



UNIVERSITY  
OF OSLO

*"An awareness of the global challenges must permeate all aspects of the University's activities and should be the driving force for international collaborations and new multidisciplinary initiatives"*

University of Oslo 2010-2020 Strategy Plan



# Global Challenges

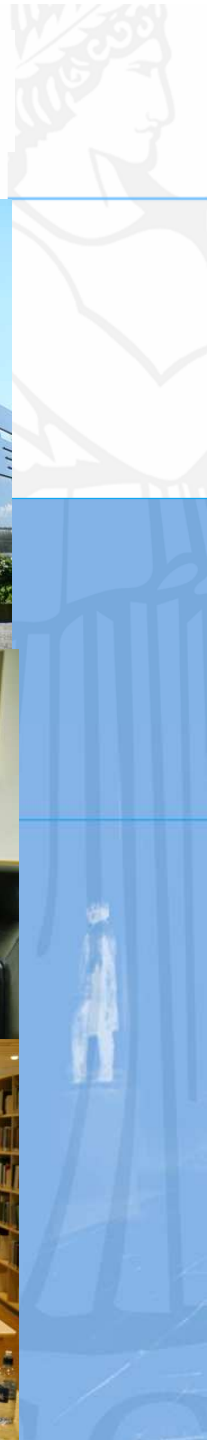
## Transatlantic Science Week 2009

Professor Ole Petter Ottersen  
President, University of Oslo  
09.2009



# University of Oslo Strategy 2010-2020: ”*Taking on the future*”

- The global challenges will redefine the roles of universities and will make them accountable to the future
- The public and private sectors are facing the global challenges and require candidates that can help deal with them
- The thematic breadth of universities should be well tuned to the complexity of the challenges ahead
- Global challenges can be met only by global research efforts





# Strategy 2010-2020

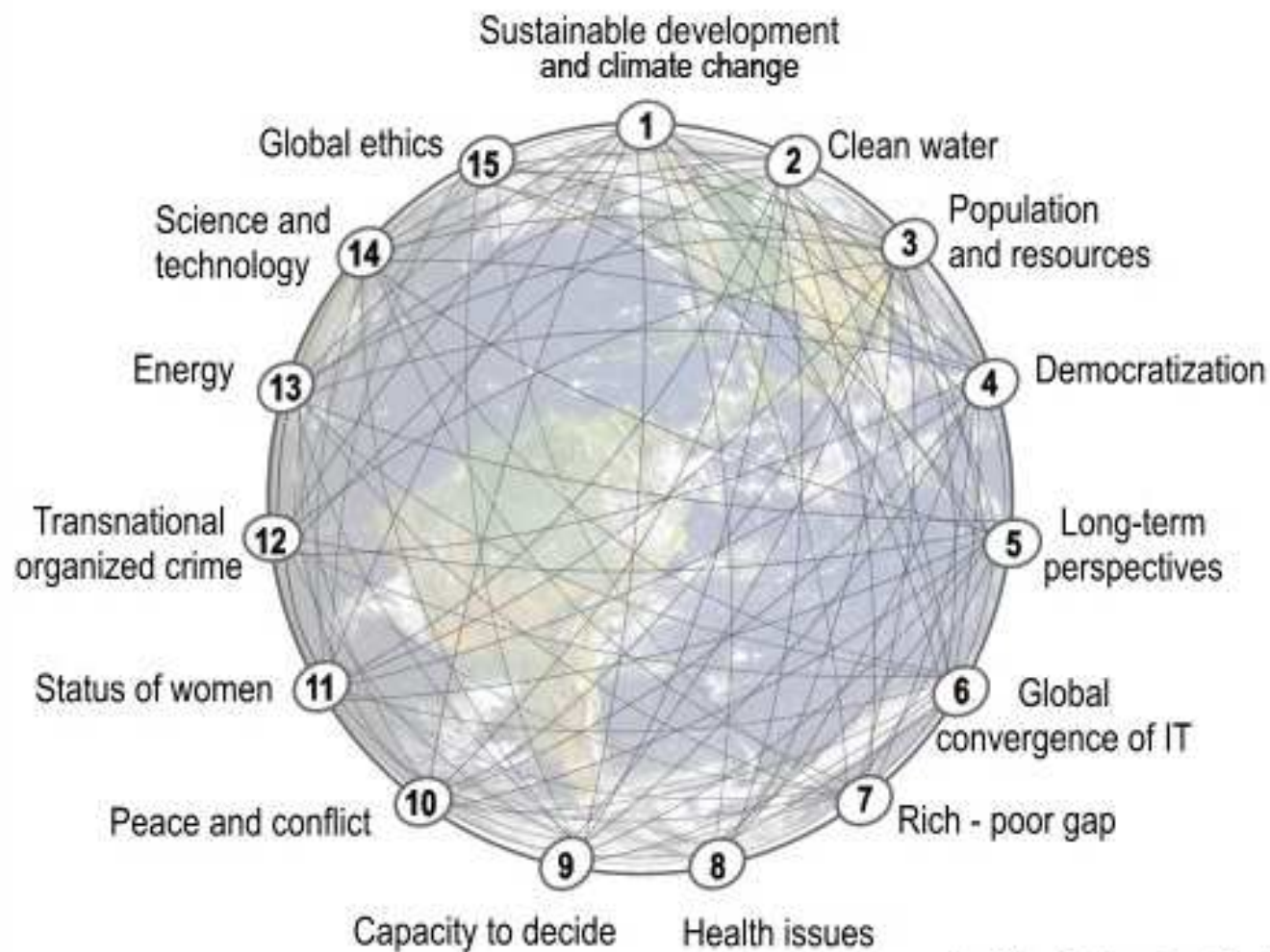
## An active international partner

- Sustainability by linking research cooperation and academic recruitment
- International exposure an integrated part of all study programmes
- Ideas are amplified through international networking (Jared Diamond *Guns, Germs, and Steel*)





## 15 Global Challenges facing humanity



by The Millennium Project  
[www.millennium-project.org](http://www.millennium-project.org)



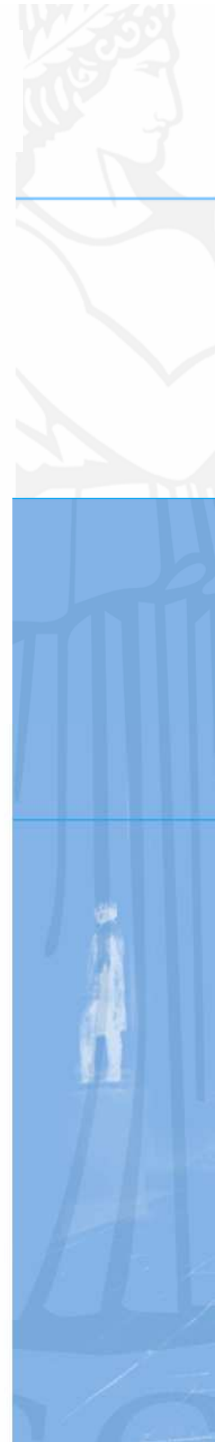


# New multidisciplinary initiatives addressing global challenges

## 7 Multi-Faculty priority research areas

- Living conditions in developing countries
- Life Sciences
- Cultural processes in an age of global change
- Religion in pluralistic societies
- Multi-level democracy, constitutional government, democratic participation
- Science, language arts and mathematics education; school leadership. Knowledge in and about schools.
- Climate change in a legal, economic, geological and policy perspective

***Fostering creativity at the interface between disciplines***



“Climate change in a legal, economic, geological and policy perspective”

## Sustainable development



- The Brundtland Commission coined what has become the most often-quoted definition of sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs."
- UiO researchers deal with each of the three constituent parts of sustainable development: environmental sustainability, economic sustainability and sociopolitical sustainability.



