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AALBORG UNIVERSITY
DENMARK

Problem Based Learning - Linking Students and Industry

A case Study from Aalborg, Denmark

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**OECD / IMHE programme on
Supporting the Higher Education Institutions' Contribution
to Regional Development**

- Wrap-up Conference for Participating Regions -

16-17 October 2006

**Copenhagen Business School
Solbjerg Plads 3
DK-2000 FREDERIKSBERG**

WORKSHOPS

Monday 16 October

14.30 – 16.00

Session 1

**Challenges and solutions in Building Human Capital, Attracting
and Retaining Talent and Widening Participation**

**Group 1 – Minority and Gender Related Issues
Chair Steve Garlick**

From Minority to Majority: The Changing Dynamics of Race in U.S. Higher Education

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The rapid growth of minority populations in the United States means that in many regions members of minority groups constitute a majority of the school- and college-age population. At the same time, the demands of the global economy means that the need to increase rates of college participation and success is a growing national priority. As a result of these two trends, the strategies of colleges and universities in the United States to attract, retain, and graduate more minority students are shifting beyond traditional approaches like affirmative action to efforts that can significantly increase rates of student success. These include improving the academic preparation of students, reducing the cost of higher education for low income students, increasing transfer between two- and four-year institutions, better understanding student learning outcomes, and significantly raising college graduation rates.

Innovation Systems and Homosocial Structures. Gender Related Obstacles to Growth and What to Do with Them: a Case Study from Värmland

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This presentation aims to show how the gender perspective on the regional growth politics in Värmland (Sweden) captures the ideas of regional growth and innovation systems in relation to existing regional power structures which principally and by tradition are based on male homosocial settings. This session is based on a project that was designed as an interactive research process between researchers and regional stakeholders including men and women in leading positions within the innovation system. They met in workshops and discussed results and future plans for the region. The results of the project will contribute to the construction of tools for co-operation and merger between growth and gender politics which will guarantee sustainable development in the region.

Group 2 – Widening Participation Chair John Rushforth

Different Universities, Different Approaches, Different Communities: Widening Participation into Higher Education

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The UK Government aims to increase participation in Higher Education for 18-30 years olds to 50% by 2010. It is estimated that an investment of over GBP 2 billion has helped to recruit poorer students to Higher Education. However, recent recruitment figures show that the 50% target will not be attained and drop out rates from Higher Education are increasing. In North East England however, things look more positive. Representatives from Durham, Northumbria and Teesside Universities in North East England will briefly outline their respective University strategies for Widening Participation and will encourage discussion to reflect on why achievements are varied and what alternative strategies might be introduced.

Expansion of Higher Education in Mexico. How to Guarantee Regionally Relevant Education?

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Mexico's current National Education Programme recognises three strategic goals: (1) Expanding the system privileging equity; (2) Providing good quality education so as to contribute to the country's social and economic development; and (3) fostering the system's planning, coordination, integration and social participation. This presentation gives a brief description of the current situation of Mexico's Higher Education System in terms of its institutions, the subsystems in which they can be classified, their different typologies and numbers of students involved.

The presentation will describe the main instruments which have given rise to well documented advancements regarding widening access with equity and quality as well as the regional dimension role of higher education institutions, in particular, the National Programme of Higher Education Scholarships, the Faculty Enhancement Programme, the Educational Expansion Programme and the cooperation mechanisms existing among the federal government, local (state) education authorities and HEIs. The regional dimension of current policies will be explained. Emphasis is on the role of State Commissions for Higher Education Planning, and their quest for relevance of new study programmes and research projects.

Group 3 – Attracting and Retaining Talent Chair Peter Arbo

Attracting and Retaining Skilled Labour in the Face of Strong Competing Demand – The Role of Community Colleges and Universities in Atlantic Canada.

