Irish Mathematics Calendar 2019

Maths Week
QUB
That's Maths Armagh
Cullen numbers Kelvin scale
Stokes' theorem
Casey's theorem Boyle's law UCD
Computus
Dunsink Method of least squares Hamiltonian path
Inversion in a circle Hamilton walk
Newgrange Weaire-Phelan structure Student t-test
Boolean operation Birr
MU5G Henstock-Kurzweil integral
Baker-Campbell-Hausdorff formula Curl
Annals of Irish Maths & Mathematicians
Edgeworth series
Lorentz-FitzGerald contraction Octonions
Ó Raifeartaigh's no-go theorem
Arrow notation for limits
Boolean logic
Smith normal form
Polytope Navier-Stokes equations UCC
Hamilton-Cayley theorem
Angular momentum
Bell's theorem Geary-Khamis dollar Screw theory
Icosian game Boolean algebra Berkeley
DIAS Boolean value MU
TCD Quaternions
Hamiltonian

An Introduction to REAL ANALYSIS
Ravi P. Agarwal
Cristina Flaut
Donal O'Regan

THE CONTINUED EXERCISE OF REASON
PUBLIC ADDRESSES BY GEORGE BOOLE

New Light on GEORGE BOOLE
Desmond MacHale & Yvonne Cohen

New Trends in Approximation Theory
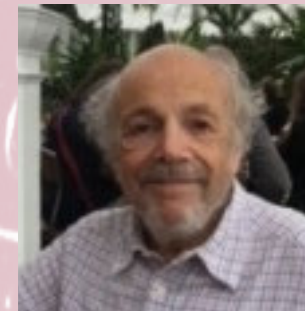Javad Mashreghi
Myrto Manolaki
Paul Gauthier Editors

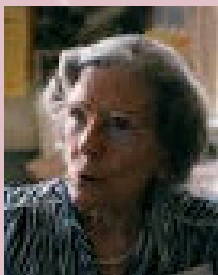MATHS FOR ALL
Maths Week Ireland

Mathematical physicist **Sheila Power** (later Tinney, 1918-2010) was born 15 January in Galway. She was educated at UCD and the University of Edinburgh. Her 1941 PhD (under Max Born) made her the first Irish woman graduate to get a doctorate in the mathematical sciences. She served on the staff at UCD for over thirty-five years, where she introduced generations of students to quantum physics.

Theoretical physicist **Andrew Whitaker** was born 29 January in Portsmouth, Hampshire, England, and was educated at Oxford and Nottingham. His career has been spent at Coleraine and QUB. He has numerous books to his credit, on Kelvin, Maxwell, Einstein, Bohr and Bell, as well as *Physicists of Ireland: Passion and Precision,* a collaboration with UU's Mark McCartney.

Barbara Yates (1919-1998) was born 22 January in Dublin, and grew up mostly in Belfast. Like her father and two brothers before her, she got a maths degree from TCD, having also been a maths scholar there. She completed her PhD in differential equations in 1952, making her the first Irish woman graduate to receive a doctorate in pure maths. Her long academic career was mostly spent at Royal Holloway.

John Cosgrave was born 5 January in Bailieborough Cavan, and was educated entirely at Royal Holloway. The bulk of his teaching career was spent at Carysfort College and St. Patrick's College, Drumcondra. Since taking early retirement he's been an active researcher in number theory.

Theoretical physicist **David Simms** (1933-2018) was born 13 January in Sankeshwar, Mysore, India, and grew up in Dublin. He was educated at TCD and Cambridge, and taught for four decades at TCD, where he served as department head. He authored the book *Lie Groups and Quantum Mechanics* and co-authored *Lectures on Geometric Quantization*.

Physicist **Edith Stoney** (1869-1938) was born 6 January in Dublin, daughter to George Stoney who coined the term "electron." She aced her maths studies at Newnham College at Cambridge, although they didn't allow women to graduate; TCD later awarded her the degrees she'd earned. She had a remarkable career in physics and medical physics.
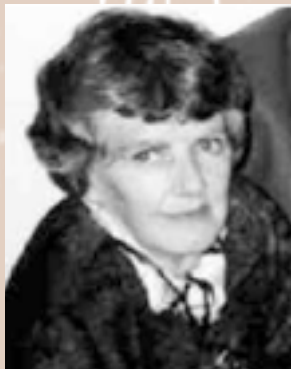
JANUARY 2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	1 NEW YEARS DAY	2 Irish Mathematics Teacher's Association founded, 1964 Walter Heitler (1904-1981) Bill Wann (1925-2011)	3	4	5 John Cosgrave	6 Edith Stoney (1869-1938)
7	8	9 BTYSTE	10 BTYSTE	11 Charlie Daly (1929-2000) SIAM UK & RoI Meeting, Oxford BTYSTE	12 Brian McMaster BTYSTE	13 Ken Houston David Simms (1933-2018)
14	15 Sheila Power (1918-2010)	16 Sean Tobin Colm O'Muircheartaigh Annette Pilkington Jerry Murphy	17 Alfred Robb	18 William Houston (1871-1953) Fifth Irish SIAM Student Conference, Univ Limerick	19	20 William Bindon Blood (1817-1894)
21	22 Barbara Yates (1919-1998) Brendan Goldsmith	23 Irish Junior Mathematics Competition	24	25 Robert Boyle (1627-1691) Gerry McGreevy (1929-2015) John Hooper Medal Registration Deadline IMTA Team Maths Regionals	26 John Hooper (1878-1930) Eric Lindsay (1907-1974) Recreation Mathematics Colloquium VI	27 Recreation Mathematics Colloquium VI
28 Des MacHale Recreation Mathematics Colloquium VI	29 Andrew Whitaker Recreation Mathematics Colloquium VI	30 Coulter McDowell (1932-1993)	31 David Hobbs			

Siobhan O'Shea (later Vernon, 1932-2002) was born 24 February in Macroom, Cork, and was educated at UCC, where she taught for over three decades. Her 1964 PhD in mathematical analysis, awarded for previously published work, was the first doctorate in pure mathematics earned by a woman in Ireland.

