

2016



FOUNDATION FOR ALCOHOL RESEARCH

REPORT 2016

2016 saw the development of a major new strategy for ERAB which was approved by the Board of Directors in November. This has been developed by Emeritus Professor Frans Kok, who was appointed Chairman of the Board of Directors in February. The strategy has three main goals, as follows: to provide a sound basis to secure external funding; to facilitate more efficient research funding; and to enhance the impact of ERAB and alcohol-related research.

Additional funds are needed to enable ERAB to fund more research and to have a greater impact. In the interim, the growing number of applications received each year means that the application success rate has fallen below a critical level and many excellent applications cannot be granted. To this end, the Advisory Board have introduced a pre-proposal system which will enable them to identify the applications most likely to succeed and save many applicants a great deal of work putting together a full application. This will also cut down on the work for our reviewers.

As well as a new Chairman for the Board of Directors, we also have a new Chairman for the Advisory Board following the resignation of Emeritus Professor Philippe De Witte. Professor Chris Day, a longstanding member of the Advisory Board, has been appointed to replace him. Professor De Witte had been a Board member since ERAB was founded in 2003 and Chairman of the Advisory Board since 2006. His hard work on behalf of the Foundation, and his strong commitment to independence has established ERAB as the successful and respected Foundation it is today.

Key activity in 2016 included:

- Seven new research projects funded by ERAB started in January. These add to the ten which started the previous year and mean that ERAB is currently funding seventeen projects in 8 Member States (Denmark, Germany, Italy, Portugal, Romania, Spain, The Netherlands and UK). Five of these are psychosocial studies and seven are looking at some aspect of research into the health effects of beer.

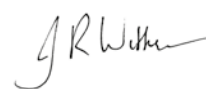
- A record 71 applications were received. The Board of Directors has since approved the recommendations of the Advisory Board that six of these receive some funding, and they will start early in 2017. These six applications come from four countries.
- In addition, ERAB helped three young investigators to present their research at conferences, two to visit a centre of excellence to learn a new research technique and one to publish his PhD thesis on his research. This helps to raise ERAB's profile in the research community and encourage young researchers to stay in the field of alcohol research.
- The total number of scientific papers in peer reviewed journals citing ERAB as a source of funding is now 191. One third of these are in top scientific journals with a high impact factor (IF > 4.0), demonstrating the quality of the science which ERAB is funding. Full details are on the ERAB website.
- 22 people attended the second meeting between biomedical and brewing scientists held after the EBC Symposium in Poland on Thursday September 22nd 2016. The focus of this meeting was the differences between non-alcoholic and standard beer in terms of composition and possible health promoting effects.

Finally I would like to again thank;

- all members of both the Advisory Board and the Board of Directors for their help and support for ERAB;
- all grantees for their hard work on their research; and
- all our sponsors without whose commitment and contributions ERAB could not continue to make the substantial progress it has over the last thirteen years.



Janet Witheridge
Secretary General



In 2016, ERAB has again had to bid farewell to some long-standing and eminent members of the Board of Directors who are standing down. We would like to thank them all for their support and the work they have done on behalf of ERAB.



Emeritus Professor Philippe De Witte

Philippe De Witte was Professor and head of the Laboratory of Behavioural Biology at the Université Catholique de Louvain until he retired in 2014. In 1987 he received a Fulbright Grant to complete a specialization in brain research at the NIH. He has also worked as invited Professor in Washington State University and the University of Colorado.

He is an Editor in Chief of “Alcohol and Alcoholism” and on the editorial advisory board of a number of leading Journals. He was President of the European Society for Biomedical Research on Alcoholism (ESBRA) for two terms from 1993 – 2001 and was the President of the International Society for Biomedical Research on Alcoholism (ISBRA, 1998-2002). He joined the ERAB Advisory Board when it was first formed in 2003 and succeeded Professor Oliver James as its Chairman on 1st January 2007. As Chairman of the Advisory Board he was also an ex-officio member of the Board of Directors.

He resigned in September 2016 and ERAB will miss his expertise very much. For the past ten years he worked tirelessly on behalf of ERAB and he has helped enormously to make ERAB the success it is today.

His strong commitment to independence from the sponsors for the scientific advisors, and his insistence that only the very best applications are funded has been fundamental in helping to build a solid, scientific and credible Foundation.

ERAB will continue to uphold the principles he laid down and will hopefully continue to grow and succeed.



Mr. Demetrio Carceller

Demetrio Carceller was a member of the ERAB Board of Directors from November 2013 to November 2016. He was appointed during his term of office as President of The Brewers of Europe. He began his professional career in 1985 at Group Santander Bank and later in the international consulting firm McKinsey & Company. During the nineties he held different positions in energy companies, and later in the

food and beverage industry as Executive Chairman and CEO of S.A. Damm.