# Instilling awareness of global challenges: University of Oslo as a "Green University"

- September 2009: Electrical cars on campus
- Environmental certificates
- Synergy between "green campus" initiatives and on-campus research



# University of Oslo meets global challenges through EUs 7th Framework Program



## University of Oslo: High success rate

- UiO as of March 2008: 25% success rate, compared to European mean: 17%

## Health

- METOXIA - Metastatic tumours facilitated by hypoxic tumor microenvironments - € 12 Mill (E.O. Pettersen)

## Nano/renewable energy

- MAHEATT - Materials for high energy accumulators in traction and tools (H. Fjellvåg, Chemistry)
- EFFIPRO - Efficient and robust fuel cell with novel ceramic proton conducting electrolyte - € 2.6 Mill (T. Nordby, Chemistry)

## ERC Advanced Investigators Grant

- Mathematics for Application (B. Øksendal, Matematikk /CMA) - € 2 Mill
- Cancer Medicine (H. Stenmark, Pharmacy/CCB) € 2.27 Mill

# University of Oslo meets global challenges through **National Centres of Excellence** (sponsored by the Research Council of Norway)



## Medicine

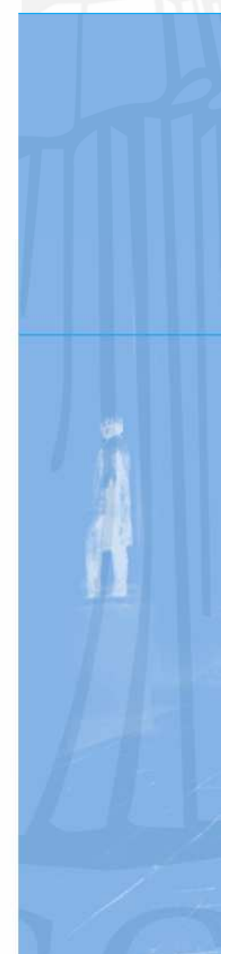
- Centre for Molecular Biology and Neuroscience
- Centre for Cancer Biomedicine
- Centre for Immune Regulation

## Natural Sciences

- Centre for Physics of Geological Processes
- Centre of Mathematics for Applications
- Centre for Ecological and Evolutionary Synthesis
- *Centre for Theoretical and Computational Chemistry*
- *Center for Biomedical Computing*
- *International Centre for Geohazards*

## Social Sciences and the Humanities

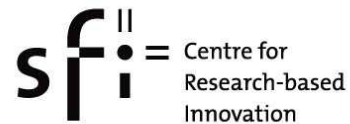
- Equality, Social Organizations and Performance  
- Confronting Theory with the Nordic Lessons
- Centre for the Study of Mind in Nature



# National Centres to develop expertise and promote innovation



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Centre for  
Research-based  
Innovation

## Centres for Research-based Innovation

- Innovative Natural Gas Processes and Products (UiO)
- *Information Access Disruptions (FAST asa)*
- *Statistics for Innovation (NR)*
- *Stem Cell Based Tumor Therapy (Oslo University Hospital)*