André Darré (1750-1833) was born 5 February near Toulouse, in France, and was educated at Auch. He taught at the University of Toulouse before arriving in Ireland in 1792. After a spell of tutoring in Dublin, he taught at the then-new St Patrick's College, Maynooth, from 1795 to 1813, whereupon he returned to Auch. His book *Elements of Geometry with Both Plane and Spherical Trigonometry* was used at Maynooth for many decades.

Statistician **Norma Bargary** (née Coffey) was born 25 February in Cahir, Tipperary, and was educated at UL. After a few years teaching at NUIG and UCD, she is now back at UL. She works on the statistical modelling of time-course/functional data using the mixed effects model, as applied to the analysis of biological data.

Donal O'Regan was born 21 February in Turner's Cross, Cork. He was educated at UCC and at Oregon State. Most of his career has been spent at UCG/NUIG, where he has authored over 1000 papers and over 30 books, mostly on differential equations.

Joe Varilly was born 20 February in Carrigans, east of Letterkenny, Donegal, and grew up in Dungloe. He was educated at UCD and at the University of Rochester. He has spent his career at the University of Costa Rica, and has written two books on noncommutative geometry. His son Tony Várilly-Alvarado is also a mathematician.

Ray Ryan was born 15 February in Dublin and was educated entirely at TCD. He's a functional analyst, and recently retired after spending four decades at UCD/NUIG, where he supervised three doctorates and wrote the book *Introduction to Tensor Products of Banach Spaces*.

FEBRUARY 2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
				1 Irish Maths Teacher Award Nominations Deadline	**2** Cornelius Lanczos (1893-1974) Gearóid Granville (1915-2000)	**3**
4 Terry Maguire Dara Ó Briain	**5** André Darré (1750-1833) Bartholemew Lloyd (1772-1837) Stanley Traynor (1916-1994) Stephen O'Brien (1918-1992)	**6** Dan Dundas	**7**	**8** Francis Edgeworth (1845-1926) Stephen Buckley	**9** Charles Rowe (1893-1943)	**10** Agnes Mary Clerke (1842-1907)
11 Vincent Hart Elizabeth Oldham	**12** Kay NcNulty (1921-2006) John O'Sullivan (1948-2006) Sean Dineen	**13**	**14** John Perry (1850-1920) Northern Ireland Science Festival	**15** George Stoney (1826-1911) Sophie Wilcock (1850-1922) Ray Ryan Northern Ireland Science Festival	**16** Petros Florides Northern Ireland Science Festival	**17** William Morton (1868-1949) Fintan Gallagher Northern Ireland Science Festival
18 Arthur Kingston Paddy Dolan Northern Ireland Science Festival	**19** Thérèse Dooley Northern Ireland Science Festival	**20** John Connolly Joseph Varilly Northern Ireland Science Festival	**21** David Lewis Donal O'Regan Northern Ireland Science Festival	**22** Maeve McCarthy Northern Ireland Science Festival	**23** Northern Ireland Science Festival	**24** Gordon Foster (1921-2010) Siobhán O'Shea (1932-2002) John O'Donoghue Northern Ireland Science Festival
25 Jim McConnell (1915-1999) Norrma Bargary	**26** Arthur Donnelly (1885-1973)	**27** John A. Ryan	**28** William Thrift (1870-1942)			

Mary Hanley was born 26 March in Dublin, and first got a degree in chemistry from UCD. She taught that subject as well as maths, applied maths and physics for many years in Wexford. She also returned to UCD to do an MSc and PhD in pure maths, her research being in potential theory. She has taught there and has been involved in both the Irish Maths Olympiad and Maths Enrichment training.

Mairéad Greene was born 2 March and hails from Kilnamona, west of Ennis, Clare. She was educated at Maynooth and at the University of Massachusetts at Amhurst. She teaches at Rockhurst University, Kansas City, where her interests include number theory and mathematics education.

Statistician **Tadhg Carey** (1919-1995) was born 14 March near Kinsale and grew up in Castlehaven, Cork. He was educated at UCC and at the Rothamsted Experimental Station and University of London. He spent four decades at UCC, where he was instrumental in the setting up of the department of statistics in 1955. He also served as college registrar and president.

Michael P. Tuite was born 17 March in Dublin, and was educated at UCD and Cambridge. After spells at TCD and DIAS he settled at UCG/NUIG, where he has supervised several PhDs. His research interests are in vertex operator algebras and their relationship to number theory, group theory and geometry in mathematics and to string theory in theoretical physics.

Theoretical physicist **Cormac O'Raifeartaigh** was born 26 March in Dublin, and was educated at UCD and TCD. His career has been spent at WIT, where he has become well known for his work on the history and philosophy of 20th century science, in particular the discovery that Einstein attempted a steady-state model of the expanding universe in the early 1930s.

Eugene Gath was born 10 March in Dublin and mostly grew up there and outside Waterford city. He was educated at UCD, where he won an NUI Travelling Studentship Prize, and at MIT. His career has been spent at UL, where his original focus on relativity, conformal field theory and string theory has given way to applications of mathematics and statistics, especially financial mathematics.
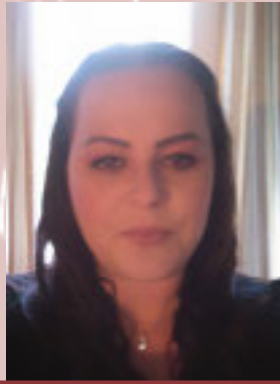
MARCH 2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
				1	2 Gerry Gardner (1926-2009) Nora Ní Chuiv Mairéad Greene IMTA Team Maths National Final Engineers Week	3 Engineers Week
4 Engineers Week	5 George Hall (1925-2018) Iggy Ó Muircheartaigh IMA-LMS Zeeman Lecture, London Engineers Week	6 James McNeill (1853-1907) Engineers Week	7 Engineers Week	8 Scifest@College Entry Deadline Engineers Week	9 John Forde (1918-2004)	10 Eugene Gath
11 Lochlainn O'Raifeartaigh (1933-2000)	12 George Berkeley (1685-1753)	13 Cyril Delaney (1925-2012)	14 Tadhg Carey (1919-1995) Mike Fitzpatrick	15 John Faris (1913-2011) Marie Reilly Aisling McCluskey	16 Aoibhinn Ní Shúilleabháin	17 ST PATRICK'S DAY Paddy Heelan (1926-2015) Michael P. Tuite Götz Pfeiffer
18 Bill Stephens (1913-2001)	19 Henry Atkins (1896-1957)	20 EQUINOX 21:58 Peter Gallagher	21 Werner Nahm Michael J. Walsh Neil Hallinan	22 Diarmuid Ó Mathúna	23 Cyril Power (1890-1970s) John L. Synge (1897-1995)	24
25 David Spearman	26 Hugh Hamilton (1729-1805) Edward Bromhead (1789-1855) Mary Hanley Cormac O'Raifeartaigh	27 Eithne Donnelly (1900-1989) Eva Wills (1925-2010)	28 John Kennedy (1939-1995)	29 John Hooper Medal Winners Announced	30 Micheál Mac an Airchinnigh	31 Donal J. Hurley Paul Feehan

