

## PRESS RELEASE 24/04/2014

### Engineers from around the world opt to study Kassel Wind Energy Systems program online

University of Kassel and Fraunhofer Institute for Wind Energy and Energy System Technology IWES team up to offer part-time master's program

**Engineers specialized in wind energy systems are in short supply. That's why from the fall of 2014 the University of Kassel will be offering an online master's program in Wind Energy Systems in collaboration with the Fraunhofer Institute for Wind Energy and Energy System Technology IWES. Currently in a pilot phase, the course is aimed at engineers worldwide; 20 students from around the globe have already signed up to study with the University of Kassel, with nearly every continent represented. The city of Kassel is known internationally as a renewables hotspot. Not surprisingly, only a few universities in the world can claim to match the University of Kassel's experience in renewables research. And thanks to the collaboration with Fraunhofer IWES, nowhere else can claim to maintain such close links to industry and industrial applications. The course is organized and delivered by UNIKIMS, the Management School shared by the University of Kassel and successful companies such as SMA Solar Technology AG, located in Niestetal near Kassel. The German Federal Ministry of Education and Research is supporting the development of the specialization modules. An online information event regarding the course will be held at 12:30 pm (GMT+1) on 2 June 2014. For registration please visit: [www.academy.fraunhofer.de/en/energy\\_sustainability/master\\_online\\_wind\\_energy\\_systems.html](http://www.academy.fraunhofer.de/en/energy_sustainability/master_online_wind_energy_systems.html)**

Europe's wind energy industry has grown fast. Over the past twelve years, the output of wind energy installations has risen by more than 700 percent; opportunities for

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training and further education have lagged behind. »Workers wanted«, a report from the European Wind Energy Association (EWEA), claims up to 50,000 extra workers are needed by 2030, an indicator of just how much the sector is calling out for expertise. The current deficit in expert personnel in the European wind energy sector amounts to some 7,000 workers.

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**»The wind energy industry needs its own engineers«**

Professor Kuhl, academic coordinator of the Wind Energy Systems master's program, describes how »until now, the sector has employed mechanical, electrical or building physics engineers, without there really being any specialized course of study in Wind Energy and Renewables to meet the global demand. In comparison, studies in automotive or aerospace engineering have become commonplace.«

Now the University of Kassel and Fraunhofer IWES are working together to bridge that gap. Their master's program in Wind Energy System is a chance for natural scientists and engineers worldwide to study online with the university, provided that they have a degree in a related area, relevant professional experience and a sufficient level of English. A learning alliance that takes in industry, the energy sector and a network of partner institutions across the world means that the program stands out for its practical foundation.

**Program pilot phase successfully underway**

The pilot phase began in fall 2013 with four modules, including »Planning and Construction of Wind Farms« taught by Lisa Keaton and Stefan Bauch, employees of CUBE Engineering in Hamburg. Summer semester 2014 will include the modules »Energy Meteorology« and »Energy Law«. Fraunhofer IWES's project initiator Telsche Nielsen sees the interest in the program as the first big success, and news of the program has quickly spread around the globe thanks to advertising via the Fraunhofer Academy. So far, every continent except Australia is represented among the students. This is a testament to the relevance of the topics covered, the need for qualified people in the sector and Germany's reputation for engineering in general as well as Kassel's own

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**Fraunhofer Academy**

The Fraunhofer Academy is the place to go to find out about all of the Fraunhofer-Gesellschaft's training programs. Courses draw on the latest developments in science and research, and this serves for a unique transfer of knowledge from Fraunhofer to business. The part-time study programs, certificate programs and seminars of the Fraunhofer Academy are aimed at specialists and managers and are built around the Fraunhofer Institutes' research activities in collaboration with select renowned partner universities and further education institutions. For more information, please visit [www.academy.fraunhofer.de](http://www.academy.fraunhofer.de)



### **Part-time master's in 16 modules**

The program is intended as a part-time course of study in which students select 16 out of a total of 31 modules. Studies include basic wind energy mathematics and engineering as part of modules such as »Design of Electrical and Mechanical Components«. They also have the option to specialize in simulation and structural technology or energy systems technology in modules such as »Technical and Economic Aspects of Grid Integration« and extra key competencies such as »Personnel Management«. The course is designed to last seven semesters studied part time. Full-time students can complete the course in five semesters. The program is worth 120 credits and allows students to progress to a doctorate.

### **A virtual classroom for global get-togethers**

An online program presents its unique challenge to students, tutors and course organizers. Students come from a variety of cultures, live in a range of time zones and will probably never come face-to-face. Nevertheless, they do have a virtual space for lectures, seminars and laboratory experiments. For most modules, students and tutors meet once a week on a fixed day at 1 p.m. Central European Time – at which point it is just 7 a.m. in America and already 7 p.m. in Asia . Students log in and see and hear their teachers as they give lectures or discuss topics just as in a conventional lecture. The teacher is also able to see which students are online. A chat function and virtual button to raise one's hand allow students to pose questions, give their comments and enter into direct discussions. Sessions are recorded and can be played back on the go, anytime and anywhere. Moodle, a popular e-learning management system, provides students and teachers with a virtual platform to exchange ideas. This is also where students upload their latest assignments, project tasks and essays. A forum to discuss the course, special Wikis and a list of useful links completes the package.

### **Students praise the student experience**

Course assistants in Kassel help students adjust to this special form of study. An initial evaluation has indicated that the students feel well looked after .

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#### **Fraunhofer-Gesellschaft**

At present, the Fraunhofer-Gesellschaft maintains 67 institutes and independent research units. The majority of the more than 23,000 staff are qualified scientists and engineers, who work with an annual research budget of 2 billion euros.

### **The challenge of cultural differences**

Cultural differences are a particular challenge for the course team since ways of dealing with discussions or presentation and addressing errors varies widely from country to country. The physical distance between students makes it even harder to overcome these differences. As a result, the program developers have made it their particular goal to leave open as many opportunities for communication as possible within the scope of a purely online program. This makes the course cutting edge – learning on the go and exchanging ideas globally is a basic need of modern society. What's more, wind energy is a global topic that brings people across the world together. »More than any other discipline, renewables call for us to coordinate our efforts worldwide and to transfer ideas into industrial products and applications. This is precisely what the University of Kassel and Fraunhofer IWES are trying to do with the Wind Energy Systems program. The collaboration is a valuable link between basic and applied research,« says director of Fraunhofer IWES in Kassel Prof. Dr. Clemens Hoffmann.

### **»The world has woken up to the potential of renewables«**

In the words of Dr. Jochen Dittmar, director of UNIKIMS, the one-of-a-kind project »still has a way to go, but there's no doubt that a lot has been achieved and that the launch of the pilot phase in 2013 was a huge success.« The course will officially begin in the winter semester 2014/15 and applications are already being accepted. Professor Kuhl believes that more and more engineers are taking an interest in the technical issues surrounding wind energy. As he says: »They grew up in a different era to the generation before them. The world has woken up to the potential of renewable energy.«