Technical University of Munich and DTU seek to compete with universities worldwide with a distinct profile for innovation and front-line research

# New standards in European University collaboration

**In einer strategischen Partnerschaft wollen die Dänische Technische Universität Kopenhagen (DTU) und die TU München sich in besonders zukunftsträchtigen Forschungsfeldern an die europäische Spitze setzen. Bei einem Besuch im November 2007 führte TUM-Vizepräsident Prof. Ernst Rank an der DTU mit dem dort für Forschung zuständigen Dean of Research, Prof. Kristian Stubkjær, ein Gespräch, über das die Zeitschrift der DTU mit dem folgenden Beitrag berichtete.**

The Technical University of Munich (TUM) and DTU have become close partners. The partnership agreement between TUM and DTU signed in the summer is now becoming a reality, and nearly all university activities will be involved – from front-line research to administration. Professor Dr.rer.nat Ernst Rank, Vice-President of TUM, and Professor Kristian Stubkjær, Dean of Research at DTU, agree that this is the closest alliance between universities across national borders yet seen in Europe.

The first joint research agreements, which are intended to create world-class research environments between Munich and Lyngby, were signed in November. The basis of collaboration will include both new research agreements and structuring of existing research collaboration.

»It is important to emphasise that we are not starting from scratch. We were already collaborating on various activities before the agreement, but now we have charted and systematised things so that we have an overview and can act strategically,« says Professor Rank.

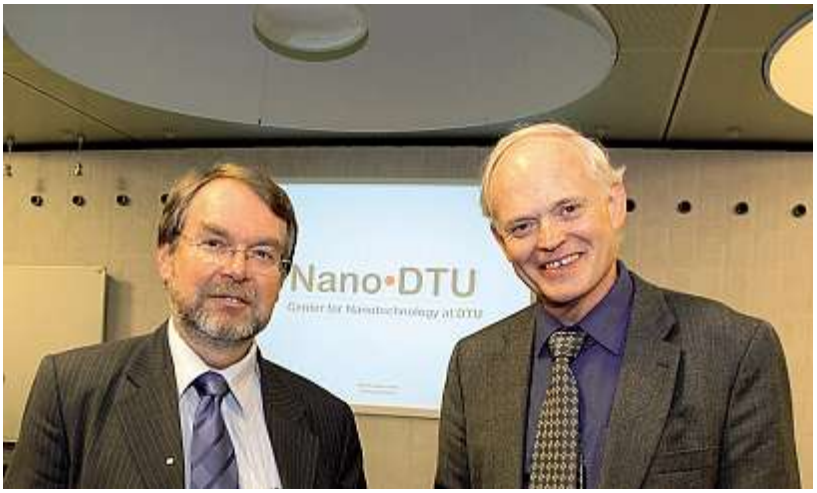
Speaking about the decision to go in for close collaboration with DTU, Professor Rank observes that although there could have been political arguments for choosing a university from one of the larger EU member states, the choice was not difficult. »Our common profile is distinctly technical and innovative, and we both feel we have a great responsibility in relation to entrepreneurship. You won't find two other universities in Europe today that have the same clear profile in these areas,« he says.

The three general areas of collaboration are education, research and strategy. With the signing of the first joint research agreements in November, the foundation has now been laid for a number of specific collaborative projects between TUM and DTU. »Today, good results in research are achieved by research teams, not by individual researchers,« says Professor Stubkjær. »And as we can now form joint teams, there is a clear benefit for DTU in collaborating with TUM. It is demonstrably one of Europe's leading technical universities. This has most recently been confirmed by the German federal government's designation of TUM as one of three Universities of Excellence.«

**Continuing education for BMW**

The first agreements on specific research projects, signed by the two universities in November, are in the fields of topology, optimised structures and nanophysics.

»We are starting a PhD collaboration in topology optimization. This will be a 2+2 arrangement, that is to say, two students from TUM and




Prof. Ernst Rank (l.), Vice-President of TUM, and Professor Kristian Stubkjær, Dean of Research at DTU.

*Foto: DTU*

two students from DTU will work together on a project in the field of topology optimization. And we will be doing the same thing in the fields of nanophysics and sustainable energy soon,« says Professor Rank.

The idea is to create small, efficient research teams, with the researchers spending up to a year at the partner university. »Our collaboration will be characterised by teams that work closely together, and this will be very useful to DTU,« says Professor Stubkjær.

