

THE SCANDINAVIAN SCHOOL OF BREWING AND THE FACULTY OF LIFE SCIENCES AT THE UNIVERSITY OF COPENHAGEN JOIN FORCES ON THE MASTER BREWER PROGRAMME

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For eighty-five years, The Scandinavian School of Brewing has solely run the Scandinavian diploma master brewer programme, but from 2011 the programme will be managed as a joint venture between the school and the Faculty of Life Sciences at the University of Copenhagen. At the SBR, we have of course decided to give this groundbreaking new development an extensive coverage in this issue, including some more elaborate comments on the perspectives from some of the most important stakeholders in the master brewer programme.

The Scandinavian School of Brewing and LIFE – The Faculty of Life Sciences at the University of Copenhagen – have entered into an agreement, formally signed at a gathering at the Carlsberg Museum on 3 November, 2010, covering a cooperation on the diploma master brewer programme. Besides students from the brewing industry who had access to the programme in the previous set-up, now university students can, by following the theoretical courses of the master brewer programme and completing a six-month practical internship at a brewery, obtain a Master's degree in brewing science and technology (with the official Danish title 'cand.techn.al' in Food Science & Technology), and thus become diploma master brewers.

From the press release issued in connection with the signing of the agreement, we have extracted the following:

‘Together we are creating a new world-class master brewer programme. Already, we are a school and an industry with centuries worth of proud traditions. The fourth largest brewer in the world is Danish and Denmark is now the country in the world with the highest number of breweries per capita. We wish for this

positive development to continue which is why we have chosen to enter into a cooperation with KU LIFE Faculty of Life Sciences on the master brewer programme of the future,’ says Axel G. Kristiansen, director of The Scandinavian School of Brewing. ‘In addition to the highly recognised Diploma Master Brewer degree, the students can henceforth add a Master’s degree in Food Science & Technology specialising in brewing science to their CV.’

‘This will give the students an even deeper, scientific understanding of the methods and processes that determine the aroma, flavour, taste, technical quality and shelf life,’ says Associated Professor at LIFE, Henrik Siegmundfeldt.

‘The cooperation on the shared master brewer programme is a brilliant example of the potential in an expanded cooperation between the public educational system and private enterprise. We have high expectations to this initiative as the first step in a closer research, development and educational cooperation between the University of Copenhagen and the Scandinavian breweries,’ says Dean at KU LIFE Faculty of Life Sciences, Per Holten-Andersen.



The ambition is to initially have 15 master brewers graduating annually.

In general, the content of the future master brewer programme is largely the same as hitherto. However, the students will benefit from the academic settings at KU LIFE, and SSB expects to a greater extent to attract students from outside the brewing industry. Entry qualifications and requirements regarding internship are maintained, so the school's basic principles of providing the students with a high academic standard as well as a strong practical training continue.

At the end of this article, we have included short presentations of the two partners in the joint venture – The Scandinavian School of Brewing and the Faculty of Life Sciences at the University of Copenhagen.

PRACTICAL IMPLICATIONS OF THE NEW MASTER BREWER EDUCATION SET-UP

The prerequisite for entering into an agreement with the Danish public education system, which KU LIFE is part of, was that the other party, i.e. the SSB, was also entirely Danish; therefore,

as of this fall, the SSB is actually no longer co-owned by the Norwegian, Swedish, Finnish and Danish Brewers' Associations any more, but fully owned by the Danish Brewers' Association. This, however, will have no negative implications on the access of students from the other Scandinavian countries to neither the master brewer programme (on the same terms as exist today) nor the other brewing courses – including the diploma brewer course, which will still be offered by the SSB as hitherto.

The first master brewer students under the new set-up will start their six-month practical brewery internships in January 2011, and the first day on the school bench will be on 1 September, 2011, where they will be taught at KU LIFE in Frederiksberg, Copenhagen – a mere two kilometres from the SSB location in Valby.

Initially, the corps of teachers on the master brewer programme is expected to be largely the same as on the 'old' master brewer course at SSB, but with relevant supplements from the KU LIFE teaching staff. The syllabus, split into the two courses 'Brewing 1' and 'Brewing 2', is designed to make up the main part of the new two-year long KU LIFE Master's degree specialisation in Brewing →

Science & Technology. KU LIFE students already holding a Bachelor's degree in Food Science & Technology or similar can enter the master brewer Master's degree programme.

Additional information on the master brewer programme can be found on the following two websites: <http://www.life.ku.dk/foodscience.aspx> and <http://brewingschool.dk>.

