Monday 02 March 2015

Session 1 – OPENING SESSION

IBD AFRICA CHAIRPERSON GREG UDEH Guinness Nigeria
09H00 – 09H05 WELCOME AND CONVENTION OPENING

Biography
Greg is the Technical Director of Guinness Nigeria Plc producing over 7mHl in three Breweries. He is a skilled and experienced Brewing, Manufacturing and Project Management professional for over 25 years. Qualified as a Master Brewer in 1997 and recently became a Chartered Scientist. Worked in Diageo locations in Africa and Europe. Greg was the Chairman of the successful IBD Convention held in Lagos, Nigeria in 2007.Married with four children. Plays a bit of golf and a supporter of Liverpool Football Club. Greg is the current Chairman of the IBD Africa Section.

KEYNOTE SPEAKER
DANIEL SILKE Director of Political Futures Consultancy
09H05 – 10H00 DELIVERING THE PROMISE

Biography
Daniel Silke is an Independent Political Analyst, Author and Keynote Speaker specializing in South African and International politics. He has a specialist interest in political parties and elections and is a renowned Futurist lecturing widely on issues surrounding global change, volatility and the future of the world.

Mr. Silke holds a Master's degree in South African and International Politics from the University of Cape Town, South Africa. Mr. Silke has served six years in publicly elected office between 1995 and 2001 having faced three elections. He has served four years as a Member of Parliament in the Western Cape Provincial Parliament in Cape Town after being re-elected in 1999. He has held the Chair of the Parliamentary Standing Committee of Economic Affairs, which includes the portfolios of Economic Development, Tourism, Agriculture and Transport and has been Chief Whip for his political party. He is also a former City Councillor in the City of Cape Town having served on that city's

Economic Development Portfolio Committee. Mr. Silke was attached to the Institute for the Study of Public Policy at the University of Cape Town where he tutored students for five years. Since 2003, Silke has been the director of the Political Futures Consultancy based in Cape Town.

Session 2 – THE BEER MARKET IN AFRICA

CHAIRPERSON IAN JONES Global Beverage Solutions
10H30 – 12H00

Biography
Ian Jones completed a BSc (Hons) in Microbiology at the University of Kent (UK) and then a Master of Science degree in Malting and Brewing Science at the British School of Malting and Brewing, University of Birmingham (UK).

He then worked for nine years in the British Brewing industry completing a brewing pupillage with Whitbread and working in line management for Guinness, London. During this period he also successfully passed the Institute of Brewing Diploma Master Brewer exams.

At this stage Ian joined South African Breweries in Johannesburg and after four more years in production he became Brewing Training and Development Manager for the group. He completed his MBA at the University of Witwatersrand at this time with his thesis entitled, "A Model for Human Resource Development".

Ian left corporate life in 2002 and set up Global Beverage Solutions (Pty) Ltd to provide tailored human resource development solutions to the beverage industry worldwide. In the last 12 years GBS has consulted globally to many of the major brewing companies including Diageo, SAB Miller and Heineken. Recently GBS has set up a subsidiary called GBS Craft to consult into the fast-growing craft brewing market in South Africa.

Ian is closely associated with the Institute of Brewing and Distilling and is currently Immediate Past-Chairperson of the Africa Section.

KIM – THE FOLLOWING TWO ARE RUNNING THIS SESSION TOGETHER – NO ABSTRACT

PAUL KING SABMiller
10H30 – 12H00 TWO YEARS ON FROM GHANA

Biography
Joined the brewing industry in 1988 with Grand Metropolitan Brewing , Mortlake, London. After a decade working in both brewing and packaging disciplines, transferred to Anheuser-Busch's International Brewing Division as Brewmaster, with responsibilities for operations in Japan, South Korea and Russia. A three year assignment with Diageo followed, managing brewing operations in Australasia and the Asia Pacific region, based out of Kuala Lumpur. In 2010 joined SABMiller as Chief Brewer for Africa, currently managing Brewing operations across 30 breweries and 13 counties.

JULIAN PATTON Diageo
10H30 – 12H00 TWO YEARS ON FROM GHANA

Biography
Originally from Northern Ireland Julian has worked across the Food and Drink Industry for 22 years both in the Brewing and Dairy Industries. He was the product of the highly famed Bass Graduate development Programme in the 90`s working in the Alton, Tadcaster and then Belfast Breweries. Graduating from Heriot Watt University in Microbiology Julian also is Diploma Master Brewer and holds an MBA from Lancaster University. Julian has been a Manufacturing Director for 12 years formally in the Diary Business before joining SABMiller and running the Romanian and then Czech Supply Organisations. He joined Diageo Global Supply in September of this year as Technical Director Global beer with responsibility for Technical, Governance and Innovation as well as Capital Investments and Manufacturing Excellence. As a rugby player of some 30 years Julian is considering finally hanging up his well-worn boots for good and enjoying the recent fame of Ulster Rugby as a spectator. He has three children, Philip, Sophie and Matthew and is married to Ramona.

Tuesday 03 March 2015

Session 3 – IBD

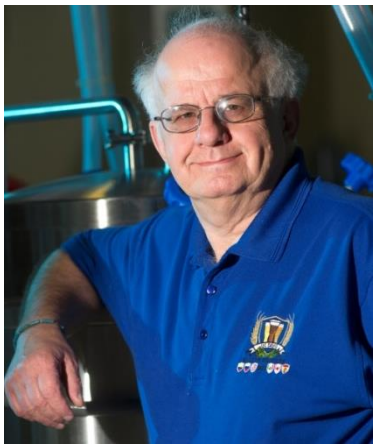
CHAIRPERSON ALASTAIR KENNEDY IBD Africa
09H00 – 10H30

Biography
Alastair Kennedy has a First Class Honours Degree (B.Sc.) in Biochemistry from Heriot Watt University, Edinburgh and has the Master Brewer qualification (with Honours) from the Institute of Brewing. With a total of 39 years experience in the brewing industry, Alastair has spent 22 years in the UK with Allied Breweries (latterly Carlsberg–Tetley) and 17 years with SAB Ltd / SABMiller. Alastair joined SABMiller Group Technical in 2005 and during his 6 years with SABMiller held the positions of Group Brewing Consultant and Head of Technical Stewardship.

Alastair retired from SABMiller in July 2014.

Alastair is a Fellow of the Institute of Brewing & Distilling. He held the position of President of the Institute of Brewing & Distilling during 2010/11 and is currently Secretary and Treasurer of the Institute of Brewing and Distilling Africa Section.

CHARLIE BAMFORTH IBD President
09H00 – 09H30 PROGRESS REPORT FROM IBD



Biography
Dr. Charlie Bamforth is President of the IBD and Distinguished Professor at UC Davis, California, USA. He has been part of the brewing industry for over 36 years. He is an Honorary Professor in the School of Biosciences at the University of Nottingham, England and was previously Visiting Professor of Brewing at Heriot-Watt University in Scotland. Charlie is a Fellow of the Institute of Brewing & Distilling, Fellow of the Society of Biology and Fellow of the International Academy of Food Science and Technology. Bamforth is Editor in Chief of the Journal of the American Society of Brewing Chemists.

Abstract
The IBD President will provide an update on the progress of the IBD over the past year and then look to the future with regard to IBD strategy and development plans. The presentation will include details on the development and growth of the IBD Africa Section.

STEVE CURTIS IBD
09H30 – 10H00 DIPLOMA IN BREWING AND EXAMINATION UPDATE

Biography
Steve was appointed to his current role at the IBD in 2010. Prior to his role with the IBD he was Staff Brewmaster with Anheuser Busch International Inc covering the UK, Europe and Russia.

Abstract
An update and overview of the IBD professional qualifications - covering progress and initiatives over the past year and providing an update on future plans including new qualifications, review of existing qualifications and the progress on the introduction of language options.

ANTON ERASMUS SABMiller
10H00 – 10H30 THE SAB UNIVERSITY MICROBREWING PROJECT: A UNIQUE SAB, IBD AND AFRICA ODYSSEY

Biography

After studying for a BSc in Biochemistry and Plant Science, and with part-time study at the Cape Wine Academy, Anton Erasmus joined SAB Ltd at the old Port Elizabeth Brewery in the Eastern Cape of South Africa in July 1989. After various Laboratory and QC roles, he entered Trade as a Quality Assurance Technologist, progressed through Trade Quality Management, and was instrumental in co-pioneering SAB's fledgling Trade Brewing function operating out of Port Elizabeth in 1997. In this new, pro-active Trade Quality role, reporting in to Manufacturing, he jointly inaugurated various Consumer facing outputs including Beer Connoisseurship, Beer Ambassadors, and Beer Appreciation to Consumers, Customers, Staff and Professional bodies. In 1999 he left Manufacturing and reported to the Sales Regional arena for 4 years as Trade Brewer, developing unique Consumer and Marketing Technical insights. In 2003 he re-joined Manufacturing at SABAlrode Brewery, running the Trade Brewing function till present, focussing mostly on developing new Consumer offerings, Beer/Food Pairings, supporting the Craft Beer effort and driving the topical SAB University Microbrewing Project. The SAB World of Beer is a favourite hunting ground.

To drive the Passion, Anton travels widely and participates in the annual European Beer Star Tasting Championships in Muenchen, has joined the USAmerican Beer Judge Certification Program (BJCP) for Beer Style appreciation and is a tasting judge at various South African Craft Beer events. The 4-yearly Drinktec fair has been a must-do pilgrimage since 2001. Formal Beer Sommeliership is now on the cards.

