

EASD 2006

Final Programme

42nd Annual Meeting of the European Association for the Study of Diabetes

Final Programme

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The EASD Annual Meeting

It is with great pleasure that I welcome to Copenhagen/Malmoe our members and guests for the Annual Meeting of our Association, the 42nd since its foundation.

As always, the Meeting is centred on communication of original research work; this year, 1927 abstracts were received, of which our Review Committee selected 1250 for presentation. The programme, which is structured into 6 parallel tracks, includes highly topical symposia, keynote lectures and evidence-based medicine debates, covering both basic and clinical science.

I am sure that you will take full advantage of the high scientific standard of this meeting to communicate your research, to hear of your colleagues' work and, no less important, to look sideways from your field of expertise into areas from which you might derive new ideas and potential collaboration. Typically, the EASD Annual Meeting is vivacious and informal: do not miss any opportunity to ask questions, debate evidence, challenge paradigms, speak up with unorthodox views, signal difficulties or needs.

Amidst the plethora of meetings that crowd our diaries, the EASD Annual Meeting is uniquely aimed at the advancement of diabetes science and offers an excellent occasion for interchange. Going home with a notebook filled with comments jotted down at presentations, phone numbers/ addresses and sketches of new thoughts or studies is what we are here for, as individuals as well as an Association.

A lot to be learned, a lot to be done: enjoy the Meeting!

Ele Ferrannini
President EASD

Welcome address

On behalf of the Organising Committee, it is a great pleasure to welcome you to the 42nd EASD Annual Meeting in Copenhagen-Malmoe.

Copenhagen and Malmoe, the major cities in the Øresund region, are connected by a magnificent highway bridge and tunnel. The Øresund region is the educational, scientific, and cultural power centre of Northern Europe with several universities, numerous pharmaceutical, biotech and medicotechnical industries, theatres, concert halls and interesting museums.

The venue of the EASD Copenhagen-Malmoe 2006 is the modern congress and exhibition site, the Bella Center. The Bella Center is easily accessible by car, train and metro from central Copenhagen as well as from Malmoe.

The Meeting will start with a get-together event at the Bella Center at 18:30 on Wednesday, September 13, and the Meeting will end at 13:30 on Sunday, September 17 with the closing ceremony followed by a farewell reception. We hope that you will take part in the Scandinavian Culture and History Nights arranged to give you – our guests – a taste of what our cities can offer. All registered participants and accompanying persons are cordially invited to these events on the evenings of September 14 and 15.

We are confident that the EASD Annual Meeting in Copenhagen-Malmoe will become yet another unforgettable scientific and cultural event. We hope you will enjoy not only an outstanding scientific programme, but also the vibrant atmosphere of the Øresund region and the two cities.

We look forward to seeing you.

Jørn Nerup
Professor, MD DMSc
Chairman Local Organising Committee

EUROPEAN ASSOCIATION FOR THE STUDY OF DIABETES

EXECUTIVE COMMITTEE

President:	E. Ferrannini, Pisa (retires 2007)
Vice-President:	U. Smith, Göteborg (retires 2008)
Vice-President:	E. Standl, Munich (retires 2006)
Honorary Secretary:	D. L. Eizirik, Brussels (retires 2007)
Honorary Treasurer:	J. Škrha, Prague (retires 2006)
Chairman of the Postgraduate Education Sub-Committee:	T. Pieber, Graz (retires 2008)
Editor-in-Chief, DIABETOLOGIA	E. A. Gale, Bristol (retires 2007)

EASD Council comprises of the Officers above and the following members:

Term Expiring 9/2006	Term Expiring 9/2007	Term Expiring 9/2008
I. Gourieva, Moscow	L. Czupryniak, Lodz	K. Dahl Jørgensen, Oslo
S. Lenzen, Hanover	L. Gardete Correia, Lisbon	R. J. Heine, Amsterdam
C. Sanjeevi, Stockholm	D. Mauricio, Barcelona	B. Mankovsky, Kiev
J.-L. Selam, Tustin	T. Otonkoski, Helsinki	S. Sasson, Jerusalem

The Past President, P. A. Halban, and the Secretary of the Postgraduate Education Sub-Committee, N. D. Hancu, are members of the Council ex officio.