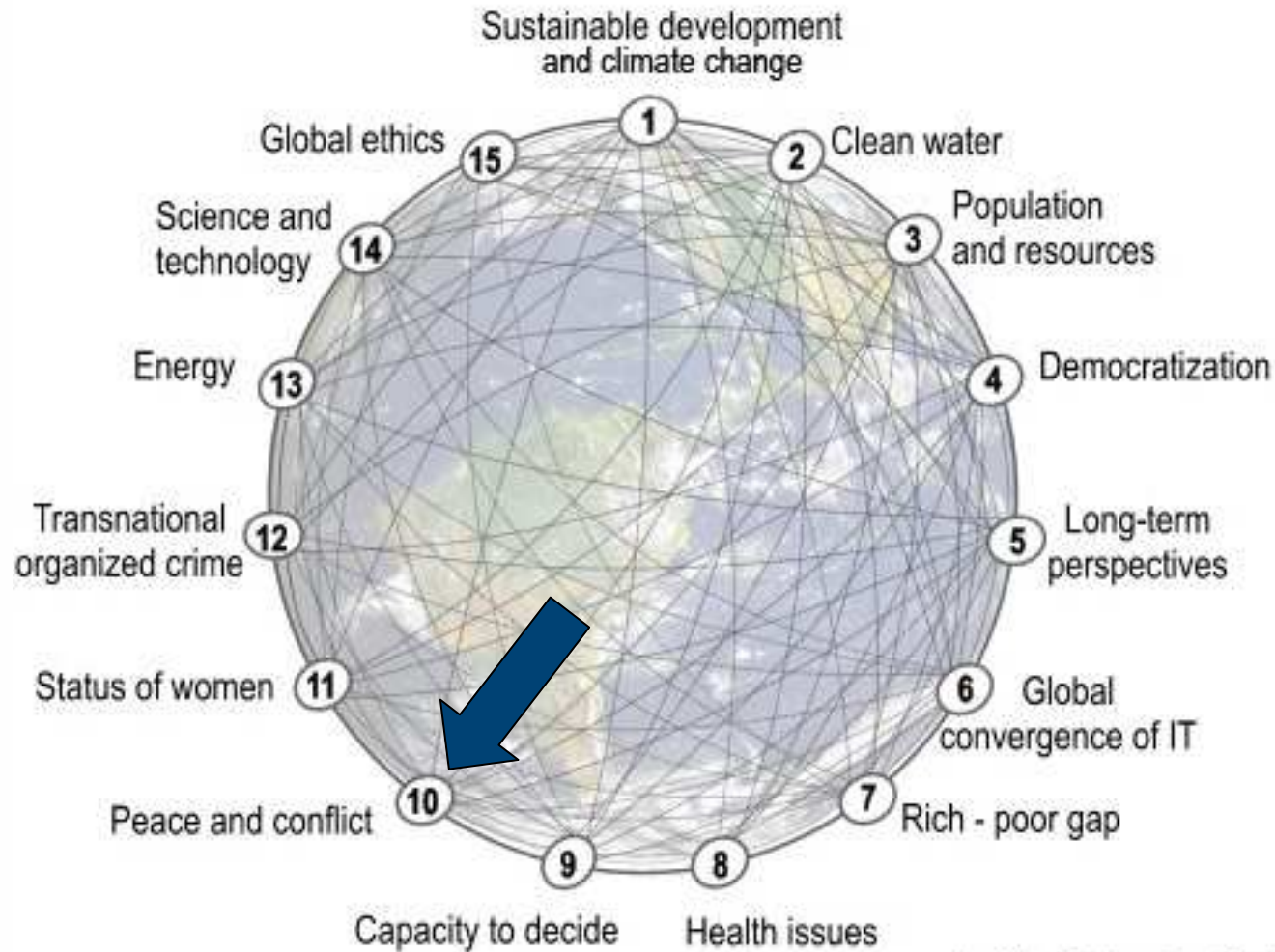


## Centres for Environment-friendly Energy Research – CEER

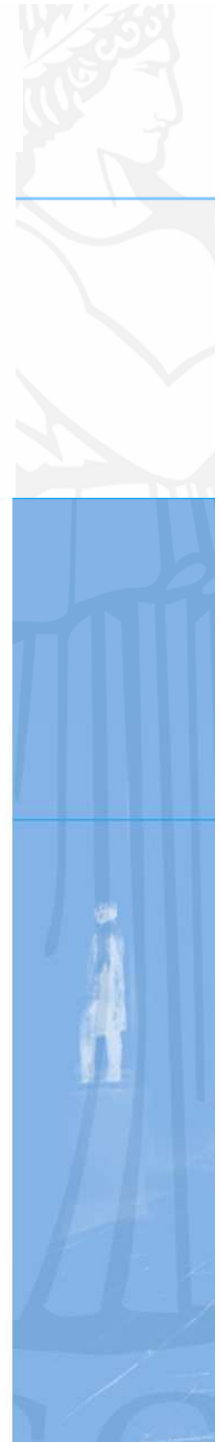
- *BIGCCS Centre – International CCS Research Centre (SINTEF)*
- *The Norwegian Research Centre for Solar Cell Technology (IFE)*
- *Subsurface CO<sub>2</sub> storage – Critical Elements and Superior Strategy (CMR)*



# 15 Global Challenges facing humanity



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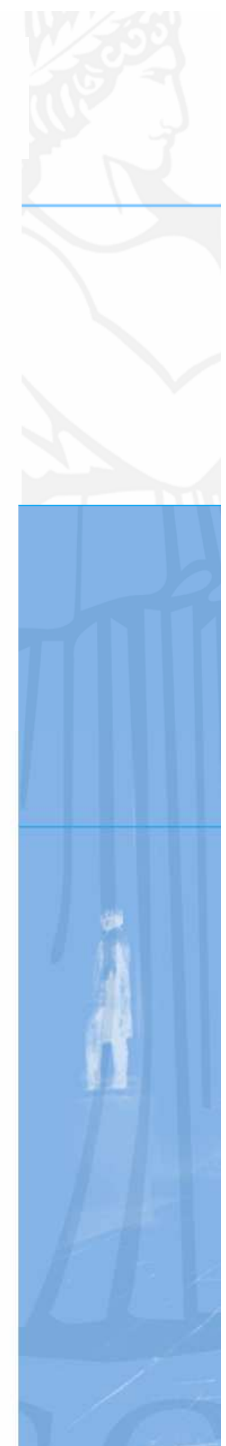




# "Norway should give Americans lessons in Peace"

"American students need to travel to Norway to learn more about peace and human rights issues because this is something Norway knows a lot about," says former Vice-President Walter Mondale."

Aftenposten, 25.06.09



# The International Summer School (ISS)

## **Six Weeks of Academic Achievement and International Goodwill:**

The International Summer School (ISS) is an academic center for learning in an international context, and a forum for fostering intercultural understanding.

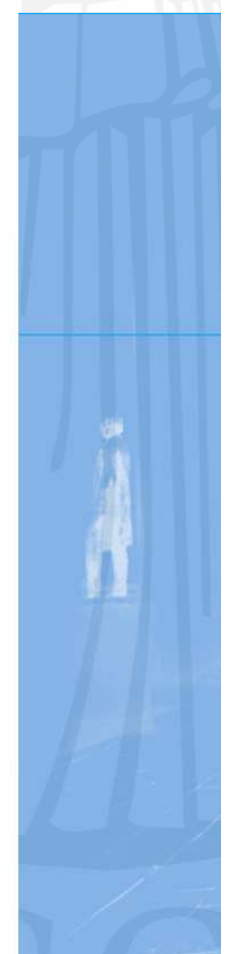


More than 500 students from  
~100 countries

In the wake of VP Mondale's  
visit: A new course on human  
rights as of summer 2010



Einar Vannebo,  
Director





# A global challenge: defending human rights

- Aim: To develop a University Network for Peace and Human Rights, drawing on existing research environments within the University of Oslo and other Norwegian universities
- Co-operation with International Peace Prize Forum?



# Partnering with developing economies



## Institutional engagement North-South “Programme for Institutional Transformation, Research and Outreach” (PITRO)

University of Oslo-University of Dar es Salaam entered 08.2009 into a partnership cooperation funded by MFA/NORAD:  
NOK 10.500.000 (2009-2012)

### Three thematic areas

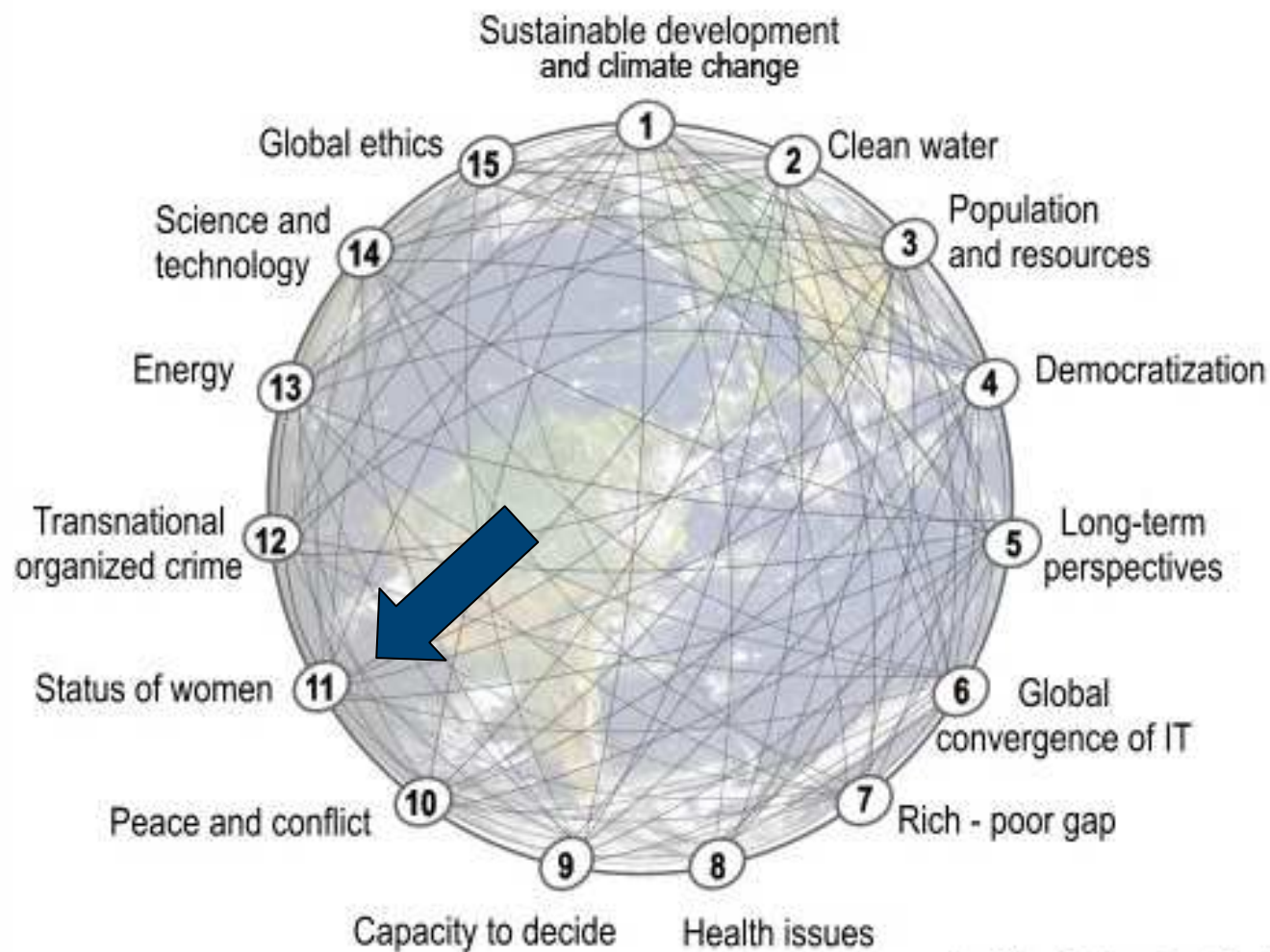
- Education
- Environment
- Good Governance

