

UCONN's GATEWAY TO THE WORLD IS

# EUROTECH

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An International Program  
in Engineering

## NEWSLETTER

***In this issue:***

**What's EUROTECH - a  
short description**

**Open House**

**Advisory Board Member  
receives Doctor of Sci-  
ence Degree**

**URI Meeting**

**Life after Graduation**

**Greetings from  
Kunsebeck**

**A Summer's Experience**



*News and Information About  
the Dual-Degree Program in  
German and Engineering at  
the University of Connecticut*

Number 6

Spring 1999

## What's EUROTECH ?

**A short Description**  
by Richard P. Long

The EUROTECH Program is designed to help prepare the engineering student for working in the world-wide marketplace by offering an opportunity to experience first hand the practice of engineering in another industrialized country. This program features:

- Engineering coursework leading to a Bachelor of Science degree in engineering.
- German coursework leading to a Bachelor of Arts degree in German.
- A six-month engineering internship with a firm in a German-speaking country.



*Gnter Schubert, PTR-Precision Technologies, explains welding with the electron beam to EUROTECH students*

The EUROTECH Program is open to students in each of the undergraduate engineering programs at UCONN: Chemical, Civil and

Environmental, Computer Science, Electrical and Systems, and Mechanical Engineering.

A knowledge of German is not required to begin this program.

The student successfully completing this program will have more marketable degrees with a strong background in the principles of engineering and practical international experience.

## EUROTECH - Warum geht's ?

**Ein kurzer Einblick**

Im Rahmen des EUROTECH Programms erwerben die Studenten zwei Abschlüsse. Zum einen erhalten sie den B.A. in Deutsch, zum anderen den B.S. in Ingenieurwesen. Desweiteren gehört zum Abschluß des EUROTECH Programms auch ein halbjähriges Praxissemester in einem deutschsprachigen Land, wodurch die Studenten zum einen Arbeitserfahrung auf ihrem Ingenieursgebiet sammeln und zum anderen auf einen immer mehr internationalen Arbeitsmarkt vorbereitet werden.

Das EUROTECH Programm verbindet von Anfang an das Studium der deutschen Sprache mit einem Ingenieurstudium aus dem Bereich Maschinenbau, Bau- und Umweltsingenieurwesen, Elektrotechnik, Informatik oder

Chemieingenieurwesen.

Jeder qualifizierte Student aus dem Bereich der Ingenieurwissenschaften kann dem Programm beitreten. Vorkenntnisse in Deutsch sind nicht notwendig. (Übersetzung Johann Hofmann)

## EUROTECH Newsletter

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For additional copies of this newsletter, back issues, or for more information on EUROTECH: An International Program in Engineering, please contact either of the directors, or click on the order form found on our homepage:

<http://www.eng2.uconn.edu/EUROTECH>

# Telling the Visitors about EUROTECH

The University Open Houses on September 27, and November 8, 1998, presented opportunities for the EUROTECH Program to showcase its highlights and advantages for engineers in the 21st

Century. The School of Engineering assembled booths for each of its programs in the Jorgensen Gallery. Students, wearing EUROTECH Tee Shirts as shown in the photo, assisted in providing

the visitors with information on the program. Participating students were (left to right in photo)

Michael Leary, Brian Harris, Amidon Lindsay, and Laura Harris. Not shown in the photo is Paul Malcarne who assisted at the September open house.



*EUROTECH students at the Open House*

The banner seen above and behind the students' heads was designed to insure the visibility of the program with the visitors. The poster in the foreground carries the message:

If you can relate

To jobs that create  
Engineering solutions  
All over the world,  
Then its time to prepare  
In a program with flair  
And lead where others don't  
dare

GO EUROTECH

*I am delighted that the University of Connecticut has created the EUROTECH program. Clearly, it will give your graduates a competitive edge if they are able to communicate with their technical counterparts in Germany. In addition, it will give the state of Connecticut a competitive edge to add people with such unique capabilities to its work force.*

Anne Wingate  
Former Executive Director  
State Council on Voc.-Tech.  
Educ.

