MISL is a research laboratory within the Department of Computer Science at University College Cork. The laboratory is led by Professor Cormac Sreenan, who joined UCC in 1999 after working as a research scientist at AT&T (Bell) Labs USA. Several other academic staff lead projects associated with MISL: Professor Ken Brown, Dr Simon Foley, Dr Dan Grigoras, and Dr John Herbert. The remit of the laboratory is in the areas of computer networking and systems, with a focus on mobile/wireless networks. There are currently over 20 research staff/students, and a range of projects, including those in the areas of video streaming, wireless sensor networks (Internet of Things), mobile cloud computing and next-generation wireless access networks. MISL has state-of-the-art software and hardware testbeds for wireless networking and video streaming that are used for performance evaluation and experimentation.

The three largest projects in MISL are CONNECT, CTVR and iVID, all of which are funded by Science Foundation Ireland (SFI) and involve industry support and collaboration. CONNECT is a new national Research Center that focuses on future broadband, cellular and Internet-of-Things networks. It combines the expertise of 10 academic institutions, including lead partner Trinity College Dublin, as well as 38 companies. CONNECT grew from CTVR, which is also a multi-partner centre with research focused on next-generation wireless and optical access networks. iVID is a new project that is working to improve the quality of video streaming over the Internet and mobile networks.

The Laboratory works closely with a range of indigenous and multinational companies, and welcomes opportunities to solve research challenges and collaborate on new projects. MISL is also active in regard to commercialisation, engaging with UCC’s Office of Technology Transfer for patenting and licencing of inventions.

For further information contact Professor Cormac Sreenan cjs@cs.ucc.ie or checkout the MISL website at www.cs.ucc.ie/misl.
Dr Sabin Tabirca, director of the programme, wants to give teenagers and more recently primary school pupils the opportunity to experience computer programming and web technologies, as Computer Science is not an official subject in Irish schools.

MPT has evolved over the past 14 years, pre-dating Coder Dojo. In fact, James Whelton, co-founder of Coder Dojo was one of the first MPT graduates.

The real impact of MPT can be summarised by an email from Dympna Daly, mother of an MPT student, "Patrick attended MPT all last year - all 26 weeks – some commitment coming up to Cork from Beara every Saturday (240 km round trip) but there was never a question of not going! The world of university was opened up to Patrick and he got to know lots of other students. Patrick loved the different aspects of the course and at one stage I heard noises about trying to get in to the top 20 in his class which he did and was delighted!! This competition was self-directed totally! While we encourage him in his efforts I would never have put any pressure on Patrick to achieve - he was totally motivated himself to attend the course and complete all tasks. We are delighted that he was afforded this opportunity to explore computer programming and we wish you well with the course!"

Why does Sabin give up his Saturday mornings? "Getting your children and teenagers involved in coding and understanding web technologies will help them embrace the now established digital technology age. Their parents may not ‘get’ IT (Information Technology) but these young people are eager to learn and take it in their stride".

On May 27th 2015, over one hundred 9 to 17 year old Munster Programming Training (MPT) students graduated, having attended 26 Saturday mornings of programming, video production and game development.

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Passionate Programmers come to UCC

A passion for programming is what was required to top the table at this year’s Irish Collegiate Programming Contest (IrlCPC).

Over 100 students from all over the country competed in March at Ireland’s most prestigious programming competition. David French from Google, co-sponsor the event, said “It was great to be back in University College Cork, my alma mater, for the Irish Collegiate Programming Contest. This is Google’s second year sponsoring the competition and again we were very impressed with the high standard of the event. We had a wonderful time engaging with the contestants throughout the day. These are very bright young people with a world of opportunity ahead. Congratulations to all involved: the organisers, the students and their mentors. Thanks for hosting such an inspiring event”.

2015 was the sixth year of the competition, which is organised by UCC’s Association for Computing Machinery (ACM) chapter in association with the Insight Centre for Data Analytics. Insight researchers comprising four PhD students: Milan de Cauwer, Tadhg Fitzgerald, Barry Hurley, Padraig O’Duinn, and along with Insight’s Director, Professor O’Sullivan led the team. Both Barry Hurley and Padraig O’Duinn were some of the first MPT students and have come right the way through to study a PhD at UCC.

The competition affords students the opportunity to test their skills through a series of challenging problems that go beyond what they formally are taught. Amazingly, along with second and third level students, are youngsters as young as 12. These young prodigies were coached by the director of MPT, Dr Sabin Tabirca.