SOME MORE IN-DEPTH COMMENTS FROM THE STAKEHOLDERS IN THE MASTER BREWER EDUCATION

In anticipation of some of the questions we thought that our readers are likely to have to this rather groundbreaking innovation in our profession, the SBR have approached a series of the most prominent stakeholders to hear what additional comments they



THIS WILL GIVE THE STUDENTS AN EVEN DEEPER, SCIENTIFIC UNDERSTANDING OF THE METHODS AND PROCESSES THAT DETERMINE THE AROMA, FLAVOUR, TASTE, TECHNICAL QUALITY AND SHELF LIFE.



could offer our readers. We have been able to get comments from Erik Juul Rasmussen, chairman of the board of both the Scandinavian School of Brewing (SSB) and of the Danish Brewers' Guild, Per Holten-Andersen, dean of the Faculty of Life Sciences at University of Copenhagen (KU LIFE), Axel G. Kristiansen director at the SSB, Kasper Madsen, senior vice president of Supply Chain, Carlsberg, as well as from Tore Jørgensen, owner of Herslev Bryghus, and Anders Busse-Rasmussen, owner and managing director of Indslev Bryggeri. A number of other Danish craft breweries were asked to comment, but have declined.

SBR's question to Erik Juul Rasmussen, chairman of the board of both the Scandinavian School of Brewing (SSB) and of the Danish Brewers' Guild, was:

The master brewer programme has traditionally been the cornerstone in the Scandinavian School of Brewing. How do you see the future consequences for the other activities at the school and the effects on the future development of the school of this cooperation with KU LIFE on the master brewer programme?

ERIK JUUL RASMUSSEN: 'There shall be no changes to the traditional courses offered by the school as these shall be maintained with the only difference being that the school will have to rent the facilities for these courses. With regard to the master brewer programme, it should be understood that the Board of the Scandinavian School of Brewing sees the cooperation with KU LIFE as a possibility of maintaining the high standard of education in connection with the traditional courses. The cooperation with KU LIFE creates three new titles within the brewing world of which two are protected titles, i.e. the BSc and MSc in Food Technology and Brewing. Students can, if they complete the six-month practical brewery internship and follow up with the two brewing course modules, also get the master brewer diploma. Thus, the number of people with a practical and theoretical knowledge of brewing will increase significantly; furthermore, the new set-up will mean adding teachers with a strong knowledge of food technology and research within this area to the corps of teachers. Finally, we have maintained the strong relation to the owners of SSB, as the permanent staff shall reside in Faxehus together with the Danish Brewers' Association since we find it important to maintain the connection to the industry.'

SBR asked two questions to Per Holten-Andersen, dean of the Faculty of Life Sciences at the University of Copenhagen (KU LIFE):

The master brewer programme has traditionally been seen as the 'crown jewel' by the Scandinavian brewing industry and, thus, the general opinion amongst brewers has been that it can only maintain its quality and status if managed and taught by the industry itself. What would you say to those who might be concerned that the new partnership will make the education more academic and less practically relevant?

PER HOLTEN-ANDERSEN: 'Let me start by underlining that this new and exciting partnership will not imply that the brewing industry loses control over the master brewer programme. The first contact to KU LIFE from the Danish Brewers' Association (Editor's note: co-owner of The Scandinavian School of Brewing) was made about 18 months ago, and we looked very favourably at this for two main reasons. The first being the excellent international reputation of the Scandinavian master brewer programme, and the second being the tradition at KU LIFE for working closely with the food industry in Denmark on establishing and developing specific study programmes tailored to the needs and requirements of the industry. One very successful example of this is the dairy technology programme that has been established and developed in close cooperation with the Danish Dairy Association, of which the →



*Henrik Siegumfeldt,
director of studies and
associate professor at LIFE.*

world's third largest dairy company, Arla, is a prominent member. We are confident that the educational cooperation between the Dairy Association and ourselves has been instrumental in the development of the Danish dairy industry to its current world-class position and reputation in that we have continuously been able to supply the industry with candidates that possess precisely the skills that are in demand. We immediately saw opportunities in applying this very successful model also on the master brewer programme in cooperation with the Scandinavian School of Brewing and the Danish Brewers' Association.

Where do you see the most important mutual synergies between the brewing industry and the brewers in it and the academic universe in your faculty and beyond at the University of Copenhagen? And do you see any future possibilities for developing the partnership – PhD projects for master brewers or the like?

