avery Brewing Co., Boulder

C.B. Potts Restaurant & Brewery, Fort Collins

Dry Dock Brewing Co., Aurora

Left Hand brewing Co., Longmont

New Belgium Brewing Co., Fort Collins

Odell Brewing Co.

Tommyknocker Brewing Co.

Upslope Brewing Company, Boulder

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Program for the Day

Various beers donated by breweries will be available for tasting during the day)

7:30 - 8:30	Breakfast and social
8:30 - 8:35	Welcome and opening of the meeting
8:35 - 9:05	Session I – Urethane Cements or Epoxy Coatings as Flooring in a Brewery
9:05 - 10:45	Session II - Advancements in Automation
9:45 - 10:20	Coffee break - Poster session
10:20 - 11:00	Session III – An Academic undergraduate brewing Sci. and Techn. Course at Colorado State University
11:00 - 11:40	Session IV – Global Beer Tasting Opportunities
11:40 - 13:00	Lunch - Poster session
13:00 - 13:40	Session V – Bag it up – Flexible Vessels in Brewing
13:40 - 14:20	Session VI – Lyophilized Beer. A banquet of bioactive compounds for human health
14:20 –15:00	Break – Poster Session
15:00 - 15:40	Session VII – Brewers as Entrepreneurs
15:40 - 16:00	Brewers Forum, all presenters available
16:00 - 16:55	Poster session
16:55 - 17:00	Closing the Meeting
17:00 - 17:45	Bus transportation from CSU to Odell Brewing
17:45 - ???	After meeting social at Odell Brewing (Tour, food, and raffle/door prices)

The selected 12 Posters listed on page 19
are from
2011 MBAA National Meeting,
2011 European Brewing Convention
and more
They are on display during this meeting

Presentations 1 through 7

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Presentation 1:

Author/Presenter:

Norm Klapper, Sales Engineer/Representative
Process Equipment Corporation, 2635 Pine Street Suite 101, Boulder, CO 80301-1022
Ph: 303-449-5702; E-mail: nklapper@pecboulder.com; www.pecboulder.com

Title:

"Urethane Cements or Epoxy Coatings as Flooring in a Brewery"

Abstract:

The focus of the presentation will be a detailed discussion pertaining to the use of urethane cements versus epoxy floor toppings in areas of high use, mechanical wear, and routine chemical and water wash-down. It will also discuss the long history of success and failures of some epoxy formulations and/or similar products, and the rise of urethane cements over the past ten years as a potential solution.

The presentation will include detailed information on physical properties such as tensile and compressive strengths of both formulations and will also outline chemical and temperature resistance, wear-ability, slip resistance, and overall appearance and longevity. Also to be addressed are the basic issues dealing with surface preparation techniques as well as briefly touch on the most common concerns about moisture in concrete, its effect on proper installation, and long term life-cycle for both systems.

Finally, the presentation will include input from installation contractors for both systems that includes ease of installation, workability, time factors for installation, installation techniques (slurry systems, troweled systems, top-coated or non-coated) and method for repair in the event of compromise or failure. In addition, average budgetary pricing will available on a square foot basis depending on slope-to-drain or flat applications.

C.V. -Brief:

Norm Klapper of Process Equipment Corporation, Boulder, Colorado, has been a manufacturer's representative for International Coatings Inc. for the past 25 years, during which time he has been involved in numerous applications of various coating systems in a wide range of facilities. He has a background in chemistry (holds a B.S. from the University of Maine - Orono, with work at Cornell University, Life Sciences – Boyce Thomson Plant Research Center and self-taught engineering.

Co-Author is Angel Llanes, who has over 30 years experience in the same field, working as an installation contractor (including wide ranging surface preparation experience) and now functioning as the Vice President of Sales for International Coatings Inc. Angel holds a BS in Agriculture and MS in Plant Pathology from University of Arizona.