Anton, who resides in Johannesburg, is married to Andrea, a professional musician, and they have a young daughter Annika.

Abstract

In 2004, following on from extensive Trade Brewer negotiation, an opportunity arose for SAB to sponsor the installation and commissioning of a small-scale piece of Brewing Kit at the University of Kwazulu Natal's Pietermaritzburg campus, certainly a first of its kind in South Africa. Following this successful introduction, and further requests for Installations from University of Pretoria, Witwatersrand and others, a plan was put together to harness the collective power of this combined Microbrewing endeavour. By 2006, extensive collaboration between The South African Breweries Limited (SAB), The Institute of Brewing and Distilling Africa Section (IBD) and the RSA State-owned Food/Bev SETA led to the sponsoring of the traineeship of selected students in various Brewing disciplines in South Africa. By early 2008, sufficient tertiary institutions had been sponsored and kitted-out for SAB to inaugurate the first of the now annual SAB University Microbrewing Championships, fittingly in Pietermaritzburg. Participating universities were asked to brew, bottle and have expertly judged, beers in various competing categories, utilizing the Kit constructed as part of the sponsorship deals. Teams of participating students and a senior member of staff were to accompany their entries for a weekend of fun, tasting, sharing and deserved Prize-giving. Such was the success, demand and growth potential, that the competition was cemented to the calendar. Pretoria hosted in 2009, with Cape Town following in 2010. Due to efficiency and planning needs around the expected growth of the event, from 2011 the SAB Centre of Learning in Kyalami has been the permanent hosting venue. As of the end of the 2014 event, all 14 of SA's Universities participated. It is only fitting that we share this opportunity with Africa and celebrate IBD Africa's contribution. Presentation follows.

Session 4 – RAW MATERIALS

CHAIRPERSON BRENT JORDAN AB Vickers
11H00 – 12H30

Brent graduated from Leicester University with a BSc Hons in Biological Sciences before graduating from Heriot-Watt University with an MSc in Brewing Science in 1984. He joined AB Vickers in 1990 as a technical sales representative and has spent the majority of his working life in the business of 'process aids and all things related'. With the acquisition of AB Vickers by Lallemand in 2001 he became more interested and involved in the business of dry yeast and in the training and education activities of the Siebel Institute. In 2012 he was appointed General Manager of the Lallemand Brewing business, incorporating the AB Vickers process aids, Siebel Institute and dry brewing yeast. He has two teenage offspring who try to keep him well grounded and in his spare time he enjoys playing soccer, cooking, playing bass guitar and tasting the beers of the world.

THOMAS ZAHN Cargill
11H00 – 11H30 NEW MALTING BARLEY VARIETIES IN WESTERN EUROPE – SUSTAINABLE PRODUCTION, MALTING AND BREWING CHARACTERISTICS

Biography
After my education as chemist specialised in food analysis at the Johann-Wolfgang-Goethe University in Frankfurt/Main, Germany I started my professional life in 1987 as head of central laboratory and later quality assurance manager at German malting company Friedrich-Weissheimer Malzfabrik. In 1993 I joined Cargill Malt, first as production manager, then plant manager of the malthouse in Salzgitter, Germany. In 1999 I moved to France and became quality control manager for the European operations of Cargill Malt. Since 2003 I'm working as Sales Manager, currently focused on customers in the South of Belgium, France, Germany and Africa.

Abstract
Efforts in breeding of new malting barley varieties led to shorter life cycles, particularly for 2-row spring malting barley varieties: Whereas 20 years ago a new 2-row spring barley variety was grown for 10 years nowadays life cycle has come down to 5 years. This enabled impressing improvements not only in agronomic yields and disease resistance leading to reduced use of agrochemicals, but also in malting and brewing characteristics: Brew house yields are higher than ever, and a wide range of enzymatic activities and in protein modification can be obtained combining comfortable yeast nutrition with smooth wort and beer filtration.

Recently winter malting barley varieties have gained interest for following reasons:
- Sown in the autumn, winter barley has a longer vegetation period where timing of fertilizing is less critical than spring barley.
- It is less sensitive to drought periods and therefore needs less and at times no irrigation, supporting responsible use of groundwater resources.
- Winter barley varieties are a great option to combat challenges faced by wet climate conditions during harvest since it is harvested before the 2-row spring barley crop.
- And finally: Winter barley varieties have higher agronomic yields and present therefore an economic alternative for brewers.

This paper gives an overview on agronomic, malting and brewing characteristics of the malting barley varieties grown in Western Europe actually - and the changes to come in the next years.

RUSSELL FALCONER Hopsteiner
11H30 – 12H00 HOP BREEDING FOR A MODERN AND SUSTAINABLE INDUSTRY

Biography
Russell graduated from Leeds University in 1984 with a degree in Biotechnology. He was immediately recruited by Grand Metropolitan Brewing and placed at The Stag Brewery, Mortlake, London. Despite signing a mobility clause he worked here as a brewer for 25 years, seeing ownership change through Fosters, Courage, Scottish & Newcastle, Anheuser-Busch and finally ABInbev. In 2010 Russell joined Steiner Hops Ltd the UK subsidiary of the Hopsteiner group, where he continues to pursue his passion for beer from the “other side of the fence”. Russell became a Master Brewer - IBD in 1992 and was elected a Fellow in 2013.

Abstract
The aim of our research and breeding programme is to develop new varieties of hops which are able to compete in the market, yet are also able to be cultivated efficiently. In developing tangible breeding objectives we therefore look to our customers and their needs, but also to relevant

agricultural issues. Regional and location-specific climatic conditions are also taken into consideration. Predominant among the qualities we consider are the varietal characteristics, such as resistance to or tolerance for certain diseases and also yield.

The work involved in developing a new breed follows well defined procedures of traditional cross breeding as well as marker assisted selection and these are regularly revised to conform to latest scientific findings and technical knowledge. More recently genome research through which the molecular basis of the phenotype characteristics are analysed has become of considerable significance. From the results of genome research, new methods of molecular marker technology can be developed, but importantly without use of Genetically Modified Organisms (GMO's).

This has produced some new and interesting aroma and flavour hops which will be presented during the lecture; however the core challenge for the HOPSTEINER breeding programme is and will continue to be to increase the yield per hectare and to further reduce pesticide usage. By so doing we can safeguard our core business whilst generating excitement in the industry with these new varieties.

JAYDEEP CHATERJEE Novozymes

12H00 – 12H30 HIGH GELATINIZING ADJUNT LIQUEFACTION IN BREWING – NOVEL APPROACH TOWARDS OPTIMIZATION OF THE PROCESS

Biography

Food Technology and Biochemical Engineer (MBrew) from IBD, with 20 years' experience in the Brewing Industry, with the last 5 years in Novozymes, Jaydeep has worked in Asia Pacific, Europe, the Middle East and Africa. Primary area of expertise is Raw material optimisation and optimisation of Brewing Processes.

Abstract

The inclusion of cereal-based adjuncts in beer recipes is prevalent in the African brewing industry due to its benefits in terms of extract cost and beer qualities. Brewhouse processing of high-gelatinizing adjuncts (e.g. corn, rice, sorghum and cassava) require relatively high heat input, adequate agitation and the application of thermostable alpha-amylases to effect the necessary starch gelatinization, starch solubilization and subsequent starch conversion to lower molecular weight dextrins. When applied in an adjunct cooking step in brewing, the liquefaction of high gelatinizing adjunct starch is adjudged as complete via relatively simple analytical tests such as iodine staining, photometric iodine testing and dextrose equivalent (DE). Of the applied liquefaction analytical methods, DE used is arguably the most informative for quantitative monitoring of the development of the liquefaction end point. Measurement of DE is a useful assay; however it is limited insofar as quantifying the extent of starch solubilization that occurs during liquefaction. Its limitation in determining the level of starch that remains undissolved in the grain reduces its capability to pro-actively predict the potential extract yield contribution of the liquefaction process.

In order to efficiently utilize the extract input from high-gelatinizing adjunct cooking, it is therefore useful to quantify the extent of starch solubilization that occurs during the liquefaction process.

An HPLC-based method that overcomes the aforementioned limitation of the DE assay main has been developed for monitoring the liquefaction process. Using sugar concentrations, secondary parameters were derived that allow evaluation of liquefaction quality in terms of both how much starch has been dissolved, and how much dextrinization has taken place at the end of the liquefaction process. In laboratory scale mashes, these parameters were shown to be predictive of yields in the final wort using different adjunct:water ratios, and mash profiles. The efficiency of the high-gelatinizing adjunct liquefaction process was investigated for maize, rice, cassava and sorghum as a function of alpha-amylase type, alpha-amylase dosage, adjunct cooking temperature and mash thickness. The analytical method quantitatively showed the effect on extract yield of using different thermostable alpha-amylases as applied on different high-gelatinizing adjuncts. It is further shown that the enhanced view provided from quantifying starch solubilisation, is of use in customizing adjunct cooking regimes and for optimizing alpha-amylase dosages in high-gelatinizing adjunct cooking.

Session 5 – BREWHOUSE

SPONSORED BY ZIEMANN

CHAIRPERSON MARTIN BROOKS SABMiller
13H30 – 15H00

Biography
Martin Brooks has been a brewer at SAB for 24 years starting out as a trainee in late 1989 at the old Isando Brewery and has held positions in Technical, Production and Management, including Brewmaster positions at Alrode, Chamdor and Rosslyn breweries in Gauteng. Martin spent 2 years in the United States as the Business Manager for Malting and Brewing at the Coors Golden Brewery in Colorado, where he managed their 4 malting plants and 8 brewing streams.

