



Proposal

ICEE2014-Copenhagen, Denmark

**Boosting Innovation through Excellence in Engineering
Education**

Proposal ICEE2014-Copenhagen, DENMARK



Some of the topics:

- **Motivational engineering education**
- **Student's recruitment for engineering**
- **International collaboration**
- **Collaboration with industry**
- **New trends in energy development**
- **Internationalization and globalization of engineering education**
- **Sustainable energy**
- **Technology enhanced learning**
- **New Learning Methods**
- **Curriculum Development**
- **New Competencies**
- **Globalisation and consequences for engineering education**

Workshops



Location of the Conference:

Copenhagen/Ballerup - DENMARK

Dates of the Conference:

17th of August 2014 - Workshops
18-21 of August 2014 - Conference
22nd of August 2014 - Optional Visits



Local organizing committee:

+ Anna Friesel, IHK, Head of Section

+ Lise Kofoed, CIT, Head of Department

+ Hans Schjær-Jacobsen, IHK, Director of Professional Resources

+ Lars Rosenkilde, IHK, Director of Studies

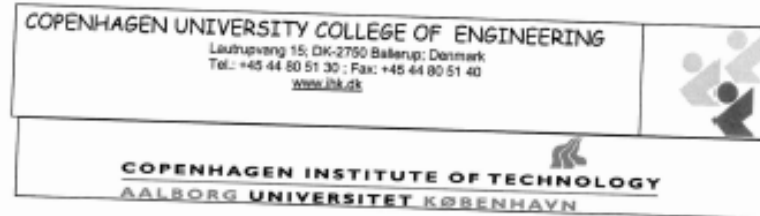
+ Linda Madsen, IHK, Pedagogical Consultant

+ Olga Timcenko, CIT, Associate Professor

IHK – Copenhagen University College of Engineering

CIT - Copenhagen Institute of Technology, Aalborg University

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Ballerup, April 9, 2010.

To

Professor Win Aung, Secretary General
International Network for Engineering Education and Research
INEER Board

It is our pleasure hereby to inform you that we have agreed to apply for the organization of the ICEE2014 Conference in Copenhagen, Denmark

The hosts will be Copenhagen University College of Engineering (IHK) and Copenhagen Institute of Technology, Aalborg University (CIT)
The conference venue will be our common campus in Ballerup, located about 12 km from the centre of Copenhagen. We have previously hosted international engineering conferences, like **SEFI** in 2008 in Aalborg and in 2001 in Copenhagen - Ballerup.

The organizing committee for the ICEE2014 conference will apply to the Danish Ministry of Education and the Danish Ministry of Science and Technology for patronage and financial support. We are also planning to apply for sponsorships and financial support from industrial companies, engineering associations and Danish technical and research associations.

In our capacity as rectors of both universities, we confirm our support and appreciation of hosting the ICEE2014 Conference on our campus in Ballerup, Copenhagen.

We look forward to hearing from you soon.

Yours sincerely,


Conni Simonsen
Rector
Copenhagen University College of Engineering


Finn Kjærdsdam
Rector
CIT Aalborg University

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Introduction to Copenhagen University College of Engineering - CUCE

Close to Copenhagen

Copenhagen University College of Engineering is the largest of its kind in Denmark. Since it was founded in 1881, the University College has greatly expanded its programmes and facilities. It is currently situated in attractive surroundings in Ballerup outside Copenhagen and commands 42.000 m² of functional and beautiful buildings designed by the PLH Architects.

The Copenhagen University College of Engineering is situated 15 km from the heart of Copenhagen. On one side, the University College is neighbor to a high-tech industrial area and on the other a protected nature area with birds, wildlife and recreational activities.





Education and programs at CUCE

Copenhagen University College of Engineering has a long tradition of educating engineers to work in Danish and international companies and our graduates are well-known and recognized for their competence and contributions.