Presentation 2:

Author/Presenter:

Robert (Bob) Ogren, President
System Cleaners, Inc. - 8301 NW 101 Terr. #8, Kansas City, Missouri 64153
Ph: 816-285-0700; E-mail: rog@systemcleaners.com; www. systemcleaners.com

Title:

Advancements in Automation

Abstract:

Since the concept of 'automated systems' was first introduced to the processing industry the results have often fallen dramatically short of expectations. This presentation will discuss how improvements in the development of automated plant sanitation systems are now meeting expectations.

The System Cleaner's most recent Generation 4 equipment line now in use has demonstrated favorable impacting the company bottom lines and mitigating company risk through the prevention of bacterial outbreak and the reduction of on-site employee accidents. In addition the presentation will also address how the automated systems can help to increase sustainability and repeatability.

C.V. - Brief:

Robert Ogren has been involved in the food equipment business for over 22 years. While working for Specialty Food Equipment, an industrial food equipment distributor in the Midwest, he served as Director of Foodservice Operations and as Sales Manager. While there, he established several programs which integrated HACCP guidelines into equipment and service packages.

In 2005, Robert began employment with System Cleaners A/S, a Danish-based company that manufactures automated cleaning solutions for the beverage and food industries globally. In 2006 System Cleaners, Inc. was founded becoming the hub for System Cleaners in both North and South America.

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Presentation 3:

Author/Presenter:

John (Jack) S. Avens, Ph.D., Professor
Department of Food Science & Human Nutrition, Colorado State University
Fort Collins, Colorado 80523-1571
Ph: (970) 491-6579; Fx:(970) 491-7252: E-mail: jack.avens@colostate.edu

Title:

Insights into developing and teaching an academic undergraduate brewing science and technology course at Colorado State University.

Abstract:

Special issues related to teaching brewing science in an academic setting and experiential techniques that have been developed to enhance the learning opportunity for students will be presented. Also discussed with participants' comments will be challenges of teaching a hands-on course focused on the science of commercial brewing, involving exposure to brewery methods and equipment from pilot to large scale industry. The course, FTEC 460 *Brewing Science & Technology*, involves experiential learning utilizing professional brewers in class, students brewing in laboratory, and student engagement in local breweries.

This undergraduate brewing science course is well-integrated with the Colorado brewing industry involving fourteen different mass-market, regional, and micro-breweries. Dr. Avens also has mentored graduate students conducting research in brewing, and student interns at local breweries.

C.V. - Brief:

Dr. Avens is a specialist in food safety and public health; brewing science; microbiology of food processing, agricultural animal production and environment; and teaching/learning methodologies and effectiveness. He has taught food science and technology, human nutrition, food safety, animal science and education. His research has been in applied microbiology of food, brewing, animal production, environment, and public health. He has taught FTEC 460 Brewing Science & Technology at Colorado State University for ten semesters since 2005.

Presentation 4:

Author/Presenter:

Marie Pohler, Global Sensory Manager
FlavorActiv Ltd.
The Sanderum House, Oakley Road, Chinnor, Oxfordshire OX39 4TW, U.K.
Ph: +44-78 38 78 1899; E-mail: marie.pohler@flavoractiv.com; www.flavoractiv.com

Title:

Global Beer Tasting Opportunities

Abstract:

Beer tasting is practiced by millions every day and mostly for pure pleasure whilst many thousands perform this role as part of their daily work....a job that receives considerable social envy!

This paper will show that after a decade of measuring professional beer taster performance in breweries globally the information derived has helped brewers further understand relative importance of many interacting factors such as flavors, culture, regional beer styles etc

With the trend to market beers which meet the flavor needs of specific consumer categories the paper will demonstrate the opportunities unfolding to extend assessment of tasting abilities to a wider audience. Reference will be made to not just tasting in the brewery but right through the supply chain to the consumer.