He has held different positions in the Spanish brewing sector, such as President of The Brewers of Spain and President of the Spanish Hops Society from 1997 to 2011. Before being elected as President of The Brewers of Europe on 23rd November 2012, he served as Vice President between 2009 and 2011.



Dr. Erik Skovenborg

Danish-born Erik Skovenborg qualified as a medical doctor in 1971. After five years in hospital training he entered General Practice in 1976 from where he developed a life-long interest in the health implications of drinking and health culminating in his becoming a member of the AIM Editorial Board in 1992 and a founder member of the Scandinavian Medical Alcohol Board (SMAB) in 1994. Two years later he chaired the international “Health & Alcohol Symposium” in Copenhagen and was instrumental in organizing the international “Women and Alcohol Symposium” in Stockholm in 1998 and the international symposium “Alcohol in Moderation - Health and Culture in the Next Millennium”, in Oslo in 2000. He is the author of “Wine and Health - Myths and Facts” and has an extensive knowledge of European alcohol-culture, habit and history. A crucial element of his work has involved lecturing the medical profession on the role of alcohol and health, enabling doctors to help people gain a natural, healthy and rational attitude towards their consumption of alcohol. On October 15th 2016 he published a book together with Professor Arne Astrup “Til øllet - sund med øl i glas og gryde” (To beer - healthy with beer in glass and pot).

He was a public member of the ERAB Board of Directors from May 2004 to May 2016 and was instrumental in bringing a number of key articles to the attention of the Board.



Mr. Dipl.-Ing. Markus Ferber

Markus Ferber, MEP, was a public member of the ERAB Board of Directors of ERAB from October 2010 to October 2016. While he was a member, he hosted the launch of the “Report on drinking in the second decade of life in Europe and North America” in the European Parliament, on 27th November 2012. The Report was published jointly by ERAB and ABMRF/The Foundation for Alcohol Research in North America.

Mr Ferber became a member of the European Parliament in 1994. Prior to this he graduated in electrical engineering and worked for Siemens AG (Munich) and Pfister GmbH (Augsberg).

**Mr. Kieran Simpson**

Kieran Simpson was a brewing representative on ERAB's Board of Directors, from May 2004 - October 2008 and again from November 2012 to November 2016. In 2013 / 2014, he and his colleagues helped with the planning of the International Meeting on Alcohol and Global Health (IMAG) which was organised by ERAB and hosted by The Brewers of Europe.

He joined the brewing industry in September 2002 as Head of Public Affairs for Scottish and Newcastle

plc. Following the takeover of S&N by Heineken and Carlsberg in 2008, he was the Corporate Relations Director for Heineken UK and became European Public Affairs Manager for Heineken (global) in 2012.

Prior to joining the industry he was a Special Adviser in the UK Government and in the Labour Party's Policy Directorate.



WELCOME

ERAB is delighted to announce the appointment of three new public members and two new representatives from the brewing sector to the Board of Directors. They were all appointed at the Board meeting on 3rd November 2016.

**Professor Chris P. Day**

Professor Chris Day is Vice-Chancellor and President of Newcastle University. Previously a Consultant Hepatologist with an international reputation in medical research, he is Vice President (Clinical) and a Fellow of the Academy of Medical Sciences and an NIHR Senior Investigator. He is also a member of the Council of the Medical Research Council.

He was Chair of the Clinical Medicine Sub-Panel for the 2014 Research Excellence Framework (REF) Exercise. He is also a past Secretary of the British Association for the Study of the Liver and the Royal College of Physicians Working Party on the Burden of Alcohol on the National Health Service and was a member of the Scientific Committee of the European Association for the Study of the Liver.

He is an immediate past Co-Editor of the Journal of Hepatology. Prior to his appointment as Chair of Liver Medicine, he was supported for seven years by the MRC for research into alcoholic liver disease. In 1999 he was awarded the Goulstonian Lectureship of the Royal College of Physicians UK, and in 2000 the British Society of Gastroenterology Sir Frances Avery Jones research gold medal.

In hepatology his work is very influential in the

understanding of genetic susceptibility to alcoholic and drug-induced liver disease and the aetiology of alcoholic and non-alcoholic fatty liver disease and the inter-relationship of the latter with metabolic syndrome, diabetes and obesity. His research has informed the understanding of the natural history of non-alcoholic fatty liver disease and described the 'two-hit theory' of progression from benign disease to progressive inflammation and fibrosis.

Chris has been a member of the ERAB Advisory Board since ERAB's foundation and he was appointed as its Chairman by the ERAB Board of Directors in November 2016. He will also represent the Advisory Board on the Board of Directors.