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The four provinces of Atlantic Canada face increasing shortages of skilled labour as a result of years of net out-migration to stronger labour markets in central and western Canada, aging workforces and continued relative underdevelopment. Urban centres in Atlantic Canada are smaller than those in other Canadian provinces and many of the benefits of large industrial clusters and urban “creative city” dynamics are relatively lacking. Atlantic Canadian colleges and universities consequently have the combined challenges of competing to attract faculty, staff and students, with higher expectations to contribute to labour market solutions. Colleges have had a much longer focus on meeting labour market requirements and are responding to demands for more skilled trades. Universities in Atlantic Canada, while for the most part aware and supportive of meeting greater expectations for regional, provincial and local linkages, continue to demonstrate mixed levels of commitment to allocating resources, adopting new approaches and adapting cultures and processes. This research focuses on the longer term economic development implications of this brain-drain/skill-drain for the region and the approaches adopted by the post-secondary institution in each province to address this concern.

Fast Forward Retaining Talent: A Case Study from Twente, the Netherlands

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Fast Forward is a separate post-graduate programme provided by Saxion Universities of Applied Sciences in Twente in the Netherlands retain and attract to high potential graduates. Over a two-year programme the Fast Forward trainees receive tailored management training and undergo three eight-month work assignments in different local or regional companies and organisations. The idea is to match high potential graduates with organisations which need innovative staff who are able to contribute from day one. For a graduate Fast Forward provides a personal development project with self-awareness training, peer development, continuous assessment and feedback from peers and coaches.

In six years more than 200 Fast Forward apprenticeships have been completed with about 100 different employers. The programme is successful in retaining graduates in the region: 95% of Fast Forward graduates – now highly qualified – have stayed in the region and work there. The programme has also encouraged new graduates to move to Twente from other regions in the Netherlands.

**TCM Denmark. Plant Based Traditional Complementary Medicine
Linking the Global with the Local: a Case Study from Jutland-Funen in Denmark**

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Established in 2004, TCM Denmark is a joint venture which aims to make Southern Denmark the gateway for Traditional Complementary Medicine (TCM) into the EU market, to modernise international TCM and to support and develop the region's strength in business, research and education. The partners are Funen County, Funen Enterprise Centre, the City of Odense, the Danish Institute of Agricultural Sciences, Development Centre Aarslev, the University of Southern Denmark, Odense University Hospital, and the Science Parks of Southern Denmark. The TCM Denmark secretariat is located at Funen Enterprise Development Centre.

TCM Denmark provides bespoke services which range from cultivation to commercialisation including applied research and development projects from plant to pill, clinical trials, pilot production, manufacturing, marketing, acquisition of project funding as well as drafting contracts and documentation which meet the European scientific and regulatory standards. It cooperates with the Chinese Government Department for Traditional Chinese Medicine and with about 20 Chinese TCM companies. Early success in the cooperation with China has strengthened confidence in the economic potential of developing herbal medicine in the region.

Monday 16 Oct 2006

16.30-18.00

Session 2

Innovation, Entrepreneurship and Links with Industry

**Group 1 – Advancing Entrepreneurship
Chair Steve Garlick**

Temporary Entrepreneurial Positions: a Case Study from Twente

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Launched in 1984 by the University of Twente, the TOP programme assists university graduates, staff and people from trade and business to start their own companies. The programme has been highly successful. Since 1984 about 370 individuals have received TOP support and some 320 companies have been created. The survival rate of all companies is 76% (data from 2000). After the first year it is 99%, whereas the 5-year survival rate is about 89%. TOP companies are usually SMEs with 5 to 6 employees. On a regional level they are responsible for about 150 new jobs every year.

Annually there are about 20 TOP participants. TOP participants must (1) have a concrete idea of a knowledge-intensive or technology-oriented company that can be linked to the fields of expertise of the university; (2) be available for a minimum of 40 hours a week; and (3) have a business plan that meets a number of set requirements. During the one-year support period the TOP entrepreneur receives office space and facilities, access to networks, a scientific and a business manager, and an interest-free loan of EUR 14 500. The loan has to be repaid within four years starting in the year after leaving the TOP programme.