C.V. - Brief:

Marie joined FlavorActiV in 2009. Marie provides training and support to many global customers notably the UK, North America and Asia.
Marie is the main point of contact for the fast moving and creative Craft Brewer industry in the USA and UK. Marie has delivered a number of training courses to this exciting group. Marie is focused on our beverage and waters customers in the US.
Marie is also an experienced and regular beer judge at UK SIBA (Small and Independent Brewers Association) beer competitions and events.
Marie's background is as diverse as the customers she advises for FlavorActiV. With a double degree in Economics and Psychology from The Ohio State University and significant experience in currency trading, money market, structure finance and Large Scale Trade Training Project Management.
Marie is also qualified in teaching English as a second language, Languages: English, Mandarin, Taiwanese, Japanese (working knowledge)

Presentation 5:

Author/Presenter:

Troels Prahl, Yeast Applications Scientist
White Labs, Inc., 9495 Candida Street, San Diego, CA 92126
(858) 693-3441 x109 (Troels); (858) 699-9914 (cell); www.whitelabs.com

Title:

Bag it up - Flexible Vessels in Brewing

Abstract:

Flexible polymer based vessels are leading the market when it comes to food packaging. However, the brewing industry has only embraced these technologies in a very limited range of applications, mainly in dispense systems such as one-way kegs or film lined serving tanks. This study outlines the use of disposable flexible vessels in various steps of the brewing process, such as fermentation, maturation, yeast handling and propagation, sampling, as well as beer packaging. Upfront challenges such as CO2 permeability and off flavor contribution from the plastics are overcome in modern film production and the increased consumer demand for sustainability and low environmental footprint forces the brewing industry to consider alternative technologies. Apart from reviewing existing solutions available in the marketplace this study reveals novel patent pending methodologies for incorporating flexible vessels in brewing operations of all sizes. Lab-, pilot and production scale trials showed great benefits of flexible vessels in critical operations such as yeast propagation and aseptic sampling. Furthermore microbrewery size batch fermentations were conducted with great results in terms of product quality, easy handling and the savings related to reduced tank costs as well as reduction or even elimination of CIP chemicals. Film manufacturing trials lead to optimization of material compositions and design but also showed important limitations to the technology when vessel volumes exceeded 50 HL. The latter limitation excludes the use of flexible vessels in large scale fermentations. However, it was shown that breweries of any size still can benefit from flex-vessel technology in processes such as yeast handling, waste handling, sampling, research and development and packaging/serving.

C.V. - Brief:

Troels Prahl received a B. S. in biotechnology from University of Copenhagen, Denmark, specializing in fermentation science. Passionate to improve product and process quality within the brewing industry, he has dedicated the last decade of his working life to brewing and fermentation science and the way it is applied in the commercial brewing industry in Europe, UK and the USA. Besides consulting under his own business Ferm, based in Copenhagen, Troels Prahl has since 2007 worked closely with White Labs Inc. on yeast R&D project management. Prahl furthermore filled the position as head brewer at Camden Town Brewery, London, UK, from 2010-2011. The London micro-brewery was in this period not only established and lifted to maximum capacity of 5,000 HL/Y but also won a silver medal at the Brewing Industry International Awards 2010. In the summer of 2011 Prahl moved back to the US to work full time as Yeast Application Scientist at White Labs Inc. in San Diego, CA.

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Presentation 6:

Author/Presenter:

Jairam Vanamala, Ph.D.
Assistant Professor
Food Science and Human Nutrition, Colorado State University
Faculty, Cancer Prevention and Control Section, University of Colorado Cancer Center, Aurora, CO
1571 Campus Mail, Fort Collins, Colorado 80523-1571
Ph: 970.491.7336; E-mail: jairam.vanamala@colostate.edu; http://www.bioactives.cahs.colostate.edu/

Title:

Lyophilized Beer: A banquet of bioactive compounds for human health

Abstract:

Beer contains a diverse array of health-benefiting bioactive compounds including phenolic acids, catechins, proanthocyanindins, xanthohumol etc. This chemical diversity of beer may be responsible for plethora of its biological activities such as anti-oxidant, anti-inflammatory, anti-bacterial, anti-viral and anti-malarial properties. We and others have shown that modifications in the beer processing techniques (dry hopping and filtration) and ingredients (dark malts, herbs etc) could alter the content and composition of beer bioactive compounds. Thus, there exists an opportunity to develop 'designer beers' with specific bioactive compound profile to aid in the prevention of chronic diseases such as obesity, cardiovascular diseases, cancer etc. Recently, a preclinical study reported a significant reduction of body weight gain in both normotensive (WKY) and hypertensive (SHR) rats consuming lyophilized beer when compared with the corresponding controls. We have recently reported anti- colon cancer properties of lyophilized beer *in vitro*. Thus, everging evidence further supports the idea of developing functional designer beers for health.