### Institutional interventions, such as

- Quality Assurance
- Research Leadership
- Women & Gender in academia



# 15 Global Challenges facing humanity



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## Women and Gender Studies in Tibet

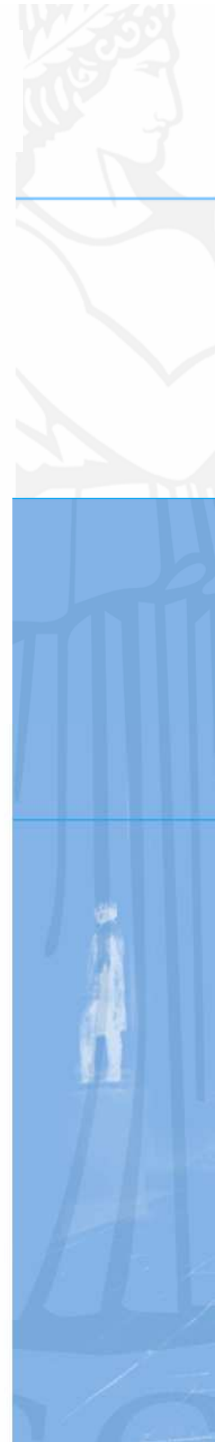
The main purpose of the project is education and competence building for Tibetan students, teachers, and researchers at the Center for Women and Gender Studies (CWGS) at Tibet University in Lhasa, and to stimulate the interest for women and gender studies in Tibetan culture.

### Project leaders:

- Associate Prof, Hanna Havnevik, University of Oslo,
- Prof. Tseyang Changngopa and CWGS-group, Tibet University
- Puchung Tsering, PhD, Tibet University/University of Oslo

### Advisers:

- Prof. Janet Gyatso, Harvard University,
- Professor Yang Enhong, Chinese Academy of Social Sciences, Beijing.





# Internationalised studies

## International exchange

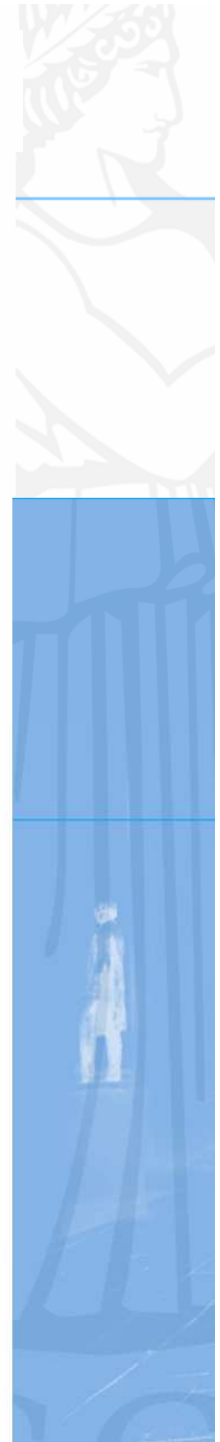
- 1700 student exchanges (in/out) per year
- Over 400 Erasmus Agreements with European universities
- Over 140 bilateral agreements with institutions in Europe, North & South America, Africa, Asia, and Oceania
- Linked to research cooperation in all major regions of the world

## International student body

- Mobility more than doubled since 2003
- 11% international students from 130 countries
- 22,5% international PhD students from 86 countries

## English taught programmes and courses

- 42 Master's Degree Programmes
- International Summer School, Univ. of Oslo
- 800 individual courses - within most academic fields





son uten at det fremstår som noen direkte logisk sammenheng mellom den uttalelsen og formlene på tavlen. Sivlökonomstudent Camilla Solberg forteller at hun ikke har det minste problem med å forstå selv om professoren ikke snakker norsk.

– Nei, det er ikke noe vanskelig. Riktignok var forelesningene på norsk da jeg tok bachelorgraden, men de fleste bøkene var på engelsk, og alle faguttrykkene er det. Så det går fint, sier hun.

ingeberg.moe@aftenposten.no  
john.hultgren@aftenposten.no

borgerskap.

Halvparten av studentene med utenlandske statsborgerskap var registrert på norskspråklige program.

Kilde: «Masterprogrammer på engelsk i Norge. I bredde og nisjer», Nifu Step.

## UiO: Har økt fra 40 til 800

Antallet engelskspråklige kurs har økt fra 40 til over 800 ved **Universitetet i Oslo** fra 2003 til i dag.

Det opplyser førsteamanuensis Glenn Ole Hellekjær ved Institutt for lærerutdanning og skoleutvikling i Oslo.

**Sliter.** Språkforskeren har selv dokumentert at norske avgangselever fra videregående skole sliter med å lese engelsk faglitteratur.

– Men at vi har endel undervisning på engelsk, er ikke skadelig, så lenge det er gjort med vett og forstand, sier Hellekjær.

– **Kan bruk av engelsk som undervisningsspråk få konsekvenser for kvaliteten på utdanningen?**

– Ja, det kan det. Det vil svekke læringsutbyttet, hvis man ikke tar hensyn til at man bruker et fremmedspråk. Det må tas hensyn til, iallfall i begynnelsen. Men det at man legger opp en forelesning på en god måte, kan kompensere for at den gjøres på engelsk, sier Hellekjær.

Han forstår likevel språkdirrektor Sylfest Lomheims bekymring.

– Jeg ser poenget hans og mener vi må være bevisste på å bruke både norsk og engelsk, sier språkforskeren.

Leder Bjarne Hodne i Forskerforbundet forstår at det brukes

mer engelsk, men poengterer at dette også stiller større krav til studenter og undervisere.

