

CIT students are college entrepreneurs of the year

'Apri-Cot' scoops €15,000 top prize at the 2007 Student Enterprise Awards

STUDENTS from Cork Institute of Technology have been awarded the prestigious top prize at the 2007 Student Enterprise Awards, Ireland's biggest third level business awards, as well as the Cruickshank Technology Innovation Award.

Mechanical Engineering Student John J. Barry and Accounting and Information Systems Students Orla Houlihan, Niamh Brady and Regina O'Donoghue of team Apri-Cot from Cork Institute of Technology beat off stiff competition from hundreds of third level students across Ireland with their technological innovation and business proposal. Apri-Cot is an apparatus that acts as a therapeutic sleeping aid for infants, and scooped the coveted €10,000 top prize and title of 'College Entrepreneurs of The Year', and the €5,000 Cruickshank Technology Innovation Award.

Now in its 24th year, the Student Enterprise Awards - which were designed to foster and promote innovation and entrepreneurship amongst third level students across the Island of Ireland - had a celebrity entrepreneurial expert on the judging panel in the form of Ruth Badger, star of the hit BBC show, The Apprentice, as well as Sky One's 'Badger or Bust'.

Speaking at the awards ceremony, Ruth said: "It has been extremely encouraging to see students taking part in an enterprise-focused competition such as this. The quality of the business proposals has been exceptionally high and a positive reflection on innovation and entrepreneurialism in Ireland. I can

safely say that this year's finalists presented the judges with a very difficult decision"

Mr. Brendan Flood, Manager, Regions & Entrepreneurship, Enterprise Ireland said. "The Student Enterprise Awards play a key role in discovering and developing the entrepreneurial talent which exists in our third level institutions. The winning students, and indeed all our finalists, epitomize the excellent innovation that exists within our third level sector which must be harnessed and commercialized to create winning indigenous companies the success and long term strength of Ireland's economy is directly impacted by the establishment and growth of Irish-owned companies that have the potential to become thriving international businesses".

Paul Brush, Head of Entrepreneurial Development, Invest NI said: "Invest NI have been a co-sponsor of the Enterprise Ireland, Ulster Bank Student Awards for the past number of years. These unique awards are an excellent opportunity to identify and cultivate our future business leaders. The winning students and finalists represent innovation that is essential in the development of the entrepreneur sector throughout the island of Ireland".

INTERNATIONAL AND NATIONAL SUCCESSES OF MECHANICAL ENGINEERING AT CIT (CAO CR108)

The Honours Level 8 Bachelor of Mechanical Engineering Degree (CAO CR108) offered at Cork Institute of

Technology has been confirmed as one of the most highly acclaimed degrees in this discipline on the Islands of Ireland and Britain by further remarkable International and National Successes in 2007.

Sustained Major International achievements include:

- Five Gold and One Silver Medals in the International Medical Engineering Competition, London (2007, 2006, 2005)
- One Gold and One Silver Medal in the ISEA International Sports Engineering Competition, London (2006, 2005)
- Two Queen's Silver Jubilee awards for Best Engineering Degree Project in Ireland and Britain,
- One Genius 2000 Award for Best New Invention at the Nuremberg Inventors' Fair,
- Two Society of Manufacturing Engineering Outstanding Young Engineer Worldwide Awards
- Three First Places for Best Published and Presented Paper at the International Manufacturing Conference.

Recent National student successes for CIT's Mechanical students include:

- Four Siemens Engineers Ireland Innovative Engineer of the Year Awards (2006,2005,2004,2003)
- Two Engineers Ireland Technologist of the Year Awards (2007)
- Enterprise Ireland/Invest Northern Ireland Young Entrepreneur of the

Year First Place €10,000 Award (2007)

- Cruickshank Most Technologically Innovative Project First Place €5,000 Award (2007)
- Three Enterprise Ireland Speak Out for Engineering Awards (2007, 2005, 2004)
- One Enterprise Ireland / Invest Northern Ireland Award of Merit €2,000 Award (2007)
- Two HP Invent Awards for Best Science/Engineering/IT project in Ireland
- One MEETA Asset Management and Maintenance National Award.