Martin has a BSc (Hons) degree in Biochemistry and Microbiology from UCT, a MSc in Brewing Science from Nottingham University (UK). He is a Diploma Master Brewer (DMB) from the Institute of Brewing and Distilling (London), and is a member of the Master Brewers Association of the Americas.

Martin was appointed SAB Ltd Chief Brewer in 2006

MARIO ALLENDORFER Ziemann
13H30 – 14H00 PIONEER WORT BOILING PROCESS WITH INNOVATIVE INTERNAL COOKER

Biography
Mario Allendoerfer graduated as diploma brewmaster of brewing science and beverage technology in 2004 at the Doemens Academy-Graefelfing (Germany). He made an apprenticeship as brewer and maltster before and worked afterwards as process engineer for brewhouse and cellar technology and later as Project manager for a leading supplier in the brewing sector. Since 2013 he joined Ziemann International GmbH(Germany) as responsible Sales Director Africa.

Abstract
Modern wort boiling systems must fit to individual process recipes which can be divided into three phases: heating, simmering and evaporating. To provide these three phases in all, an internal cooker usually relies on additional wort circulation pumps. Otherwise huge effort is necessary for cleaning, if boiling time is increased and heat supply is damped down. The here introduced innovative design provides a solution without such disadvantages. It consists of two interconnected heating segments, each can be activated separately. Two segments reflect three boiling phases. The essential function is achieved by means of Venturi effects. The required product circulation can be combined with a lowest possible heat supply. The heating segment in use always operates in optimum heating-flow condition. Simmering can be introduced as rediscovered procedure. Series of tests were carried in a pilot brewery, with which the functionality was proved. In 2013 two breweries with a cast out wort of approx. 80 barrels successfully installed the novel equipment. There with the same occupancy time a lower evaporation rate is achieved, the tendency to fouling is reduced and thus the product quality (TBI, free DMS, DMS precursor, protein fractions, aroma profile) can be maintained. Moreover an efficient use of energy is achieved. The presentation describes the novel cooker design, the respective process technology and the technological results in practice. Furthermore the integration of the novel technology into a modern brew house design is presented.

RUDI MICHEL GEA

14H00 – 14H30 DECANTER IN A BREWHOUSE – CHALLENGE AND OPPORTUNITY?

Biography

Rudolf Michel finalized an apprenticeship as brewer & maltster and studied at the Technical University of Munich at Weihenstephan. Here he graduated as engineer and did his PhD. He worked with Prof. Dr. Karl Sommer for several years on the mechanisms of hot break separation and on hygienic design of armatures and pipework systems. After different positions he joined Huppmann in June 2000 and being involved in major brewhouse projects. After a takeover by GEA in 2006 the new entity GEA Brewery Systems was built in 2009. Currently he is leading the research & development team focusing on brewing technology and environmental aspects

Abstract

In the brewing industry mash filtration with lauter tuns and mash filters is considered as state-of-the-art. In 1980 the industry saw first applications of a mash separation technique using decanters. Another 20 years later the design of the decanter has improved to avoid shear and oxygen pick up during mash separation.

The paper will explain the major difference between mash filtration and mash separation in a centrifugal field and the impact on the design of the brewhouse operation. Using decanter technology in a brewhouse opens a wide range of opportunities.

Decanters allow the design of a continuous brewhouse operation with high efficiency as well as the use of any adjuncts up to 100 %. This opens a door to build brewstreams for 100 % malt or up to 100 % adjunct as a capacity extension for new products or to by-pass the classical lautering units for a new brand made from alternative raw materials. The production of all-malt wort is possible as well. Examples of decanter applications are explained and results from commissioning are presented.

TOBIAS BRAUER Krones

14H30 – 15H00 STEINECKER LOW TEMPERATURE BREWERY – AN EFFICIENT TOOL FOR ENERGY SAVING

Biography

Tobias Brauer was born in Sao Paulo, Brazil in 1977 and grew up in Buenos Aires, Argentina and Oberursel, Germany.
Education 2006: Diploma in Brewing and Beverage Technology, Techniche Universitaet Muenchen - Weihenstephan (TUM)
Professional Experience:
2006-2007: Research Assistant, Chair of Energy and Environmental Technology of the Food Industry, Technische Universtitaet Muenchen – Weihenstephan (TUM)
2007-2010: Project Manager, Order Processing Utilities, Krones AG
2010-2014: Product specialist, Process design Group Beer, Krones AG
2014-: Sales Key Account Management, Sales Plants and Components Beweries, Krones AG

Abstract

Steam at temperatures of around 130 °C – 150 °C is currently used at most state-of-the art breweries. Discontinuous heat generation and high condensate and flash steam losses make steam boilers at many breweries relatively inefficient. With the Steinecker EquiTherm system the energy consumption is extremely low and the brewing process can be supplied with thermal energy at very low temperatures. The maximum hot water temperature at the "low-temperature brewery" is only at less than 115 °C and proven to be sufficient. Heat is transferred using a low-loss heat transfer station and an energy storage unit which was designed specifically for the peak loads and Steinecker EquiTherm heat recovery system. The storage unit supplies regenerative and recuperative heat to the entire brewery.

The low temperature brewery is a big and highly important step which will help to retain the wealth created from energy generation and provide a source of renewable energy based on alternative and regenerative resources for the generation of electricity and hot water. 100% of the electricity and heat for the brewery can be generated with renewable resources. Energy consumption has been reduced not only by the converting the process heat supply system but even more importantly by lowering the "process heat temperature".

As the first low temperature brewery the “Murauer Brauerei” (Austria) made environmental awareness a key aspect of its production operations. The declared goal is to make the brewery CO2-neutral. The cooperative brewery has a 500-year history. It is committed to the bio region and the energy vision of Murau which is a climate alliance community. With its new Steinecker low temperature brewery the already modern brewery Murau further reduced its total heat demand by more than 25%. In older breweries without any energy recovery a modernization can result easily in savings of up to 50%. Murau hopes to achieve energy autonomy by 2015. The electricity supplied by

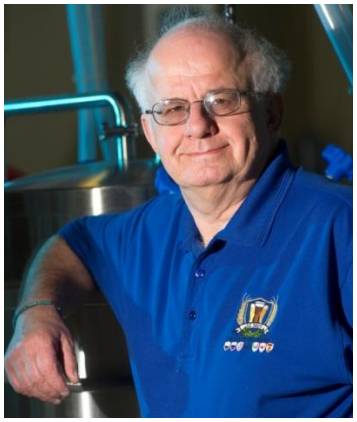
the public utility Company to the brewery is generated with the aid of hydroelectric power. All of the electricity used in the district is now generated in the region. Integration of the brewery into the heat distribution network is a major milestone in the "Murau energy vision: a district on the road to energy independence" which if all goes well will become a reality by 2015.

Session 6 – QUALITY

CHAIRPERSON KATHERINE SMART SABMiller
15H30 – 17H00

Biography
After graduating from Nottingham University, Katherine Smart was awarded a Rainbow Research Scholarship to complete a PhD in Brewing Yeast and Fermentation at Bass Brewers, Burton-on-Trent. She held fellowships and academic positions at the Universities of Cambridge, Oxford Brookes and most recently at Nottingham where she was the SABMiller Professor of Brewing Science. She founded the National Brewing Library at Oxford Brookes and the Bioenergy and Brewing Science Centre at Nottingham. She is a Professor and holds Fellowships with the Institute of Brewing and Distilling, the Royal Society of the Arts, Manufacturing and Commerce and the Society of Biology.

CHARLIE BAMFORTH University of California
15H30 – 16H00 FOAM: THE STATE OF PLAY

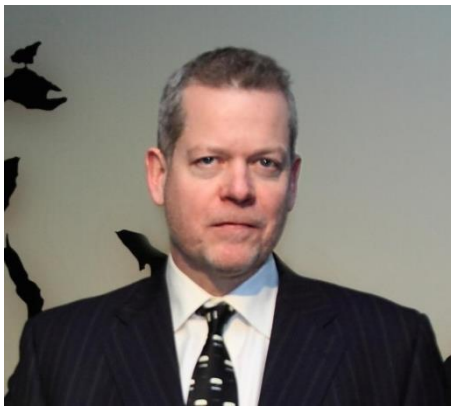


Biography
Dr. Charlie Bamforth is President of the IBD and Distinguished Professor at UC Davis, California, USA. He has been part of the brewing industry for over 36 years. He is an Honorary Professor in the School of Biosciences at the University of Nottingham, England and was previously Visiting Professor

of Brewing at Heriot-Watt University in Scotland. Charlie is a Fellow of the Institute of Brewing & Distilling, Fellow of the Society of Biology and Fellow of the International Academy of Food Science and Technology. Bamforth is Editor in Chief of the Journal of the American Society of Brewing Chemists.