Olga O'Mahony was born 8 April in Galway and was educated entirely at NUIG. She recently completed PhD on edge-minimal graphs.

James Cullen (1867-1933) was born 19 Aprilin Drogheda, Louth. He studied maths at TCD but left and later became a Jesuit priest. He taught in England, and published about numbers of the form $C_n=2^n.n+1$. which are now known as Cullen numbers. Are there infinitely many such numbers which are prime, such as when n = 1, 141, or 4713? This is still an open question.

Peter McNamara from Greystones, Wicklow, was born 6 April. He was educated at TCD and at MIT, and his career so far has mostly been spent at Bucknell. His interests are in combinatorics, especially topics of an algebraic or order-theoretic nature.

Mathematical physicist **Peter Hogan** was born 21 April in Dublin and educated entirely at UCD, where he also spent most his career and served as head of maths physics. He has supervised several theses and co-authored three books on general relativity.

A. C. (Cormac) Smith (1926-2009) was born 29 April in Glasgow, and brought up there and in Portstewart, Londonderry. He was educated entirely at UCD. His 1954 PhD on "Generalized Quaternion Algebra of Hamilton" was one of the earliest maths doctorates awarded in Ireland. The bulk of his career was spent in Canada, much of it at the University of Windsor, where he supervised several theses in applied maths.

David Malone was born 15 April in Dublin and was educated entirely at TCD. Most of his career has been spent at Maynooth, where his interests include mathematical modelling and measurement of WiFi, PLC and password use.

APRIL   2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	**2** Michael Power (1885-1974)	**3** Dionysius Lardner (1793-1859) Richard Townsend (1821-1884)	**4**	**5**	**6** Peter McNamara	**7** Sean Lacey **European Girls' Mathematical Olympiad begins, Ukraine**
8 Andrew Graham (1815-1908) Tom Linehan (1926-2017) Olga O'Mahony	**9**	**10**	**11** R. C. Geary (1896-1983)	**12**	**13**	**14** Irish Mathematical Society (IMS) founded 1976 Anne Russell (1868-1947)
15 John T. Lewis (1932-2004) David Malone	**16**	**17** William Molyneaux (1656-1698) Mark McCartney	**18** George Keating (1902-1973)	**19** **GOOD FRIDAY** John MacFarland (1851-1935) James Cullen (1867-1933) Hugh Alexander (1909-1974) James Gleeson	**20** Phil Boland	**21** **EASTER SUNDAY** William Monck (1839-1915) Peter Hogan
22 **EASTER MONDAY**	**23** Thomas Robinson (1792-1882)	**24** Norma Glasgo Reid	**25** Dermott McCrea (1934-1993)	**26** Richard Beatty (1882-1941) Bobbie Elliott (1924-2006) Kevin Hutchinson	**27**	**28** John Toland
29 Cormac Smith (1926-2009)	**30** Sally McClean					

Laura Cooke (née O'Brien) was born 3 May in Greystones, Wicklow, and was educated at UCD and Oxford. After a few years at Monash University, in Australia, she is back at UCD in the Energy Systems Integration Partnership Programme.

William McFadden Orr (1866-1934) was born 2 May in Comber, Down. He was educated at Queen's College, Belfast, and at Cambridge, where he was first wrangler. He taught for decades at the Royal College of Science for Ireland and finally at UCD. He is remembered for the Orr-Sommerfield equation in fluid dynamics.

Engineer **PJ Cregg** was born 6 May in Bray, Wicklow, and was educated at TCD (BA BAI 1988, PhD). He now lectures Electronic Engineering at Waterford Institute of Technology, where his interests include magnetism, maths modelling and telecommunications.
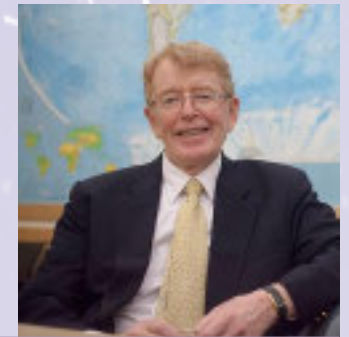
Johnny Burns was born 4 May in Dundalk, Louth, and was educated at UCG and Notre Dame. He taught at Kevin Street before settling at UCG. His research interests include differential geometry, Lie groups, algebra, Lie algebras and group theory.

Statistician **Brendan J. Murphy** was born 3 May in Tralee, Kerry, and educated entirely at UCC. His whole career was spent at CIT where he eventually served as department head and later president.