At present we offer following Bachelor degree programmes:

Engineering programmes taught in Danish

- Electronics and Computer Engineering
- Power and Energy Engineering
- Information and Communication Technology
- Engineering Design and Industrial Innovation
- Export Engineering
- Production and Innovation Technology
- Mechanical Engineering
- Civil Engineering

Engineering programmes taught in English

- Electronics and Computer Engineering
- Information and Communication Technology
- Engineering Design and Industrial Innovation

One semester exchange programmes taught in English:

- International Business Semester (IBS)
- Innovation and Entrepreneurship Semester (IES)
- International Design Semester (IDS)
- European Project Semester (EPS)

Summer Schools

- Mobile Communications and m-commerce
- From Local to Global Business
- Satellite Technology and Communications
- Innovation and Entrepreneurship
- International Engineering Project
- International Design Summer School
- Multimedia
- Marketing Across Cultures
- Intensive Danish Course



There are 1500 full time students, around 400 students from more than 40 countries studying degree programmes or exchange programmes taught in English. Another 450 students take evening classes to complete courses in continuing education. The University College offers bachelor-level post-graduate courses through the Department of Continuing Education. Finally, the University College has an admission course for those who wish to attend engineering studies. The course is an introduction to engineering aimed at those with practical experience.

Progressive education

We have a broad outlook, and the educational methods and tools are chosen so that they support an embracing and visionary study environment. The courses consist of a combination of team-oriented instruction, project work in groups, traditional classes, excursions and experiments in scientific laboratories. The programmes are taught by 100 faculty members with a masters or PhD degree in their field and they continuously develop their educational methods as well as the more technical aspects in order to run “state of the art” programmes.

Danish mentality is informal and you will experience a close co-operation between professors and students at the Copenhagen University College of Engineering. Students can always ask questions and discuss their projects and experimental results with their professor in order to learn and gain more experience.





Library

It is easy to find the library with its entrance just next the canteen. It is a public library with access to the Internet as well as scientific literature and fiction. The library subscribes to numerous national and international journals, magazines and newspapers and the computers provide free access to a list of licensed engineering databases.

In the library there are many group rooms, where the students can meet in their project groups. In both the library and the group rooms have internet access.





Architecture

The first impression when you enter the long flat building is the great hall and canteen area. The interesting architecture is characterized by many squares where students can both socialize and study.

Around the Copenhagen University College of Engineering there are works of art, and at the institution there is a cultural society for both students and employees.

It is easy to get around the University College, also for the handicapped, because of the many lifts and wide doorways.





Facilities

The Copenhagen University College of Engineering gives their students access to computers, library and places available for teamwork. We offer facilities to help students make the most of their learning experience - as well as making student life a worthwhile experience.

Students attend courses in ultra-modern classrooms, multimedia workshops and hi-tech laboratories, and individual workspaces with powerful computers and measuring equipment are available for students working alone or in groups.

In several of the departments there is wireless internet access, and internet access in all classrooms.





Introduction to Aalborg University - Copenhagen Institute of Technology, CIT

Aalborg University

Aalborg University is one of the youngest universities in Denmark. It was established in 1974 based on different professional schools and is today a full university with five faculties represented in research and teaching. From the very beginning Aalborg University's curriculum was established as a project-organized problem-based learning and even the physical planning of the campus area was included in order to realize the visions of such a curriculum.

Today the university has 14.000 students and 2.000 staff including administration and doctoral students. It is a three city campus university with students in Aalborg, Esbjerg and Copenhagen. The engineering curricula are located in the Faculty of Engineering, Science and Medicine – the largest faculty at the university where we offer state-of-the-art curriculum in all kinds of engineering disciplines. Aalborg University is the second largest engineering university in Denmark – in 2006 more than 600 students have received their M.Sc degree. We are also offering around 50 M.Sc. programs in English making it easy for us to collaborate and exchange students with more than 400 universities all over the world. The university has a spirit of innovativeness by new ways of doing different things in research, education and collaboration.





We have just been nominated as the fourth most innovative company in Denmark.

Research is a key activity for the faculty. We have Centers of Excellences in Health Technology, Wireless Communication and have recently been given a UNESCO chair in problem based learning acknowledging our contributions in this topic. The other main areas are ICT, Energy and Environment, Mechanical and Production Engineering, Architecture and Design, Nanotech, Planning, Civil Engineering and Life Science. Recently we merged with the Danish Building Research Institute located in Copenhagen, which will form a platform for a strong virtual center in Quality in Building. The faculty keeps an open mind for external collaboration including new companies on campus close to our researchers as well as collaboration on different sites. We establish on average two new agreements per day! One of the catalysts for this activity is the problem-based learning carried out through projects between the students and companies through their study.

At Aalborg University all the study programs are research based. This means that the teachers conduct research within the same area as they teach. This gives our students access to the most recent knowledge within different academic areas, and furthermore they are taught by dedicated teachers who are enthusiastic about their fields and draw upon a wide variety of teaching materials.



