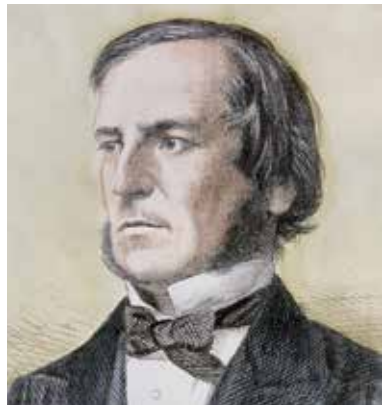
UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

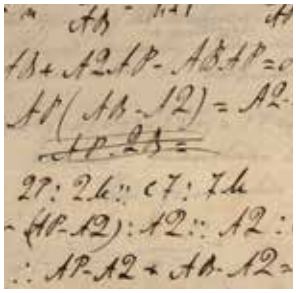
*genius

GEORGE BOOLE* 200

*bicentenary celebration



*Boolean



*1815–2015

GEORGE BOOLE 200

We have big plans . . .

Boole Outreach Programme

Bringing Boole alive as an inspiring historical figure to schoolteachers, pupils and parents; stimulating interest in the study of mathematics and information and communications technology (ICT); explaining the legacy of Boole to the public; demonstrating how research at UCC is related to areas influenced by Boole, such as engineering, mathematics, computer science, biosciences, music and philosophy.

University of Lincoln

We have established a close association with colleagues at the University of Lincoln and we will work together with them to bring the story of Boole's life to the widest audience.

Association with other events

We welcome other institutions planning to celebrate the life and work of George Boole during the bicentenary year to contact us so that we can add links to such events to our calendar for the year.

October 2014	**Publication of** *The Life and Work of George Boole: A Prelude to the Digital Age* by Desmond MacHale
October 2014	**Completion of Boole Genealogy Project:** Boole – the man, Boole family – the people
6 November 2014	**Official launch of George Boole 200** in Cork and Dublin
November–December 2014	**George Boole 200 events** in San Francisco, New York, Boston, London, Delhi, Chennai, Mumbai and Bangalore
8 December 2014	**Choral Evensong** in St Michael's Church, Blackrock, Cork, marking the 150th anniversary of Boole's death in 1864
January-March 2015	**Conversations on George Boole:** a series of filmed interviews with leading experts on Boole and his legacy in logic, mathematics, computer science and engineering
5 February 2015	**George Boole Inaugural Lecture**
June-September 2015	**Performances and academic colloquia** on the theme of live interactive electronics
July-November 2015	**Exhibitions of Boole's writings** and heritage based in UCC's Boole Library and on tour in Lincoln, London and Silicon Valley, California
July-November 2015	**Exhibition of artworks** on the theme of Boole's legacy at UCC's Lewis Glucksman Gallery
22-28 August 2015	**Conference on Mathematics**
27-30 August 2015	**Bicentenary Boole Conference:** his achievements and his multiple legacies
29 August–4 September 2015	**Conferences on Computer Science**
September 2015	**Conference on Engineering**
2 November 2015	**Celebration of the bicentenary** of George Boole's birth in 1815, including the conferring of honorary degrees on international leaders from the worlds of mathematics and information technology

All dates are correct at the time of going to print, but may be subject to change. See **georgeboole.com** for more information.

2015 IS GEORGE BOOLE'S 200TH BIRTHDAY YEAR

» The most significant mathematician ever to have worked in Ireland
» Logician

» Linguist
» Author

» Teacher
» Professor

» Family man
» Adult educationalist

» Humanitarian
» Social reformer

» Has a moon crater named after him and an asteroid . . .

That's before we get to the algebra or the logic

All in a life's work for George Boole.

Join us in 2015 as we celebrate his life and his association with University College Cork

He is a hard act to follow.
But we can do it.

At University College Cork (UCC), we believe in creating an environment where the curiosity of talented students and researchers can blossom, inspiring them to transcend the present boundaries of knowledge. We want our graduates to possess a lifelong passion for learning, the confidence of the independent thinker and the vision to lead the development of a better society. They will not only be work-ready but also world-ready.

Everything we do is based on the spirit of enquiry. Just as George Boole's revolutionary insights led to profound changes, we can change the present and create the future. Just as George Boole inspired the generations who came after him, we can inspire those who come next.

"He looked, not like a professor writing a demonstration on a blackboard, but like an artist painting from a vision."

George Boole, as described by a student

GEORGE BOOLE* 200

JOIN UCC IN CELEBRATING THE LEGACY OF GEORGE BOOLE (1815–1864), FATHER OF THE INFORMATION AGE

"He was a brilliant thinker, the possessor of a truly original mind. His story is our story: the creation of one of the great intellectual pillars that support our modern world."

Ian Stewart,
Emeritus Professor
of Mathematics, at the
University of Warwick

In 1849, George Boole was appointed the first Professor of Mathematics at Queen's College, now University College Cork. His research became a prelude to modern mathematics, microelectronic engineering and computer science. Indeed, it is no exaggeration to say that Boole laid the foundations of the Information Age.

Boole received a Gold Medal for Mathematics in 1844 from the Royal Society, the first to be awarded to a pure mathematician, and was elected Fellow of the Royal Society in 1857. He published many scientific papers and four books, the most famous of which is his magnum opus, *An Investigation of the Laws of Thought*, written while a professor in UCC, and published in 1854.

What came to be known as Boolean algebra was used by the engineer Claude Shannon in the 1930s to design electrical circuits which could be used to carry out sequences of logical instructions based on the binary values "on/true" or "off/false". These circuits evolved into modern computers and the instruction sequences became computer programmes, or algorithms. Thus, Boole's work provides the mathematical and logical underpinning of computers, not only in their languages, but in their very construction.