Team Academy – Award-Winning Entrepreneurship Education from Jyväskylä, Finland

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Established in 1993, the *Team Academy* is a special unit of the School of Business at the Jyväskylä University of Applied Sciences (Polytechnic) to enhance student and graduate entrepreneurship and to help SMEs and other companies to access university expertise in marketing, management and entrepreneurship. During the last ten years, the Team Academy has received a number of national awards for its innovative learning methods and its proven track record in the enhancement of entrepreneurship. It has provided a wide range of entrepreneurial education for more than 500 BBA graduates and served the needs of the business life through 1750 projects. About 15% of the Team Academy graduates are active entrepreneurs and the Team Academy itself has given birth to 17 companies in addition to the cooperatives that operate during the study time.

This session will introduce the Team Academy's learning laboratory model where new learning methods and models for business life are developed and tested (*e.g.* building effective teams, learning organisations and modern marketing). Each Team Academy student has more than three years of intensive training in leadership and marketing as a member of a team.

Group 2 – Bridging the Gap between HEIs and Industry

Chair John Rushforth

Knowledge House – The Gateway to the North East of England’s Universities

Paul Callaghan

Chair of the Leighton Group and Chair of Business Link North East

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De-industrialisation has dramatically changed the industrial profile of the NE of England over the last three decades. Gone are the shipbuilding, coal mining and heavy engineering industries to be replaced by a burgeoning SME population (around 67 000 companies) and the developing knowledge economy. Knowledge House is, in part, the response of the Region’s Universities to this industrial decline and re-birth. Established in 1995, it is a joint effort of the five universities in the North East of England (Durham, Newcastle, Northumbria, Sunderland and Teesside) along with the Open University in the North through the universities regional association, Unis4NE, to help companies access university skills, expertise and specialist resources. Knowledge House offers expert solutions for developing ideas and solving problems through collaboration, consultancy, training and research.

Knowledge House has a central Headquarters and staff distributed at the partner sites. The network and its operations are supported by a web based enquiry handling/project management and client relationship management system. Knowledge House receives over a thousand enquiries from client companies and delivers around 200 client contracts on an annual basis. Business growth averages 25%. In contrast to networks providing only signposting services, Knowledge House offers a cradle to grave service, stretching from the receipt and circulation of enquiries through project management and delivery to post-completion evaluation. It is also playing its part in the integration and consolidation of the business support services in the North East through formal agreements and joint appointments with other, non-university, business support agencies such as the Business Links service and the Regional Development Agency.

The Success Story of the Castellon Tile Industry **- Transforming Traditional Industry into a World Leader**

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In the last 10 years, the Spanish ceramic cluster, consisting of enterprises and activities related to ceramic tile production in Castellón province (Valencia Region), has emerged as an area with unprecedented growth and dynamism bringing economic growth and wellbeing to the region.

The success of the ceramic sector in Castellón is based on high sectoral cohesion, ability to respond to changing needs and demands, access to qualified human resources as well as the presence of public and private innovation-supporting organisations.

The Instituto de Tecnología Cerámica ITC is a non-profit-making association formed by an agreement between the University Institute for Ceramic Technology of University Jaume I of Castellón and the Ceramic Industry Research Association (AICE). This joint effort helps the ceramic sector to access the knowledge, skills and expertise of the University, removes bureaucratic obstacles, and provides information on the present and future needs of this dynamic sector. ITC has played – and continues to play – an active role in guaranteeing the availability of specialised human resources and cutting-edge technology.