**Nøkkel-språk.** – Det er en tosidighet her. Vi må ta vare på det norske språket som undervisnings- og forskningsspråk. Ingen vil at engelsk skal overta på studentnivå. Samtidig er det behov for økende internasjonalisering i forskning og utdanning, og her er engelsk et nøkkel-språk, sier Hodne.

Han ser også at utstrakt bruk av engelsk som undervisningsspråk, kan være en utfordring for foreleserne.

– Det kreves meget god språk-kompetanse av dem som skal undervise. Og jeg tror nok at noen av dem vil føle et behov for å perfektionere engelsken sin. Det stiller også større krav til de videregående skolene, sier Hodne.

### Nettdebatt

**Er det lurt at norske forelesere snakker engelsk til norske studenter?**

**Går bruken av engelsk utover kvaliteten på utdanningen?**

Si din mening på nettet.

Aftenposten.no



Nå skal fjellreven reddes i to nasjonalparker.

### Motorisert fjellrevoppdrett

■ Helikopter, snøskutere, re-vehi av glassfiber og forautomater av polyester er noe av utstyret som skal brukes for å gjenopprette bestanden av fjellrev i nasjonalparker.

Norsk institutt for naturforskning har fått tillatelser fra Fylkesmannen i Hordaland, Hol kommune i Buskerud, Dovrefjellrådet og Lesja kommune i Oppland til motorisert ferdseil og utplassering av utstyr som anses nødvendig, for å drive fjellrevoppdrett i Hallingskarvet nasjonalpark og Dovrefjell-Sunndalsfjella nasjonalpark. (NTB)

### Gir grønt lys for Svalbard-seismikk

■ Norsk Polarinstittutt åpner for at det kan gis tillatelse seismiske undersøkelser på Svalbard. Til tross for at det fortsatt mangler endel kunnskap om effektene av seismikkskyting, mener Norsk Polarinstittutt at det er liten usikkerhet rundt seismikkundersøkelser under gitte omstendigheter.

Det er Sysselmannen på Svalbard som har bedt Norsk Polarinstittutt og Havforskningsinstituttet om en faglig utredning av miljøeffektene av seismiske undersøkelser i havområdene rundt Svalbard. (NTB)



University of Minnesota



University of Oslo



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***Why strengthen collaborative links between the  
University of Minnesota and Norway?***

**Lois Quam, StarTribune March 18, 2008:  
Minnesota, Norway and a clean-energy future**

*“Historic ties and complementary resources make us perfect partners in tackling the challenge presented by climate change.”*

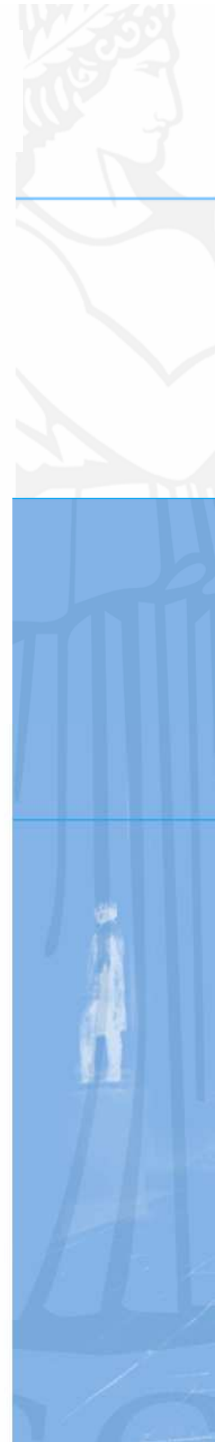
*“While we share history and heritage, we also share the resources required to develop and commercialize the clean technology and renewable-energy platforms needed to reduce climate change.”*

*“The strong relationship between Norway and Minnesota is built on our shared past; we should now focus on a shared future.”*



***PM Gordon Brown, Newsweek 28 Sept., 2009:*** “Climate change presents a stark injustice: it has been largely caused by the emissions of the richest countries yet its severest effects are being felt by the poorest.”

“About 90 per cent of future emissions increases will come from developing economies.”

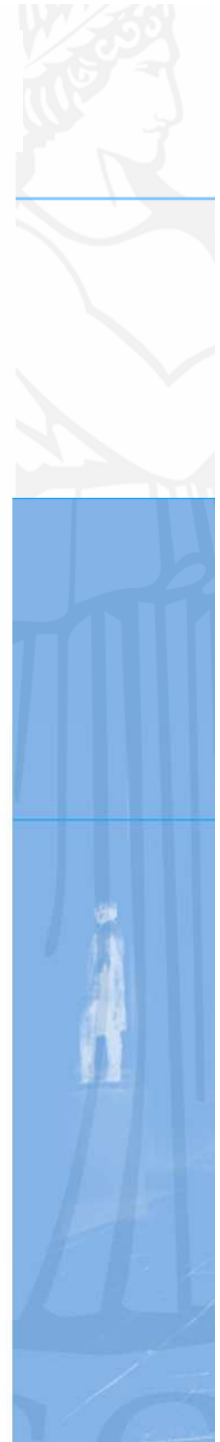




# Conclusions

- With their thematic breadth, universities are in a unique position to help meet global challenges
- This unique position emphasizes the responsibility of the universities and their accountability to the future and to the world at large
- For universities of affluent countries in particular, it should be seen as a moral imperative that they contribute to the global knowledge base in a fashion of solidarity
- Strong international networks help amplify and strengthen novel ideas and promote innovation
- .....and to "connect the dots"

**Transatlantic collaborations: Active student exchange and ongoing collaborations provide a sound platform for new initiatives.**

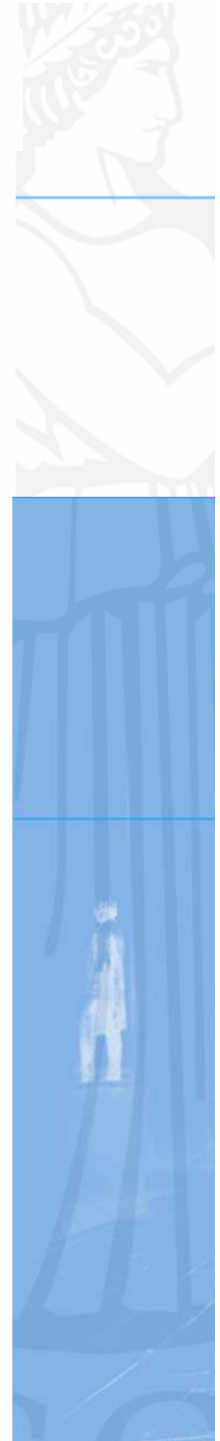




# From Torger Tendeland 1848 through Vannevar Bush to Science Week 2009

- ***A Report to the President by Vannevar Bush, Director of the Office of Scientific Research and Development, July 1945:***
- New frontiers of the mind are before us, and if they are pioneered with the same vision, boldness, and drive with which we have waged this war we can create a fuller and more fruitful employment and a fuller and more fruitful life. *“Science is the Endless Frontier.”*
- In the past Norwegians came here to explore the frontiers of civilization. Now we come here to join in the exploration of the endless frontier of science.