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Copenhagen Institute of Technology

Copenhagen Institute of Technology (CIT), situated in Ballerup near Copenhagen, is a part of Aalborg University. CIT was founded in 2003 and now has about 400 students who study several different engineering profiles, on bachelor, masters and Ph.D. levels. CIT is in a rapid development phase, and new educations are offered every new school year. The first education offered at CIT was Medialogy, and among the newest are Environmental Planning and Humanistic Informatics, both beginning September 1st 2008.

The Institute shares the campus with Copenhagen University College of Engineering.





The activities in CIT are in fully line with Aalborg University ideology – teaching is based on research, and educational profiles offered for now are:

- Medialogy,
- Computer Vision and Graphics
- Mobile Communication,
- Network Security,
- International Technology Management,
- Land Surveying,
- Environmental Planning,
- Micro Biology.

Danish Building Research Institute, which offers the best expertise in the country within research, education, consultancy, cooperation with companies with regards to building and physical planning is also a part of CIT.

CIT staff already has experience in organizing international conferences, Computer Music Conference (ICMC) in August 2007 is just one of them.

As a result of all these activities, AAU is one of Denmark's leading universities in terms of uncovering innovative ways of cooperating with the surrounding world at a local as well as national and international level.



Proposal ICEE2014-Copenhagen, DENMARK

Denmark

Denmark is part of Scandinavia in the northern part of Europe. Denmark has a total population of some 5.5 million people.

Copenhagen is the capital with about 1.2 million inhabitants.

Denmark covers 43,098 square kilometres and apart from the peninsula (Jutland) consists of 406 islands and 7,300 kilometres of coastline.

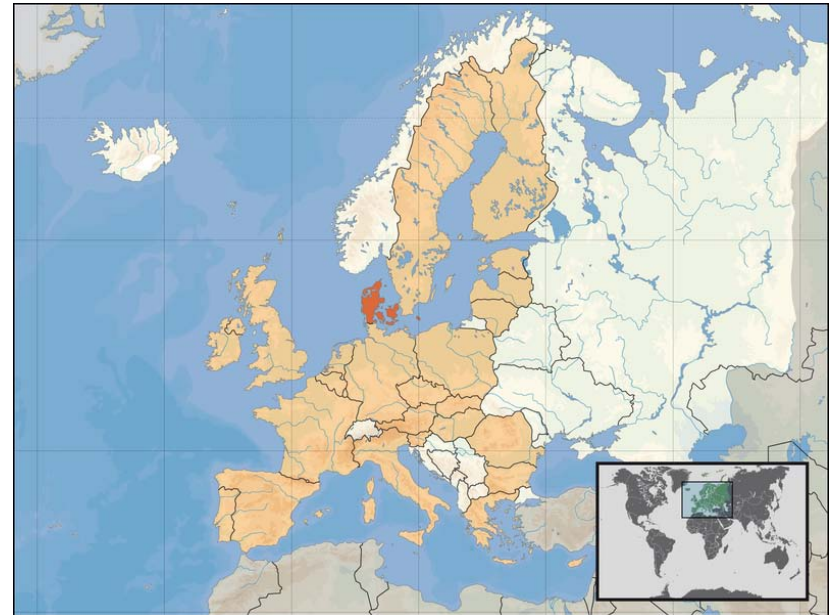
Denmark is the second-most visited destination in Scandinavia, after Sweden, with 4.7 million visitors in 2007.



Flag



Coat of arms



Denmark is one of the oldest monarchies in the world: The queen's family dates back to about 950 AD. The history of Denmark is characterized by intense commercial interaction with its neighbouring countries. You will find flight connections between Copenhagen and most international airports all over the world.

Danish institutions of higher education have a long tradition of excellence and creativity – close co-operation between engineering students, professors and industry in the engineering disciplines lead to innovative solutions and new designs.

Denmark is one of the leading investment countries in research and higher education. The number of Nobel Prizes per capita is the third highest in the world (Ref.: <http://www.studyindenmark.dk/>: The World Competitiveness Yearbook 2004, IMD).

Although Danish is the national language, English is widely used and the vast majority of Danes speak fluent English. An increasing number of study programmes are offered in English in order to attract students from abroad and to prepare young Danish graduates to work in a global world.