**Alexandra Institute Ltd:
A Case Study from Aarhus, Denmark**

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The Alexandra Institute Ltd is a research-based limited company, which operates as a matchmaker between researchers and companies in the IT sector. While many Danish companies involve users in the development of new products, they only rarely draw upon the most recent IT research. The Alexandra Institute is specialised in providing a framework for adding research component into the innovation efforts of its public and private sector partners. The Institute has three requirements for engaging in a project: (1) the project must involve users; (2) the project must draw upon IT research of high international quality; and (3) the project must involve at least one private company. All projects have not only a research dimension, but also a *developmental component* bringing concrete results to the company (e.g. industrial prototypes). Each project also has a project team with researchers, students, company employees, and representatives from the user organisations. Project funding is drawn from a range of sources, companies financing at least half of the project costs.

**Group 3 – Knowledge Transfer on Legs
Chair Peter Arbo**

**Problem Based Learning – Linking Students and Industry:
A Case Study from Aalborg, Denmark**

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In Aalborg University, Denmark, all study programmes are organised around inter-disciplinary project work in groups. Up to 50% of the study work is problem-oriented project work: students work in teams to solve problem areas which have often been defined in co-operation with businesses, organisations and public institutions. *Project Organised Problem Based Learning (POPBL)* has generated a high degree of cooperation with the society and private companies. There are all the time 2000 to 3000 ongoing projects. With several thousand projects undertaken every year, the university is highly engaged with the surrounding society.

Developed in the 1970s, the Aalborg model is based on a win-win principle: it provides students with transferable skills and authentic experience in working life; enterprises with a clear idea of what the university stands for and how the future graduates might fit in as prospective employees; and the university with feedback and cases and ideas which can be used in research and teaching.

In this presentation we shall have a focus on POPBL in engineering, which is essentially problem solving. We shall look into on campus POPBL and the *Facilitated Work Based Learning (FBL)* for continuing education and also present case examples of POPBL work.

Ideaportal – Student Projects in Regional SMEs: A Case Study from the Trondelag Region

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In Norway as well as in the region of Trondelag the existing business base is predominantly SMEs with low levels of R&D investments and little experience in higher education cooperation. Nearly 90% of the work force is employed in companies with less than 20 staff. With their 30 000 students the HEIs in the region - Norwegian University of Science and Technology (NTNU) and the regional university colleges - provide a great potential for regional development.

Launched in February 2006, Ideaportal aims to bridge the gap between higher education and SMEs by mobilising students. It is a web portal where SMEs can post problems or ideas they want students to engage in, either as a summer job or as a basis for bachelor or master thesis. Since its launch, more than 100 SMEs have posted proposals for summer jobs and/or thesis work and about 40 relationships with students seeking summer jobs have been facilitated. The database contains ca. 70 proposals for bachelor and master thesis.

The aim is to launch Ideaportal for students and SMEs throughout Norway.

Family Firm System: A Case Study for Busan

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Dongseo University (DSU) launched its Family Firm System in 2004. Under the system, five companies are assigned for each professor to manage, offering students with job opportunities and graduates with a link to the recall system. The system has attracted 556 companies (as of 31 December 2005). It was started out with one professor to one company in 2000 but it grew to one to five respectively. The system has enabled the university to develop courses reflecting corporate needs, effectively utilize internship programs, share equipment and conduct joint projects with businesses, increase job opportunities for students, improve the university's reputation and contribute to the regional community. Moreover, the Family Firm system was an important contributing factor in DSU winning five NURI projects (New University for Regional Innovation) in 2003 (will receive USD 5.2 million from the Korean Ministry of Education for 5 years). Other major projects initiated by the Family Firm System are the Regional Innovation Center (RIC) and Regional Innovation System (RIS). Thanks to the Family Firm System DSU has also benefited from placing 78.5% of its 2005 graduates in job placement.

Group 4 – High Technology Cooperation

Chair Jose Gines Mora

Newcastle Science City

Douglas Robertson

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Six Science Cities were announced by the Chancellor of the Exchequer in the UK. Newcastle upon Tyne is one of the designated cities. Newcastle University's mission includes play a leading role in the economic, social and cultural development of the North East of England. Science City is a natural extension of the journey on which the University had already embarked. The University with the City Council and the Regional Development Agency have established a major partnership to take Science City forward. The partners are seeking to break down barriers within present funding regimes to take a holistic view of economic development in the context of the knowledge economy.