*Get the  
EUROTECH-Shirt  
for just 10 Dollars !*

*Where ? Arizona 120 !*

# Advisory Board Member Receives Doctor of Science Degree

At a special ceremony during the afternoon of November 6, 1998, Briarwood College in Southington Connecticut bestowed an honorary Doctor of Science Degree on Gary Sihler, Chairman and CEO of Index Corporation in Shelton. Dr. Sihler is a key member of the EUROTECH Advisory Board. He was instrumental in the development of the Board and has served on it since 1993.

The main speakers at the ceremony were George Coleman, Associate Commissioner of Education of the State of Connecticut, and Robert Klancko representing the Greater Valley Chamber of Commerce.

Gary Sihler was honored for his service and accomplishments during a very active career. In addition to the EUROTECH Program, he has supported and continues to support many initiatives for improving the work force. Of special note is the active involvement of Gary in the School-To-Career program, in which he the Index Corporation supports his commitment at the national, state, and local levels. He contributes much time to committees that provide mentoring and obtain grass-root support for student

opportunities in the manufacturing sector. He created and maintains a most effective educational program with Shelton High School, and continues to serve as a prominent member of the education and Job Training Task Force of



*Garhard G. Shiler gets his Degree*

the Greater Valley Chamber of Commerce. Dr. Sihler is at present creating an Advanced Technology Center in Stratford.

Gary Sihler was born and educated in Germany. He has experience at every level of industry. After graduating from high school, he completed a mechanical apprenticeship at Esslingen Vocational Training School

in Germany. He was later an exchange student in the united States under the Fulbright Scholarship Program at the University, and graduated from Esslingen Technical Engineering College as a Mechanical Engineer. After becoming Chief Engineer for Special Assignments and Assistant to the General Manager at the Maschinenfabrik Esslingen, he relocated to the United States. Dr. Sihler has served as an officer of several firms over the years, most recently as Chairman and CEO of Index Corporation in Shelton since 1983.

The EUROTECH Program is indeed fortunate to have someone as dedicated to technical education as Dr. Sihler serving on its External Advisory Board. We applaud Briarwood College and the Greater Valley Chamber of Commerce for bestowing this well deserved honor on Dr. Sihler.

*Was gibt's heutzutage noch  
für  
schlappe 10 Dollar ?  
Ein EUROTECH Shirt !  
Wo ? Arizona 120 !*

# Directors of International Engineering Programs met at the University of Rhode Island

A meeting of directors and other parties interested in international engineering programs at colleges and universities throughout the United States was hosted by the University of Rhode Island at Kingston, RI on October 30 and 31, 1998. The meeting was organized by Prof. John Grandin of URI, one of the founders and current director of their international engineering program. The University of Connecticut's EUROTECH Program was presented by Co-Directors Friedemann Weidauer and Richard P. Long. Dr. Long gave a presentation on EUROTECH.

There were 42 attendees from universities, government agencies and industry. The purpose of the meeting was to present the various approaches to the globalization of engineering education. In addition to the University of Rhode Island and the University of Connecticut, representatives from the Massachusetts Institute of Technology, the Georgia Institute of Technology, the University of Illinois, Worcester Polytechnic Institute, the University of Cincinnati, and Technische Universität Braunschweig presented their programs.

Only the programs at URI

and UCONN lead to dual degrees in engineering and German. At the Universities of Cincinnati and Illinois the students receive a minor in International Engineering. Worcester Polytechnic Institute structures its program around the influence other cultures have on engineering projects by sending their students to work on projects in the respective countries, and the program at Georgia Tech is aimed at graduate students. MIT's program is open to both graduates and undergraduates and places students in internships in Germany.

The US Government sent a representative of the Fund for the Improvement of Post-Secondary Education and the German Government was represented by the German Academic Exchange Service through Manfred Nettekoven of their New York office, the German Consulate in Boston, and the Fraunhofer Society. Both the FIPSE and DAAD representatives stressed their willingness to fund aspects of the programs discussed at the colloquium.