PER HOLTEN-ANDERSEN: 'For all our industry-specific study programmes, we have the main objective of always trying our utmost to build and adjust them to exactly what the industries want, and in respect for the current quality level of the master brewer programme, we do not have any plans to subject it to major changes on the short term. For these types of educational programmes, we always establish a 'Curriculum Development Committee' chaired by the industry, and such a committee will also be established for the master brewer programme with the purpose of continuously evaluating the programme, the changing conditions in the industry, and how these translate into needs for adjustments of the programme. Having said this, we do not, on the other hand, have intentions of keeping the master brewer programme static. Through our extensive cooperation with the most outstanding food science faculties at international universities, we expect to be able to bring more international cutting-edge elements into the education, and, furthermore, there are significant potential synergies between the master brewer programme and the numerous general disciplines that we give high priority at KU LIFE, including sensory science, health and food safety, food quality and quality management, servicing the between three and 4,000 large student body from Bachelor through to PhD levels.'

Per Holten-Andersen adds that he sees several other perspectives for developing the master brewer programme and building both very advanced practical and academic extensions on top of it. 'Among these is our partnership with the Danish National Advanced Technology Foundation that offers co-funding of specific, so-called "Industrial PhD" degrees which

are carried out within a specific company, but with a supervisor from KU LIFE, and that focus on addressing the technological challenges faced by the host company.'

'KU LIFE is also active at the EU level in acting as catalyst for and participating in large research projects that involve competing companies within fields where there is consensus that the industries at large need to achieve improvements. In these areas, such partnerships result in a generally higher level of technology and know-how in the European companies within those industries, and they are motivated to cooperate by knowing that when an improvement is needed by all players in the industry, the costs of bringing it about may as well be shared,' finishes Per Holten-Andersen.

Our first question to Axel G. Kristiansen, director at the Scandinavian School of Brewing, was:

The master brewer programme has traditionally been the cornerstone in the Scandinavian School of Brewing. How do you see the future consequences for the other activities at the school and the effects on the future development of the school of this cooperation with KU LIFE on the master brewer programme?



WITH REGARD TO THE MASTER BREWER PROGRAMME, IT SHOULD BE UNDERSTOOD THAT THE BOARD OF THE SCANDINAVIAN SCHOOL OF BREWING SEES THE COOPERATION WITH KU LIFE AS A POSSIBILITY OF MAINTAINING THE HIGH STANDARD OF EDUCATION IN CONNECTION WITH THE TRADITIONAL COURSES.



AXEL G. KRISTIANSEN: 'The SSB will, with usual interest and enthusiasm, continue to develop and run courses for the beverage industry from our usual address in Valby. This pertains for example to our 'Brewing Course', the new 'Executive in Beverage Supply Chains' course, the education for microbrewers, and various introduction courses to brewing, flavour evaluation, cider course and various in-



house courses for selected breweries, either in Valby or at the location of the brewery’.

Our follow-up question to Axel G. Kristiansen was:

Many of our readers will ask what the consequences of the joint venture will be with regard to the corps of teachers? Will the emphasis in the future still be on teachers with practical experience from the brewing industry, and when will we see a revised list of teachers being announced?

AXEL G. KRISTIANSEN: ‘As for the SSB corps of lecturers, we count on most of them to continue. With KU LIFE, it is already agreed that SSB will be authorised to recruit lecturers, and as most of the teaching subjects in the coming joint KU LIFE/SSB syllabus will be similar to the existing syllabus, we do not foresee many immediate changes.

In years to come, it is likely that more lecturers from KU LIFE will step in, but this is not our main mission with creating the new joint education. KU LIFE Dean, Per Holten-Andersen, has expressed that it is important to KU LIFE to maintain a strong connection to the beverage industry, and this is a role SSB will see of continued importance’.

SSB’s question to Senior Vice President, Supply Chain, Carlsberg, Kasper Madsen, was:

Carlsberg has traditionally been the biggest ‘customer’ of master brewers educated from the Scandinavian School of Brewing. How do you see the future consequences in this respect of the cooperation with KU LIFE on the master brewer programme?