***University Board Meeting 15 October 2009: University of Minnesota will be identified as “Preferred International Partner”***





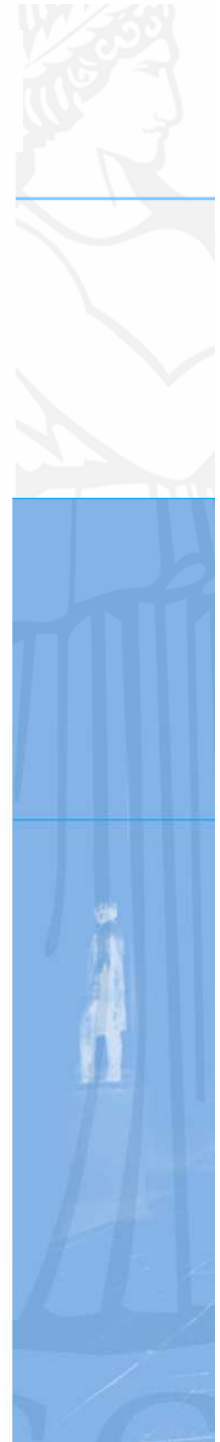
Greetings from the leadership of the  
University of Oslo

- Inga Bostad, Prorector
- Tove K. Karlsen, Deputy Director
- Ragnhild Hennum, Vice Rector
- Ole P. Ottersen, Rector
- Gunn-Elin Bjørneboe, Director
- Doris Jorde (of Minnesotan ancestry); Vice Rector for Internationalization



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Thank you  
for your  
attention





# The seven universities in Norway

- University of Oslo (UiO) (the country's first university) (estb. 1811)
- University of Bergen (UiB) (estb. 1948)
- University of Tromsø (UiT) (the world's northernmost university) (estb. 1972)
- Norwegian University of Science and Technology (NTNU) (Trondheim) (estb. 1996; merger of the Norwegian Institute of Technology (NTH), estb. 1910 and the University of Trondheim, estb. 1968)
- Norwegian University of Life Sciences (UMB) (Ås) (estb. 1859, university since 2005; previously the Agricultural University College at Ås)
- University of Stavanger (UiS) (estb. 2005; previously the University College of Stavanger)
- University of Agder (UiA) (estb. 2007; previously Agder University College)



# National knowledge policy: Various strategies for meeting global challenges

## Norway:

- Autonomy of universities
- Centres of excellence
- National research priorities, Research Council of Norway

## Nordic countries

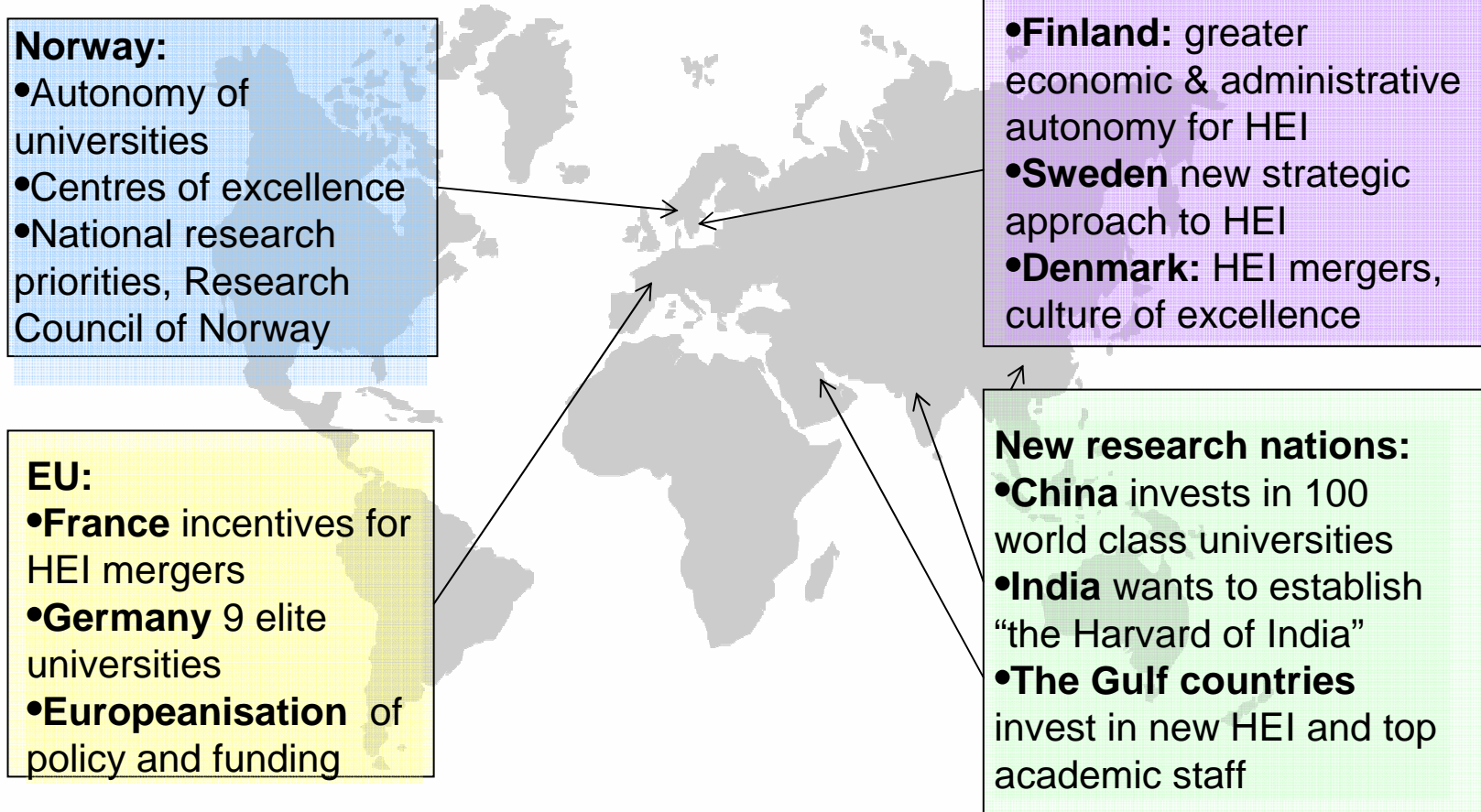
- Finland:** greater economic & administrative autonomy for HEI
- Sweden** new strategic approach to HEI
- Denmark:** HEI mergers, culture of excellence

## EU:

- France** incentives for HEI mergers
- Germany** 9 elite universities
- Europeanisation** of policy and funding

## New research nations:

- China** invests in 100 world class universities
- India** wants to establish “the Harvard of India”
- The Gulf countries** invest in new HEI and top academic staff



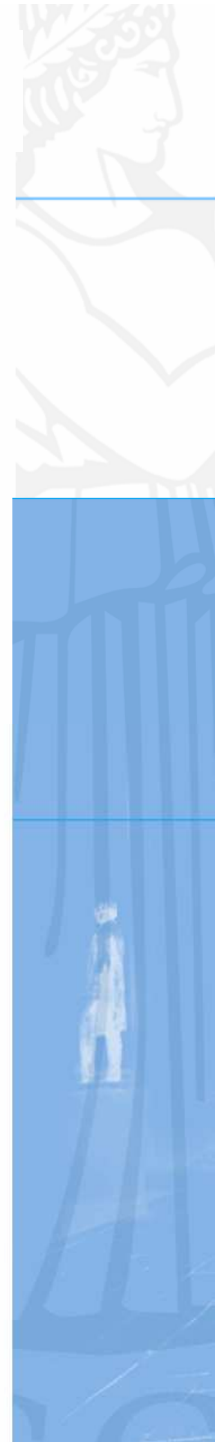


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**UiO: Har økt  
fra 40 til 800**

Antallet engelskspråklige kurs har økt fra 40 til over 800 ved Universitetet i Oslo fra 2003 til i dag.