Presenting the prizes was Ronan Murphy, Chairman of IT@Cork “There was an air of excitement about computer programming in UCC for both the MPT graduation and the Irish Collegiate Programming Competition in March. These young coders are the future of our technological world. I am encouraged by their enthusiasm and dedication; our challenge for the coming year is to get more girls involved.” The Department plans to organise a number of events during the year to encourage girls to consider CS as a career. For now, read Niamh Stockil’s story.

George Boole Summer Camp for Talented Youths

This year, the Department of Computer Science in association with the School of Mathematics ran a ‘George Boole Summer Camp for Talented Youths’ attracting exceptional MPT and Mathematics Enrichment Programme students. These students were tutored by Dr Sabin Tabirca and Dr Anca Mustata (School of Mathematical Science), interfacing mathematics and computer science; covering topics such as number theory, combinatorics and geometry.

One of the Mathematics Enrichment students, Desmond Doran, who attended the camp, told us, “I really enjoyed the camp and was amazed at how quickly it was possible to pick up a programming language. By the end of the week everyone in the class was able to draw graphics and use the mouse to interact with their programmes. All in all the camp was really fun and I made plenty of new friends”. The teenagers had the opportunity to meet with Professor Desmond Mac Hale, UCC’s resident expert on Boole; it was an enlightening meeting for all involved. Sabin and Anca hope to run the camp again next year to encourage these very bright teenagers to apply logic to both mathematics and computer science.

Student blog – Niamh Stockil, 4th year Computer Science student

I have always had an interest in computers and figuring out how things worked. I was the girl making little animations, taking electronics apart and the go-to girl for tech problems in school. It was always my hobby. It was only in my third year of secondary school that I realised this hobby could become a career. I was handed a flyer for the Munster Programming Training course and I haven’t looked back since. Studying Computer Science has opened up all sorts of opportunities to me. After my first year, I was developing websites for companies. Now getting ready for my final year, I am a software engineering intern at Microsoft.

The places Computer Science can lead you to, are vast. There is not an industry out there that does not rely on computers. If there is an area you want to end up in such as, forensics, music, engineering, art, healthcare, entertainment, finance and even education, Computer Science can lead you there.

Inspirational people from all backgrounds with all kind of different interests are drawn to it. There are runaway models and actors who develop apps in their spare time, and people with little technical knowledge but big ideas and passion for technology.

Only one in five Computer Scientists are female in spite of all the amazing places it can lead you. If you are a girl looking for these kinds of opportunities I would recommend Computer Science.
Upcoming Events

**Munster Programming Training (MPT): 31st October 2015 – 14th May 2016**
The aim of this course is to offer training in computer programming, web design, flash animation, video and image production to 14-17 year old secondary school pupils. Details and application form from www.ucc.ie/en/csschools/mpt/

**MPT KIDDO: 9th January 2016 - 14th May 2016**
The course is designed for 5th and 6th class primary school pupils that have an interest in technology, puzzles, solving logical problems. They should also be enthusiastic about learning how games and applications are programmed. Details and application form from www.ucc.ie/en/csschools/mpt/

**Don Knuth: Public Lecture and all Questions Answered Session – 4th November 2015**

*Location:* Western Gateway Building 107, University College Cork
*Time:* 17:00 - 19:00, 4th November 2015.

**Year of George Boole**
During 2015, UCC are hosting a range of events to celebrate the achievements of George Boole, UCC’s first Professor of Mathematics. Details of all events can be found on georgeboole.com/

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**Our Programmes**
- BSc Computer Science
- BA Digital Humanities & Information Technology
- Higher Diploma in Applied Computing Technology
- MSc Computing Science
- MSc Data Science & Analytics
- MSc Interactive Media
- MSc by Research
- PhD

www.cs.ucc.ie

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**This Issue’s Puzzle**
Give the next number in the following sequence and a formula for each subsequent line: 1, 11, 21, 1211, 111221, 312211, ...

Submit answers to puzzles@cs.ucc.ie
The names of all those who answer the puzzle correctly will be published on www.cs.ucc.ie on 30th October 2015.

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**UCC’s Computer Science in Action 2015**

*Department of Computer Science*
*University College Cork*
*Ireland*
*T: +353 21 420 5892*
*E: secretary@cs.ucc.ie*
*W: www.cs.ucc.ie*
*f: www.facebook.com/UCCCS*
*#: @UCCCS*

President Michael Murphy and Professor Barry O’Sullivan present Raspberry Pi computers to all of the pupils at St Michaels School, Blackrock, Cork

Contestants competing for title or Irish Collegiate Programming Contest Champion, March 2015

(L) Dr Derek Bridge, being presented with the SEFS 2015 Student-Nominated Outstanding Lecturer Award

Delegation from Guilin University of Electronic Technology (GUET) visiting the Dept of Computer Science, Oct 2015

BSc Computer Science, Class of 2015