HONORARY AUDITORS

N. Katsilambros, Athens and M. Tiedge, Rostock

The EASD Executive Committee is also the Executive Committee of the European Foundation for the Study of Diabetes (EFSD).

EASD Secretariat:
Executive Director: V. Jörgens
S. Fritzsching, M. Grüßer,
M. Hata, A. Klee, P. Nani,
K. Page, C. Persidis, R. Sautter
EFSD: S. Burgess

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HONORARY MEMBERS

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A. Czyzyk, Warsaw – J. K. Davidson, Atlanta –
T. Deckert, Hellerup – P. Freychet, Nice – L. G. Heding, Copenhagen –
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P. Lefèbvre, Liège – R. Luft, Stockholm – C. Lurie, New York –
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Boehringer Ingelheim GmbH, Ingelheim, Germany –
HemoCue AB, Angelholm, Sweden –
Medtronic Europe, Brussels, Belgium –
Nipro Diabetes Systems, Florida, USA – Owen Mumford Ltd., Oxford, UK –
Smiths Medical MD, Inc., Minnesota, USA –
Ypsomed GmbH, Sulzbach, Germany

Abstract Selection

This year, the Association received 1927 abstracts for consideration for inclusion in the Annual Meeting, of which 1250 abstracts were accepted for oral or poster presentation. All abstracts were considered anonymously and were scored by 55 referees in five categories of content: Genetics/Epidemiology, Islets, Immunology/Transplantation, Pathophysiology/Metabolism, Clinical Science and Care, and Complications. The Programme Committee Members designed the programme and created Oral and Poster Sessions based upon the anonymous abstracts, without any information on authors or places of work.

Abstract review committee:

Stephanie Amiel, United Kingdom; David Armstrong, United States; Anthony Barnett, United Kingdom; Tadej Battelino, Slovenia; Christian Berne, Sweden; Geremia Bolli, Italy; Luc Bouwens, Belgium; Helen Colhoun, Ireland; Ignacio Conget, Spain; Decio L. Eizirik, Belgium (chair); Bo Feldt-Rasmussen, Denmark; Allan Flyvbjerg, Denmark; Carol Forsblom, Finland; Keith Frayn, United Kingdom; Francesco Giorgino, Italy; Anna Gloyn, United Kingdom; Valdemar Grill, Norway; Leif Groop, Sweden; Per-Henrik Groop, Finland; Jorge Gross, Brazil; Gabriella Gruden, Italy; Hans-Peter Hammes, Germany; Graham Hitman, United Kingdom; Richard Holt, United Kingdom; John Hutton, United States; Jorma Ilonen, Finland; Mikael Knip, Finland; Anna Krook, Sweden; Yannick Le Marchand-Brustel, France; Nikolaus Marx, Germany; Chantal Mathieu, Belgium; Stephan Matthaei, Germany; Danièle Melloul, Israel; Eduard Montanya Mias, Spain; Ingrid Mühlhauser, Germany; Oluf Pedersen, Denmark; Massimo Porta, Italy; Pernille Poulsen, Denmark; Erik Renström, Sweden; Angela Rivellese, Italy; Peter Rossing, Denmark; Stellan Sandler, Sweden; Edith Schober, Austria; Giatgen Spinas, Switzerland; Göran Sundkvist, Sweden; Lise Tarnow, Denmark; Solomon Tesfaye, United Kingdom; Bernard Thorens, Switzerland; Matti Uusitupa, Finland; Paul Valensi, France; Bengt Vessby, Sweden; Antonio Vidal-Puig, United Kingdom; Jorgen Wojtaszewski, Denmark; Susan Wong, United Kingdom; Annette Ziegler, Germany.