Abstract
As much as anything in brewing, the topic of beer foam attracts emotion and is riddled with dogma. This review of the current knowledge of beer foam will address diverse areas such as why the main shortcoming in beer composition in the context of foaming may be an excess of foam negatives; why the received wisdom that some specialty malts are great for bubble stability is often false; and how to interpret the reasons for less than ideal foam performance.
Consolidation in the brewing industry after national prohibition in the early 20th century led to a very small number of brewing companies dominating the beer industry in the United States. Following President Carter's signing into law the ability of people to brew at home, a burgeoning number of small brewing companies have progressively emerged. There are now over 3,000 breweries in the US. The industry is still dominated by two enormous corporations, but there is now a relatively huge number of brewpubs and microbreweries, as well as a slowly increasing range of regional breweries, of which several are now distributing nationwide. The companies all come together within the Brewers Association, which appears to progressively increase the production volume within which a company is deemed to be a craft brewer so as to keep The Boston Beer Company in the family. Some of the larger "craft" companies in the US would be called "major producers" in other countries. The US craft sector is typically associated with fully flavored products, mostly ales, which are frequently "big" in hops and alcohol. There is also remarkable innovation in terms of style, ranging from the development of new hybrid categories such as Black IPA's through to the production of beers with bizarre ingredients, such as Rocky Mountain Oysters. There is resentment within the sector regarding the large companies having divisions that they claim masquerade as craft – and they refer to these as "crafty". The reality is that many a craft brewer has much to learn technically from the largest companies and the resentment they feel should not be targeted at their fellow technical brewers in the major companies but rather at the almost ruthless marketing entities.

JOE SHEEHY Diageo
16H00 – 16H30 A REFRESHED LOOK AT HACCP ON BREWING



Biography
Joe Sheehy, Global Brewing & Governance Director for Diageo, began his brewing career 29 years ago as a graduate brewer in the Guinness group in Ireland in 1986. He has brewed in multiple breweries within what is now the Diageo group, in Europe and Africa and has also spent a number of years managing the spirits technical organisation from Chicago.

Currently based in St James's Gate Brewery in Dublin, Joe has a global team and remit and manages brewing governance including quality, third party operations, raw materials and brewing technical support.

Abstract
Hazard analysis for consumer safety in brewing depends primarily on prerequisites but also on a fully informed knowledge of the possible risks. This paper takes a new look at the possibilities that need to be considered in a competent brewing HACCP programme. While traditional large brewers have managed consumer safety for many years there is a distinct probability that the myriad of smaller players will release unsafe product. There have been numerous near misses within the industry and if attention to HACCP is lax there may be industry damaging incidents.

BETTIE LODOLO SAB Ltd.
16H30 – 17H00 ASSURING BREWING WATER HYGIENE FOR THE FUTURE

Biography
Prof. Lodolo started at the CSIR before moving to SAB. She received her Ph.D. and the MBAA Presidential award for the study: "The effects of oxygen on the fermentation ability of S. cerevisiae". She researched aspects of yeast science and microbiology and was then appointed as Brewing Consultant: Brewing Science and Hygiene. As the SAB hygiene consultant she drives the hygiene strategy which includes GMP, process (CIP, environmental, water hygiene and microbial methodologies) and people. She was appointed as an affiliated Professor at UFS, has authored and co-authored 25 papers and serves on the editorial board of the ASBC.

Abstract
The proud tradition of beer culture has evidence of historic roots as far back as 5 000 B.C. Given the choice between water or beer as the safer beverage to consume, the preference was for beer due to the bacteriostatic properties afforded by the presence of alcohol, low pH, low nutrient availability and the presence of hops. Water remains the main ingredient in beer forming about 95% of a 5% v/v alcohol product. The demand on scarce resources, such as water, informed one of the SABMiller 10 priorities of "Making more beer using less water" with the aim of 3.5 hl/hl beer by 2015. In order to achieve this aim a number of work programs were developed in support of this objective. One of the work programs focusses on achieving improved water hygiene standards. The Department of Water Affairs introduced the Blue Drop certification programme in South Africa since Sept 2008. The results reported show variable microbial and physicochemical performance which impacts on the incoming water microbiological load entering a brewery. Brewing is unique in that brewing liquor (de-chlorinated water) is used to make the best beer since the presence of chlorine will result in the formation of trihalomethanes (THM's). Dechlorination is done using activated carbon filters

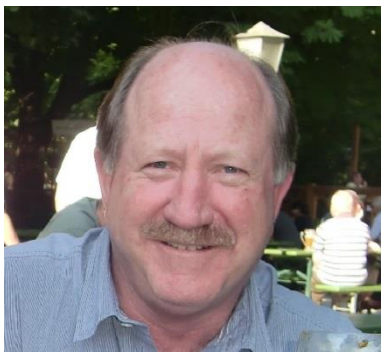
(ACF's). However, if not well managed, these filters can become sources of contamination. This is exacerbated by increasing microbial loads and changes in water quality, such as increasing Total Organic Carbon. Considering the tight hygiene specifications (0 cfu/100 ml on PCA and Endo post ACF) the need for a site wide water management plan became evident.

Here we describe the site wide water management plan to address incoming water hygiene but also water hygiene post activated carbon filters and at point of use. The delivery of an effective water treatment program is dependent on not only the type of bacterial contamination but also the microbial load and the water type used. The principle of log reduction capability was applied to develop a decision tree which informed technology partners in developing the most effective solutions to achieve the water hygiene specifications. Once water hygiene is assured, more effective water savings projects can be introduced supporting the ultimate aim of hygienic sustainable water for the future.

Wednesday 04 March 2015

Session 7 – SPIRITS

CHAIRPERSON MALCOLM DU TOIT SABMiller
09H00 – 10H30



Malcolm started out in the brewing industry over 30 years ago after completing a BSc in natural sciences. He has held various brewing managerial and technical positions in different breweries as well as a stint in trade marketing During this time he completed his Diploma in Brewing with the IBD and subsequently completed a Post Graduate Diploma in Brewing from Herriot Watt University and is also a Master Brewer with the IBD.

Malcolm is currently a Consultant with SABMiller Africa and enjoys a good game of golf and fly fishing as a hobby.

ALICE OWAMBO EABL
09H00 – 09H30 JEBEL GOLD

Biography
I am a dynamic and precise manager with a proven history of successful management in food production, innovations and project management. Expert at streamlining operations, increasing efficiency and improving overall product acceptability. I hold a Bsc. in Food Science & and Post-Harvest Technology, and certificate in Sensory Science from Campden BRI. Currently an Innovations Manager creating opportunities for the emerging consumers in East Africa. Previously worked as a Spirits Development Specialist in EABL, Senior Liquid development Technologist in the UK, Shift Brewing Manager at Tusker Brewery and Quality Specialist at the Tusker Brewery in Nairobi.

Abstract
With a deepening global economic turmoil, developing countries felt a direct blow to their economies. The ripple effect herein lies in governments reacting to bridge any revenue gaps by increasing taxes. The manufacturing industry has increased their cost of operations and sadly passed this cost to their consumers who have been made to dig even deeper into their pockets. The emerging consumers are driven by price, however desire quality.

Case in point was the implementation of tax on our local value beer Senator keg. With EABL made to increase the price on Senator in the market, we witnessed a drastic decline of the Senator volumes. Our consumers were left exposed to the ever growing illicit products. Kenya's informal market accounts for close to 50% Total Beverage Alcohol and spirits segment accounts for 70% of formal spirits.

Acting fast to protect our equity in the value keg segment and more importantly to protect our valued consumers in the market, we provided a similar if not a better proposition in the form of a kegged spirit, at a medium strength ABV and at an accessible price point. The only caveat was that our laws did not permit for spirits to be sold in keg formats.

With interventions from within the business, we were able to have the legislation changed in favour of EABL.

Jebel Gold was launched in to the Kenyan market in August 2013. A high quality spirit drink at 25% ABV, expertly blended for a smooth taste. We leveraged on Jebel Trade Mark having launched Jebel Special 2yrs back with a market volume share of about 7%.

The brand is best enjoyed neat or with a mixer like lime in sociable and off-premise occasions after work or over the weekend. Its retail price is Ksh 10 per 30ml serve and targets the value consumer segment.

Kenya is the first market in the Diageo world to ever put a spirit in a keg barrel; hence this is a brilliant revolutionary innovation in the history of Diageo and East African Breweries.
We have provided a healthy great tasting brand to the consumers who would otherwise fall for illicit offerings. We have bridged the gap that was created by the massive decline in sales of Senator Keg due to increased excise duty.
We have set the trend in innovations showing the world that we are only limited by our imagination!'

MARE-LOE PRINSLOO Distel
09H30 – 10H00 BOILER WATER TREATMENT MANAGEMENT SYSTEM

Biography
2009 – CURRENT Technical Manager: Primary Production Spirits, Distell Ltd Part time lecturer in Oenology at University of Stellenbosch and Elsenburg Agricultural college
2006 – 2009 Wood Specialist, Distell Ltd, Stellenbosch, Cape Town
2005 – APRIL Manager, Mayfield Chemical Products
FEBRUARY 2003 – APRIL 2005 Finished Goods Supervisor, Fine Chemicals Corporation, Cape Town
2000 – 2003 Research and Development Chemist, Fine Chemicals Corporation, Cape Town
1997 Lecturer in Inorganic Chemistry University of Stellenbosch

Abstract
Water treatment affects two areas within the distillation environment namely steam generation (boilers) and cooling systems (cooling towers, condensers and heat exchangers). Poor water quality could potentially lead to scale formation, corrosion and blockages due to microbial growth which have substantial financial impact in terms of repair and/or replacement cost and safety (boiler explosion).