How has this remarkable sustained International and National Success arisen?

The CIT Honours Mechanical Engineering degree is centered on a strong hands-on design core in all four years of the professional course - this design ethos was highly commended by a recent Engineers Ireland re-accreditation panel. Students undertake design projects from literature research, analysis, experimentation and validation right up to prototype production and commercial evaluation/business plan development.

Many of the International and National Adjudication panels have averred to the integrated structure of the CIT Mechanical projects as a critical element in setting them apart from University competitors.

A strong innovation and entrepreneurship ethos is encouraged within the CIT Mechanical Engineering student body and links have been developed with students from other disciplines including ground-breaking multi-discipline team projects in liaison with Marketing, Accounting and Information Systems students.

From student concept, current issues and needs are assessed and addressed through applied engineering design solutions under the supervision of a young and vibrant staff via oral and written presentations and round-table student/staff fora.

A continuous design core, a strong innovation ethos, product development from student concept to prototype manufacture and optimisation, multi-discipline teamwork, business plan development, communication and exhibition skill enhancement and a unique engineering education model have all combined to create a critical mass leading to the remarkable International and National successes over a sustained period of the students of CIT's Honours Mechanical Engineering degree (CAO Code CR108).



Back Row Left to Right: Michael Callaly, Enterprise Ireland; Donal O'Connor, Cruickshank & Co. Patent Agents, Ruth Badger, star of the hit BBC show, *The Apprentice*, as well as *Sky One's Badger or Bust*, Pat Smith, Ulster Bank, and Paul Brush, Invest NI.

Front Row Left to Right: Apri-Cot Team - Cork Institute of Technology Students - Niamh Brady, John J. Barry, Regina O'Donoghue and Orla Houlihan - Outright Winners of the €10,000 First Place Award in the Ulster Bank Enterprise Ireland/Invest Northern Ireland Young Entrepreneur of the Year 2007 Competition and the €5,000 First Place Award in the Cruickshank Most Technologically Innovative Project 2007 Competition.

The ApriCot™ Human Contact Simulator

The following is an edited extract of ApriCot Development Poster prepared by the students

ApriCot™ is an apparatus, which acts as a therapeutic and sleeping aid for infants, promoting healthy sleeping patterns in both baby and parent. An integrated system to mimic the slow pulsation of a heart and the gentle motion of a person breathing is central to the operation of the developed human contact simulation product. The developing device is also designed to address critical recommendations of the FSIDS to reduce Infant Sudden Death Syndrome.

Experimental Investigation of respiratory changes in the configuration of the chest wall in a female subject are undertaken. Self-generated anthropometric research, including numerous anthropometric experiments, are conducted. Data acquisition software is utilised to attain and analyse results. PeopleSize 2000 anthropometric largest civilian database software is employed to yield data on infant sizes.

Heart and womb simulation critical design parameters employed include: Speaker system to output sound, high bass to output vibration, recordings of heart and womb, memory to store infor-

mation, medical expert recommended motion/timer sensor system to trip device on/off and to aid Human Contact incorporated. Simulator for progressive weaning of Infant is developed and implemented. Application of Catalyst software to develop the physical ABS models. State of the art rapid prototyping technology is utilised to build the representative 3D models from bottom up.

Modeling is undertaken of relative difference of fully inhaled and exhaled female representative chest. ApriCot™ meets the Health and Safety regulations/classification requirements of the M.D.D. as a Class 1 Medical Device.

A comprehensive Business Plan, incorporating extensive Market Research, International and National Sales Forecasts, Competitor Evaluation, Financial Marketing Analysis, Profitability Analysis, Company Portfolio and Organisational Plan, has been developed in conjunction with Enterprise Ireland/Innovation Centre consultants. Specialist Patent Lawyers have also been consulted and a Patent on the developing technology filed with the Irish Patent Office. The ApriCot™ Brand has been established. A promotional Website, with Marketing, Ordering and Sales capabilities/potential, has also been developed.