Denmark is known worldwide for its welfare: “The Scandinavian welfare model”. As a student in Denmark you have access to benefits such as free health insurance, free use of public libraries and an extensive system of public transportation.

Denmark's high level of safety and security is often mentioned by foreign visitors as the most characteristic aspect of Denmark: You can ride your bike safely alongside schoolchildren and high ranking government officials and even the Queen can go shopping with a minimum of security guards.

Proposal ICEE2014-Copenhagen, DENMARK

Introducing Copenhagen

Source: <http://www.lonelyplanet.com/denmark/copenhagen>



Copenhagen panorama

The coolest, most cosmopolitan, most exciting and, yes, Danny Kaye was right, the most *wonderful* city in Scandinavia (don't argue Stockholm): welcome to Copenhagen (København).

These days the Danish capital is blossoming. There is a spring in its step borne from a mixture of some brave new architecture, continued prosperity and a burgeoning confidence in its own charms. There are more cafés and restaurants than ever and, more importantly, the locals are learning how to use them. It used to be that Copenhageners ate out on special occasions only and nights out

Proposal ICEE2014-Copenhagen, DENMARK

were restricted to Friday and Saturday only, but that's all changed. Even on a wet Wednesday in February the bars and cafés will be buzzing, that all important *hyggelige* (cosy) atmosphere fostering a uniquely Danish sense of wellbeing and conviviality.

In a way, the rest of the world woke up to how great this historic city of canals, cobbled squares and copper spires was before the locals did, but it is at last sinking in that the world now looks to Copenhagen for the best in design, architecture and fashion and is beginning also to notice the extraordinary culinary revolution that has taken place here over the last decade.

If you are looking for an earthy, hardcore travel experience look elsewhere. Copenhagen is clean, safe and ridiculously easy to get to know, the locals all speak superb English and the transport system makes London's look like it's on the verge of a nervous breakdown. It usually makes the top five, if not the top spot, in those 'most liveable city' lists. And if you are looking for a budget destination, you might also want to reconsider your plans. This is not a cheap city by any means, but then neither is it any more expensive than any other major European city – London and Paris will hit your pocket harder.

Copenhagen and the surrounding counties have 3 beaches with a total of approx. 8km of sandy beaches within 30 minutes bicycling from the city centre. This includes Amager Strandpark, a 2 km long artificial island which opened in 2005 and is located just 15 minutes by bicycle from the city centre.

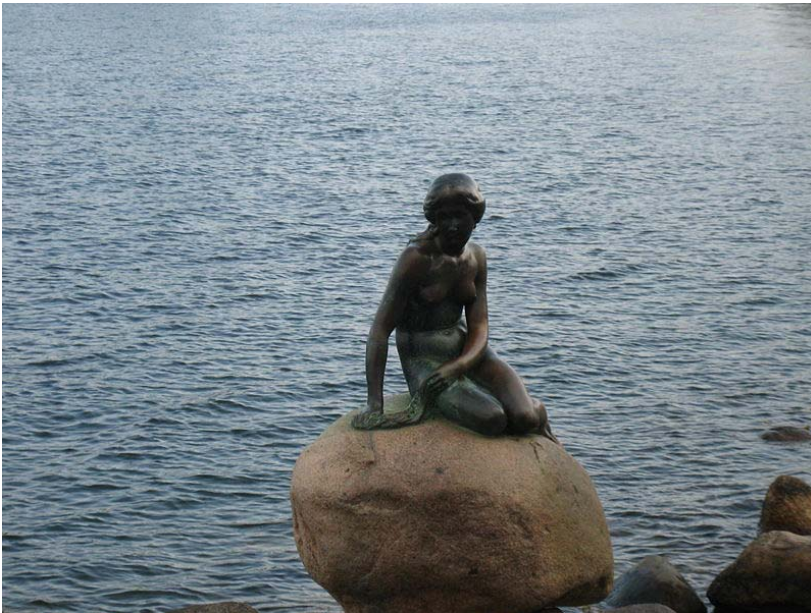


Christiansborg Pallace

Copenhagen In International Ranks

Source: <http://en.wikipedia.org/wiki/Copenhagen#History>

The City of Copenhagen always performs very well in international ranks.



Little mermaid



Copenhagen one of the most visited cities in Northern Europe and is known for its liveliness.