Newcastle Science City seeks to (1) raise the aspirations around science and technology education in the City region; (2) develop a strong environment for emerging technology businesses in which commercial ideas from the University and elsewhere have a high chance of success; (3) develop an effective environment for the creation and attraction of management and entrepreneurial skill sets in present students (under-graduate and post-graduate), post doctoral staff and alumni; and (4) develop major strategic sites within the City providing a unique location for science and business interaction.

From Research to Economic Growth

Sven-Thore Holm

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Sweden is highly dependent on high-tech industries. It has for the past three decades been developing a full scale innovation system. The Innovation Bridge of Sweden consists of a national nation-wide system responsible for the transfer of inventions to innovations. The financing of the system is mainly public especially in the front end of the system. The total national funding amounts to USD 300 million. Semi public-private equity funds have also been created within the system. The funds are to be considered as first movers and are linked to the private funding system.

In this session we shall look into the critical success factors of innovation systems. The speaker has 25 year experience in innovation systems.

Science and Innovation Park in Valencia

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The “Ciudad Politécnica de la Innovación” (CPI) is the scientific park of the Technical University of Valencia (Universidad Politécnica de Valencia, UPV). One of the main goals of the UPV is to contribute to regional development. For this specific objective the university has devised a specific tool: a scientific park connecting university and industry in order to generate knowledge-intensive activities which were not possible without the participation of the university.

CPI contributes to regional development by means of knowledge-based progress in three different ways: (1) through research, development and innovation: by encouraging research and by promoting interaction with innovation and industry; (2) through changing the structure of the economy by supporting the creation of technology-based companies and improving the technology of the existing industry, by promoting the entrepreneurship among our students and researchers; and (3) through improving social cohesion by avoiding the new inequality that appears between the rich and the poor in knowledge as well as through contributing to the regional government strategy to develop the knowledge society.

Tuesday 17 October

9.00 - 10.30

Session 3

**Leadership, Capacity Building and Partnership Building for
Regional Engagement**

**Group 1 – Building Capacity at the Institutional and Individual Levels
Chair Steve Garlick**

**HEI Management and QA System Supporting Regional Engagement:
A Case Study from Jyväskylä**

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This workshop session will examine the management and QA system of Jyväskylä University of Applied Sciences. The university, which is closely linked to the interests of local companies, is particularly well equipped to work with the SMEs which form the backbone of the regional economy in Central Finland. JYAS has defined nine multi-disciplinary Centres of Expertise which respond to regional needs. Most significantly, it also maintains a sophisticated management information system which tracks the performance of each individual school. Of 29 Balanced Scorecard indicators, 8 are specifically linked to regional engagement. The school-based indicators are regularly monitored by the central management team.

The aim of QA work is to support the implementation of its mission, vision, and strategies. The structure and content of the quality assurance system have been influenced by the requirements of international and national educational policies as well as the ongoing globalisation and localisation development. The quality of the core processes, education and R&D work, is supported by strategic processes and the support and service processes.

Strategic planning is implemented as part of the elaboration and annual revision of the three-year Agreement on Objectives set with the Ministry of Education. The planning process translates these objectives into school-, team- and personal-level goals and actions. Strategies are brought into practice through the Balance Score Card. This session will also examine how Jyväskylä University of Applied Sciences has developed the regional coverage of its projects.

**Strategic Tools to Improve HEI Accountability Towards the Society:
A Case Study from the University of Las Palmas de Gran Canaria**

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The University of Las Palmas de Gran Canaria (ULPGC), like all universities in Europe, is faced with a rapidly changing and highly competitive environment. In addition, the ULPGC is characterised by highly decentralised organisation. This poses specific challenges to the management and the planning system of the university that aligns the actions of its different units. This presentation outlines the ULPGC's planning system for its different organisational levels and describes how those levels are connected. Furthermore, in an attempt to demonstrate the positive results of having that planning system in place, the evolution of the University's performance is shown by means of the evolution over time of various indicators related to teaching, research and services rendered to the University community. Finally, the factors that made the implementation of this planning system possible are itemised.