Effective water treatment reduces maintenance and/or replacement cost of coolers, condensers, heat exchangers and boilers thus increasing equipment life span. Water treatment in the Distell environment is out sourced to third party experts. However long reaction times and the fact that water testing was done once in two weeks proved problematic. A management system was designed to:

1. Reduce reaction time
2. Enable production personnel to solve problems without assistance of water treatment specialists

The complete system consists of:

1. **Monitoring system**

Each stream in the boiler was mapped and critical parameters for each identified. Upon entering chemical results for each stream an immediate indication of acceptability is obtained by an alarm (red) for unacceptable high values.

2. **Problem solving interphase**

Only results that are too high or too low, as indicated by the monitoring system, are entered in the problem solving for the various streams. The interphase generates a consequence, probable cause and as many as three solutions to the problem which production personnel must then investigate applying their practical knowledge of the system.

3. Conclusion

This system has changed water treatment to a more pro-active system within Distell's distillation environment and has empowered production personnel to effectively perform trouble shoots with limited assistance from service providers.

PIERRE VAN RENSBURG Distel

10H00 – 10H30 EVALUATING THE EFFECT OF POT STILL DESIGN ON THE RESULTANT DISTILLATE

Biography

PRESENT POSITION GM: Research, Distell (Innovation Department)
EDUCATION Ph.D. (1997) University of Stellenbosch (Stellenbosch, South Africa) Dissertation: "Cloning, characterization and expression of cellulose-encoding genes in Saccharomyces cerevisiae"
TEACHING & RESEARCH Supervision for completed Master's Degrees: 29 students Supervision for completed Doctoral Degrees: 7 students
AWARDS 1999-2003 US Stipend for Young Promising Scientist
PRESENTATIONS AT CONFERENCES AND RESEARCH SEMINARS 64 papers at international and 39 at national conferences
PUBLICATIONS IN REFEREED JOURNALS 3 chapters in books; 37 full-length articles in internationally refereed journals and 17 articles in popular scientific journals

Abstract

Brandy is one of the most important spirits consumed by the South African population. Many different types and styles of brandy are available on the market today. Of the different styles of brandy available, pot still brandy is considered the richest, fruitiest and most layered brandy and has a vanilla flavour due to the wood maturation. There are many factors that will influence the production and the quality of this product. Of these factors, the distillation technique, the apparatus used for the purpose of distillation together with the low wine is of utmost importance as they influence the sensory profile and the chemical composition of the distillate. The effect of different variations of pot still designs on the chemical composition and the sensory profile of the resultant distillate was investigated. Five different Pot still variations were used and varied with regards to the design of their pot still head and swans neck apparatus. Two low wines were used for the purpose of distillations. GC-FID was used to identify the volatile compounds found in the distillates and together with Quantitative Descriptive Analysis (QDA) a profile of the distillates was produced which was used to differentiate between the different pot still variations and their effect on the final product. The data generated from the QDA sessions was subjected to Principal Component Analysis (PCA) and together with the chemical analysis a correlation between certain compounds and sensory attributes were found in the distillates. Distillate samples were also subjected a sensory style classification system and were classified accordingly. Variation one was based on the Alambic Charentais method of pot still design and it was found that only variation one influenced the chemical composition and

the sensory profile of the distillates. This variation produced a distillate with lower total esters and more specifically ethyl acetate as well containing a lower intensity of the fruit and sweet associated caramel aromas and flavours. There were no correlations found between the chemical compounds, sensory attributes and sensory style classifications in the distillates of both low wine one and two. Therefore the chemical composition and the sensory characteristics of distillates are dependent on the chemical composition of the low wine prior to distillation rather than the pot still design.

Session 8 – PACKAGING

SPONSORED BY MICRO MATIC

CHAIRPERSON STEPHEN EXINGER Carlton United Breweries
11H00 – 12H30

Biography
Stephen has over 25 years of Australian and international operations experience with Carlton & United Breweries (CUB), now a part of SABMiller. He is currently the General Manager of Technical Services for CUB with responsibilities in the areas of Brewing, Packaging, Engineering, Quality and Health, Safety & Environment.

Stephen holds a Bachelor of Engineering (Chemical) from the University of Melbourne, a Master of Business Administration and a Graduate Diploma in Applied Mathematics, and is the current Chairman of the Asia Pacific Section of the Institute of Brewing and Distilling.

JACO KIRSTEIN SABMiller
11H00 – 11H30 WASHER TEMPERATURE REDUCTION

Biography
Jaco Kirstein completed a B.Eng and MSc.Eng in Mechanical Engineering at the University of Stellenbosch (RSA). He started his career as an engineering technical trainee at SAB's Rosslyn Brewery. After successfully completing his traineeship, he was appointed as project engineer for packaging and later section engineer for the utilities departments. During this time he successfully obtained the GCC (Factories) certification.

Jaco joined South African Breweries' Engineering Centre of Excellence in Johannesburg initially as an Utilities Specialist and later as a SD Consultant, a position he currently holds, enabling him to be involved in and contribute to the energy and water reduction drive of SABMiller.
He is registered with ECSA as a professional engineer (Pr.Eng) and is in the process of finalising a M.Eng (Engineering Management) at the University of Pretoria with his thesis entitled, "An investigation into the Normalisation of Water and Energy use in Breweries".

Abstract
As the demand for and cost of resources increase, the brewing sector is increasingly at risk from a sustainability perspective. Bottle washers are among the largest consumers of water and thermal energy in breweries with high volumes of returnable bottles. In this presentation the effect of lowering the bottle washing temperatures on thermal energy demand as experienced at SABMillers' Newlands Brewery is reviewed.

STEDRICK SAAYMAN SABMiller
11H30 – 12H00 PET BARRIER FOR BEER – SHOWCASE THE IMPACT OF BARRIER FROM EMPIRICAL STUDIES FROM WITHIN SABMILLER

Biography
Stedrick is a Registered Professional Engineer with broad manufacturing and supply chain experience. He has a Bachelor's Degree in Mechanical Engineering, a Master's Degree in Industrial Engineering and a Master's Degree in Business Leadership. Stedrick is also a certified Lean-Six-Sigma Master Black Belt. Stedrick joined SABMiller in 2000 and has worked in various senior roles where he has been responsible for operational management, development and implementation of manufacturing strategies, supplier development and industrial engineering related improvement initiatives. In his current role, he is the global custodian of the technical aspects of procuring packaging materials, equipment and services.

Abstract
PET bottles are widely used as food and beverage packaging. PET Bottles are strong, shatterproof, lightweight, transparent, safe, recyclable and offers design flexibility. The principal weakness of PET containers is that PET is not impervious to oxygen, carbon dioxide and water vapour. PET is therefore incapable of matching the shelf life offered by cans and glass bottles. Despite these limitations, PET provides practical shelf life durations for specific products: Around 70% of all PET packaging is used for carbonates and water. The balance is made up of other food and beverages, while beer accounts for only 2%. The slow adoption rate of PET for beer packaging can be partially attributed to beer's sensitivity to Oxygen and the loss of Carbon Dioxide. PET is however increasingly used as beer packaging and many technologies are available to reduce gas permeation rates to achieve better product stability. These technologies are complex and performance depends on an array of variables. SABMiller conducted research in collaboration with an independent German laboratory to determine the capability of various commercially available PET barriers. Laboratory results were further matched to sensory product testing to map the degree of perceptible quality decay of beer packaged in PET as it oxidises and loses carbonation. This paper will discuss the research approach and findings with key insights pertaining to PET bottles for packaging beer, without disclosing the barrier brand names and suppliers.

DENIS DA SILVA SABMiller
12H00 – 12H30 TANK BEER IN CAPE TOWN

Biography
Joined SAB in 1988 and held various positions in brewing in Port Elizabeth and Newlands breweries. Currently the Trade Brewer at Newlands Brewery.

Abstract
This paper will look at a first in Africa, the provision of bulk unpasteurised draft beer to market. This niche was seen in the market due to suitable high volume draft outlets in close proximity to the

brewery. These outlets can for the first time offer fresh unpasteurised draft beer in bulk to their consumers. This has resulted in increased sales and consumer reappraisal. The paper will discuss the technical approach to beer production as well as the delivery to market, bulk beer dispensing and the marketing execution.

Session 9 – THE CRAFT BEER MARKET

SPONSORED BY GEA

CHAIRPERSON DAVID MEADS LionCo
13H30 – 15H00

Biography
David joined New Zealand Breweries Ltd in 1974 and started his career in the laboratory. After completing a chemistry qualification he held various appointments in several of the company's breweries in New Zealand in brewing and quality assurance roles. He is currently a member of the Group QA team.

He was involved in the implementation of quality management systems to the ISO 9001 standard at Lion Brewery in Auckland in 1991 and is a qualified quality systems auditor.

He joined the Institute of Brewing in 1982, has the Master Brewer qualification and is a Chartered Scientist. He completed the Diploma in Brewing Technology from the Siebel Institute in Chicago in 1982.

He co-authored a poster for the 2000 Sydney convention, and presented papers at the Hanoi convention in 2004 and the African convention in Uganda in2011.
He has been an IBD member since 1982 and was chairman of the Asia Pacific section from September 2007 until March 2010. He was the co-convenor of the 30th Asia Pacific section convention held in Auckland in April 2008.He was elected as a Fellow of the Institute of Brewing and Distilling in November 2008.

STEVE EXINGER CUB
13H30 – 14H00 THE CRAFT BEER SCENE IN AUSTRALIA

Biography
Stephen has over 25 years of Australian and international operations experience with Carlton & United Breweries (CUB), now a part of SABMiller. He is currently the General Manager of Technical Services for CUB with responsibilities in the areas of Brewing, Packaging, Engineering, Quality and Health, Safety & Environment. Stephen holds a Bachelor of Engineering (Chemical) from the University of Melbourne, a Master of Business Administration and a Graduate Diploma in Applied Mathematics, and is the current Chairman of the Asia Pacific Section of the Institute of Brewing and Distilling.