- St anthony
- Glial pluss andre punkt på programmet
- Sue, mykle,
- Thank organizer
- Students for tomorrow





# Doctoral Studies

## - towards a world class research education

### New PhD degree structure from 2002

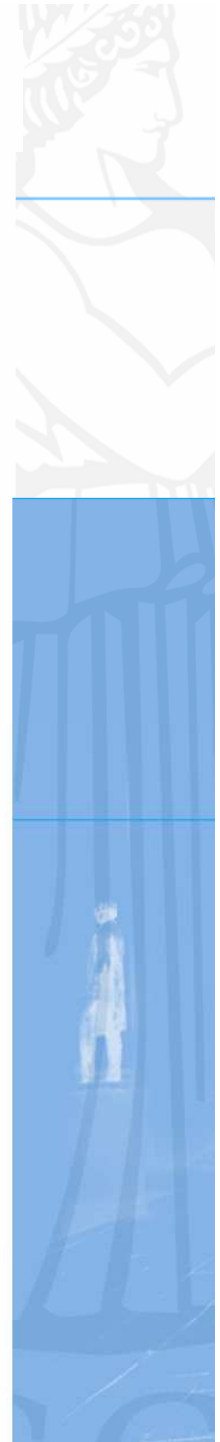
- 3 year programme
- 1/2 year course load (30 ECTS),
- Generic and specialised training
- Research and dissertation the main focus

### Quality assurance

- Admission based on quality and relevance of research proposal
- Team of supervisors
- Training in an international research environment
- Annual progress reports, monitoring of supervisors and students

### Focus on

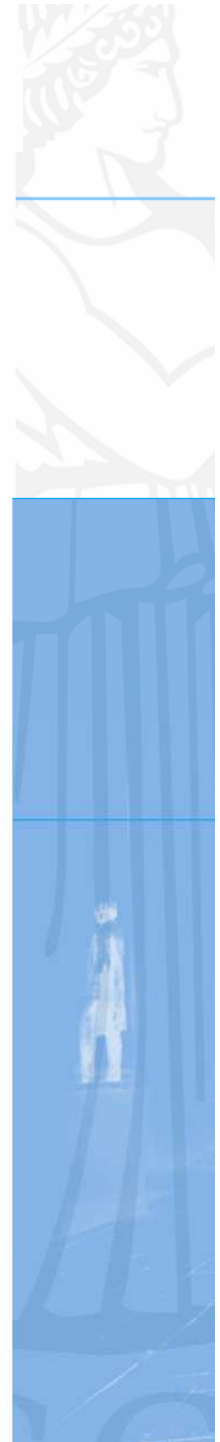
- Quality of supervision, high completion rate, and reduced time-to-degree rates
- Generic and transferable skills





# New strategic plan 2010-2020

- **A comprehensive, research-intensive university**
  - Cutting-edge research
  - Multiple disciplines, faculties and interdisciplinary areas
  - Research based education
  - Focus on graduate and post-graduate training
- **An active international partner**
  - Partnerships based on quality research and mutual interests
  - Sustainability by linking research cooperation and academic recruitment
  - International exposure an integrated part of all study programmes
  - Increased funding from international sources
- **A green university**
  - Environment-friendly practice





## Mondale



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Mer trykk internasj

F.v. : Inga Bostad, Tove Kristin, Richard Florida  
Why umn

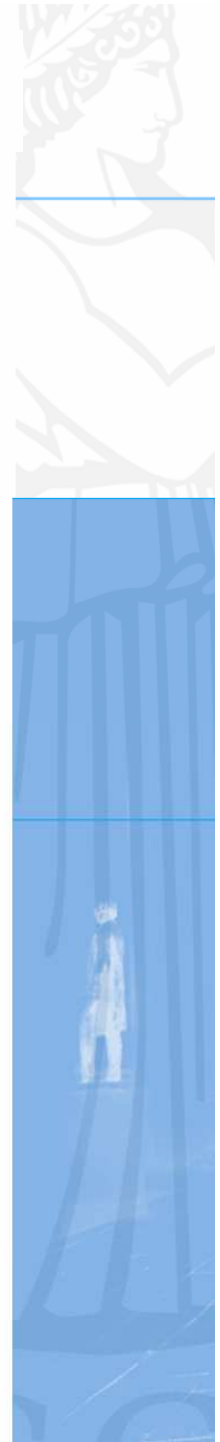
Avtalen 2005

Klima for forskning

Koble underv og forksning

Støtte opp om foreign plicy

Human rights





# Internationalized Studies

## English taught programmes and courses

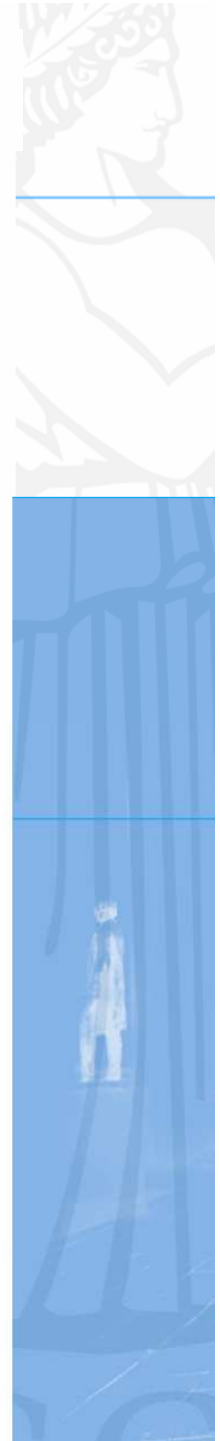
- 800 individual courses - within most academic fields
- 44 Master's Degree Programmes
- International Summer School, UiO

## Great opportunities for international exchange

- 1700 student exchanges (in/out) per year
- Over 400 Erasmus Agreements with European universities
- Over 140 bilateral agreements with institutions in Europe, North & South America, Africa, Asia, and Oceania
- Linked to Research Cooperation in all major regions of the world

## An international student body

- mobility doubled since 2003
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# Quality

## UiO - EUs 7th Framework Program



### Suksessrate

- UiO per mars 2008: 25%, 36 prosjekter, 6 koord. v/UiO  
Europeisk gjennomsnitt: 17%

### Helse - kreftforskning

- METOXIA - Metastatic tumours facilitated by hypoxic tumor microenvironments - € 12 Mill  
(E.O. Pettersen, Fysikk)

### Nano/fornybar energi

- MAHEATT - Materials for high energy accumulators in traction and tools (H. Fjellvåg, Kjemi/SMN)
- EFFIPRO - Efficient and robust fuel cell with novel ceramic proton conducting electrolyte - € 2.6 Mill (T. Nordby, Kjemi/SMN)