**Dr. Renate Sommer MEP**

Dr. Sommer was elected as a member of the European Parliament in 1999 in the Group of the European People's Party (EPP). She graduated as an engineer in agricultural sciences (1984) and received her doctorate in agricultural sciences from Bonn University (1996). Between 1984 and 1989 she worked as an academic assistant at Bonn University and between 1989 - and 1992 she was agricultural policy officer for the German Farmers Union in Bonn. After that she took a career break until 1999 which was spent raising family and was involved in local politics. Between 2005 and 2013 she was a member of the Committee of Experts on Agriculture and Food Safety, Christian Democratic Union in German.

Within the European Parliament she has the following roles:

- Committee on the Environment, Public Health and Food Safety (ENVI);
- Committee on Foreign Affairs (AFET);
- Delegation to the EU-Turkey Joint Parliamentary Committee;
- Delegation to the EU-Albania SAPC;
- Standing EPP Rapporteur on Turkey; and
- President of the EP Beer Club.

She was awarded the “Golden Medal of Saint Paul” from the Church of Cyprus in 2015.



Dr. Isak Lindstedt

Isak Lindstedt is a General Practitioner. He graduated from Baylor University in Texas in 1996 with a Bachelor of Science in Biochemistry and Pre Medicine. He finished his Medical Degree from Aarhus University in Denmark in 2000 and specialized in Internal Medicine from Lund University Hospital in Sweden in 2007. He then went on to specialize in General Medicine and from 2011 is the Director and MD at a general practice in southern Sweden. He has a special interest in Hypertension and was recognised as a Hypertension Specialist of the European Society of Hypertension in 2011. He serves on the Editorial Board of the Swedish Journal of Vascular Medicine and is the author of numerous independent scientific articles, guidelines and reviews. He often functions as a motivational speaker and lecturer. How different components of the human diet affect risk factors and diseases of the cardiovascular system is of particular interest.



Mr. Pavlos Photiades

Pavlos Photiades is the President of The Brewers of Europe. He studied Economics at Harvard College, Harvard University from where he graduated in 1988 having been awarded the Harvard

College Scholarship Award for academic achievement twice. He also holds a Master of Business Administration degree from the INSEAD business school in France.

He is currently the Managing Director of Photos Photiades Breweries, which during his tenure as M.D has become the leading Brewery and Beverage Distribution Company in Cyprus, with subsidiaries in Greece, Romania and Croatia. He is also the Managing Director of Photos Photiades Group, which during the same period has expanded into new fields and today is one of the largest business groups in Cyprus involved in Beverages, Financial Services and Real Estate Development.

He has served on the Board of Directors of several public companies in Cyprus and Greece, and is the current President of the Cyprus Institute of Neurology and Genetics. He is a member of the Executive Board of the Cyprus Olympic Committee and former Chairman of the Cyprus Ski Federation.



Ms. Sarah Boselli - Lee

Sarah Boselli is the Head of EU Public Affairs in Heineken in The Netherlands. She was appointed in 2015. Between 2008 and 2014 she was a Managing Partner with the Interel Group. Prior to that she was a Senior Consultant with Cabinet Stewart, a Policy Officer with EUROCHAMBERS – Association Européenne des Chambres de Commerce and a Political Assistant in the Office of Edward McMillan-Scott MEP. She graduated from the University of Hull, UK in 1999 with a BA Hons in European Studies and Political Economy and completed a Master of European Studies at the College of Europe, Belgium in 2000.

■ ERAB JOINS FAIB



We are delighted to announce that as of November 2016, ERAB is a member of the Federation of European and International Associations established in Belgium - FAIB.

The FAIB was founded in 1949 at the initiative of the leaders of the UIA (Union of International Associations) to draw attention to the existence of international associations in Belgium and to the need of facilitating their activities. The Federation has been chaired by great men of State such as Paul Van Zeeland, Albert Th  atre and Pierre Harmel, whose objective was to promote the development of international life in Belgium.

FAIB's mission is to:

- encourage European and international associations to settle and remain in Belgium;
- represent its members to third parties and defend their interests towards all public and private bodies;
- obtain legal recognition of associations and the associative movement by Belgian, European and international authorities;
- facilitate its member's activities in every possible way within its remits;
- assist its members with joint studies, administrative and auxiliary services, etc.; and
- keep its members informed of developments in legal, administrative and all relevant matters impacting them.

FAIB offers a number of services including:

- advice on general legal and taxation matters;
- introductions to trusted service providers – for example lawyers, or communication professionals;
- access to studies and surveys and practical information on how to comply with Belgian legal provisions;
- access to lunch-debates and a Members' Forum; and
- access to the services of IAC/MAI (International Association Centre / Maison des Associations Internationales).

We look forward to a long and fruitful membership.