The final programme was selected by the Programme Committee:

Stephanie Amiel, United Kingdom; Tadej Battelino, Slovenia; Christian Berne, Sweden; Decio L. Eizirik, Belgium (chair); Bo Feldt-Rasmussen, Denmark; Valdemar Grill, Norway; Leif Groop, Sweden; Per-Henrik Groop, Finland; John Hutton, United States; Mikael Knip, Finland; Pernille Poulsen, Denmark; Massimo Porta, Italy; Bernard Thorens, Switzerland; Paul Valensi, France.

General Information

Meeting venue:

Bella Center
Center Boulevard 5
DK-2300 Copenhagen S, Denmark
Tel. +45 3252 8811

Registration

Tuesday, 12 September	12:00 - 18:00
Wednesday, 13 September	08:00 - 18:30
Thursday, 14 September	08:00 - 18:00
Friday, 15 September	08:00 - 18:00
Saturday, 16 September	08:00 - 18:00
Sunday, 17 September	08:00 - 13:00

The registration area is located at the Main (West) Entrance.

Press registration:

Press delegates can register at a special press registration desk.

Participant's registration fees include:

- Admission to the Scientific Programme, 14 - 17 September
- Admission to the Industry Exhibition, 14 - 17 September
- Programme and Volume of Abstracts
- Lunches on Thursday, Friday and Saturday, 14 - 16 September
- Get-Together Party on Wednesday, 13 September
- Closing Ceremony and Farewell Reception on Sunday, 17 September
- Scandinavian Culture and History Nights: 14 and 15 September
- Conference bag
- Shuttlebus service Bella Center to/from Downtown Copenhagen and Malmoe and Hotels: 14 - 17 September

Accompanying person's fees include:

- Get-Together Party on Wednesday, 13 September
- Closing Ceremony and Farewell Reception on Sunday, 17 September
- Scandinavian Culture and History Nights: 14 and 15 September
- Conference bag
- Shuttlebus service Bella Center to/from Downtown Copenhagen and Malmoe and Hotels: 14 - 17 September

A Transportation Folder on shuttlebus services will be included in the conference bags.

CME accreditation

Certificates for CME accreditation are available at the EASD booth on Sunday. The meeting has been awarded 21 European CME hours of credit. To convert EACCME credit to AMA PRA Category 1 credit, contact the AMA.

EASD booth

The EASD booth is located near the central lobby of the Bella Center. From Tuesday to Friday an additional EASD membership booth is located in the registration area.

Food and beverages

Food and beverages are not allowed in the lecture halls.

Insurance

The registration fees do not include insurance of participants against accidents, sickness, cancellation, theft, property loss or damage. Participants are advised to take out adequate personal travel insurance.

Disclaimer

All efforts will be made in order to adhere to the programme as printed. However, EASD 2006 and its agents reserve the right to alter or cancel, without prior notice, any of the arrangements, timetables, plans or other items relating directly or indirectly to the Meeting, for any case beyond their reasonable control. EASD 2006 and the Local Conference Organisers are not liable for any other loss or inconvenience caused as a result of such changes.

Exhibition:

Exhibition opening hours:

Thursday, 14 September	10:00 – 17:30
Friday, 15 September	10:00 – 17:30
Saturday, 16 September	10:00 – 17:30
Sunday, 17 September	10:00 – 12:00

Full details of the exhibition are included in the Exhibition Catalogue, which is included in the delegates' bag.

Mobile phones:

Delegates are asked to switch off mobile phones while in the session halls.

Smoking policy:

The Bella Center is a strict non-smoking zone.

Badges:

The delegate's name badge serves as an admission pass to all scientific sessions, the exhibition and the social events. Delegates are asked to keep their name badges displayed at all times during the Meeting. Lost badges can be replaced in special situations and will be charged for.

The badges are colour-coded:

Delegates	blue
Accompanying persons	lilac
Organiser	red
Exhibitor/Industry	green
Press	grey
Staff	yellow

Certificate of attendance:

A certificate of attendance is included in the conference bags.

Speakers' room:

The speakers' room is located on the First Floor. Please check your PowerPoint presentation at the speakers' room at least 2 hours before your scheduled presentation time. If your presentation is scheduled early in the morning, you are kindly asked to check your presentation at the speakers' room the day before. Projector equipment is available to check your presentation. The presentations will be transferred to the lecture halls by the staff.