Climate scientist **Mike McElroy** was born 18 May in Shercock, Cavan, and grew up in Belfast, where he studied applied maths at QUB. After his doctorate, he turned to atmospheric science, and since 1970 he has been at Harvard.
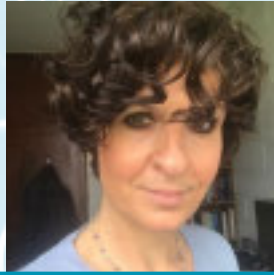
MAY 2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		1	2 William McFadden Orr (1866-1934)	3 Society of Actuaries in Ireland founded 1972 Brendan J. Murphy Laura Cooke	4 Johnny Burns	5 W. R. W. Roberts (1850-1935) John Leathem (1871-1923) Mervyn Ellison (1909-1963) Cathleen Morawetz (1923-2017) Robin Harte
6 **MAY BANK HOLIDAY** PJ Cregg Dana Mackey	7	8 Thomas Strain (1878-1949) Trevor West (1938-2012)	9	10	11 Martin Mathieu Groups In Galway, NUIG Tech Week	12 John Casey (1820-1891) Alexander Anderson (1858-1934) Fran Barry (1939-2008) Finbarr Holland Tech Week
		Analysis, Geometry and Algebra, in honour of Professor Richard Timoney, TCD				
13 Arthur Panton (1843-1906) Marjorie Paterson-Smyth(1889-1975) Leo Creedon Tech Week	14 Tech Week	15 Alice Everett (1865-1949) Tech Week	16 Jack Todd (1911-2007) Tech Week	17 J. R. (Dick) Timoney (1909-1985) Shane Dowdall Tech Week	18 Mike McElroy	19 Brendan Scaife
20	21 Trevor Weekes (1940-2014)	22 A. C. Dixon (1865-1936) Stan Broderick (1893-1962)	23 Thomas Preston (1860-1900) James Caldwell Adrian Dunne	24	25 Gar de Barra 4th Irish Linear Algebra & Matrix Theory Meeting in honour of Tom Laffey's 75th birthday.	26 Helen Purtill
27 John Campbell (1862-1924) Homotopy meets Homology, TCD	28 **SPRING BANK HOLIDAY (NI)** George Minchin (1845-1914) Robert Genese (1848-1922) Seoirse Mac Niocaill (1881-1968) Tony O'Farrell Homotopy meets Homology, TCD	29 Mary Brück (1925-2008) Homotopy meets Homology, TCD	30 Homotopy meets Homology, TCD	31 Homotopy meets Homology, TCD		

Romina Gaburro was born 8 June in Trieste, Italy and was educated there and at UMIST (Manchester). Her career has been spent at UL, where her research interests include PDEs and inverse problems as applied in medical imaging, such as x-ray computed tomography, ultrasound, SPECT and MRI.

Statistician **Jim Hanley** was born 5 June on Bere Island, Cork. He was educated at UCC and Waterloo, and first worked at SUNY Buffalo and at Harvard. He's been at McGill for almost four decades, working in epidemiology and human health, most recently serving as a consultant for the World Anti-Doping Agency.

Mathematical physicist **John Sealy Townsend** (1868-1957) was born 7 June in Galway, son of Queen's College professor of engineering Edward Townsend. He studied at TCD and Cambridge, and then spent four decades at Oxford. He is remembered for his research on electric induction in gases.
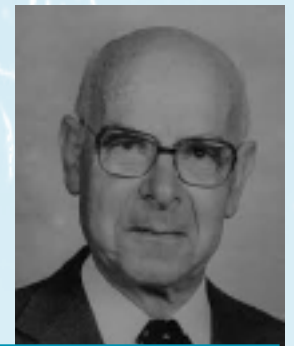
Engineer **James J. Smith** (1892-1983) was born 24 June in Clonmel, Tipperary. He studied maths science at UCD, later doing his PhD in electrical engineering at Union College in Schenectady, New York. He spent most of his career working for General Electric there, but also published maths, and was an invited speaker at the ICM in 1928 and 1932.

J. M. (Murrough) Golden was born 3 June in Dublin and educated at UCD and Edinburgh. The bulk of his career was spent at An Foras Forbartha, ERU, and DIT. He co-authored the books *Boundary Value Problems in Linear Viscoelasticity* and *Thermodynamics of Materials with Memory: Theory and Applications.*

Samuel Verblunsky (1906-1996) was born 25 June in London, and was educated entirely at Cambridge. After a period at Manchester, the bulk of his career was spent at QUB where he supervised several theses. He is remembered for his work on orthogonal polynomials and harmonic functions, in particular for Verblunsky's theorem and Verblunsky coefficients.

JUNE   2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					1 Edmund Robertson	**2** William Coates (1857-1912) Ralph Henstock (1923-2007) Alexei Pokrovskii (1948-2010)
3 **JUNE BANK HOLIDAY (ROI)** Jim Callagy (1908-1988) Murrough Golden	**4** Donal McCarthy (1908-1980) Rod Gow Miguel Bustamante	**5** Jim Hanley	**6**	**7** John S. Townsend (1868-1957)	**8** Alicia Boole (1860-1940) George Hughes (1918-1994) Romina Garburro	**9** Muriel Wales (1913-2009)
10 John Semple (1904-1985)	**11**	**12** Margaret McDonald (1906-1989)	**13** William Gossett (1876-1937)	**14** Thomas McLaughlin (1896-1971) Sarah Mitchell	**15**	**16**
17 Terence Gorman (1923-2003)	**18**	**19** Maurice Jaswon (1922-2011) Peter Lynch Dublin Institute for Advanced Studies Act signed, 1940	**20** Dave Cochran (1940-2013) 8th Robert Boyle Summer School	**21** **SOLSTICE 16:54** Fiacre Ó Cairbre 8th Robert Boyle Summer School	**22** Luke Drury Cora Stack 8th Robert Boyle Summer School	**23** 8th Robert Boyle Summer School
24 James J. Smith (1892-1983) Derek Crothers	**25** Samuel Verblunsky (1906-1996) Susan Lazarus	**26** William Thomson (1824-1907) Victor Meally (1911-1986) John J Roche	**27** Morgan Crofton (1826-1915)	**28**	**29** Phelim Boyle	**30**

Astronomer **Jocelyn Bell Burnell** was born 15 July in Lurgan, Armagh, and was educated at Glasgow and Cambridge. Her career has included stints at Southampton, University of London, the Royal Observatory in Edinburgh, the Open University, Bath, and Oxford. She is best known for her co-discovery of pulsars.