KASPER MADSEN: ‘I wish to make no secret of the fact that the Carlsberg Group has been quite active in trying to find a more “up to date” structure for the Scandinavian School of Brewing (SSB). Over the past decade, we have been watching the master brewer programme at SSB slowly but surely losing scope and vitality as the number of students sent to the school by in particular the Scandinavian Brewers’ Associations steadily has declined. For quite a while, especially during the last half of the ’90s and the first years of the new millennium, these dropping numbers were to a large extent compensated for by the many students sent to the school by Carlsberg’s affiliated breweries in the Far East and in Eastern Europe. During later years, however, also this source of new students has slowly been running dry, reflecting among other things, a change in the Carlsberg company policies with a significantly increased

focus on the supply chain philosophy – the economical and logistical aspects of production management. This has led to a situation where the heads of production at our breweries often have other backgrounds than the education as master brewer, and today’s highly competitive job environments for these people have not allowed letting them to embark on an 18-month educational programme in order to become master brewers. Their needs are more for shorter, more condensed and practically focused brewing technology courses. However, the Scandinavian master brewer educational traditions are the basis for the internationally renowned Danish/Nordic brewing culture, the strength of which has enabled Carlsberg to become a global mega-brewer, and this tradition is still today the backbone of also Carlsberg’s brewing philosophy. In respect of this, it was imperative to us that the master brewer programme at the SSB should not be allowed to simply wither away and eventually die. The Scandinavian tradition in educating brewers deserves to survive and thrive, not just as a pipeline for young talent available to Carlsberg and other Scandinavian breweries, but also as an important contribution to the development of global brewing technology and know-how’.

KASPER MADSEN CONTINUES: ‘Also, on a more individual level, we found that the time was ripe for a change of atmosphere. In the ’90s, Carlsberg hired relatively large numbers of highly qualified and ambitious candidates into a three-year practical and theoretical training and education programme, meant to produce the best qualified newly graduated master brewers in the world. But we saw that these “coming stars” in many cases did not have the patience to conclude the programmes, and many thus left them prematurely to take up very attractive positions at other breweries and in other industries.’

‘I am very thrilled by the prospects of the cooperation with KU LIFE as I believe that the integration of the master brewer programme in a professionally kindred world-class academic environment like KU LIFE will add some new dimensions of overview and knowledge of cutting edge scientific developments within biotechnology. It is my hope and belief that the future master brewers from the SSB/KU LIFE will be even more professionally competent, have an even deeper passion for the products and a broader, even more international perspective on their craft and on the brewing business,’ finishes Kasper Madsen.

To the smaller, Danish craft breweries, SBR asked the following question:

The smaller breweries have traditionally been very reluctant to send students to the master brewer programme at the

Scandinavian School of Brewing. How do you see the future consequences in this respect of the cooperation with KU LIFE on the master brewer programme? Do you expect that the fact that the education will be free in the future will increase the demand for master brewers from you or other smaller breweries?

TØRE JØRGENSEN, HERSLEV BRYGHUS, REPLIES: ‘The master brewers having graduated so far clearly have their focus on managing larger breweries’ production of lager beer. This is only a logical consequence of the structure of our industry through the past many years. When the education moves to LIFE in the future, I believe that we will see master brewers with a larger span in their skills and focus. And this is to the advantage of the smaller breweries.’

ANDERS BUSSE RASMUSSEN, OWNER OF INDSLEV BRYGGERI: ‘The fact that the master brewer programme will be free in the future will definitely lower the barrier for us to send students to take the education. However, the need for an extra brewer must be there before we will actively consider sending somebody to get the master brewer programme. Perhaps more interesting for us is the possibility to have a student working at the brewery as a part of the education. We feel we have something to contribute to a student’s education, and perhaps we could learn something, too.’

As mentioned above, no other Danish craft brewers have wished to comment openly in response to SBR’s question, but from one of these we did receive a reply which, in spite of the wish for anonymity, was so interesting and important that SBR still wants to quote the most important parts of it:

‘Many of us are brewers and employers at the same time, making

answering your question difficult because which ‘hat’ should we wear while answering? Wearing the employer hat, the agenda is very simple: We are demanding good, reliable labour at the lowest price possible. And, currently, there is plenty of available labour amongst both German and American brewers who are more than happy to come to Denmark to work for salaries no academically educated Danish master brewer would work for. And they are, furthermore, willing to get their boots wet!

The new education set-up for the master brewers looks fine, but it is, in reality, aimed at educating master brewers for management positions in larger breweries with middle managers and unskilled labour in the master brewer’s part of the organisation. This is not the type of employees in demand at the smaller craft breweries and these breweries can not afford to pay them.