Speakers' room opening hours:

Thursday, 14 September	07:30 – 17:00
Friday, 15 September	07:30 – 17:00
Saturday, 16 September	07:30 – 18:15
Sunday, 17 September	07:30 – 13:30

First Aid:

The First Aid room is located on the ground floor (see map).

In case of emergency:

Contact the nearest staff member.

Language:

English is the official language of the Meeting. No translation is provided.

Posters:

Posters can be mounted between 16:00 and 18:30 on Wednesday, 13 September and from 8:00 on Thursday, 14 September 2006. Posters must not be removed before 13:00 on Sunday, 17 September 2006. Please note that the Organising Committee or EASD will not be responsible for posters that are not removed on time on Sunday. The authors are required to be present to discuss their work with a Poster Chairperson during the poster events. Poster Chairpersons were nominated by the Programme Committee. They will visit the posters at the indicated time. The Poster Chairperson is a scientist with knowledge of the respective field of work. He/she will have studied the abstracts and will elaborate on the findings together with the author.

Poster Event A:	Thursday, 14 September	12:45 – 13:45
Poster Event B:	Thursday, 14 September	13:45 – 14:45
Poster Event C:	Friday, 15 September	12:45 – 13:45
Poster Event D:	Friday, 15 September	13:45 – 14:45
Poster Event E:	Saturday, 16 September	12:45 – 13:45
Poster Event F:	Saturday, 16 September	13:45 – 14:45

Lunch:

Lunch is served from 12:30 to 15:00 in the catering areas.

Coffee break:

Coffee/tea can be purchased from several coffee stands situated in the Bella Center.

Press:

The Press Conference Room is located on the first floor (see map). The Press Office providing computers and email is located on the ground floor (see map).

Security:

Any suspicious or unidentified items discovered are to be reported immediately to the nearest staff member. Security staff are on duty to ensure that all persons entering the venue are wearing a badge. For your safety, it is strongly advised to leave all your valuables in a safe in your hotel.

Currency:

Exchange rates: 1 Euro = approx. 7.5 DKK / 10 SEK.

Message board:

The message board is in the hallway in the registration area.

Cloakroom:

The service will be provided free of charge and it is possible to store luggage there. The cloakroom is located next to the Center Hall (see map).

Lost property:

This can be found in the cloakroom.

Transportation**Official Transport for the 42nd EASD Annual Meeting**

On the occasion of the 42nd EASD Annual Meeting a shuttle bus service will operate between the city centres of Copenhagen and Malmoe and the Bella Center. Central locations will act as pick up and drop off points. Further more, busses will also be running between some official EASD hotels outside the city centre and the Bella Center. Full details can be found in the Transportation Folder in the conference bag.

Taxi

Fare from the Bella Center to central Copenhagen comes to about DDK 100.

Bus number 30

Runs between Vesterport Station (via Central Station) and the Airport. The bus makes two stops at the Bella Center West Entrance and at the Bella Center Metrostation at the East Entrance.

Bus number 4A

Goes from Svanemøllen Station via the Valby and Sjælør train stations to Sundbyvester Plads and back again. The bus makes two stops at the Bella Center Auditorium and at the Bella Center Metrostation by the east entrance.

Metro line M1

Between Vanløse and Vestamager. The ride from Nørreport in the town center to the Bella Center takes 11 minutes.

Train

Every 20 min. (for details see Transportation Folder).

METRO: Information and timetables: www.m.dk

Car

The Bella Center is located near the highway connecting Denmark and Sweden. Follow the "Lufthavnsmotorvejen" sign, on route no. 20. Take exit 19 to Center Boulevard. Sign says "Ørestaden" in bold print and "Bella Center" below in small print. Parking at P4 or P7.