Copenhagen is the world's #7 most expensive city and #3 most expensive in Europe on the Forbes List

Proposal ICEE2014-Copenhagen, DENMARK

- 2008 Worlds Best Design City.
- Cultural World City (3rd in Western Europe).
- Copenhagen is ranked #14 in MasterCard Worldwide Centers of Commerce Index (Most Important Business City) and #1 in Scandinavia.
- Copenhagen is ranked #6 in Grist Magazine's "15 Green Cities".
- Copenhagen is the worlds #7 most expensive city and #3 most expensive in Europe on the Forbes List.
- Copenhagen is ranked #7 as Preferred City For Investment Projects.
- Copenhagen Region Ranks #3 In Western Europe For Attracting Head Offices.
- Copenhagen ranks the first in the ' Global Earning Ranking ' .
- Copenhagen ranks as the fifth most popular city in the world for international meetings and conferences.
- Copenhagen ranks as one of the most attractive cities to live and work in Europe.



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Recreation and Culture

Since the late 1990s, Copenhagen has undergone a transformation from a cute Scandinavian capital to a cool metropolitan city of international scope in the league of cities like Barcelona and Amsterdam. This was in part due to infrastructural changes like the new Metro, the new Airport Terminal and the bridge to Sweden - but also due to cultural success: Dogma & Lars von Trier, a renewal of Scandinavian architecture & design, the establishment of Vega - House of Music, not to mention the rise of a bustling underground culture scene, which was nearly non-existent in Copenhagen until recently. Between 1998 and 2008, lifestyle journalists worldwide (from Wallpaper to the NewYorkTimes) have praised Copenhagen as a cool, well-functioning creative city.





City Hall

Proposal ICEE2014-Copenhagen, DENMARK



Cuisine

Copenhagen offers a great variety of fine restaurants and it is possible to find modest eateries with open sandwiches (called "smørrebrød"), which is the traditional and best known dish. Most restaurants, though, serve international dishes. The city boasts an impressive 11 Michelin star restaurants. Restaurant Noma (Nordisk Madhus) has currently been voted the 10th best restaurant in the world, and recently it received another Michelin star in addition with the one it already had received.^[17] Furthermore, the readers of the international website TripAdvisor rated Noma as one of the best restaurants in the world.

Since the nineteen-eighties, immigration from the Pakistan, Middle East, Turkey and Arabian countries has introduced fast food dishes such as kebab and falafel, which have become as popular as more traditional Danish fast food.

Places of note in or near Copenhagen

- Amalienborg Palace
- Assistens Cemetery (*Assistens Kirkegård*)
- Arken Museum of Modern Art
- Børsen, the former Stock Exchange
- Church of Holmen
- Copenhagen Opera House
- Danish Design Centre
- Bakken
- Christiansborg
- Copenhagen Zoo
- Danish National Gallery
- Danmarks Nationalbank
- Frederiksborg Palace in Hillerød
- Freetown Christiania
- Gefion fountain
- Kastellet
- Kronborg Castle — Hamlet's castle in Elsinore (*Helsingør*)
- The Little Mermaid
- Louisiana Museum of Modern Art
- National Museum of Denmark
- Ny Carlsberg Glyptotek
- Nyhavn
- Rosenborg Castle
- Roskilde
- Rundetårn
- Strøget
- Tivoli Gardens (amusement park)
- University of Copenhagen

Welcome to Ballerup

Source: <http://ballerup.copcap.com/>

The municipality of Ballerup is a dynamic part of the Greater Copenhagen Region. The municipality has approximately 47,000 inhabitants and is situated between Roskilde Fjord and the Øresund. Located only 15 kilometres from central Copenhagen, Ballerup has a prosperous economic life, attractive housing areas, a thriving sporting and cultural life as well as a vast number of green areas. It offers a combination of urban and rural life, nature, arts, sports and culture that make Ballerup an attractive municipality.

Ballerup is a modern municipality dedicated to benefiting from the possibilities afforded by new technology.

We are service-minded and easy to get in touch with. Our modern Citizens' Square at the Town Hall makes personal inquiries easier and faster. Most enquiries can be handled at the Citizens' Square immediately. We have set up an electronic citizens' panel to evaluate our efforts and service level. With this tool we receive direct and fair input from our citizens and we use this to implement further improvements.