»And also to TUM,« interjects Professor Rank, adding: »We have joint success targets for publications and for collaboration with industry. For instance, in the field of topology optimization, where together we will be able to offer both research and continuing education to industrial enterprises like BMW and Airbus.«

This naturally means that the universities need to be able to deliver in terms of both research results and education, and equally to supply engineers qualified at the highest level.

**Profile for recruitment**

Attracting talented students and researchers is therefore high on the agenda for the two universities.

»If you look at the world's universities as they were 20 to 30 years ago, the great majority lacked a clear profile, and they were typically state-run,« says Professor Rank. »Today, many more universities have a well-defined profile. This is quite simply necessary in the present situation, where universities compete internationally for the best researchers and students as well as for research funding.«

It is specifically on the industry-oriented and innovative profile that the two professors base their ambitions for the partnership as future suppliers of skilled engineers to European industry.

According to Professor Rank, that collaboration within the educational programmes will begin at the MSc and PhD levels. »We will soon be able to speak about an actual graduate school in the partnership, as both universities teach their MSc and PhD students in English. So it's natural that we begin there,« he says.

The aim is for students from all over the world to be able to see that their strong research environments make TUM and DTU attractive alternatives to, say, Stanford or MIT. According to the heads of research of the two universities, a new brand is being created in the research world.

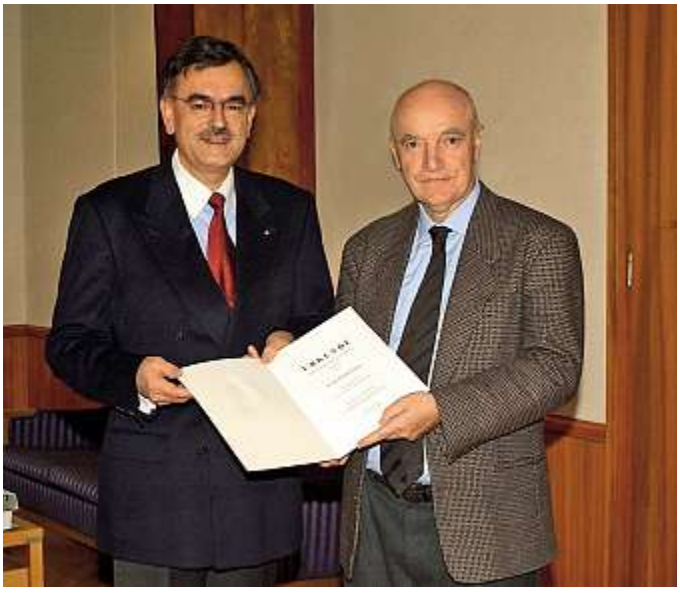
»Because we add to each other's strengths and jointly create stronger research environments on a global scale, we can attract the best people, precisely because they will seek out the environments where they can find the greatest challenges in their fields,« says Professor Stubkjær. Both emphasise that this is not an inward-looking alliance. The aim is to attract brilliant minds. »We hope to be able to attract excellent students from all over the world. Partly because of our strong research environments, but also because of the access they will get to two universities and two countries, which I believe will be particularly attractive,« says Professor Rank.

**European strategy**

Professor Rank and Professor Stubkjær both consider strategic collaboration an important component of the agreement between DTU and TUM. »If you look at technical universities in Europe today, it is the entrepreneurial spirit that sets our two universities apart from the others. But we are jointly looking for other partners in order to build a network of excellence, a 'club' for leading technical universities,« says Professor Rank. It makes good sense to look for alliances within the world of technical universities, because a joint European technical »network university« is high on the European Union agenda.