Future meetings

43rd EASD Annual Meeting Amsterdam, The Netherlands	September 2007
44th EASD Annual Meeting Rome, Italy	September 2008
45th EASD Annual Meeting Vienna, Austria	September 2009

Acknowledgements

The Organising Committee wishes to thank the following companies for their financial support in terms of the congress organisational needs through their kind individual sponsorship:

Merck & Co

Novo Nordisk

Pfizer Inc.

Roche Diagnostics

sanofi-aventis

Servier

GlaxoSmithKline

Local Organising Committee

Chairman: Jørn Nerup

Vice Presidents: Leif Groop
Birger Thorsteinsson

Secretary General: Ole Ortved Andersen

Members: Bo Ahrén
Knut Borch-Johnsen
Bo Feldt-Rasmussen
Sten Madsbad
Martin Ridderstråle

Secretary Local Organising Committee:

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DK-2820 Gentofte, Denmark
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E-mail: Nina.Meier@easd-cph-malmoe.dk

Mission and Principles of the EASD Annual Meeting

Since its foundation in 1965, EASD has been organising an Annual Meeting, which has become the largest international annual conference on diabetes research worldwide. Although the meetings have grown so dramatically, they are still driven by the academic traditions of the founding members. The EASD Meeting is a meeting of members where guests are welcome.

Chairpersons of oral presentations and poster sessions are chosen exclusively from the EASD membership. The abstracts are evaluated on a strictly anonymous basis and the selection is based exclusively on the quality of the science, regardless of place of work. The EASD Honorary Secretary is solely responsible for inviting speakers and chairpersons for State of the Art Symposia and State of the Art Lectures. Comments, advice and proposals from the membership and the Programme Committee are welcome. None of the speakers or chairpersons at the EASD Annual Meeting receives an honorarium; reimbursement of their travel costs is exclusively provided by the Association. EASD and its Foundation (EFSD) are academic charities dedicated to diabetes research.

As an academic society, EASD encourages cooperation with industry and other institutions conducting and funding diabetes research. EASD is committed to transparency. In 2005 its Annual Meeting has endorsed the following policy with respect to duality of interest: prior to the Meeting speakers invited to symposia or state of the art lectures declared to EASD the existence of any relationship or arrangement that could be reasonably considered to affect the content of the presentation. Invited speakers who declared a duality of interest were asked by EASD to disclose this on a slide of their presentation.

Any occasional, positive balance resulting from the Annual Meeting is used to encourage further diabetes research in Europe. It is a tradition that other meetings organised by third parties, including pharmaceutical companies, are held on the occasion of the Annual Meeting. EASD is neither involved in the organisation nor the programmes of these meetings, which are restricted to the days before and after the Annual Meeting. During the days of the Meeting, no other activities should be organised by third parties, and all activities during this period are under the sole responsibility of EASD.

Increasingly, major end-point related trials are carried out to evaluate diabetes treatments. EASD encourages these trials and provides an outstanding forum to announce their results to the scientific community. The EASD regulations on the presentation of major clinical trials state that all data of the trial must be openly available, and clear information should be provided on the role of the funding source/sponsor on study design, data collection, analysis and interpretation of the data. Moreover, an independent commentator, nominated by the EASD Honorary Secretary, must have prior access to the data in order to prepare an unbiased review.

EASD Meetings are organised in such a way as to ensure the academic independence of physicians and scientists as the patients' advocates.

Article 1, Section 2

Statutes of the European Association for the Study of Diabetes, Diabetologia 1, 256-260 (1965):

The aims of the Association are to encourage and support research in the field of diabetes, to rapidly spread acquired knowledge and to facilitate its application.

European Foundation for the Study of Diabetes (EFSD)

The European Foundation for the Study of Diabetes (EFSD) is a non-profit organisation, which seeks to support the highest quality research in Europe to find a cure for all types of diabetes and associated complications and to prevent their onset. EFSD aims to cooperate with other non-governmental and governmental agencies in order to enhance further international excellence in European diabetes research and as a means to achieve its goals. Through its various actions and programmes, the Foundation also strives to enhance awareness in Europe of the severity and magnitude of this devastating disease.