C.V. - Brief:

Dr. Vanamala's research focuses on plant foods and phytonutrients for the purpose of preventing obesity-promoted chronic diseases such as cancer and cardiovascular diseases using both *in vitro* and *in vivo* models. He employs 'omics' approaches in conjunction with cellular and molecular techniques to determine 'polypharmacology' of whole foods and complex mixtures, and of individual plant bioactive compounds. He is the principal investigator on research project funded by the United States Department of Agriculture (USDA NRI Integrated; 2009-2013) to study the energy balancing and anti-inflammatory properties of plant foods, particularly after processing – a multi-institute, multi-state and transdisciplinary collaborative project. He has authored several peer-reviewed articles in reputed international journals connecting chemoprevention, obesity, plant foods, phytonutrients and processing. Dr. Vanamala received his doctorate from Texas A&M University (TAMU), College Station and completed his post-doctorate fellowship in cancer prevention/nutritional biochemistry at the National Space Biomedical Research Institute (NSBRI; NASA), TAMU. Dr. Vanamala's long-term research goal is to "optimize the health profiles of plant food products and provide modern evidence for ancient wisdom on diet and disease."

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Presentation 7:

Author/Presenter:

G. James (Jim) Francis, Professor & Director,
Beverage Business Institute, College of Business, Colorado State University
213 North Rockwell Hall, Fort Collins, Colorado 80523
Ph: 970.491.6265; E-mail: Jim.francis@business.colostate.edu; www.biz.colostate.edu/PDBR

Title:

Brewers as Entrepreneurs

Abstract:

Entrepreneurs are typically defined as independent business owners/operators who manage a business in an attempt to make a profit. However, in today's economy that definition has been expanded to include individuals who work for organizations and are in positions where they are innovators or play a significant role in helping the organization become a "first mover" in the industry. Contributions to product development, processes, and/or business strategies are among those efforts that lead to a label of entrepreneur.
When considering entrepreneurs in brewing one immediately thinks of those who have created a business enterprise as home brewers, microbreweries, and craft breweries. While it is true that these entrepreneurial efforts are typically small or emerging businesses they have their roots in the creation and production of beer. Similarly the same can be said of larger breweries that are very much dependent upon the products that are rolled out for public consumption. In both cases the concepts of "first movers" and "early adopters" become critical to success.
This presentation explores the business components of being an effective entrepreneur as well as the personal "characteristics" of entrepreneurs that may contribute to effectiveness and to special challenges in the work environment.

C.V. - Brief:

Dr. Francis is a Professor and Director of the Beverage Business Institute in the College of Business. He is also the founder and Director of the Center for Professional Development and Business Research and the Institute of Transportation Management. Jim has been the owner/operator of two small businesses, has worked in organization development for a fortune 100 firm and has served as a consultant to organizations in both the private and public sectors. Besides his duties within the College Jim serves as the NCAA Faculty Athletic Representative for Colorado State University and as President of Sigma Iota Epsilon, the national honorary and professional fraternity for the Academy of Management. He has published over 50 articles and has authored and co-authored two books. He earned his Ph.D. and M.A. degrees from the University of Nebraska and an undergraduate degree in economics from Central College.