In my view, it would be better to educate brewmasters (in Danish: ‘bryggeriteknikere’) – hands-on people who can both do the practical brewing work themselves and put others to work doing it. In our daily situations, it is overkill to hire a master brewer, as we have no middle managers or unskilled labour to manage. Also, having to send an employee off to school for a long time, after he or she has demonstrated the potential, is a burden. The classical education as brewmaster not requiring academic skills in chemistry is more than sufficient for the positions at the small breweries’.

The SBR hope that our readers share the view that this quote deserved to be included in spite of the contributor’s wish for anonymity. We find that the opinions expressed are important and well presented, and most likely shared by many brewers/owners of small craft breweries, and these are in consequence of their number and the many people they employ extremely important. Thus, the contribution is interesting with a view to →



the more overall and long-term discussion of the educational needs of the brewing industry.

A SHORT PRESENTATION OF THE TWO PARTNERS IN THE NEW JOINT VENTURE

The Faculty of Life Sciences (LIFE), the University of Copenhagen

LIFE is part of the University of Copenhagen, the number one ranked university in Scandinavia. The faculty is one of Europe's leading university environments in the areas of food, health, plants, biotechnology, veterinary science, natural resources and the environment.

Leading researchers and teachers, which include the world's best cheese scientist and a Nobel Prize winner in the area of climate change research, ensure that all programmes are based on the newest research and have an applied and business-oriented approach.

More than 200 of the courses at LIFE are taught entirely in English. Of the 3,600 students studying at LIFE, 875 are students from all over the world, which create a vibrant international study environment. LIFE is actively engaged in international cooperation and has student exchange and research agreements with 180 partner universities all over the world.

The research-based study programmes, including 20 MSc programmes in English and PhD education, are organised in seven core competence areas:

- Animals, ethics and welfare
- Climate, energy and the environment
- Food, nutrition and health
- Plants, agriculture and natural resources
- Politics, economics and developing countries
- Forest, land and urban development
- Biotechnology

The specialised research areas where LIFE is particularly strong internationally include:

- Bioimaging
- Food quality, food safety and zoonoses
- Plant biosystems
- Water resources in biological production
- Obesity and appetite regulation
- Chemometry, biostatistics and multivariate data analysis
- Plant biotechnology
- Animal health and animal models

LIFE's emerging elite research areas:

- Metabolomics and bio-active substances

- Early nutrition and growth
- Nanobioscience and biophysics
- International economics and development studies
- Environmental chemistry and eco-toxicology
- Environmental and natural resources – economics and administration

The Scandinavian School of Brewing

The Scandinavian School of Brewing (SSB) was founded in 1925 by the Danish Brewers' Association, the Norwegian Brewers' Association and the Swedish Brewers' Association, jointly. In 1993, the Finnish Brewers' Association became a co-owner.

The Brewing School has a permanent academic staff (a director, a training manager and a secretary), but the real strength of the school is its fortune to be able to draw on a further staff of more than 55 external lecturer, who combine a theoretical knowledge of brewing science with the practical experience of a master brewer. The teachers come from the industry, the Carlsberg Group, Royal Unibrew, universities, other breweries, consultancy companies, suppliers and institutions throughout Scandinavia, the United Kingdom and the rest of Europe.

The original and main purpose of the school was to set up and implement the syllabus which leads to the Diploma degree for master brewers. Over the years, however, a number of additional and related activities have been undertaken. These include a one-week brewing course, Diploma Brewer (Diplombrygger), a new Executive in Beverage Industry Supply Chains, and professional updates, which are short and targeted courses for the breweries' technical managers. In addition, the school also teaches tailor-made courses as well as brewery consultancy for individual breweries, soft drinks plants and malting plants.

Today, the Scandinavian School of Brewing operates internationally as it accepts qualified students from outside the Nordic countries. Since 1925, a total of 685 master brewers have obtained their diploma from the Scandinavian School of Brewing. Besides the Nordic countries, the students came from Azerbaijan, Canada, China, Estonia, Hungary, Israel, Italy, Kazakhstan, Latvia, Lebanon, Lithuania, Malawi, Malaysia, Mexico, Nepal, Paraguay, Russia, Spain, Sri Lanka, South Korea, Thailand, Turkey, Ukraine, United Kingdom and Vietnam.

FOLLOW-UP

Obviously, we at the SBR will follow and cover the developments in master brewer programme as they materialise, and we strongly encourage our readers to engage in the topic, too. Please let us have your views on the development and/or your questions and wishes for further information. Any such contributions can be forwarded to the technical editor on anders@kissmeyer.dk. ☺