Perhaps the most interesting panel of the colloquium was made up of alumni of the various programs as well as

human resource managers of big companies like DaimlerChrysler. The consensus was that programs like EUROTECH are just what industry wants. The difficulty, however, lies in relating the usefulness of programs like that to highschool students as they consider their options for college. Administrators and directors of all programs agreed that recruiting of new students into their programs presents the biggest challenge. The question of financial rewards as a motivating factor was discussed and panel members emphasized that while initial salaries of graduates of international engineering programs are not always higher than those of their peers, they nevertheless rise through the ranks of their companies much faster as management rewards and recognizes the strengths and skills that an international education has fostered in them.

It was especially encouraging to see the display of collegiality, student involvement, and cooperation across schools and departments at URI that demonstrated the importance of these factors in the success story this program has become.

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## *Life after Graduation by James Frey*

This article was written by James Frey a mechanical engineering graduate of the EUROTECH Program. He completed his studies in May 1998. As an undergraduate he was active in developing a new wheel chair. He studies for one semester at the University of Karlsruhe and interned with Trumpf in Ditzingen, Germany. After Graduation he joined



*James Frey*

Bosch Corporation in South Carolina and filed his report on his activities.

I am a design engineer for the Bosch's fuel injection group here at the Charleston, South Carolina plant. The facility consists of our group and the ABS group and together there are about 2000 employees. Bosch has about 200,000 employees worldwide, about half of

which are in Germany.

The exact project that I work on is a quite new so they don't let us speak specifically about it yet. What I do isn't secret at all though. About 1/3 of most days I spend designing components using a CAD package called Unigraphics. It is a 3D parametric program similar to Pro-

Engineer but more universal in the automotive industry. The design work is mostly concerned with guaranteeing that certain types of fits will be maintained after all tolerances have been taken into consideration. I am also the champion (or primary) for injection molded componentry for this project. That

leads me to the next third or so of my days. As a component champion, I am responsible for the design, process, fit and all tooling involved in making that part a reality. Interestingly, the drafts that I create or modify for these parts are all dual language, German and English, as Bosch is a German company. As a matter of fact, the people that I work with most closely all speak at least some

German and some are completely fluent. I also travel quite a bit. Since I have been with Bosch, I have been to Detroit, Canada twice, North Carolina once a month, New Jersey, Minnesota, Florida and I will be going to Bamberg and Schwieberdingen Germany next month. They tell me, by the way, that I am taking all these trips because I am the only unmarried guy in our department... well how do they expect me to ever meet some one to marry when I'm always on the road???

It's a lot of work but I have to admit that I really like it. The requirements for the position and my abilities (besonders auf Deutsch) seem to be quite a good match.

Aside from work, there is a lot to do down here. Charleston is really growing on me. It is right on the Atlantic and the weather is usually pretty nice. I am also still doing a lot of rock climbing. As a matter of fact, I now teach on weekends for the Bosch Outdoor Club. Thanks for all the help and guidance back at Uconn.

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# Mein Leben mit Bosch

## Bericht eines EUROTECH-Absolventen

von James Frey

Ich arbeite als Ingenieur für die Produktkonzeption der Arbeitsgruppe "Benzineinspritzung" bei Bosch in Charleston in South Carolina. Die Einrichtung besteht aus unserer Gruppe und der ABS-Gruppe mit insgesamt 2000 Beschäftigten. Bosch hat weltweit 200 000 Beschäftigte, die Hälfte davon in Deutschland.

Das spezielle Projekt, an dem ich arbeite, ist ganz neu, und deshalb läßt man uns darüber noch nicht im Detail sprechen. Aber was ich mache, ist überhaupt kein Geheimnis. Jeden Tag verbringe ich etwa ein Drittel meiner Zeit damit, Komponenten mit einem CAD-Paket namens Unigraphics zu entwerfen. Das ist ein dreidimensionales parametrisches Programm, dem Pro-Engineer ähnlich, aber in der Autoindustrie weiter verbreitet. Die Produktkonzeption beschäftigt sich hauptsächlich damit sicherzustellen, daß bei Einbeziehung aller

Toleranzen bestimmte Passungen eingehalten werden. Außerdem bin ich der Hauptbeauftragte für die Spritzgußkomponenten für dieses Projekt.