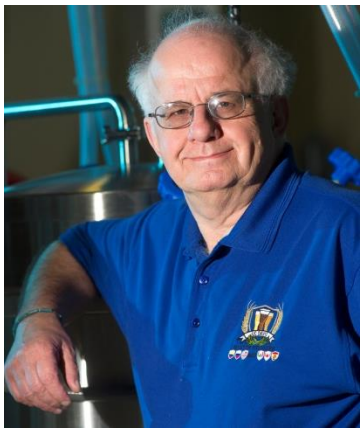
Abstract
The craft brewing scene in Australia certainly isn't new. There was rapid and vibrant growth in the mid-1980's, during which time the category gained a good level of public acceptance, but by the late-90's the number of craft breweries had dwindled.

Today there are well over 100 microbreweries in operations across Australia, with seemingly more opening each day. And as the number of craft breweries grows so does the number of craft brewers, and they have set up membership associations designed to meet their specific needs. They have organised public festivals that are growing the popularity of craft beer and are being supported by an increasingly influential online press and enthusiastic social media.

What have been the macro reasons for the peaks and troughs seen in the Australian craft beer scene? Is the current resurgence just another peak, waiting for the inevitable trough or are we seeing a fundamental change in the Australian beer scene and the Australian consumer? How does the situation in Australia compare with other countries and what can we learn from this? Part of the answer depends on our definition of craft beer, but more importantly, how the consumer views it.

In this presentation, we'll examine some of the macro-trends in the Australian craft beer scene; look at who is drinking craft beer, and what sort of craft beer, and where the volume and value of craft beer is heading in Australia.

CHARLIE BAMFORTH University of California
14H00 – 14H30 THE CRAFT BREWING INDUSTRY IN THE UNITED STATES



Biography
Dr. Charlie Bamforth is President of the IBD and Distinguished Professor at UC Davis, California, USA. He has been part of the brewing industry for over 36 years. He is an Honorary Professor in the School of Biosciences at the University of Nottingham, England and was previously Visiting Professor of Brewing at Heriot-Watt University in Scotland. Charlie is a Fellow of the Institute of Brewing & Distilling, Fellow of the Society of Biology and Fellow of the International Academy of Food Science and Technology. Bamforth is Editor in Chief of the Journal of the American Society of Brewing Chemists.

Abstract
Consolidation in the brewing industry after national prohibition in the early 20th century led to a very small number of brewing companies dominating the beer industry in the United States. Following President Carter's signing into law the ability of people to brew at home, a burgeoning number of small brewing companies have progressively emerged. There are now over 3,000 breweries in the US. The industry is still dominated by two enormous corporations, but there is now a relatively huge number of brewpubs and microbreweries, as well as a slowly increasing range of regional breweries, of which several are now distributing nationwide. The companies all come together within the Brewers Association, which appears to progressively increase the production volume within which a company is deemed to be a craft brewer so as to keep The Boston Beer Company in the family. Some of the larger "craft" companies in the US would be called "major producers" in other countries. The US craft sector is typically associated with fully flavored products, mostly ales, which are frequently "big" in hops and alcohol. There is also remarkable innovation in terms of style, ranging from the development of new hybrid categories such as Black IPA's through to the production of beers with bizarre ingredients, such as Rocky Mountain Oysters. There is resentment within the sector regarding the large companies having divisions that they claim masquerade as craft – and they refer to these as "crafty". The reality is that many a craft brewer has much to learn technically from the largest companies and the resentment they feel should not be targeted at their fellow technical brewers in the major companies but rather at the almost ruthless marketing entities.

LUCY CORNE
14H30 – 15H00 BREWING UP AN AFRICAN REVOLUTION

Biography
Lucy Corne is a beer writer based in Cape Town. Her first beer book, African Brew, charted the beginnings of the craft beer boom in South Africa. She is currently working on a second book, Beer Safari, for which she has visited well over 100 microbreweries around the country. Lucy is a BJCP-qualified judge and an all-round beer fanatic. When she's not writing about beer, educating people about beer or attending beer festivals, she can usually be found deciding which cheese to pair with an IPA. Lucy also blogs about beer under the moniker of The Brewmistress (www.brewmistress.co.za)

Abstract
The emergence of 'craft' breweries - which can be loosely defined as a brewery not owned by one of the global beer companies - in countries such as Kenya, Zimbabwe, Zambia, Namibia and especially South Africa, has been a relatively recent phenomenon that has expanded at a rapid rate. Despite the first craft brewery in Africa launching in 1983, it was only in the past five years that craft breweries started making their mark on the African beer industry.

This presentation will look at how and why craft beer started its rapid rise in the industry, with attention drawn to the 'artisanal' and market lifestyle of Cape Town as a major catalyst for the craft beer boom which has spread across South Africa and is beginning to trickle further into the continent.

Additionally, the presentation will look at what makes a 'craft' brewery different from a macro-brewery - namely the market maneuverability to try new styles, use local ingredients and experiment with different beers - but also examine why, despite this, the African beer market, both micro and macro, is still largely reliant on one style of beer - standard American lager. The presentation will conclude with a look at the future of craft beer in Africa and what brewers can do to ensure its sustainability and growth in the industry.

Session 10 – THE GREAT DEBATE: "CRAFT OR CRAFTY: ONLY CRAFT BREWERS MAKE REAL BEER"

SESSION SPONSORED BY abvickers

CHAIRPERSON BILL TAYLOR
15H30 – 17H00

Biography
Bill Taylor's passion for brewing evolved into a career that has seen him brew, judge and speak on beer in many places around the world. After starting his career at the Castlemaine Brewery in Brisbane, Australia, Bill's passion for beer culminated in his role as Chief Brewer and Technical Director for the Lion Group across Australia and New Zealand.

Bill has also shared his beer passion with the public by writing articles for daily press and magazines around Australasia and in 2002 released the book "Beer and Food - A Celebration of Flavours". He has been a spokesperson for beer at regional events around Australia and nationally through radio and television and major Food Events and was recently recognised by the Beer Academy as an Honorary Beer Sommelier.

He has presented papers at a number of IBD Conferences including the African Section. He has worked on a number of Australian and international brewing industry committees and is a Fellow and Past President of the Institute of Brewing & Distilling and the Chairman of Judges of the International Brewing Awards .

For: Charlie Bamforth, Lucy Corne
Against: Joe Sheehy, Martin Brooks

Thursday 05 March 2015

Session 11 – SUSTAINABILITY I

SPONSORED BY SIEMENS

CHAIRPERSON BARBARA BOATEMAAH Diageo
09H00 – 10H30

Barbara holds a Masters Degree in Food Science and Technology from the Kwame Nkrumah University of Science and Technology, Kumasi, Ghana and a Diploma in Brewing from the Institute of Brewing and Distilling. She has worked with Guinness Ghana Breweries Limited(GGBL) as a fresh graduate from school since September 2004 and has held various roles including working as a Shift Brewer in GGBL's Kaase Site, as the Innovations and Brands Change Manager for GGBL and then moved on to the role of the Head Brewer for GGBL's Kaase site in 2013. She currently holds the role of Diageo's Third Party Operations Manager for West Africa for the past Six months.

Barbara enjoys brewing and loves exploring alternative sources of raw materials/recipes for brewing to drive.
She is a mother of one, loves to cook and enjoys travelling.

BRIAN IRELAND SABMiller
09H00 – 09H30 WATER, ENERGY AND EMISSIONS REDUCTION:- ENGINEERING PROGRESS IN SABMILLER

Biography
Brian Ireland has been SABMiller's Group Technical's Head of Engineering since 2010. Prior to that and for SAB Limited he help the positions of Head of Strategy and Corporate Planning, Trade Marketing, District Manager: Transkei and Distribution Development Manager. Trained as a Chemical Engineer, Brian's technical experience base has been also in production, process and advanced process control engineering in the FMCG and Oil industries.

Abstract

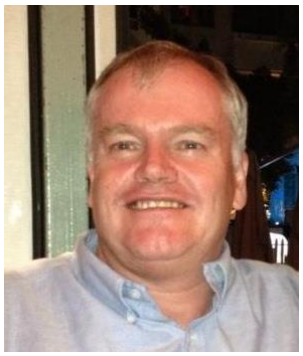
The late Graham Mackay had foresight. In 2009 he publically committed SABMiller's Beer Manufacturing operations to a 25% reduction in water ratio by 2015 and a 50% reduction in fossil fuel emissions intensity by 2020.

This bold step not only differentiated and enhanced SABMiller's reputation as a corporate leader with vision :- but it also set Technical in SABMiller on a journey with many consequences.
This paper lays out the how SABMiller digested Graham's vision and converted the targets that had been developed through the convictions of a few "on the back of a fag packet" to performances that many of our divisions can be proud of.

Some milestones have been achieved, and some new targets set. So as SABMiller continues it water, energy & emissions reduction journey to 2020 and beyond … how have the learnings been taken on-board and applied, and what lies ahead.