Thursday, 14 September

Time	August Krogh Hall	Niels Bohr Hall	Tycho Brahe Hall	Ole Rømer Hall	Carl von Linné Hall	Berzelius Hall
9:00 - 9:30	Opening Ceremony					
9:30 - 10:30	Opening Lecture					
10:30 - 11:00 Break						
11:00 - 12:30	OP 1	OP 2	OP 3	OP 4	OP 5	OP 6
12:45 - 13:45 Poster Event A 13:45 - 14:45 Poster Event B						
15:00 - 16:30	OP 7	OP 8	OP 9	OP 10	OP 11	OP 12
16:30 - 17:00 Break						
17:00 - 19:00	EASD/ADA Symposium: Metabolic risk in diabetes	Calpain 10 and genetics of type 2 diabetes Prediction of type 2 diabetes	Eye Complications Study Group Symposium: Treatment of diabetic retinopathy - state of the art	EASD/JDRF Symposium: New developments in the pathogenesis and therapy of type 1 diabetes	K _{ATP} channels and glucose homeostasis	AMP-kinase and the regulation of glucose homeostasis

Friday, 15 September

Time	August Krogh Hall	Niels Bohr Hall	Tycho Brahe Hall	Ole Rømer Hall	Carl von Linné Hall	Berzelius Hall
8:30 - 10:30	EAS/ESCI/EASD: Symposium: Strategies to fight cardiovascular disease in diabetes	Central mechanisms of metabolic control	Glucose transporter regulation and control of glucose homeostasis Inflammation and resistance to insulin action	AGEs and diabetic complications	Master transcription factors of beta-cell fate	Role of the gut immune system in immune mediated diseases
10:30 - 11:00 Break						
11:00 - 12:30	OP 13	OP 14	OP 15	OP 16	OP 17	OP 18
12:45 - 13:45 Poster Event C 13:45 - 14:45 Poster Event D						
15:00 - 16:30	OP 19	OP 20	OP 21	OP 22	OP 23	OP 24
16:30 - 17:00 Break						
17:00 - 18:30	Results of the DREAM Trial		21st Camillo Golgi Lecture			

Saturday, 16 September

Time	August Krogh Hall	Niels Bohr Hall	Tycho Brahe Hall	Ole Rømer Hall	Carl von Linné Hall	Berzelius Hall
8:30 - 10:30	Metformin in oral diabetes treatment	CSII and continuous glucose sensing – towards the closed loop?	Genes predisposing to type 1 diabetes: how do they confer disease susceptibility?	Albuminuria and end-organ injury in diabetes and hypertension: new targets, new treatments	Pancreatic alpha cells and the molecular regulation of glucagon secretion	Rising Star Symposium
	Evidence based medicine: does it make life easier for diabetes care providers?					
10:30 - 11:00 Break						
11:00 - 12:30	OP 25	OP 26	OP 27	OP 28	OP 29	OP 30
12:45 - 13:45 Poster Event E 13:45 - 14:45 Poster Event F						
15:00 - 16:30	OP 31	OP 32	OP 33	OP 34	OP 35	OP 36
16:30 - 16:45 Break						
16:45 - 18:00	EASD and EFSD Award Ceremony followed by 41st Minkowski Lecture					
18:15 - 19:00	EASD General Assembly					

Sunday, 17 September

Time	August Krogh Hall	Niels Bohr Hall	Tycho Brahe Hall	Ole Rømer Hall	Carl von Linné Hall	Berzelius Hall
8:30 - 9:30	Treatment of obesity in diabetic patients	Molecular mechanisms of action in PPAR alpha receptors	Diabetes in immigrants living in Europe - the case of South Asians	Diabetic complications in prediabetic states	Mitochondria and the pathogenesis of type 2 diabetes	The search for the triggers of beta-cell autoimmunity
9:30 - 9:45 Break						
9:45 - 10:45	OP 37	OP 38	OP 39	OP 40	OP 41	OP 42
10:45 - 11:00 Break						
11:00 - 12:00	OP 43	OP 44	OP 45	OP 46	OP 47	OP 48
12:00 - 12:15 Break						
12:15 - 13:30	Presidential Address followed by 38th Claude Bernard Lecture					
13:30 - 14:30	Closing Ceremony followed by Farewell Reception					