Das bringt mich zum zweiten Drittel meiner Arbeitstage. Als Hauptbeauftragter für die Komponenten bin ich für die Konzeption, den Arbeitsablauf, die Passung und die maschinelle Ausrüstung verantwortlich, aufgrund deren das Teil erst Wirklichkeit wird. Interessanterweise liegen die Entwürfe, die ich für diese Teile herstelle oder modifiziere, alle in zwei Sprachen vor, Deutsch und Englisch, da Bosch eine deutsche Firma ist. In der Tat sprechen alle Leute, mit denen ich enger zusammenarbeite, zumindest etwas deutsch, und einige sprechen es sogar ganz fließend.

Ich reise auch ziemlich viel. Seit ich bei Bosch bin war ich in Detroit, zweimal in Canada, jeden Monat in North Carolina, in New Jersey, Minnesota und Florida

und nächsten Monat reise ich nach Bamberg und Schwieberdingen in Deutschland. Übrigens sagt man mir, daß ich alle diese Reisen mache, weil ich der einzige Junggeselle in unserer Abteilung bin..., also wie können sie erwarten, daß ich jemals jemand zum Heiraten treffe, wenn ich die ganze Zeit auf Achse bin?

Es ist viel Arbeit, aber ich gebe zu, daß ich sie wirklich mag. Die Anforderungen dieser Stelle und meine Fähigkeiten (besonders im Deutschen) sind ziemlich gut aufeinander abgestimmt. Neben der Arbeit gibt es hier unten eine Menge zu tun. Charleston wird mir wirklich immer sympathischer. Es liegt direkt am Atlantik, und das Wetter ist gewöhnlich ziemlich gut. Ich gehe auch immer noch viel klettern. Tatsächlich bin ich jetzt an Wochenenden Ausbilder für den Naturverein von Bosch. Vielen Dank für all die Hilfe und Beratung damals an

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# Gruesse aus Kunsebeck

by Brian Studioso

Hi! My name is Brian Studioso and I have been enrolled in the EUROTECH program since Fall 1995. Last summer I went to Germany where I lived and worked for six months. I had only good experiences during that time and only good memories of it. Even though I lived in Bielefeld, a city in Northwestern Germany, I had enough time to visit Berlin, Cologne, Munich and the famous Octoberfest. In addition I found enough time for visits to Rome, Florence, Basil, Interlaken, Amsterdam and London. On these trips I saw many beautiful countries and cultures. During my time in Germany I worked for the Torrington company. My project was to design a test stand for rocker arms. This work was challenging and educational. I first drew my test stand using CAD, and later I myself milled, ground and turned the parts. With the help of my co-workers I improved my German during these six months, especially my technical German, and I learned a lot about mechanical engineering. My colleagues were very

helpful and friendly and at the same time became good friends of mine. My German experience is unforgettable, and whenever it's possible I will no doubt visit Germany again.



Brian Studioso

## Greetings from Kunsebeck

Hi! Ich heisse Brian Studioso, und seit Herbst 1995 bin ich bei EUROTECH eingeschrieben. Letzten Sommer bin ich nach Deutschland gefahren, wo ich sechs Monate gewohnt und gearbeitet habe. In dieser Zeit hatte ich nur gute Erlebnisse und Erfahrungen und habe nur gute Erinnerungen daran. Obwohl ich in Bielefeld, einer Stadt im Nordwesten, gewohnt habe,

hatte ich genug Zeit, Berlin, Köln, München und das berühmte Oktoberfest zu besuchen. Zusätzlich hatte ich auch genug Zeit für Besuche in Rom, Florenz, Basil, Interlaken, Amsterdam und London. Auf diesen Reisen habe ich viele schöne Länder und

Kulturen gesehen. Während meiner Zeit in Deutschland habe ich bei der Firma Torrington gearbeitet. Das Projekt von mir war, einen Prüfstand für Schleppebel zu entwickeln. Die Arbeit war anspruchsvoll und sehr lehrreich. Ich habe erst meinen Prüfstand mit CAD gezeichnet, und später habe ich die Teile selbst gefräst, geschleift und gedreht. Während dieser sechs Monate habe ich mit Hilfe meiner Kollegen mein Deutsch verbessert, besonders mein technisches Deutsch, und viel über Maschinenbau gelernt. Die Kollegen waren ganz hilfsbereit, freundlich und dabei ganz gute Freunde und Freundinnen von mir. Mein deutsches Erlebnis war unvergesslich, wenn es also möglich ist, werde ich Deutschland ohne Frage nochmal besuchen.