### ERC Advanced Investigators Grant

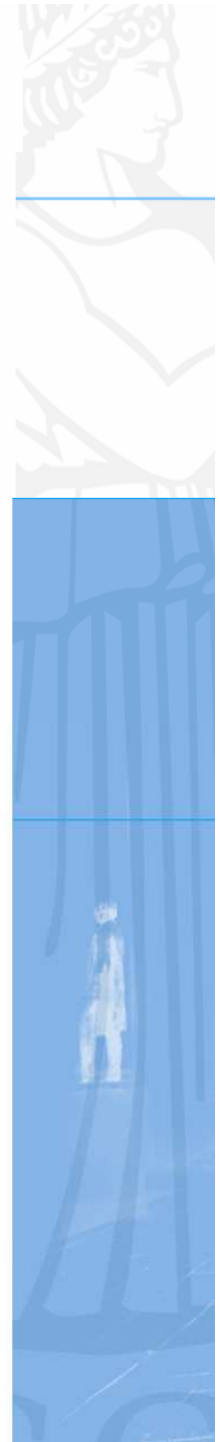
- Mathematics for Application (B. Øksendal, Matematikk /CMA) - € 2 Mill
- Cancer Medicine (H. Stenmark, Farmasi/CCB) € 2.27 Mill





# European Research Area (ERA)

- **By 2020**
  - All actors fully benefit from the “Fifth Freedom” across the ERA
  - Free circulation of researchers, knowledge and technology
- **Specific initiatives - the Ljubljana Process 2008**
  - Researcher mobility and career development
  - Development & funding of pan-European research infrastructures
  - Management of Intellectual Property Rights
  - Joint Programming
  - International Science & Technology Cooperation
    - European Partnership in the field of international scientific and technological cooperation
    - Coordination of activities and positions vis-à-vis non-European countries and within international fora



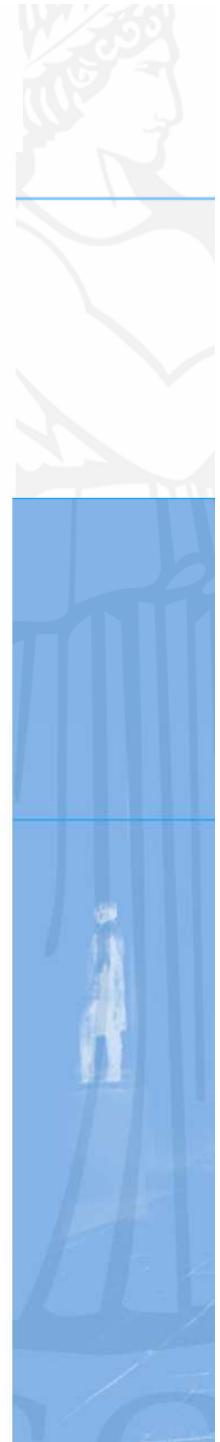
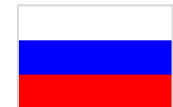


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# Internationalisation

## - an integral part of all activities

- Quality cooperation with research institutions worldwide
- Based on mutual interests and benefits
- Exchange of staff and students
- Joint research projects and networks
- Course and degree cooperation
- Research and Study Centres abroad





Mondale  
Summer school  
Utenrikstjeneste  
China  
Eksempler

Mathematics in science  
Engaged  
New strat plan 2020  
Sffs sfi



F.v. : Inga Bostad, Iove Kristin

Why umn

Avtalen 2005

Klima for forskning

Koble underv og forksning

Støtte opp om foreign plicy

Human rights

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# What constitutes a leading university?

## Quality

cutting-edge research and research-based education

## Relevance

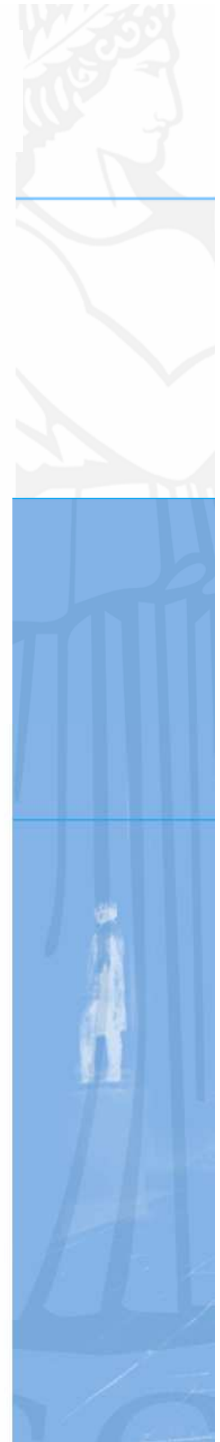
education and research for unforeseen needs and the benefit of society

## Breadth

a comprehensive, research-intensive university with multiple disciplines and faculties and interdisciplinary research

## Readiness

the potential to restructure rapidly and recombine our unique range of knowledge in novel ways to address the many increasingly important trans-disciplinary issues in society today



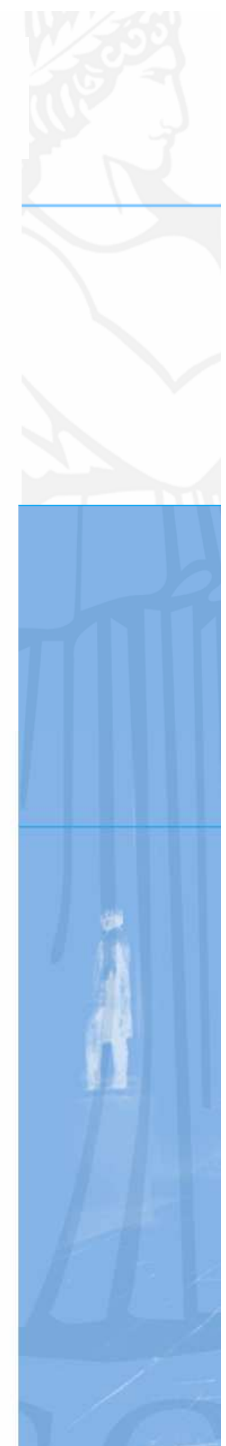
# UiO Student Mobility

## Top Ten Destinations 2008-2009



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Position	Country	Outgoing
1	USA	138
2	France	84
3	Australia	74
4	Germany	71
5	China	53
5	Japan	53
7	South Africa	45
8	Russia	36
9	Spain	34
10	Denmark	32





# Incoming International Students

## Top Ten Nationalities fall 2009

Position	Country	Incoming
1	Germany	163
2	France	96
3	China	77
4	USA	72
5	Poland	46
6	Italy	37
7	Spain	35
8	The Netherlands	29
9	Great Britain	29
10	Australia	28



# UiO International Ph.D. Students

## Top Ten Nationalities

Position	Country	2004	2008
1	Germany	33	76
2	Sweden	43	51
3	China	35	47
4	Ethiopia	21	34
5	Russia	18	31
6	USA	26	31
7	Denmark	26	30
8	France	14	26
9	Iran	12	26
10	India	20	21