August Krogh (1874-1949)

Danish physiologist and zoologist

Professor in zoophysiology at Copenhagen University 1908-1945

August Krogh studied the nature of gas exchange in the lungs. For this purpose he constructed a microtonometer, where the tension equalisation with blood takes place against an air bubble of about 0.01 ml. He made important contributions to the understanding of a number of classical problems such as the binding of gases in the blood, their transport by the blood flow and the exchange of oxygen and CO₂ in the tissues. He studied diffusion capacity of animal tissues and capillaries during rest and work, and arrived at the conclusion that during muscular work new capillaries which have been closed, are opened, thus enlarging the surface from which the oxygen can diffuse. These investigations resulted in the Nobel Prize in physiology and medicine in 1920.

Later, he dealt with a number of important problems such as heat regulation, respiratory metabolism, influence of diet on the capacity of work, blood sugar, lactic acid, training fatigue, and kidney function. He also made numerous additions to physiological techniques such as spirometer, bicycle ergometer, precision pipettes, respiration apparatus, and improved methods for gas analysis.

- For a large number of problems, there will be some animal on which it can be most conveniently studied. -

Niels Bohr (1885-1962)

Danish theoretical physicist

Professor in physics at Copenhagen University
1916-1956

Niels Henrik David Bohr studied the structure of atoms on the basis of Rutherford's discovery of the atomic nucleus. By introducing conceptions borrowed from the Quantum Theory as established by Planck, he succeeded in working out and presenting a picture of the atomic structure that still fitly serves as an elucidation of the physical and chemical properties of the elements. Recognition of his work on the structure of atoms came with the award of the Nobel Prize in physics in 1922. Later, he introduced the liquid droplet theory permitting the understanding of the mechanism of nuclear fission, when splitting of uranium was discovered by Hahn and Strassmann, in 1939, and formed the basis of important theoretical studies in the field. Bohr also contributed to the clarification of the problems encountered in quantum physics, in particular by developing the concept of complementarity. Since 1920 until his death he was at the head of the Institute for Theoretical Physics, established for him at Copenhagen University. In his later years, he devoted his work to the peaceful application of atomic physics. He had six sons, including theoretical physicist and Nobel laureate (1975) Aage Bohr.

- The opposite of a correct statement is a false statement. The opposite of a profound truth may well be another profound truth. -

Tycho Brahe (1546-1601)

Danish nobleman and astronomer

In 1572, Tycho Brahe observed a very bright star which unexpectedly appeared in the constellation Cassiopeia. Because it had been maintained since antiquity that the world of the fixed stars was eternal and unchangeable (a fundamental axiom of the Aristotelian world), other observers held that the phenomenon was something in the Earth's atmosphere. Tycho, however, observed that the parallax of the object did not change from night to night, suggesting that the object was far away. Tycho argued that a nearby object should appear to shift its position with respect to the background. He published a small book, *De Stella Nova* (1573), thereby coining the term nova for a "new" star (we now know that Tycho's star was a supernova). This discovery was decisive for his choice of astronomy as a profession.

An estate on the island of Hven in Øresund and the funding to build two observatories, Uraniborg and Stjerneborg ("Star Castle") were granted by the Danish King Tycho. The whole deal supposedly cost Denmark five per cent of its Gross National Product at the time. While credited with the most accurate astronomical observations of his time, Tycho Brahe was unable to carry the implications of the voluminous data he collected to their logical consequences. His assistant, Johannes Kepler, tried, but was unable, to persuade Tycho to adopt the heliocentric model of the solar system, but Tycho believed in a modified geocentric model known as the Tychonian system. It was Kepler whose superior mathematical faculty would enable the full interpretation of his master's observations and allow for the discovery of the laws of planetary motion.