■ NEW REGISTERED ADDRESS

We are happy to announce that ERAB has a new registered address.

Rue Washington, 40,
B – 1050 Brussels, Belgium.

■ NEW GRANT APPLICATION PROCEDURE

ERAB receives a growing number of applications each year. Many of them are of excellent quality and worthy of funding but this year the percentage of applications which could be funded has dropped below 10%. Given the large amount of work involved in making a full application and the additional work and goodwill of many eminent scientists undertaking the peer-reviews, the Advisory Board has decided to move to an outline, or pre-proposal system for applications starting in 2017.

The Advisory Board believes that adopting a pre-proposal system will reduce the burden for applicants and will ensure that only those with a realistic chance of success are asked to complete a full application.

The pre-proposals will be evaluated by the Advisory Board. A limited number of them will be selected and those applicants invited to submit a full application, which will be externally reviewed in the usual way.

INTRODUCTORY INFORMATION

In 2003, the European Foundation for Alcohol Research (ERAB) was established in Brussels as an independent Charity to fund European biomedical and psychosocial research into the effects of beer and other alcohol beverages. Applications are accepted from established research institutions and universities from any European Country (applications from institutions in countries outside the European Union must be in partnership with an institution based in the European Union).

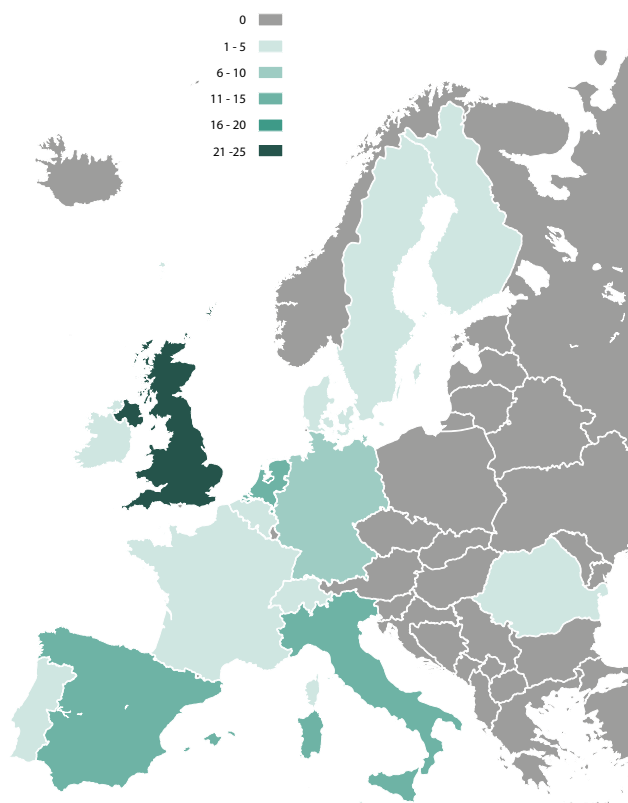
KEY PERFORMANCE INDICATORS 2003 - 2016

Total subscriptions 2003 to 2016 € 6,488,382
Total grant spend 2003 to 2016 € 6,082,500

Total Applications (funded) 578 (92)
Of the grants funded
Number of two year grants 70
Number of biomedical grants 58
Number of psychosocial grants 34
Number of publications citing ERAB 191
Total Travel Award Applications (funded) 93 (67)
Total Exchange Award Applications (funded) 15 (12)
Number of Thesis Awards funded 6 (6)
Number of Special Publication Awards funded 7 (7)

To date, ERAB funded projects have been undertaken in 14 different EU countries:-

Belgium; Denmark; Finland; France; Germany; Ireland, Italy; The Netherlands; Portugal; Romania; Spain; Sweden; Switzerland and the UK.



Map showing funding distribution 2003/4 - 2016/17

CONTRIBUTORS

Without the continued support of the European brewing sector, ERAB would not be able to continue to fund independent research into the biomedical and socio-behavioural aspects of alcohol consumption.

Subscriptions to ERAB have again been received from all 29 member associations of The Brewers of Europe and additionally by the four major brewers in Europe.