DEREK MCKERNAN SABMiller

09H30 – 10H00 PACKAGING MATERIAL SUSTAINABILITY – HOW TO ACHIEVE A 25% REDUCTION BY 2020



Biography

I have over 20 years of packaging experience at plant management and within packaging corporate functions. I have been head of packaging for both SAB (South Africa) and SABMiller PLC and in these roles I have been involved in a range of activities from new product development to packaging materials and technology innovation. I have qualification's in engineering, production and business management. My passion is ensuring packaging plays a prominent role in adding value to the broader business and to the consumer. I am a keen cyclist, both off and on road and spend most of my free time on a bicycle.

Abstract

This paper will showcase a unique approach to packaging sustainability management , which combines a cost and procurement approach with the desire to be more sustainable.

The presentation will show the analysis and the targeted focus areas using an abatement curve approach, by brand/pack and country of origin for SABMiller.

The progress to date and the measurement approach will also be discussed.

MARCO VAN DE VEN Pentair
10H00 – 10H30 ETHANOL – RECOVERY FROM A WASTE STREAM

Biography
Marco van de Ven holds a degree in Overall Operational Technics (AOT) better known as "Nautical Engineering" followed in Nijmegen, Netherlands.

Started in the Army where involved in "peace keeping missions" in the Baltic in 1991. Followed in 1993 by operational consulting during the start-up of the sludge incineration plant (DRSH) at Dordrecht, Netherlands.

His career at Haffmans BV, later Norit-Haffmans, and since May 2011 Pentair Haffmans, started in 1995 at the Service department, followed by Technical Support, from where he transferred to the sales department where he is since 2009 in the function of Product Manager CO2 systems for; CIS, West Europe, Scandinavia and Northern Africa.

Abstract
Recovering from waste is a hot topic in any industry. Both the brewing and distilling industry spend a lot of time and energy fermenting a good brew, respectively distilling it to quality alcohol. During fermentation > 95% of the alcohol is entrained in the resulting beer. The remainder of the alcohol is "lost" as vapour in the fermentation gas. This CO2 heavy gas is often considered a waste stream and purged to the atmosphere. To breweries this waste stream carries valuable CO2, which more often than not, is recovered and purified for own consumption purposes. The ethanol is scrubbed out and drained. Although growing numbers of distilleries are generating extra revenue from recovering and selling purified CO2 (in many African countries food grade CO2 is expensive to come by), it's the recovery of ethanol from this waste stream that distillers are mainly interested in.

Through the application of structured packing and heat recovery, up to 100% of the vapor ethanol can be recovered with minimal utility consumption. The recovered ethanol can be concentrated so that it can be fed directly to the distillation column, instead of recycling it back to the fermenters.

This paper describes the ethanol recovery process from this waste stream and utility requirements to do so economically.

Session 12 – SUSTAINABILITY II

CHAIRPERSON SANGEEV PARBHU SABMiller
11H00 – 12H30

Biography
Sangeev is a mechanical engineer and has worked in the FMCG industry for 20 years. He currently heads up engineering for SABMiller's Africa operations. His present responsibilities include asset management, utilities and sustainable development.

JAQUES BLIGNAUT Distel
11H00 – 11H30 FOG (FATS, OILS & GREASE) PRE-TREATMENT FOR ANAEROBIC DIGESTION OF WHISKY EFFLUENT

Biography
Name of Firm: Distell Type of Firm: Wine producers and Distillers Position Held: Specialist: Waste Management Name of Firm: DPE Consulting Engineers Type of Firm: Consulting Engineers Position Held: Managing Director & Co-founder Name of Firm: MBB Consulting Engineers Type of Firm: Multidisciplinary Consulting Engineers Position Held: Head of Department: Environmental

Abstract
The whisky production from maize at Wellington Distillery presents arguably the most challenging type of effluent in the whole of Distell. Although a very constant stream in terms of flow and quality is produced, the challenge lies in removing the Fats, Oils and Greases (FOG) before attempting to anaerobically digest the centrate in the existing reactor.

It has been identified that the FOG causes a build-up around the micro-organisms inside the reactor, effectively encapsulating and smothering them, resulting in a total shut down of the reactor.
As no similar plant seems to be operating on the same effluent elsewhere in the world which we could use as a benchmark, numerous tests were conducted and a vast number of treatment options

were investigated in conjunction with the University of Stellenbosch and various technology suppliers.

The aim was to establish a method of treatment, which will result in the production of renewable energy (i.e. steam or electricity) whilst removing 95% of the organic loading in the effluent.
In the past, this problematic centrate has been transported to dairy farmers in the Malmesbury region as cattle feed supplement at a considerable expense.

Distell also investigated the possibility of claiming Carbon Credits for the greenhouse gas emissions reductions as follows**:**

- Due to the fact that we shall be capturing the Methane produced versus essentially emitting this gas to the atmosphere as per the previous practice, we are reducing the damage to the environment by 25 times, even if we were to flare the Methane captured. After an in-depth assessment by Deloitte, they concluded that, because the plant was constructed 15 years ago, we are not able to claim Carbon Credits under the "additionaly" principle.
- Using this gas (a renewable fuel) to generate steam, substitutes the use of coal (a fossil fuel), which in turn could qualify for Carbon Credits as a "fuel replacement" project. The mechanism would again be as defined under the "additionality" principle. This basically means that Carbon Credits can only be claimed if we can demonstrate that the investment would not otherwise be feasible, and only once the Carbon Credits are taken into account would we consider the implementation of the project.
  Ironically, the favourable IRR of the stand-alone investment (excluding Carbon Credits) deems this investment feasible under current company policy – and therefore Carbon Credits would not be claimable.

VALENTINE WAMBUI Diageo
11H30 – 12H00 CONCENTRATION FOR USE BREWERY WASTE WATER USING SOLAR ENERGY

Biography
Chemical and Process Engineer, currently working as a Trainee Brewer in East African Breweries Limited. I have a passion for renewable energy technologies and hope to contribute greatly toward the development of the same in my country and abroad as well.

Abstract
The brewing industry is one of the largest industrial users of water with an average of 7 parts water used to produce 1 part beer .The current usage rate versus the growing population may create an unsustainable pattern. The long-term sustainability and growth of a brewery may depend on its ability to efficiently use its water resources especially in Kenya which is a water stressed country. Because of the high concentration of organic load, brewery wastewater is rich in nutrients and may be used for irrigation purposes.

Kenya being astride the equator and extending four degrees on either side, receives a considerable amount of solar radiation. Daily insolation ranges from 4-6kWh/m2.

Kenya experiences bimodal rainfall with the long rains from March to May and the short rains from October to November. It is only during this time that there may not be enough sunlight to operate solar devices.

This work presents the technical possibility of concentrating brewery wastewater using solar energy. The product is then used to irrigate tracts of tree farms which in turn maintain the water cycle.

SIMON PITTS Talbot & Talbot

12H00 – 12H30 THE IMPACT OF POOR BREWERY PROCESS CONTROL ON EFFLUENT TREATMENT PLANT ENERGY COST RECOVERY

Biography

Water and wastewater specialist working for Talbot & Talbot for 8 years. In the operations division personally managing 12 effluent plants on breweries and distilleries in East Africa and Southern Africa. Involved in operation and design of new technologies such as yeast autolysis, biogas recovery and wastewater reclamation. Good knowledge of brewery processes.

Abstract

Anaerobic digestion, the brewery effluent treatment plant (ETP) process of choice, requires selective effluent for effective treatment and high biogas production. Placing a value on good effluent treatment plant performance has always been challenging as an ETP was always considered an expense. However with new technologies such as biogas and wastewater reclamation we can quantify cost recovery of efficient effluent treatment.

Once the anaerobic digester has been optimised, the limiting factor of cost recovery becomes process control of upstream waste generating processes. This control centres on inhibition of anaerobic digestion by poor solids management and inefficient chemical use but also stimulated through alternative clean effluent generation sources such as digestion of separated autolysed yeast. Evaluating operational data of anaerobic digesters on breweries utilising biogas recovery, we can effectively evaluate the impact of poor process control on energy recovery.

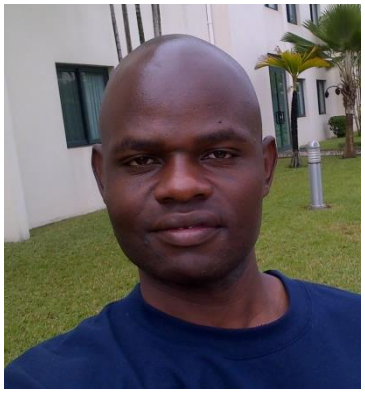
The distinction of breweries with good process control in terms of operation and mechanical design is up to 100 – 200% more efficient in energy cost recovery in comparison with breweries lacking in effective process control. This presentation highlights how can we differentiate between anaerobic digestion performance levels, identify contributing factors of inhibition from brewery processes and propose best practice to facilitate the highest energy cost recovery per hectolitre of beer produced.

Session 13 – MANUFACTURING EXCELLENCE

CHAIRPERSON BRENDAN RUSHE Diageo
13H30 – 15H00

Biography
I have been with IBD & Guinness/Diageo for 23 years. I am an IBD Master Brewer. My current role is all about breakthrough performance while monitoring and driving the yearly performance Indicators. Almost half of my career has interactions with Africa and there is a similar split between Operational and Central roles. Prior to this role I was Supply Chain Director for Uganda. Prior to that, I was based in Ghana in charge of the West Africa Hub. I am very passionate about our business and I like to have fun getting the job done

FELIX ALALA EABL
13H30 – 14H00 *KIWANDA MAALUM* PROGRAMME



Biography
I am a 34 years old male, husband and a father of one daughter aged 4 years. Joined Diageo as a Mechanical Engineering Graduate trainee and completed IBD Diploma Course. I am an industrious manufacturing excellence professional with 8 years' experience in packaging and brewing areas. I am currently leading change programme in Diageo-KBL that aims to deliver improved results and behaviours by adopting new and effective ways of working in manufacturing processes.