Rewarding Staff for Regional Engagement:

A Case Study for Sunshine-Fraser Coast

The Capacity to Use Regional Engagement as a Criterion for Promotion

Paul Thomas

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In 2005, after extensive consultation with key stakeholders, a new Promotion Policy was developed in the University of the Sunshine Coast to improve alignment between the University's Mission and this fundamental component of the University's recognition and reward system. The new Policy defines, clarifies and reinforces the behaviours expected of academic staff. Applicants are required to demonstrate performance and achievement in teaching, research and service, which are valued equally. Service includes regional engagement. Regional engagement is perceived as scholarly practice, which derives from teaching and research, and through which worthwhile social, civic and professional functions are achieved as academics apply their specialist knowledge and skills to consequential problems in the world beyond the University. Promotions have been made on the strength of applicants' regional engagement.

Group 2 – HEI Collaboration in Regional Engagement

Chair John Rushforth

Higher Education Regional Associations (HERAs) in Support of Regional Development: A Case Study Discussion Based on "Universities for the North East" (England)

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Peter Allan

OECD Project chair for the NE of England and Consultant

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This workshop will look at the potential role of higher education regional associations based on the experience of “Universities for the NE”. The session will examine the potential mission and role of HE regional associations and the range of activities they could involve themselves in. It will also look at a number of critical success factors including the national and regional policy context, institutional and regional stakeholder engagement, and managing issues of institutional collaboration and competition.

The first part of the session will be a perspective presented by the NE England HERA looking at its existing work. The second part will be views of the HERA presented by a senior representative of the NE business community, a major external regional stakeholder.

University Cross-Border Collaboration: a Case Study from Øresund

Bengt Streijffert

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The Øresund Region is a crossborder region linking eastern Denmark and southern Sweden. It was created in the 1990s as a functional EU region around the bridge planned across the Øresund Straits. In 1998, the 14 universities in the region founded the Øresund University as (1) a mechanism for cooperation; (2) an interface to link higher education and industry and society; and (3) a means to enhance the brand and attractiveness of the region. Today, the Øresund University has more than 150 000 students, 12 000 faculty and a turnover of EUR 2 billion.

To facilitate cross-border and cross-institutional collaboration the Øresund University has created new mechanisms including (1) a study gateway (a portal for courses, programmes and information); (2) an international summer university; and (3) Øresund Entrepreneurial Academy. In the field of education and research there are joint programmes and courses, research projects, PhD cooperation and “Free movers”. “The Øresund Science Region” acts as an interface between the HEIs and society and industry. It operates through platforms for triple helix cooperation within nine fields. The cooperation is also facilitated through a number of networks which link international offices, libraries, education administrators, student counsellors, and student organisations as well as regional authorities and marketing and other professional organisations.

Group 3 – Leadership in Regional Development Chair Peter Arbo

ABCs of Partnerships in Atlantic Canada: a Focus on Higher Education Institutions

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This presentation provides insights into the strategies, tactics and approaches adopted by a large multi-stakeholder/multi-disciplinary research team in order to undertake a comprehensive assessment of regional engagement by Higher Education Institutions (HEIs) in Atlantic Canada. This assessment is part of a multi-country study that is currently being sponsored by the OECD/IMHE.