ERAB would like to thank all of its supporters for their sustained commitment and their recognition of the value of developing a better understanding of how alcohol affects health and behaviour:

- APCV - Associação Portuguesa dos Produtores de Cerveja, Portugal;
- Asociația Berarii României, Romania;
- Association of Hungarian Brewers, Hungary;
- Association of Slovene Brewers, Slovenia;
- Assobirra - Associazione dei Birrai e dei Maltatori, Italy;
- Beer and Malt Producers' Association of Turkey, Turkey;
- Belgian Brewers, Belgium;
- Brasseurs de France, France;
- Bryggeriforeningen, Denmark;
- Cerveceros de España, Spain;
- Croatian Chamber of Commerce Association of beer, malt and hop producers, Croatia;
- Cyprus Brewers Association, Cyprus;
- Czech Beer and Malt Association, Czech Republic;
- Deutscher Brauer-Bund e.V., Germany;
- Fédération des Brasseurs Luxembourgeois, Luxembourg;
- Greek Brewers' Association, Greece;
- Lithuanian Brewers' Guild, Lithuania;
- Nederlandse Brouwers, The Netherlands;
- Norwegian Brewers, Norway;
- Panimoliitto, Finland;
- Slovak Beer and Malt Association, Slovakia;
- Sveriges Bryggerier AB, Sweden;
- Swiss Breweries' Federation, Switzerland;
- The Irish Brewers' Association, Ireland;
- The Malta Chamber of Commerce, Enterprise and Industry, Malta;
- The Union of Brewing Industry Employers in Poland - Polish Brewers, Poland;
- The Worshipful Company of Brewers, UK;
- Union of Brewers in Bulgaria (UBB), Bulgaria;
- Verband der Brauereien Österreichs, Austria.
- The Brewers of Europe.
- Carlsberg Breweries A/S;
- Heineken International B.V.;
- Anheuser Busch InBev N.V.;
- SABMiller Europe A.g..

■ THE ERAB WEBSITE

The ERAB website includes: biographies of the members of both Boards; information about how to apply for grants and awards, including the deadlines; details of grants already funded; the publications resulting from these grants; proforma report forms; and a sample contract for grantees to download. It also provides links to the newsletters and other ERAB publications.

www.erab.org

■ NEWSLETTER

As well as the Annual Report, ERAB has an electronic newsletter which is sent to around 800 European scientists who have applied to ERAB for funding, or have helped with the peer reviews. Articles are succinct and are used to notify the research community about application deadlines and research applications which have been granted. This helps to maintain the visibility of ERAB and strengthen its profile. Copies of the newsletters are also available on the ERAB website www.erab.org.

FINANCE

An average of seven grants of up to €100,000 are funded each year, together with four or five travel awards, and one or two exchange awards. The research grant expenditure accounts for the majority of the annual budget.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
	€	€	€	€	€	€	€	€	€	€
Industry contributions	535,000	535,000	474,000	473,073	522,997	520,772	530,772	531,502	530,772	530,772
Investment income	6,098	2,450	110	374	962	862	40	730	0	0
Donations						50,000	0	0	0	0
Expenditure										
Grants and Awards										
Grants	426,398	727,315	422,482	391,900	395,056	390,000	345,000	444,834	527,500	482,500
Awards	12,219	9,504	8,590	5,351	4,287	7,478	4,400	25,026	7,002	6,516
Projects					51,200	72,069	1,010	1,864	0	0
Sub Total	438,617	736,819	431,072	397,251	450,543	469,547	350,410	471,724	534,502	489,016
Other Expenditures										
Communications	17,017	5,490	9,638	12,944	12,000	12,015	12,648	12,168	5,973	6,810
Meetings and Conferences	32,371	13,696	17,078	22,538	14,000	9,260	7,318	31,130	27,303	24,059
Salaries and Honoraria	2,000	3,000	14,750	21,000	21,000	23,000	43,000	26,000	44,000	52,846
Other	3,562	2,631	5,458	8,682	5,737	7,946	3,163	8,627	6,633	7,006
Total Expenditure	493,567	761,636	477,996	462,416	503,298	521,768	449,498	549,649	618,411	579,738
Assets carried over	195,264	242,795	0	0	0	49,866	81,314	0	39,823	44,150
Reserve			18,608	14,722	25,754	41,885	25,753	73,605	91,751	0
Endowment	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000

*provisional

ERAB has two boards: a Board of Directors, and an Advisory Board. The members of both Boards devote time and expertise and ERAB is very grateful to them for their support.

■ BOARD OF DIRECTORS

ERAB's independence is guaranteed by a Board of Directors made up of a majority of public members. Their role is to administer the funds.

Public Members



**Emeritus Professor
Frans Kok**

Division of
Human Nutrition
at Wageningen
University, The
Netherlands.

Chairman (from
February 15th 2016)



**Professor Daniel
Bessa**

Portugal.



**Countess Antoinette
d'Aspremont Lynden
de Merode**

Professor of
accounting and
financial analysis at
the Political Science
Institute in Lille, UK.



**Professor
Christopher P. Day**

University of
Newcastle, UK.

**Chairman of the ERAB
Advisory Board.**



**Count Rodolphe de
Looz Corswarem**

President of
European Historic
Houses Association,
Belgium.



**Mme. Véronique
Guérin**

Managing Director of
the Bureau Européen
de l'Agriculture
Française, France.



Dr. Isak Lindstedt

General Practitioner,
Sweden.