# EUROTECH Tour of the E. Hartford Pratt & Whitney Site

Special thanks go out to Axel Werner who initiated an informational tour at Pratt & Whitney's East Hartford facilities. This site serves as the headquarters for several of the company's operations:

- Ø Company headquarters (encompassing 965 acres)
- Ø Large commercial engines business unit
- Ø Engine services unit – providing service, training & parts to its customers

The tour which took place on December 9<sup>th</sup> of last year started with a technically oriented presentation of the operations and work performed at the Hartford location. Al Reinhardt (engineering), David Divinsky (experimental assembly), Carroll Toal (test stand), Dick Mindek and Mike McCoy combined forces to present both the team atmosphere that is integral to daily operations at P&W as well as what those operations are. Engineers there use a variety of computer platforms which are linked together yielding a greater processing capacity used in the 'soft-construction' and testing of their engine design ideas. They described how the use of computers in the design and revision processes involves more than simply getting a look at what the finished

product may look like. Instead, they illustrated how 3-D construction enables the use of genetic algorithms to analyze flow-fields. This enables the relational determination of mechanical, thermal, fatigue, and cyclic stresses within a given design model. This allows engineers to optimize these designs for performance & production cost by progressively developing a better product. These genetic algorithms, along with other artificial intelligence-based algorithms were stressed as a most significant tool in product development and analysis.

After the presentation we were led through various parts of the plant where the design analyses take place and into the shops where the designs are realized and then tested. This included the inspection of a variety of large lathes, polymer model-

ing machines, several engines in different stages of assembly, and two large flow test chambers. The test chambers are wind tunnels designed specifically for the analysis of jet engine performance in a variety of FAA mandated tests. These tests include examining the effect on an engine when simulated wildlife is drawn into an engine or a turbine blade catastrophically fails... much like placing several box fans in series & causing a blade from the first fan to be sucked into the successive stages, but at a much greater velocity.

Thanks to all at the East Hartford site that went out of their way to welcome us and give us a glimpse of what may be in many of our futures.

*by Jeremy James, First Year Eurotech Student*

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*Der Druck dieses Newsletters  
wurde ermöglicht durch eine Spende der  
Torrington Company, Torrington, CT*

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# *A Summer's Experience*

*by Michael Leary*

Michael Leary is a junior mechanical engineering student. He filed his report about his experiences with the Torrington Company during the summer of 1998. The EUROTECH Program of Studies includes a semester in Germany performing a six-month CO-OP with an engineering firm there. Professors, advisors, older students, and most importantly people working in industry stressed the importance of completing a summer internship in the U.S. before going to Germany. These factors helped lead me to decide that my intended path would be to complete a summer internship in America with a company that had a branch in Germany, complete two more semesters at UConn, and then work for the same company for six months in Germany. During my sophomore year, I researched local companies and distributed resumes. The Torrington Company became my top choice, and, after a thorough interview, they chose me for a position as Summer Intern in the Needle Bearing Division Design and Applications Group. The Torrington Company is a worldwide anti-friction bearing manufacturer, under the larger Ingersoll-Rand corporation.

While at The Torrington Company in the Summer of 1998 I was exposed to many aspects of engineering, from design prototyping, to product testing to performance analysis to quality assurance. I believe my status as a EUROTECH student helped open many of these doors of opportunity to work with so many different parts of the company. A number of tasks I was given put my German language skills to work. The Torrington Company needed to know how a thermal conductivity test was executed in Germany. They had the texts outlining the procedure, but they were written in German. In translating these texts I helped The Torrington Company as well as improved my technical vocabulary. At another time I was called upon to translate a patent to a competitor for a printing machine part. The mix of technical and legal German within was quite complex, and again, I learned as much as I was able to teach the company. Some routine tasks involved my referencing of other bearing catalogs. A number of these catalogs were printed in German and finding information and data within them was not a problem with my

ever-expanding technical German vocabulary.