The definitive biography of Boole is *George Boole: His Life and Work*, by University College Cork Emeritus Professor of Mathematics, Desmond MacHale (Boole Press, 1985). A revised edition of the book, *The Life and Work of George Boole: A Prelude to the Digital Age,* with a new foreword by Professor Ian Stewart, has been published by Cork University Press to mark the 200th anniversary of Boole's birth.

In 1855 Boole married Mary Everest, later a noted educationalist and niece of Sir George Everest, after whom the world's highest mountain is named. The couple had five daughters - Mary Ellen, Margaret, Alicia, Lucy and Ethel Lillian, all of whom lived interesting lives and several of whom became famous in their own right. In addition to his university teaching and research, Boole was also active in adult education in Cork. Sadly, in December 1864, in the full vigour of his intellectual powers, Boole died after a fever. He is buried in St Michael's Church of Ireland cemetery in Blackrock, Cork.

During George Boole 200 we will celebrate the man and his achievements. We plan a series of projects and events in 2014/2015 and we will carry Boole's legacy forward, using his example to continue to inspire future generations through education and research.

INVESTING IN THE FUTURE

Beyond 2015, University College Cork will commemorate Boole — the most significant mathematician ever to have worked in Ireland — in ways that will expand our contribution to scholarship and research, and strengthen our connection to enterprise and industry.

Documentary Film

We have commissioned a documentary film about George Boole, to bring his life and achievements to international audiences and raise his profile worldwide.

5 Grenville Place, Cork

George Boole lived in this house from 1849, when he was appointed to the University, until 1855. Here he created his masterwork, *An Investigation of the Laws of Thought*. We will renovate the Boole house to provide an accelerator centre for business start-ups and a conference facility to support innovation and investment.

George Boole Institute

UCC will establish a George Boole Institute that will provide a vehicle to nurture and develop scholarship in areas that have been touched by the work of George Boole and his family, and will provide educational and research opportunities to address the national and international ICT skills shortage and reskilling needs of existing workforces.

Attracting Investment to Cork

In collaboration with Cork City Council, the Chamber of Commerce, Enterprise Ireland and the Industrial Development Authority, and building on our own *gateway*UCC and *Ignite* programmes, we will further develop the local environment to facilitate high-tech startup companies, especially in the ICT sector, and attract new companies to locate in Cork. The George Boole Institute will be a key component of this landscape.

GEORGE BOOLE* 200

*vision

*legacy

The Boole family after George's death

UCC GEORGE BOOLE 200 AFFILIATES PROGRAMME

You are invited to engage with UCC in the celebration of the life and legacy of George Boole.

Opportunities exist for partnership by supporting the George Boole 200 programme in general, or specifically through a project of your choice in the George Boole 200 programme of events in 2015, or through the George Boole 200 legacy projects.

Partnering with UCC in this endeavour can provide interesting marketing, research, corporate social responsibility and philanthropic opportunities. Support can be made in a tax effective manner in Ireland, the US and the UK.

To discuss these opportunities please call:
Dr Jean Van Sinderen-Law
Director of Development and Alumni Relations
and Director, Cork University Foundation
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"Education makes a fundamentally important contribution to the well-being of society. At University College Cork, we believe in creating an environment in which academic excellence can be combined with opportunities for personal development and independent thinking."

Dr Michael Murphy,
President, University College Cork

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

A LIFE OF INSPIRATION

Father of the Information Age

In the mid-nineteenth century, George Boole's original research, later to become known as Boolean logic and Boolean algebra, laid the foundations for the design of modern computers and for the languages used to programme them.

Boole was born in Lincoln, England, in 1815. His father, John, was a shoemaker, whose real interest lay in making optical and scientific instruments. John was his son's first teacher of mathematics and strongly encouraged his academic development.

George became a schoolteacher to make a living and when not in front of a class he pursued research in mathematics. His energy and determination in his personal studies were prodigious.

"The founder of pure mathematics"

George Boole, as described by **Bertrand Russell**

In 1844 he won the Gold Medal of the Royal Society in London, the first to be awarded for pure mathematics, for his paper *On a General Method in Analysis.* This and his subsequent volume, *An Investigation of the Laws of Thought,* were referred to by Bertrand Russell as the works in which pure mathematics had its foundation.

Boole's limited means made it impossible to follow a conventional academic path. However, there were those who recognised his uncommon gift and in 1849, supported by testimonials from four leading mathematicians, he was appointed the first Professor of Mathematics at the recently established Queen's College in Cork, later to become University College Cork.

UCC and the city of Cork gave Boole both a career and a home, providing the setting for his ground-breaking research and for family life after his marriage in 1855 to Mary Everest, later a noted educationalist.

Their five daughters, all gifted in different ways, led fascinating lives that, both symbolically and in practice, provided evidence of their parents' commitment to individual personal development.

When George Boole died in 1864, he was aged only 49; the influence of his Boolean logic and Boolean algebra was only beginning.

"Boole's system of logic is but one of many proofs of genius and patience combined."

Augustus de Morgan, Professor of Mathematics at University College London (*c.* 1835)

George Boole 200 Steering Group

Dr Michael B. Murphy
President
Chair

Eamonn Sweeney
Adviser to the President
Secretary

Patrick Fitzpatrick
Emeritus Professor
of Mathematics

Trevor Holmes
Vice President for
External Relations
(to September 2014)

Rónán Ó Dubhghaill
Vice President for
External Relations
(from September 2014)

Dr Jean Van Sinderen-Law
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