Journalist **Helen Joyce** was born 23 July in Dublin, and grew up there and in Bray, Wicklow. She was educated at TCD, Cambridge and University College London. After a few years in academia and spells editing *Plus* magazine and founding and editing *Significance* for the Royal Statistical Society, she joined the *Economist,* where she is now their economics and finance editor.

Mathematics educator **Olivia Bree (née Fagan)** was born 3 July in Mullingar, Westmeath. She was educated at UCG where she was awarded an NUI Travelling Studentship Prize. Her career was spent at St Patrick's College, Drumcondra, where she also served as registrar.

Myrto Manolaki was born 21 July in Athens, Greece, and was educated at the University of Athens and at UCD. After postdocs at the Universities of Western Ontario and Southern Florida, she is now on the staff at UCD. Her research interests include potential theory and complex analysis.

Ross Geoghegan was born 2 July in Dublin and was educated at UCD and Cornell. He has taught at SUNY Binghamton in upstate New York for four decades, where he has supervised many doctoral theses and published two books. His interests lie in topology, geometric group theory, fixed point theory, and dynamics.

Eoin Coleman (aka Oren Kolman, 1959-2015) was born 31 July in Greystones, Wicklow. He was educated first at UCD, then, after a gap in which he did a doctorate in musicology, at the University of Caen. He taught at Hebrew University of Jerusalem, UCD, DIT, East Anglia, Cambridge and the University of Bedfordshire, before his untimely death. His wide ranging mathematical expertise included set theory, logic and group theory.

JULY

2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1 Robert Ball (1840-1913)	**2** Ross Geoghegan	**3** Desmond McConnell Olivia Bree John Kinsella	**4** Edgar Harper (1880-1916)	**5** Arthur Lai Fook (1919-2013)	**6** Tony Hollingsworth (1943-2007) Ciarán Mac an Bhaird	**7** John Kells Ingram (1823-1907) J. P. McCarthy
8 David Wilkins	**9**	**10**	**11** Joseph Larmor (1857-1942) International Mathematics Olympiad begins, Bath, UK	**12** **BATTLE OF THE BOYNE (NI)**	**13**	**14** Ivan Todorov
15 Jocelyn Bell Burnell	**16** Marjorie J. Long (1886-?)	**17** William Davison (1937-2013) Richard M. Timoney	**18**	**19**	**20** Paddy Kennedy (1929-1966) Brendan O'Sullivan	**21** Áine Ní Shé Myrto Manolaki
22 George Kelly (1927-2009) Eugene Benilov Adrian Raftery	**23** Helen Joyce	**24**	**25** Robert Goodbody (1850-1911) Daniel J. O'Connell (1896-1982) John G. Byrne (1933-2016) Rachel Quinlan	**26** Richard Watson	**27** Richard Ingram (1916-1967) Michael Murtagh (1943-2001)	**28** Carew Meredith (1904-1976) John Stewart Bell (1928-1990)
29 Sean Close Sinead Breen	**30** Martin J. Newell (1910-1985) Sara McMurry	**31** Oliver Byrne (1810-1880) Oren Kolman (1959-2015)				

Traditional fiddler **Caoimhín Ó Raghallaigh** was born 28 August in Dublin and educated at TCD where he was a maths physics scholar. His career has been entirely devoted to music.

William Rowan Hamilton (1805-1865) was born 4 August in Dublin and is Ireland's most renowned mathematician and mathematical physicist. He was educated and spent most of his career at TCD. His extensive legacy includes groundbreaking innovations in algebra, mechanics and optics. He is most well known for quaternions, a non-commutative algebraic system.

Mathematical physicist **George Stokes** (1819-1903) was on born 13 August in Skreen, Sligo. His education and entire professional life was at Cambridge. His legacy includes Stokes theorem in multivariable calculus and the Navier-Stokes equations in fluid dynamics.

Statistician **Donal Garvey** was born 9 August in Millsreet, Cork, and was educated at UCC, and TCD. He spent four decades at the CSO, where he served as the director general.

Philip Gormley (1910-1973) was born 22 August in Claudy, Derry. He was educated at UCD, where he was awarded an NUI Travelling Studentship, and at Edinburgh. He taught at UCD for 40 years, and was a keen translator of Russian mathematics.

John Purser (1835-1903) was born 24 August in Dublin and was educated at TCD. He spent four decades at Queen's in Belfast, where he was renowned for his inspiring and enthusiastic teaching, also serving as registrar there for a spell.
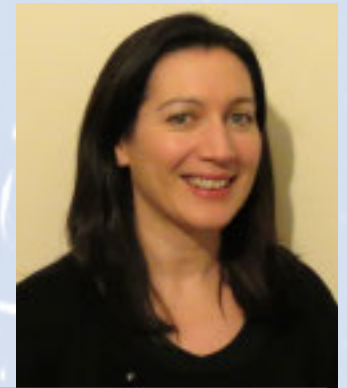
AUGUST
2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			1	**2** Michael A. Hayes (1935-2017) Pauline Mellon BSHM Conference & IHoM5, Maynooth	**3** George Fitzgerald (1851-1901)	**4** William Rowan Hamilton (1805-1865) Francis Murnaghan (1893-1976) Mathematics Education for the Future, Maynooth
			BSHM Conference & IHoM5, Maynooth			
5 BANK HOLIDAY (ROI) Mathematics Education for the Future, Maynooth	**6** Mathematics Education for the Future, Maynooth	**7** William Monypeny (1866-1912) Brendan McWilliams (1944-2007) Mathematics Education for the Future, Maynooth	**8** Annraoi de Paor Mathematics Education for the Future, Maynooth	**9** Donal Garvey Mathematics Education for the Future, Maynooth	**10** Charlie Rogers	**11** William Eakin (1912-1983) Lionel Lovitch John Miller
12 Erwin Schrödinger (1887-1961) Vincent Guerrini (1912-2000) Michael Mackey	**13** George Stokes (1819-1903)	**14**	**15**	**16** Felix Hackett (1882-1970)	**17**	**18**
19	**20**	**21** Samuel Scott (1913-1980)	**22** Philip Gormley (1910-1973) Natalia Kopteva	**23**	**24** John Purser (1835-1903)	**25**
26 James Booth (1860-1878) Thomas Lyle (1860-1944)	**27** AUGUST BANK HOLIDAY (NI)	**28** Caoimhín Ó Raghallaigh	**29** John Herivel (1918-2011) Dáibhí Ó Cróinín	**30**	**31**	

Kirsten Pfeiffer was (née Wienand) born in September in Winterberg, Germany, and was educated at TU Berlin and NUIG. She teaches at NUIG. where she also runs the mathematics and statistics support centre SUMS. Her research concerns maths education at university level, especially the teaching and learning of proof and proving.