The internship was a success and I was invited to return over Winter Break of my Junior year. I was paired up with Brian Studioso who had just completed a six-month CO-OP with The Torrington Company's branch in K\_nsebeck, Germany. He was a great resource for information and promoted his experience there. Because of the success of Brian's internship, The Torrington Company was willing to hire me in the same facility. Shortly after this Spring Semester began, I received a generous offer from The Torrington Company to CO-OP at their branch in K\_nsebeck, which I gladly accepted. I eagerly await the beginning of this great opportunity starting the summer of 1999.

*Printing of this  
Newsletter was  
made possible  
through the  
generosity of  
The Torrington  
Company*

# Thanks to the Following Firms and Individuals for Their Support

## Firms Providing Internships in the USA to our Students

Bayer Corporation  
Index Corporation  
Lenze Power Transmission  
MAN Roland  
Pratt & Whitney Aircraft  
Roto-Frank  
Trumpf Incorporated  
The Torrington Company

## Firms Providing Internships in Germany

Bayer AG  
Fachhochschule Regensburg  
Maschinenfabrik Reinhausen GmbH  
Siemens AG  
Trumpf GmbH & Co.  
The Torrington Company

## Guest Lecturers during the past year

Ulrike Klüh (UConn)  
Richard Long (UConn)  
Joachim Mayer (Trumpf)  
Wilfried Meier (Sikorsky Aircraft)  
Günther Schubert (PTR)  
Roman Solecki (UConn)  
Klaus Voos (Index)  
Roland Warmuth (MAN Roland)  
Axel Werner (United Technologies)  
Gunter Zinken (The Torrington Co.)

## Special thanks to our hosts during the DAAD trip to Germany

Fachhochschule Reutlingen  
Universität Heidelberg  
Universität Karlsruhe  
Universität Stuttgart  
Universität Tübingen

## Equipment Contributions

Index-Werke GmbH & Co. KG  
Mahle Cylinder  
Sikorsky Aircraft  
Trumpf Inc.

## Plant Tours

Bayer Corporation  
gambro dialysatoren GmbH  
Index-Werke GmbH & Co. KG  
Mahle Cylinder  
PTR-Precision Technologies  
The Torrington Company  
Trumpf GmbH & Co.  
Trumpf Inc.

## Financial Contributions

Bayer Corporation  
German Academic Exchange Service  
Lenze Power Transmission  
Music Memories  
Sikorsky Aircraft  
The Torrington Co.  
Trumpf Inc.  
United Technologies Corporation  
Thomas Gianni  
Colin Green  
R.P. Long

The EUROTECH Program thanks all the members of the Advisory Board for their time and effort in our behalf. We likewise thank the firms for encouraging their representatives to interact with our program and to the Torrington Company for its support of this newsletter.

Special thanks to Renate Seitz of the Connecticut Department of Higher Education and Sally Innis-Klitz of the Study Abroad Office for assistance in placing the EUROTECH teaching assistants and interns.

*For many years I have been involved with vocational training and the need for better school-to-work transition programs. If our manufacturing industry wants to survive, we must invest in new technologies and skills. The EUROTECH program will offer a great opportunity for its students to learn first-hand how German companies have reached and are maintaining a high degree of productivity.*

*With economic problems in the Far East as well as in Europe, it becomes more difficult to export to these markets, but with better understanding of the local economies there are still many opportunities available. This program will enable Connecticut companies, with the expertise of EUROTECH trained professionals, to better understand the German culture and business environment, from which our state will benefit.*

Gary Sihler, President  
Index Corporation,  
Shelton, CT

*Visit EUROTECH on the World Wide Web*

*at*

<http://www.eng2.uconn.edu/EUROTECH/>

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