- By looking down I see upward. By looking up I see downward. -

Ole Rømer (1644-1710)

Danish astronomer

Professor of astronomy at Copenhagen University 1681-1710

Ole Christensen Rømer is known in particular for his discovery of “the hesitation of light” in 1676. He observed that times between eclipses of Jupiter’s moons (particularly Io’s) got shorter as Earth approached Jupiter, and longer as Earth moved farther away. He estimated that the time for light to travel the diameter of the Earth’s orbit, a distance of two astronomical units, was 22 minutes. This is somewhat greater than the currently accepted value of 16 minutes and 40 seconds. Rømer’s view that the velocity of light was finite was not fully accepted until measurements of the so-called aberration of light were made by James Bradley in 1727.

He also made equipment for the accurate determination of stellar positions, including the meridian circle (1704). Moreover, he developed one of the first temperature scales. Fahrenheit visited him in 1708 and improved on the Rømer scale, the result being the Fahrenheit scale.

Beyond his scientific merits he served as mayor, chief of police, and chief fire officer in Copenhagen, and as judge of the Supreme Court. In Copenhagen, he made rules for building new houses, got the city’s water supply and sewers in order, invented the first street lamps (oil lamps), and ensured that the fire department received new and better equipment. He also made the first Danish standardisation of weights and measures (1683) and introduced the Gregorian calendar in Denmark-Norway (1700).

Carl von Linné (1707-1778)

Swedish physician and scientist

Professor of botany and natural history at
Uppsala University 1741-1777

Carl von Linné, also known as Carl Linnaeus or Carolus Linnaeus, is often called the Father of Taxonomy. His system for naming, ranking, and classifying organisms is still in wide use today (with many changes). The Linnean taxonomy classified living things within a hierarchy, starting with two kingdoms. Kingdoms were divided into classes and they, in turn, into orders, families, genera, and species. His groupings were based upon shared physical characteristics.

Linné named taxa in ways that personally struck him as common sensical; for example, human beings are *Homo sapiens* "wise man", but he also described a second human species, *Homo troglodytes* (or *Homo nocturnus* - "cave-dwelling man" or "nocturnal man"), by which he seems to have meant the only-recently described chimpanzee. The group "mammalia" are named for their mammary glands because one of the defining characteristics of mammals is that they nurse their young.

Linné was instrumental in the development of the Celsius (then called Centigrade) temperature scale. Anders Celsius had proposed using 0 as the boiling point of water, and 100 as the freezing point; Linné inverted it to the form we are familiar with today.

Linné also originated the practice of using the Mars and Venus glyphs as the symbol for male and female.

- A professor can never better distinguish himself in his work than by encouraging a clever pupil, for the true discoverers are among them, as comets amongst the stars. -

Jöns Jakob Berzelius (1779-1848)

Swedish physician and chemist

Professor of medicine and pharmacy at Uppsala University 1807-1810, and professor of chemistry and pharmacy at Karolinska Institute 1810-1832

Berzelius dominated chemistry for several decades and presented novel work within several areas in chemistry. He is considered one of the fathers of modern chemistry.

Of most importance and impact is his work on the definite proportions by weight of elements in inorganic substances such as salt. This is now known as the law of constant proportions, and these basic studies created innovations in analytical chemistry. With this knowledge he was able to determine the atomic weights of almost all elements which were known.

He also introduced a novel, simple, and logical nomenclature system for molecules. This is the basis of the periodic system we still use today in which the atoms are represented by their first syllables (O for oxygen, C for coal, Hg for mercury, etc.). Moreover, he discovered three new elements: cerium, selenium, and thorium, and fellows in his laboratory discovered lithium and vanadium.

Another important research area for Berzelius was electrochemistry, and he divided chemistry into organic and inorganic branches and introduced much of the basic vocabulary of chemistry, including words such as allotrope, catalysis, halogen, isomer, polymer, and protein.

- *The scientific author may not forget that his signum is clarity and truth.* -

42nd EASD Annual Meeting, Copenhagen-Malmoe

**18:30 Get-Together Party, Entertainment (Safri Duo) Conference Venue
Bella Center**

followed by Welcome Reception

Snacks and drinks will be served.