At the meeting of the European Council in October 2006, Jose Ma-

## »Ein Glücksfall an kunsthistorischer Kompetenz«



Der Direktor des Diözesanmuseums Freising, Dr. Peter B. Steiner (r.), wurde im Dezember 2006 von TUM-Präsident Prof. Wolfgang A. Herrmann zum Honorarprofessor der TUM ernannt. »Wie kein Zweiter verkörpern Sie die Verbindung zwischen dem Mons doctus und dem Wissenschaftszentrum Weihenstephan der TU München«, sagte Herrmann, dem die allgemeinbildenden Fächer ein besonderes Anliegen sind. »Eine moderne technische Universität sind wir nur, wenn wir den geistes- und kulturwissenschaftlichen Rückbezug in den technischen Disziplinen verankern.« Steiner lehrt seit mehr als zehn Jahren das Fach »Weltkunst – Einführung in die bildende Kunst« im gemeinsamen Grundstudium für alle Studierenden am TUM-Wissenschaftszentrum Weihenstephan.
*Foto: Uli Benz*

nuel Barroso, President of the European Commission, repeated his call for funding for a European Institute of Technology (EIT) aimed at bringing academic theories and the practical application of inventions closer together – an area in which both TUM and DTU are particularly strong.

»Both universities have an ambition to be a central part of the network structure that will make up EIT. Together we are in a particularly strong position, not just in relation to separate applications, but also as a part of the EIT structure,« says Professor Stubkjær.

**Best practice throughout**

The agreement between DTU and TUM extends beyond research and education. For the ambitions to be realised, all links in the chain need to be up to the challenges. Therefore administrative employees will also be exchanged between TUM and DTU.

»It is the intention that administrative employees from the universities will participate in exchanges – not just for one or two days, but for up to a month, to learn from each other,« explains Professor Rank. »When they return, they will report on their work at the other university, and this should hopefully result in a ›best practice‹, where we learn from each other.« The agreements on exchange of administrative employees are expected to be signed in 2007. The aim is to create better administrative practice by taking the best elements from both universities. »It is important for a modern university to use the latest thinking in the area of administration, and to have a structure that is modern and up-to-date,« concludes Professor Stubkjær.

*Michael Strangholt*

Netzwerk von Wissenschaft und Wirtschaft

# Competence Pool Weihenstephan

**»Der Competence Pool Weihenstephan soll der Nukleus für ein umfassendes Netzwerk von Wissenschaft und Wirtschaft sein.« Prof. Anna-Maria Reichlmayr-Lais, Beauftragte des TUM-Präsidenten für das Wissenschaftszentrum Weihenstephan (WZW), hat hohe Erwartungen an die neu geschaffene, innovative Einrichtung. Direktor des Competence Pool Weihenstephan (CPW) ist Prof. Harun Parlar, Ordinarius für Chemisch-technische Analyse am WZW, wissenschaftlicher Leiter ist sein Mitarbeiter Dr. Karl Glas.**

In der Produktion und Kontrolle von Lebensmitteln tauchen vielschichtige Fragen auf, die nach Lösungen verlangen. Mit dem CPW schafft die TUM ein Netzwerk von Kompetenzträgern aus Wissenschaft und Industrie. Die Mitglieder im Netzwerk profitieren nicht nur vom Know-how der anderen Mitglieder, sondern können ihre Erfahrung und ihr Wissen auch entsprechend vermarkten. Der CPW steht Unternehmen aus Industrie, Handel und Dienstleistung, Universitäten und Forschungseinrichtungen, Laboratorien, Verwaltungs- und Fachbehörden sowie Industrie- und Handelskammern offen. Es werden Fragen aus Technologie, Analytik und Qualitätskontrolle, Qualitätsmanagement, Absatzpolitik sowie Wissenstransfer und Patentrecht behandelt. Dabei sieht sich der Competence Pool Weihenstephan als zentrale Schnittstelle in einem Netzwerk, in dem alle Kompetenzträger des Pools eng zusammenarbeiten, um für sich und andere Mitglieder optimale Problemlösungen und Rahmenbedingungen zu schaffen.

Am WZW mit seiner exzellenten Ausstattung im Bereich Lebensmitteltechnologie und Analytik ist der Kompetenzpool ideal angebunden. Die Basis seines Erfolgs begründet sich unter anderem auf dem exzellenten Ruf des Standorts Weihenstephan als Center of Life and Food Sciences der TUM. Nicht zuletzt wegen des universitären Umfelds bestehen hervorragende Kontakte zu nationalen und internationalen Unternehmen aus der Lebensmittelbranche, zu renommierten Laboratorien und Forschungseinrichtungen im In- und Ausland. So entstand nicht nur ein »Wissens-Pool«, sondern ein kompetentes Netzwerk zur Vermittlung von Know-how. Hochschulinstitute können kostenlos Mitglied werden.

*Tina Heun*

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