Abstract
Tusker Site has just been recognized as the most improved brewery in Diageo Global Supply Excellence annual awards. This is a great achievement for the Tusker team and the site as a whole. The recognition serves to demonstrate our winning strategy anchored by the Perfect Plant Management System-*Kiwanda Maalum(Perfect Plant)* programme which has greatly contributed to improving our ways of working, our behaviours and capabilities on site as well as innovations, cost control and spirits growth. The Kiwanda Maalum was initiated in July 2013 and has been running for the last 1 year and 4 months on site.

The gains we've made can be attributed to the great effort and sustained commitment we've seen from every member of the team; embracing the Perfect Plant Management System (PPMS), a prescriptive methodology for managing a manufacturing site, as a non-negotiable deliverable. *Kiwanda Maalum* programme has helped to diagnose the existing management systems in the organization and to map out opportunities to drive change and improve business performance through a change management process based on the PPMS model.

We have recorded 80% reduction of Lost Time Accidents on site, Quality transformation journey from Quality Control to Quality Assurance to the shop floor which has helped deliver over >400% improvement in Pack dress and reduction of in-process waste winning 3 Gold and 1 Silver MONDE awards in our key brands ,and a 7% improvement in Site Overall Equipment Effectiveness. This has delivered reduction in overall COGS, while operating in a compliant environment.

To ensure sustainability, a blueprint on the development of key leadership behaviors and sustainability plan required to deliver the Supply Performance Ambition has been developed and owned. This is currently being cascaded to all levels of the Supply Chain right to the shop floor to ensure that all teams are equipped with the right mindsets and behaviors to deliver superior business outcomes. And also to support the sustainability agenda, PPMS audit framework has been put in place to monitor compliance and identify opportunities for improvement going forward.

GABRIEL PITSO SABMiller
14H00 – 14H30 MANUFACTURING WAY – HOW DOES MANUFACTURING BEST PRACTICE LOOK LIKE IN SABMILLER AFRICA – TANZANIA STORY

Biography
Gabriel Pitso is the Brewing Manager for Tanzania Breweries, Dar es Salaam Plant. From mechanical engineering background, he is also a food scientist and Masterbrewer (M.Brew). Gabriel has worked for Tanzania Breweries since 2012, having worked as Brewing Manager previously at Maluti Mountain Brewery in Lesotho for 4 years.

Over the past 12 years in the manufacturing industry, Gabriel has gained a lot of experience and knowledge in the Industry. Passionate about developing people capabilities, and well developed Problem solving capabilities, being a certified Green belt holder in DMAIC methodologies. Having been involved in the implementation of world glass manufacturing principles in different breweries, Gabriel has gained vast and in-depth understanding of practical implementation of World class manufacturing using Global Evaluation of Manufacturing. Through this, he has been able to support integration of shared learnings from various plants and operations into Tanzania Breweries philosophy and practices, as well as process optimization initiatives.

Abstract
The Manufacturing Way is SABM's key to sustainable implementation and anchoring of best work practices in manufacturing industry.Through the Manufacturing Way, world class manufacturing standards can be entrenched and sustained, as proven by the developments in Tanzania.

This study was conducted to determine the benefit in Implementing manufacturing way principles in SABMiller Africa beer industries. The first detailed presentation on the SABMiller Manufacturing Way was made to the SABMiller (Africa) EXCOM on the 17th March 2008 by Nic Notje, then Manager: Manufacturing and Development SABMiller Africa. This was an advancement to the Manufacturing Excellence Programme (MEP) which SABMiller Africa had already entrenched in the past years. The study followed through the steps which were taken following EXCOM approval, to the communication plans by country MD's, but focusing specifically on Tanzania, "The Tanzania Journey"

In 2009, Tanzania Breweries Limited (TBL) embarked on the Manufacturing Way journey. Implementation of SABMiller Manufacturing Organizational Model, Shop Floor Work Practices Framework, Competency Acquisition Programme, and Standard Operating Procedures. Each Plant's maturity on Manufacturing way is assessed using the Global Evaluation of Manufacturing (GEM's). The GEM scores for TBL have increased steadily over the years and are aligned to the practices on the shop floor, and overall improved performance

This presentation will outline TBL's journey and show how Manufacturing Way best practices are key to good brewery performance. Through their implementation it has helped TBL to improve its overall performance over the last 4 years. It is through this initiative that TBL plants have sustained their SABMiller global ranking and have maintained their top 4 position in Africa rankings. This includes milestones like receiving the IBD Africa best Beer Award at the last IBD convention in Ghana.

THORSTEN FINK SABMiller
PRESENTED BY: FRANZ SCHEPPING SABMiller
14H30 – 15H00 SECONDS AND LITRES – ZAMBIA'S STORY

Biography
I have 15 years experience in the Brewing Industry and Bachelor of Brewing and Beverage Science. I started my Brewing Career in 2000 at the Agustiner Braeu KG in Munich where I worked as Trainee and later on as Brewer and Maltster for 5 years. My first position as Brew Master was at the Craft Brewery Weyberbraeu in Sailauf/Germany where I worked for one year before I moved to Krones/Steinecker as Commissioning Engineer for Breweries. For 2.5 years I was travelling around

the world to commission, optimize and consulate Breweries. Since 2012 I work as Brewing Manger in Ndola/Zambia.

Abstract
Zambian Breweries (ZB) Plc's new state-of-the-art Brewery in Ndola has commenced operations in October 2012 and the old brewery was finally shut down in March 2013. The Brewery is designed for 1.000.000hl per year and is currently running at 600.000hl. After the Performance Acceptance Test, the aim was to become the fastest Brew House with the lowest water usage in the SABMiller group. Therefore every single step from the automated system was analysed on how to reduce the Occupations times in each vessel as well as the water usage in the Brew House. To realize our Vision of the fastest Brew House, each "second" which was able to be cut out was important for brewery. The target was to achieve very short cycle times and for this, parameters have been optimized, software bugs erased as well as software changes realized. Finally in 2013 the cycle time for one of our Brands (Mosi) of 1 hour and 50 Minutes what relates to a Brew House Capacity of 13 brews per day was achieved. This is a tremendous achievement when we take into consideration that the Brew House was designed and built for only 9 brews per day, running with a cycle time of 2 hours and 40 minutes. The same focus was put into the water usage. After the PAT we had a water usage in the Brew House (per hl cold wort) of 1.22hl/hl for production and 0.293hl/hl for CIP. After optimization a total water usage of 1.25hl/hl cold wort what relates to a water reduction of 17% was realised, what puts us under the top performer when it comes to water usage in Brewing global. This presentation about "Seconds and Liters" in the Brew House, shall give some insights into the way we reduced time and water and shall give some ideas to other Brewers on what can be done to achieve the same.

Session 14 – THE WRAP UP

TECHNICAL CHAIRPERSON IAN JONES Global Beverage Solutions
15H30 – 17H00

Biography
Ian Jones completed a BSc (Hons) in Microbiology at the University of Kent (UK) and then a Master of Science degree in Malting and Brewing Science at the British School of Malting and Brewing, University of Birmingham (UK).

He then worked for nine years in the British Brewing industry completing a brewing pupilage with Whitbread and working in line management for Guinness, London. During this period he also successfully passed the Institute of Brewing Diploma Master Brewer exams.

At this stage Ian joined South African Breweries in Johannesburg and after four more years in production he became Brewing Training and Development Manager for the group. He completed his

MBA at the University of Witwatersrand at this time with his thesis entitled, "A Model for Human Resource Development".

Ian left corporate life in 2002 and set up Global Beverage Solutions (Pty) Ltd to provide tailored human resource development solutions to the beverage industry worldwide. In the last 12 years GBS has consulted globally to many of the major brewing companies including Diageo, SAB Miller and Heineken. Recently GBS has set up a subsidiary called GBS Craft to consult into the fast-growing craft brewing market in South Africa.

Ian is closely associated with the Institute of Brewing and Distilling and is currently Immediate Past-Chairperson of the Africa Section.

KEYNOTE SPEAKER
DEBORA PATTA Journalist
15H30 – 16H30 LEARNINGS FROM MANDELA

Biography
Her 20 year career spans radio and television as both an on-air newswoman and a senior editorial manager.

She began working in radio freelancing for the BBC and in 1990 started at the well-known Johannesburg based talk radio station 702. She is particularly well-known for her coverage of Nelson Mandela from his release to his election as South Africa's first black president. He used to call her "his favourite journalist."

Patta moved to independent free-to-air television station e.tv in 1998 where she was Editor-in-Chief of e.news launching the country's first 24hr TV channel and mentoring a generation of reporters. Patta was also the host and Executive Producer of Third Degree for 13 years – a no-holds barred investigative current affairs programme and terror to the corrupt and powerful.

Patta now runs her own production company and has taken her skills internationally – working as a correspondent for some of the biggest names in television – CBS News in the United States and Channel 4 in the UK.

Patta is a multi-award winning journalist – these include the Vodacom Media Woman of the Year, South Africa's Most Influential Woman in Media, MTN's Outstanding Women in Media and Italy's Woman of the World. Patta has also co-authored two books Baby Micaela and One Step Behind Mandela.