Mr. Jean Martin

Former President
of the European
Confederation of the
Food & Drink Industry,
France.



Miss Johanna Nyman

President of the
European Youth
Forum, Finland.



**Dr. Renate Sommer
MEP**

Member of the
European Parliament,
Germany.



Janet Witheridge

ERAB: The European
Foundation for
Alcohol Research, UK.
Secretary-General

Representatives from the Brewing Sector



Ms. Sarah Boselli-Lee
Heineken, The Netherlands.



Mr. Morten Jensen
Carlsberg Group, Denmark.



Mr. Simon Jackson
Former CEO of the Institute of Brewing and Distilling, UK.



Mr. Jacobo Olalla Marañón
Cerveceros de España, Spain.



Mr. Pavlos Photiades
President of The Brewers of Europe, Cyprus.

Honorary Members (According to Article 6 of the By-Laws)



Dr. David Long MBE
Consultant, Former Director, Brewing, British Beer & Pub Association, UK.



Mr. Piero Perron
Former President of The Brewers of Europe. **Founder Member**



Emeritus Professor Richard Smallwood
Former Commonwealth Chief Medical Officer (1999-2003), Australia.

■ ADVISORY BOARD

The members of the Advisory Board have a proven international independent scientific reputation. Their role is to examine the applications, suggest peer reviewers and, based on the reviews received, recommend to the Board of Directors which applications should be funded. The members of the Advisory Board generously give their time and expertise without reward and ERAB is very grateful for this support.



Professor Christopher P. Day
Vice-Chancellor, Newcastle University, UK.
Chairman (from November 6th 2016).



Professor Giovanni Addolorato
Department of Internal Medicine, Università Cattolica del Sacro Cuore, Rome, Italy.



Associate Professor Bridgette Bewick
Leeds Institute of Health Sciences, University of Leeds, UK.



Associate Professor Ramon Estruch
Department of Internal Medicine, University of Barcelona, Spain.



Professor Wolfgang Koenig
German Heart Centre, University of Munich, Germany.



Associate Professor Marianne Nissen Lund
Department of Food Science, University of Copenhagen, Denmark.



Dr. Sascha Venturelli
Department of Medicine, University Hospital of Tuebingen, Germany.



Professor Matty P. Weijenberg
Department of Epidemiology, Maastricht University, The Netherlands.

ERAB invites applications for funding European biomedical and psychosocial research into the effects of beer and other alcohol beverages. The applications are sent for peer review to experts (in the relevant subject) from all over the world. The recommendations as to which grants are funded are based on these reviews which give particular emphasis to the scientific merit of the application. Grants are funded up to the maximum of €50,000 for one year or €100,000 over two years. After several years of encouraging applications for research in the **psychosocial field**, in 2014, 2015 and 2016, ERAB particularly encouraged applications for research on **lifestyle and drinking patterns**.

Applications received by the April deadline were reviewed during the Summer. Applicants were notified in November with a view to the research starting in January 2017.

To date ERAB has funded 92 full grants - an average of 7 per year.

Completion year	Number of grants completed / to be completed
2006	7
2007	4
2008	3
2009	8
2010	7
2011	6
2012	4
2013	5
2014	7
2015	6
2016	9
2017	9
2018	6
2019	6

Five projects had to be discontinued due to poor health or other impediments.

2016 GRANTS

In November 2016, the ERAB Board of Directors approved the recommendation of the Advisory Board that the following six research projects should receive funding during 2017 / 2018.

Name of Principal Researcher	Department	Institution	Town/ Country	Discipline / Grant length
Dr. Terenzio Bertuzzi		Catholic University of the Sacred Heart	Milan Italy	Biomedical / 2 year
	Co-applicants: Rossi F and Spigno G. To consider the health effects arising from the components of beer (brewed at large and small scale) in particular, to investigate the effect of folate and vitamin B 6 content of beer on serum homocysteine and the cardiovascular system.			
Dr. Pau Sancho-Bru		Biomedical Investigation Centre	Barcelona, Spain	Biomedical / 2 year
	Co-applicants: Caballeria J, Coll M and Aguilar B. Role of liver progenitor cells in the progression of alcoholic liver disease.			
Professor Lina Badimon	Institute of Biomedical Research	Hospital of Santa Creu	Barcelona, Spain	Biomedical / 2 year
	Co-applicants: Padró T, Vilahur G and Chiva-Blanch G. Moderate beer intake effects on the inflammasome pathway and TLR-mediated immunomodulation in humans.			
Professor Nele Jacobs	Faculty of Psychology and Educational Sciences	Open University	DL Heerlen The Netherlands	Psychosocial/ 2 year
	Co-applicants: Lechner L, Thewissen V, Sierksma A, and Duif M. Alcohol consumption in daily life: A mobile ecological momentary assessment study in a general population sample.			