Statistician **Caroline Brophy** was born 17 September in Dublin and grew up in Meath and in Dublin. She was educated entirely at UCD, and for the past decade has been on the staff at Maynooth. Her research interests focus on the development and application of statistical models to non-standard situations in ecology, agronomy and global change studies.
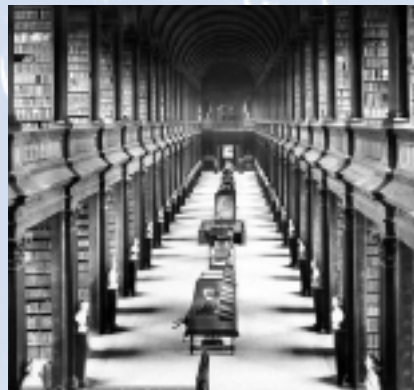
George Salmon (1819-1904) was born 25 September in Dublin, and grew up in Cork. He studied at TCD where he also spent his career, rising to the rank of provost. He wrote numerous popular and influential books on higher level algebra and geometry, some of which appeared in French, German and Italian translation.

Charles Niven (1845-1923) was born 14 September in Peterhead, Aberdeenshire, Scotland, and was educated at Aberdeen and Cambridge (senior wrangler). He was professor of maths at Queen's Cork (1867-1880), publishing extensively in mechanics, light and heat, and then taught physics for four decades at Aberdeen.

Roger Kyle (1927-1952) was born 14 September in Belfast and was at first educated at TCD, where he was a maths scholar. At Princeton he did his PhD on knot theory, attending the 1950 ICM with his advisor Ralph Fox. Tragically, he died in a fall on Cave Hill in Belfast very soon after completing his doctorate.

Classicist and philologist **George Huxley** was born 23 September in Leicester, England, and was educated at Oxford. Most of his career has been spent at QUB and TCD. His long association at Maynooth has led to the recent setting up there of an annual Huxley Lecture on the History of Mathematics.
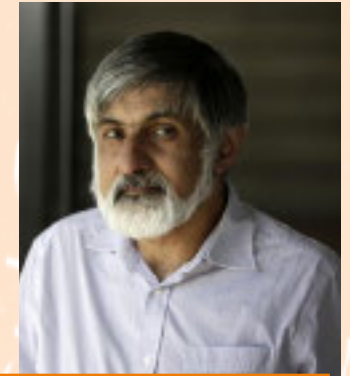
SEPTEMBER 2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
						1 Mary Mulvihill (1959-2015)
2 Joseph Spelman (1932-2016)	**3**	**4** Annie McElderry (1874-1968)	**5** CETL-MSOR DCU	**6** CETL-MSOR DCU	**7**	**8**
9	**10** Edward Stringer (1919-1956)	**11** Jack McConnell (1945-2013)	**12**	**13** Patricia Eaton	**14** Charles Niven (1845-1923) Eveline Tomlinson (1900-1970) Roger Kyle (1927-1952)	**15**
16 Henry Biggs (1882-1934) Martin L. Newell	**17** Caroline Brophy	**18** Swift Johnson (1857-1918)	**19**	**20**	**21** Tom Carroll	**22** Ted Hurley
23 EQUINOX 08:50 George Huxley	**24**	**25** George Salmon (1819-1904)	**26**	**27** Patrick d'Arcy (1725-1779)	**28** George Allman (1824-1904)	**29** Anca Mustata
30 Robert Adrain (1775-1843)						

Statistician **Emma Holian** was born in October in Tuam, Galway, and was educated entirely at UCG/NUIG, where she has spent most of her career. Her original research in actuarial studies has broadened to include bioinformatics and statistical analysis of variation in microarray experiments.

Mathematical biologist **Philip Maini** was born 16 October in Magherafelt, Londonderry. He was educated entirely at Oxford, where he has spent most of this career and supervised 30 doctorates. His focus is on the mathematical modelling and theoretical analysis of tumours, wound healing and embryonic pattern formation.

Paddy Barry was born 20 October in Ballynacargy, Mullingar, and grew up in Glenville and Mallow, Cork. He was educated at UCC, earning an NUI Travelling Studentship, and did his PhD at Imperial College. He worked at UCC for four decades, and is well-known for his 2001 book *Geometry with Trigonometry*.
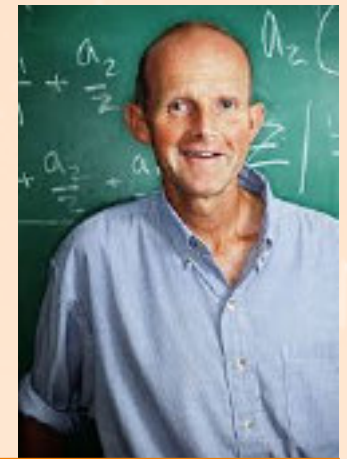

Numerical analyst **Martin Stynes** was born 31 October in Cobh, Cork, and was educated at first at UCC, where he earned an NUI Travelling Studentship, and then at Oregon State. His career was mostly spent back at UCC, where he supervised several PhDs and co-authored two books. Since taking early retirement he has been working at the Beijing Computational Science Research Center.

Mark Walsh was born 4 October in Dublin and grew up mostly in Leixlip, Kildare. He was educated at Maynooth and the University of Oregon. After a spell at Wichita State, he is now back at Maynooth. His research deals with the relationship between curvature and topology on smooth manifolds.

Jerry Dwyer was born 2 October in Kilmichael, south of Macroom, Cork. He was educated entirely at UCC, and most of his career has been spent at the University of Colorado (Boulder) and Texas Tech. His former research in computational mechanics has given way to a focus on issues of mathematical education and outreach.