Ballerup's central location makes it an easy place to get to. We have five local train stations and twelve bus routes accessing the municipality. It is also easy to reach Copenhagen by car, since many main roads connect Copenhagen and Ballerup. Ballerup is also directly connected to the motorway network which connects the region with Jutland, Germany and Sweden.

Ballerup municipality is focused on strengthening business development - locally as well as within the Øresund Region. We have pursued an active business policy for many years and have attracted many large Danish and international companies to the area.

Our basis for attracting a varied business life is the advantageous conditions we can offer growth industries, particularly IT & telecommunications, life science, medical devices & consultancy as well as business services.

One of our business parks, Lautrup Park, contains the country's largest concentration of R&D, administration and knowledge intensive companies. In Denmark the area is known as our local "Silicon Valley". Today the municipality has 40,000 workplaces, of which

10,000 are within IT and telecommunications. Another 5,000 workplaces are within life science in production, research and development.

Within a radius of 20 kilometres there is access to a well-educated workforce of 400,000. Educational institutions are important due to their knowledge-creating role and also because they create an attractive recruitment basis for local companies. Ballerup offers a wide range of education of relevance to businesses.

Ballerup municipality is home to the Copenhagen University College of Engineering (IHK), Denmark's largest Engineering University College with more than 2,000 students, many of whom are foreign students. The University College has an alliance with Aalborg University, another leading engineering university in Denmark. The alliance has produced great benefits and raises the level of academic performance. The Copenhagen University College of Engineering also has a long-standing tradition of close collaboration with local businesses.

Our business academy, BEC Business, offers mercantile and business-related education courses as well as supplementary education. The technical college, TEC, has 5,000 students and is the largest IT technical school in Denmark.

BALLERUP

Ballerup Kommune
7, Bølle- og Vej
DK-2150 Ballerup
Phone: +45 4477 2800
Fax: +45 4477 2338
Email: ballom@ball.dk
www.ballerup.dk

See Ballerup and get a lot in return...

Situated between Roskilde Fjord and Øresund, 15 km north-west of Central Copenhagen. Here - on the boundary between city and country - lies Ballerup Local Authority with its approx. 47,000 inhabitants.

A green local authority
Putting a massive effort into environment, Ballerup stands as an active, environment-conscious local authority. Grantortegård has operated an organic farm with animals, vegetables and grain since 1991. Grantortegård, one of the largest of its kind in Denmark, is situated in the quiet village of Pilestrøp, a short walk from Ballerup Station.
Here you will also find Ballerup Regional Museum and Store Peters beer garden, offering organic dishes in the high season.

Vibrant cultural life
Cultural life has always held a special place in Ballerup. Dotted around the local authority are more than 100 publicly accessible works of art, which can be found using our beautifully illustrated art guide. You will be sure to find world-class art and architecture at Tjellebjerggården, the venue of an international housing exhibition in 1996.
The new urban areas Østernvej and Søndergård also offer an outstanding integration of art and architecture as well as views of stunning green areas.

Focus on sports
The local authority's more than 300 associations receive solid backing, including excellent facilities for the many active people in Ballerup. Today competitive sports produce good results in volleyball, taekwondo, table tennis, boxing and orienteering.
Of late, cycling has acquired superb conditions with the opening of Ballerup Skemers Arena, which has already held a Six-Day Race and the World Championships in track racing with great success.

the towns of Måløv, Skovlunde and Ballerup and some small villages. In the past 50 years, Ballerup Local Authority has evolved from a village enclave into a modern urban community offering exciting landmarks and myriad adventures in its beautiful surrounding nature. Ballerup is a fascinating combination of city, country, environment, art, sports and culture.

The area surrounding Hørsholm Ådal lends itself to many beautiful walks, short or long. The urban parks in both Skovlunde and Måløv are wonderful breathing spaces. Just at the Jægersvang area, surrounding Hørsholm, will satisfy even the most ardent nature lovers.

Rock, pop and jazz concerts with the most popular national and international artists. Operas and classical concerts. Reves and theatres.

In Ballerup Strandpark, you will also find the modern swimming baths, East Kibroe Bad, named after our twin town, and the rooted football field, Topdanmark Hallen. The plans for the area encompass towards an integrated sports city with myriad sports facilities and a hotel. Ballerup is truly worth a visit. We have a steadily growing number of visitors, and this map will help make our many attractions easier to find.

www.ballerup.dk

Download detailed leaflets on leisure, free activities for children and an art guide at www.ballerup.dk.

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