The presentation provides the context for the various types of partnerships in Atlantic Canada; it describes the multiplicity and diversity of stakeholders that had to be solicited for this collaboration; it considers the interests of the stakeholders in participating, or not, in this study; it assesses the tactics and strategies employed within the network to ensure cooperation and buy-in; it documents the pitfalls encountered, including a change of government at a key point in the funding application process; and it evaluates the effectiveness of the approaches utilized in this study both in facilitating the delivery of quality product to the broader OECD exercise and to enhancing regional engagement by HEIs within Atlantic Canada. The presentation concludes with a consideration of the implication of the partnership building for the research outcomes and the lessons that can be learned for other jurisdictions.

Building Regional Innovation System – Regional Innovation Committees in Korea: A Case Study from Busan

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“Participatory Government” set Balanced Regional Development as a national policy agenda in 2003, and adopted Regional Innovation System (RIS) as a key concept for regional development strategy. The government set up 14 Regional Innovation Committees, under the Special Law for Balanced National Development, as a discussion & review panel for pursuing regional innovation policies. Main functions of the Regional Innovation Committee, comprised of representatives from various kinds of actors (local government, private enterprises, colleges and universities, research institutes, etc.), are to raise and discuss regional innovation issues, and to develop policy measures.

Busan RIC, composed of five subcommittees, promotes cooperation between HEIs and other actors in the region, HEIs' participation in regional development, and reviews project proposals to the central government's policy projects (*e.g.* NURI *i.e.* New University for Regional Innovation, BK21) and select project teams at the regional level. Through these experiences, it is pointed out that there are needs to build up new culture of working together (social capital), to develop more region-based projects, and to enhance region's capacity.

**The Center for Regional Competitiveness:
Universities Helping U.S. Regions Compete in the Global Economy**

Mark Drabenstott

Director

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Globalization is yielding a highly uneven regional economic landscape in the United States. For instance, the top 10% of U.S. counties have accounted for almost three-fourths of the nation's economic gains over the past decade. Most U.S. regions, therefore, must build new sources of competitive advantage in the 21st century. Innovation and entrepreneurship have become the new drivers in this quest. Universities are uniquely positioned to boost both, yet most campuses have been slow to respond. Of note, regions are starting to form new governance structures that can give rise to competitiveness strategies. A few universities are creating new mechanisms to help inform such decisions.

The Center for Regional Competitiveness is a very recent institutional innovation by the Rural Policy Research Institute and the University of Missouri-Columbia. Among other things, this Center will develop new "competitiveness tools" that help U.S. regions diagnose their competitive advantage. The Center will also build an "innovation bridge" that helps connect university research discoveries with the regions that can use it to best advantage.

Tuesday 17 Oct

11.00 - 12.30

Session 4

**Wider Approaches to Development: Contribution of HEIs to
Social, Cultural and Environmental Development**

**Group 1 – Environmental Sustainability
Chair Steve Garlick**

**Building Environmental Sustainability and Eco-tourism:
A Case Study of the World Heritage Listed Fraser Island**

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The Fraser Island Research and Education Facility is a joint initiative of the University of the Sunshine Coast and Kingfisher Bay Resort and Village (KBRV) that was launched in 2002 by the Queensland State Government Minister for Education. The KBRV Facility is primarily a facility for advanced level environmental and eco-tourism research. KBRV provide the facilities and accommodation for researchers and graduate students, transfers to and from the Island, and ranger support both in the field and with experiments, and have accepted the independence of such research. The University accepts the need for industry research relevant to interpretative and management outcomes. These arrangements have supported a number of research projects on Fraser Island and work experience for students in undergraduate degree courses.

Regional Renewable Energy in Central Finland

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The region of Central Finland is one of the pioneers in the use of biomass in heat and power production in Finland. Currently, almost 50% of the energy use in the region, including traffic and electricity imports in Jämsänkoski area, is based on bioenergy. The consortium of bio-energy enterprises and public organisations have close cooperation with the Jyväskylä Science Park. There are four major energy producers including one specialising in large scale wood pellet and peat production. The two higher education institutions have renewable energy as key areas in their portfolio. Through the existing close links to the national decision makers national energy policy is shaped and influenced.