OCTOBER 2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	1 Alfred O'Rahilly (1884-1969) Stefan Hutzler	**2** Arthur Conway (1875-1950) Jerry Dwyer	**3** Maurice OReilly	**4** Mark Walsh Joe Travers	**5** Iulian Mac Airt (1938-2012)	**6** Ernest Walton (1903-1995)
7	**8** Patrick Wayman (1927-1998) Dane Flannery T. Brendan Murphy	**9**	**10**	**11** MEI 7, St Patrick's DCU	**12** Maths in the City Dublin MEI 7, St Patrick's DCU Maths Week	**13** John G. Smith (1881-1968) Pádraig de Brún (1889-1960) Ernan McMullin (1924-2011) Munster Maths and Science Fair Maths Week
14 Éamon de Valera (1882-1975) Eabhnat Ní Fhloinn Maths Week	**15** Frank Hodnett (1939-2011) Maths Week	**16** Philip Maini Hamilton Walk RIA Hamilton Lecture Maths Week	**17** Denis Weaire Maths Week	**18** Maths Week	**19** Olivia Fitzmaurice Maths in the City Belfast Maths Week	**20** Paddy Barry Celebration of Mind Maths Week
21 Martin Gardner (1914-2010)	**22**	**23** Percy McCormack (1929-2015)	**24** Owen McGrath	**25** Brian Greer	**26** Martin Bridgeman	**27**
28 OCTOBER BANK HOLIDAY (ROI) Derek McNally	**29** Garfield Woods (1906-1973) Peter Taylor	**30**	**31** Martyn Stynes			

Mathematician and logician **George Boole** (1815-1864) was born 2 November in Lincoln, England. Despite being largely self-taught, in 1849 he became the first professor of mathematics at Queen's College, Cork. His legacy includes Boolean algebra, which laid the foundations of the information age. His wife Mary Everest Boole and their daughter Alicia also made contributions to mathematics.

Applied mathematician **Alan Newell** was born 5 November in Dublin. He was educated at TCD and at MIT. His career has been spent at Clarkson University, and the Universities of Arizona and Warrick. His interests include optics, ocean waves and turbulence. He has supervised numerous PhDs and written three books.
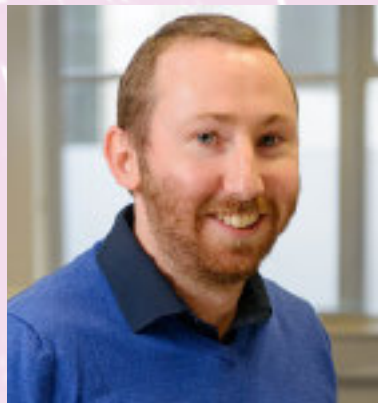
Theoretical physicist **Siddhartha Sen** was born 16 November in Calcutta, India, and was educated there and at MIT. His career was spent at TCD, where he supervised several theses and co-authored the books *Topology and Geometry for Physicists,* and *Elements of Statistical Mechanics: With an Introduction to Quantum Field Theory and Numerical Simulation.*

Barry Spain (1914-2007) was born 18 November in Londonderry and was educated at TCD and Edinburgh. His career was spent first at Imperial, then at TCD, and finally at Sir John Cass College, where he served as head. His five books include *Tensor Calculus—A concise Course*, *Ordinary Differential Equations* and *Functions of Mathematical Physics.*

John Sheekey was born 5 November in Ashford, Wicklow, and was educated entirely at UCD. After spells at Padua, VUB Bruxelles and Ghent, he now works at UCD. His interests are in finite fields, finite geometry, and linear algebra.

Applied mathematician **David Bates** (1916-1994) was born 18 November in Omagh, Tyrone, and grew up there and in Belfast. He was educated at QUB and University College London. The bulk of his career was spent at QUB, where he supervised numerous PhDs in atmospheric and molecular physics. He was a founding member of the Alliance Party of Northern Ireland
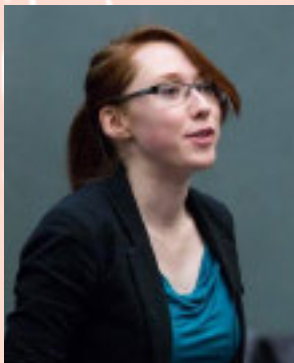
NOVEMBER 2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
				1	**2** George Boole (1815-1864) Henry Smith (1826-1883) Anthony Traill (1838-1914)	**3**
4	**5** Alan Newell David Jackson John Sheekey	**6** Charles Graves (1812-1899)	**7** John Fraser (1868-1950)	**8** Bram Stoker (1847-1912) Bob Critchley (1948-2007)	**9** Fred Klotz (1943-1988) Gordon Lessells	**10** Science Week (RoI)
11 Charles MacGarry (1877-1936) Jim O'Reilly (1916-1978) Science Week (RoI)	**12** Gerard Murphy (1948-2006) Science Week (RoI)	**13** James Thomson (1786-1849) Science Week (RoI)	**14** Science Week (RoI)	**15** Science Week (RoI)	**16** Stanley Lyon (1882-1975) Siddharta Sen Catherine Comiskey Science Week (RoI)	**17** Science Week (RoI)
18 Barry Spain (1914-2007) David Bates (1916-1994)	**19** A. J. McConnell (1903-1993) Matt McCarthy (1938-2017) Aisling Twohill	**20**	**21**	**22** Michele Destrade	**23**	**24**
25 IAMTA (Irish Applied Maths Teachers Association) formed 2006	**26**	**27**	**28**	**29** Joseph Galbraith (1818-1890) Colm Barry (1906-1976) Brendan Steen (1921-2015)	**30**	

Jane Breen was born 24 December in Wexford town and was educated at Maynooth and at the University of Manitoba, where she recently completed her PhD on the role of the directed graph underlying finite Markov chains. She is now at Iowa State University.

Maura Clancy was born 5 December in Castleblakeney, Galway, and was educated entirely at NUIG. Her doctoral thesis was in algebraic topology. She has taught at NUIG and GMIT, and now teaches maths in the Electrical and Electronic Department at Limerick Institute of Technology.