Name of Principal Researcher	Department	Institution	Town/ Country	Discipline / Grant length
Professor Carla Cannizzaro	Department of Sciences for Health Promotion and Mother and Child	University of Palermo	Palermo, Italy	Biomedical / 2 year
	Co-applicants: Plescia F and Midri M. Binging on alcohol and social stress in adolescence: a translational research in Sicily (BASTA)			
Dr. Jette Möller	Department of Public Health Science	Karolinska Institute	Stockholm, Sweden	Psychosocial 2 year
	Co-applicants: Engström K and Sidorchuk A. Less spirit, more wine and beer: predictors, mediators and health consequences of drinking patterns in contemporary Sweden.			

■ PUBLICATIONS RELATING TO ERAB FUNDED RESEARCH

Grantees are encouraged to publish the results of their research in peer-reviewed journals independent of ERAB, but are asked to acknowledge ERAB as the source of funding. ERAB monitors these publications and publishes a list on the website.

Up to the end of 2016, ERAB grantees had published the results of the research funded by ERAB in 191 papers in peer-reviewed journals and more are in press. For a list of publications, visit www.erab.org

The website also lists the number of publications in different journals together with the most recent calculation of the impact factor for each journal. The impact factor measures the average number of citations to recent articles in that journal. Many publications from ERAB-funded research have been published in high impact factor journals - an indication of the high quality of the science. In 2016, 57 of the 191 publications, which cited ERAB, were in Journals with impact factor over 4. This compares with 51 such publications in 2015, 49 in 2014 and 39 in 2013.

ERAB AWARDS

■ AWARDS FOR YOUNG RESEARCHERS

As well as providing major research grants, ERAB is keen to encourage young researchers to work in the field of alcohol research and offers a number of relatively modest travel and exchange awards for researchers under the age of 35. The travel awards enable scientists to travel to conferences to present their data. The exchange awards allow periods of study / collaboration in centres of excellence anywhere in the world.

In addition to the above awards for young researchers, small awards are available to help publish relevant PhD theses.

■ PUBLICATIONS AWARD

In 2012, a new award was launched to acknowledge the outstanding scientific contribution made by some of its grantees. This award is for any former ERAB grantees who have had five or more papers, of three or more pages, published in peer-reviewed journals with an acknowledgement of the funding received from ERAB. To date the average is just under 3 peer-reviewed publications per grant.

JOINT ERAB / EBC MEETING 2016



Twenty two scientists, from brewing or medical backgrounds attended this meeting, the focus of which was the differences between non-alcoholic and standard beer in terms of composition and possible health promoting effects. It took place on Thursday 22nd September in Wrocław, Poland after the close of the EBC Symposium.

■ BACKGROUND

There is a general paucity of discussion between those involved in biomedical and brewing research whereas there is clearly common ground between these two fields of endeavour. This is particularly true in relation to alcohol and other components of beer that could have health impacts. The meeting was organised to continue the exploration of this area of common interest started in Porto in 2015.

Dr.-Ing. Carsten Zufall, Chairman of the EBC Brewing Science Group, welcomed the participants to this, the second, joint meeting between biomedical and brewing scientists.

■ PRESENTATIONS



Dr. Achim Zürcher, from the Feldschlösschen Brauerei (Carlsberg), in Switzerland opened the session with a talk on “The differences in production technology between regular and alcohol free beer and the resulting differences in the composition of these respective beers”.

He noted that the production of alcohol free beers and malt based beverages is growing worldwide but care is needed with the definition. In some places, such as Germany, Spain and Switzerland, beer with an alcohol content of 0.5% vol is described as alcohol free.

The many different ways of making non alcoholic beer were described. These included physical methods (thermal methods and membrane technology) or biological methods (stopped fermentation, bioreactor

or use of special maltose-negative yeasts or lactic acid bacteria) and other technologies (biotechnical, adsorption and gasdesorption). However, in general the two most common methods are dealcoholization and stopped fermentation.

Each method produces different characteristics. While dealcoholized beers lack body and aroma, alcohol free beers made by stopped fermentation are characterized by a worty aroma and sweet taste.

To achieve the best consumer acceptance, a combination of methods are used.

He concluded by saying that real beer taste is difficult to achieve partly because alcohol is a flavor enhancer.



Professor Dr. Giuseppe Perretti, Director of CERB (Centro di Eccellenza per la Ricerca sulla Birra), in Perugia, Italy then spoke about “The differences between regular and alcohol free beer on the health of consumers.

He noted that the cardio-protective effects associated with moderate consumption of wine or beer is mainly due to their common components - alcohol and polyphenols.