This presentation will focus on the academic training and research carried out at the University of Jyväskylä in renewable energy. The research is mainly funded through the ERDF and TEKES and undertaken with regional, national and international collaborators. It is led by an endowed chair in Environmental Technology. Prototype testing is carried out in the university labs and then transferred to the Polytechnic for field trials (Saarijärvi Institute of Natural Resources). Local communities and companies take part and financially support the programme, its research and demonstration projects. To increase public understanding of alternative technologies (*e.g.* heat pumps from lakes, pellet and solar heating) demonstrator projects have been built in schools and roadsides in Central Finland. These include 97% renewable energy solution at the Viitasaari ABC gas station, 6kWp high tech solar electricity solution at Saarijärvi school complex, testing site for study of solar heat production at Nordic latitudes. In the near future, bio- and landfill gas in bifuel cars at university and company service will be demonstrated.

Regional Network of Environmental Experts and Organizations for the Environmental Improvement of Busan: Busan Environmental Technology Center

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Busan Environmental Technology Center (BETEC), established by the Ministry of Environment and hosted by Pukyong National University in 2005, is a consortium of universities, research institutions, NGOs, enterprises, and government agencies in the Busan Metropolitan City in Korea. BETEC aims at developing and disseminating environmental technologies and policy alternatives to contribute to the improvement of environmental and living qualities of the Busan region. It serves as the coordinating organization of environmental research and development capability in the region in which experts in different specialties collaborate and cooperate to produce maximum outcomes for the environment of the region.

Group 2 – Culture and Creative Industries

Chair John Rushforth

The Contribution of Higher Education to Regional Cultural Development: the Case of NE England

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This workshop session will examine recent debate on the contribution of the creative and cultural sector to economic and social development. It will discuss the relevance of this to issues of regional development and how higher education can best contribute to the development of this sector in its own locality. Based on work done by the universities in the NE of England, this session will examine critical success factors including understanding the importance of the particular characteristics of this sector, the national and regional policy context, gaining higher education's institutional commitment and delivery, and how to best secure partnership engagement necessary for successful working with the creative and cultural industries.

Group 3 – Health and Welfare

Chair Peter Arbo

HEIs and Social Service: a Case Study from Nuevo León, Mexico

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In Mexico, all higher education students have the obligation to do 480 hours community work. If carried out systematically, this can provide a powerful mechanism to bring about positive social change in the region. Unfortunately, too often students are engaged in social service projects which fail to address the needs of the poor. This presentation provides insights into the strategies, tactics and approaches adopted by the University of Monterrey in order to engage all students in this work. It sheds light on the new programme designed to address the structural barriers and origins of poverty and inequality in the surrounding neighborhood.

Turning Aging and Wellness into an Asset for the Region **Wellness Dream Lab and Gerocenter: a Case Study from the Jyväskylä Region**

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The Finnish population is growing older faster than any other population within the EU. While the five biggest university cities are the growth centers in the country, rural areas are characterized by aging population and depopulation. The small community of Luhanka in the southern part of Central Finland is the “oldest” in the country in terms of its population: 33% of population is over 65 years old

whereas for Central Finland the corresponding figure is 17%. The demographic change is closely linked to the social and health care provision. There is an evident need to support the functional independence of the elderly and to decrease the costs of health care.

Launched in 2005, the GeroCenter foundation is a joint effort of higher education institutions, research centres in the field of aging, local municipalities, the Central Finland Health Care District and the civil society. It aims to enhance the production of research based knowledge and its application and dissemination in the public sector and civil society. The projects include *e.g.* ability assessment of ageing drivers, measurement methods of functionality, and exercise counselling for the elderly. The demographic change also provides potential to create new wellness technology and industry. To introduce social and technological innovations to the market the region has launched the Wellness Dream Lab (WDL) programme. Projects range from the validation test on new type of skiing poles to the new organisation model of first aid clinics. All work is closely linked to and draws from the higher education institutions' knowledge base.