Posters

Tomohisa Achioku, Asahi Breweries:

- *Monitoring the Rate of Oxygen Uptake for the Control of Yeast Performance, Fermentation, and Quality of Beer.*

Thomas Kunz, Berlin Institute of Technology:

- *Using unfermentable sugars during fermentation to improve the palate fullness, flavor and oxidative stability of beer*

Roland Feilner, Krones AG:

- *Wort Stripping: An innovative system for the controlled reduction of unwanted aromatics featuring optimised trickle-film formation and stripping gas utilisation*

Marie Pohler, FlavorActiV:

- **The Diageo Way of Tasting - A Standard Approach to Sensory Evaluation and the Development of Sensory Capability across the Diageo Beer Supply Network**

George Agius, Diversey Inc.:

- **A CIP procedure using the addition of hydrogen peroxide that is particularly effective under low solution flow conditions.**

Yves-Yannick Ford, Barth Haas Group:

- *Antifoams From Hops*

Les M Hoffman, Ales Well Ltd.:

- *Cask ales are coming to your town: their challenges and some solutions*

Roy Johnson, Norit Haffmans:

- *"Always optical" "Always optical" Modern Oxygen Management in Breweries*

Jack L. Bland Jr., ChemTreat, Inc.:

- *Safe and Environmentally Friendly Method for on-site cleaning and re-passivation of 304 Stainless Steel Pasteurizer components*

Dana Johnson, BIRKO Corporation:

- *Reducing Carbon Dioxide (CO2) Usage Through the Use of Acid and Detergent Cleaning of Bright Tanks.*

John E. Stewart, formerly New Holland Brewing Company, now at Saugatuck Brewing Co.:

- *The use of micro-oxygenation of beer to simulate oak barrel maturation*

Sylvie Van Zandycke, DSM Food Specialties USA, Inc.:

- *Reduction of beer value chain's environmental impact with the use of proline specific endoprotease (PSEP): a comparative life cycle analysis (LCA) screening of PSEP in beer production.*

Notes:

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MBAA-Rocky Mountain District Executive Board 2012

District President **Gary L. Dick** 3102 Lower Loop Dr Fort Collins, CO 80524-1267 PHONE: (970) 217-2856 FAX: (970) 221-0535 E-MAIL: gdick@newbelgium.com	**District Membership Chair** **Dana J. Johnson** Birko Corp 9152 Yosemite St Henderson, CO 80640-8027 PHONE: (303) 289-1090 FAX: (303) 289-1190 E-MAIL: djohnson@birkocorp.com
District Board of Governors Representative and Vice President **Jonathan (Jon) E. Kemp** Anheuser-Busch Companies Inc 3819 Granite Ct Fort Collins, CO 80526-3154 PHONE: (970) 490-4500 FAX: (970) 490-4555 E-MAIL: jonathan.kemp@anheuser-busch.com	**Publicity Chair** **Tamar L. Banner** New Belgium Brewing Co 500 Linden St Fort Collins, CO 80524-2457 PHONE: (970) 221-0524 FAX: (970) 221-0535 E-MAIL: Tbanner@newbelgium.com
District Past President and District Scholarship Chair **Jeff C. Biegert** New Belgium Brewing Co 500 Linden Street Fort Collins, CO 80524 PHONE: (970) 221-0524 FAX: (970) 221-0535 E-MAIL: jbiegert@newbelgium.com	**District Technical Chair** **Finn B. Knudsen** Knudsen Beverage Consulting Co. PO Box 1089 Evergreen, CO 80437-1089 PHONE: (303) 670-3562 FAX: (303) 670-3589 E-MAIL: finn@knudsenbeverageconsulting.com
District Secretary **Matt Thrall** Avery Brewing Company 5763 Arapahoe Ave. Unit E Boulder, CO 80303 PHONE: (303) 440-4324 FAX: (303) 786-8790 E-MAIL: matt@averybrewing.com	**District Entertainment Chair** **Stephen (Steve) J. Woodward** Fort Collins Feed 8714 State Hwy 60 Johnstown, CO 80534 PHONE: 970-566-4265 FAX: (970-460-7114 E-MAIL: steve.woodward@fortcollinsfeed.com
District Treasurer **James R. Canary** 1638 Haywood Pl Fort Collins, CO 80526-2289 PHONE: (970) 229-9082 E-MAIL: james_canary@comcast.net	**District Packaging Chair** **Susan (Sue) Pawlak** Fort Collins, Colorado PHONE: (970) 481-7096 E-MAIL: susan.pawlak@q.com

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