The (poly)-phenolic components in beer, which come from both malt and hops, have shown different biological activities such as antioxidant, anticarcinogenic, anti-inflammatory, estrogenic and even antiviral properties. Around 30% of polyphenols from beer come from hops and 70%–80% from the malted barley and other raw or malted grains (corn, rice, wheat, etc.) used as adjuncts. The structural classes of polyphenols in beer include simple phenols, benzoic acid derivatives and cinnamic acid, coumarins, catechins, di- and tri-oligomeric proanthocyanidins, prenylated chalcones and - and iso-acids derived from hops. Once dissolved in the wort, the phenolics may undergo alterations during fermentation and the subsequent stages of clarification and storage of the beer.

Alcohol free beer lacks the ethanol and has a lower

polyphenol content than regular beer, partly due to the dealcoholization process and partly due to a less efficient transfer of the phenolic compounds to the body when ethanol is not present. Some types of alcohol-free beer contains about 120 mg/L total polyphenols, while regular beer contains 280-520 mg/L.

Some micronutrients could contribute to beer's "healthy" effect. These are present in similar quantities in regular beer and in non-alcoholic beer. For example, beer contains trace amounts of minerals such as calcium, iron, magnesium, phosphorus, potassium, sodium, zinc, copper, manganese and selenium, fluoride and silicon. 2 x 330 mL cans of beer contain almost 300 mg of fluoride (approximately 10% of the recommended dietary allowance (RDA) for adults (i.e. 3,000-4,000 mg per day)).

Beer has also been shown to be a rich source of dietary silicon (from 6.4 to 56.5 mg L⁻¹ in commercial beers). Silicon impacts bone mineral density in humans and supplementing silicon in the diets of women with osteoporosis can increase bone mineral density. Silicon increases type I collagen synthesis and promotes the differentiation of osteoblast-like cells. It also helps protect the human body from the toxic effects of aluminum. However, clinical studies are needed on the association of beer intake with osteoporosis prevention.

In addition, beer includes B-complex vitamins produced by the fermentation of cereals. Most of them are present in small amounts; however, the folate and choline content is relatively significant. 2 x 330 mL cans of a regular beer contain approximately 40 mg of folate and 70 mg of choline that cover almost 10% of the RDA of these vitamins.

There are opportunities to improve alcohol free beers. In the future, once the characteristics of different polyphenols are better understood, then it may be possible to modify alcohol free beer to increase its usefulness. It may also be possible to exploit the different characteristics of different yeasts perhaps to achieve a different aroma profile.



Finally, **Dr. Dr. Sascha Venturelli**, from the University Hospital of Tuebingen in Germany gave a presentation entitled "Friend or foe - the impact of beer consumption on the human microbiome".

The "human microbiota" describes all the microorganisms (bacteria, fungi, and archaea) that live on or within the human body. This includes human tissues and biofluids (e.g. skin, lung oral mucosa, and the gastrointestinal tract). The adult human body has 10 trillion cells whereas

the human microbiota contains around 100 trillion bacterial cells. Accordingly, there are about 10 times more microbial cells in the human body than human cells. Interestingly, the genes in the human microbiota outnumber those in the human genome by far. The microbiota encodes for genes and produces, for example, enzymes that the human genome does not possess. Up to this point in time, only approximately 1% of the human microbiota has been characterized and identified.

Nonetheless, the human microbiota is very important for mankind influencing the immune system, nutrition and the utilisation of nutrients. Furthermore it modulates health, as well as disease and human behaviour. Of note, the composition of human microbiota changes during development and varies in the population. This influence of the human gut microbiota on health is continuous from birth to old age.

Beer and alcohol are important covariates identified in the Belgian Flemish Gut Flora Project (FGFP) cohort and were successfully replicated in the Dutch LifeLines-Deep (LLDeep) cohort. Interestingly beer modulates the human microbiota and simultaneously regulates epigenetic mechanisms in the microbiota and the host. Scientists search for tools to manipulate the human microbiota and the epigenetics of patients to combat disease and to improve health. Hence, beer seems to be an especially interesting candidate displaying both abilities.

The **next joint meeting** will take place in the morning of Sunday May 14th 2017 in Ljubljana, Slovenia.

References:
From "Friend or Foe"
Nicholson et al., Science. 2012;
Ottman et al., Front Cell Infect Microbiol. 2012;
Falony et al., Science. 2016;
The Marshall Protocol Knowledge Base;
Proctor 2013;
American Microbiome Institute;
Zhernakova et al., Science. 2016;

Janet Witheridge - Secretary General



Registered Office
ERAB: The European Foundation for Alcohol Research,
Foundation of Public Utility,
n°0875.302.264
Rue Washington, 40, B – 1050 Brussels, Belgium.

info@erab.org
www.erab.org