Robert Murphy (1806-1843) was born in Mallow, Cork, probably in December. Despite having no early formal education, he was 3rd wrangler at Cambridge. His brief career was mostly spent there and at the University of London. He worked in algebraic equations, integral equations, and operator calculus, and also authored two books.

Dave Redmond was born 20 December in Dublin, and was educated at UCD and at the University of Illinois Urbana-Champaign, his PhD being in group theory. His entire career has been spent at Maynooth, where he has served as registrar. He co-authored the *Maynooth Mathematical Olympiad Manual*.

Andrew Young (1919-1992) was born 16 Dec in Lancashire, grew up in Scotland, and was educated at St Andrews and the University of Liverpool. After twenty years on the staff at Liverpool, he moved to UU Coleraine. There he worked for fifteen years and supervised over twenty PhD theses in numerical analysis.

Maurice Kennedy (1924-1994) was born 17 December in Dublin, and was educated at UCD and Caltech. His career was spent teaching at UCD, where he also served as registrar. His interests included stochastic processes, special functions, measure theory and functional analysis. UCD's Maurice Kennedy Research Centre is named after him.

DECEMBER 2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
						1 Raymond Flood
2 Ollie Mason	3 John Donaghey (1878-1949) Jim Flavin (1936-2012)	4 John Graves (1806-1870)	5 Tom Laffey Declan P. Quinn Maura Clancy	6	**7** Paddy Quinlan (1919-2001) Benno Moiseiwitsch (1927-2016) Peter McPolin Brendan Guilfoyle	**8** Mike Carroll (1936-2016)
9	10	11 Allan Isaac (1936-2013) David Madigan	12	13 Eoghan McKenna (1891-1967) Bill McCrea (1904-1999) James Taylor Tony Wickstead Ian Taylor	**14**	**15**
16 Andrew Young (1919-1992) Anthony Cronin	17 Maurice Kennedy (1924-1994)	18 Eleanor Moss (1864-?)	19	20 William S. Burnside (1839-1920) Dave Redmond	**21** Samuel Haughton (1821-1897)	**22** **SOLSTICE 04:19** Nicholas Callan (1799-1864) John Harding (1911-1985?)
23	24 Harry Thrift (1882-1958) Jane Breen	25 **CHRISTMAS DAY** Patrick Dineen (1840 - 1934) John Malet (1847-1901) Tom Sherry	26 **ST STEPHEN'S DAY / BOXING DAY**	27 David Callan	**28**	**29** Hugh Holohan (1892-1957)
30	31					

Significant anniversaries of the births of some notable figures in Irish maths occur in 2019. From the bicentenaries of George Stokes and George Salmon and the sesquicentennial of Edith Stoney, to the centenaries of Tadhg Carey, Barbara Yates, Paddy Quinlan and Andrew Young, there is much to celebrate.

George Stokes was born 13 August 1819 in Sligo. His legacy includes Stokes theorem in multivariable calculus and the Navier-Stokes equations in fluid dynamics

George Salmon was born 25 September 1819 in Dublin. He wrote numerous popular and influential books on higher level algebra and geometry.

Edith Stoney was born 6 January 1869 in Dublin. She had a remarkable career in physics and medical physics.

Barbara Yates was born 22 January 1919 in Dublin, and her 1952 PhD in differential equations makes her the first Irish woman graduate to receive a doctorate in pure maths.

Tadhg Carey was born 14 March 1919 in Cork. He spent four decades at UCC, where he was instrumental in the setting up of the department of statistics in 1955, and served as college registrar and president.

Paddy Quinlan was born 7 December 1919 in Limerick. He lectured at UCC for four decades, supervising numerous theses there, and also served as a member of Seanad Éireann, from 1957 to 1977.

Andrew Young was born 16 December 1919 in England, and grew up in Scotland. He worked for fifteen years at UU Coleraine, supervising over twenty PhD theses along the way.

Ireland has a rich heritage in mathematics going back at least four centuries, and the Irish Mathematics Calendar is a part of a vigorous effort to promote and celebrate this legacy. Please explore more at www.mathsireland.ie and follow @IrishMathsFacts on Twitter.

JANUARY 2020

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		1 NEW YEARS DAY	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Irish Mathematics Calendar 2019

Maths Week Ireland

Seachtain Mhata na hÉireann

Significant anniversaries of the births of some notable figures in Irish maths occur in 2019: **George Stokes** and **George Salmon** (both born in 1819), **Edith Stoney** (born in 1879), and **Tadhg Carey**, **Barbara Yates**, **Paddy Quinlan** and **Andrew Young** (all born in 1919).

This calendar, an annual treat since 2016, is a by-product of the **Annals of Irish Mathematics and Mathematicians,** which was founded at the end of 2014. **AIMM** is an entirely volunteer online initiative which aims to celebrate Irish mathematics and mathematicians both historic and modern: illustrating the proud historical and strong contemporary contribution to the world of mathematics and its applications, and consequently to the world at large. The project includes the **Gallery of Irish Mathematicians** (accounting for over 4000 people), the **Library of Irish Mathematics** (over 900 books), the Atlas of Irish Mathematics (county by county listings) and monthly **Maths Ireland Blogs of relevance.**

The project and blogs can be found on **www.mathsireland.ie** and followed on twitter **@IrishMathsFacts**

Maths Week Ireland was established in 2006 to promote mathematics and its applications across the island of Ireland. It was established and is coordinated by Calmast STEM Outreach Centre at Waterford Institute of Technology. Taking place every October in the week including the 16th, Hamilton Day, it has grown to be the biggest festival of its kind in the world reaching over 400,000 people in 2018. It is a partnership of universities, institutes of technology, teacher training colleges, professional bodies, visitor centres libraries and other groups concerned with mathematics. This activity has been extended through the year under the umbrella of Maths Ireland, which welcomes enquiries from prospective partners.

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MATRIX NORTHERN IRELAND SCIENCE INDUSTRY PANEL

CALMAST

Waterford Institute of Technology INSTITIÚID TEICNEOLAÍOCHTA PHORT LÁIRGE