



QUEEN'S  
UNIVERSITY  
BELFAST

SCHOOL OF  
MATHEMATICS  
AND PHYSICS

# SCHOLARSHIPS PRIZES AND AWARDS

At the School of Mathematics and Physics we offer more than 25 competitive prizes, scholarships and awards for our students, ranging from undergraduate (taught) to research.

# SCHOLARSHIPS PRIZES AND AWARDS

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## UNDERGRADUATE SCHOLARSHIPS, PRIZES AND AWARDS IN MATHEMATICS

### A. C. Dixon Prize

A prize to be called the A. C. Dixon Prize was founded by Mrs Woolnough in 1937 in memory of her uncle, A. C. Dixon, Professor of Mathematics in Queen's College and The Queen's University of Belfast from 1901 to 1930.

The prize, of approximately £100, should be used for the purchase of books. It will be awarded each year to the candidate who is placed first by the examiners in the final honours examination in pure mathematics, provided the candidate attains first class honours standard in the subject.

### Burgess Prize

This prize was founded in 1986 by colleagues and former students of Dr D. C. J. Burgess, lecturer and senior lecturer in the Department of Pure Mathematics from 1957 to 1986.

Subject to the income available, the annual value of the prize is approximately £100.

It is normally awarded annually, on the recommendation of the Mathematics Board of Examiners, to a student who has achieved distinction in topology and closely allied subjects.

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### The Institute of Mathematics and its Applications Prize (IMA)

The Institution of Mathematics and its Applications (IMA) awards a one-year membership of the IMA to the top two students in Mathematics, who have performed with distinction in their B.Sc. studies in Mathematics. Students must have obtained a 1st-class degree, and at least 2/3 of the modules taken (weighted) must be in mathematics. This award should not be made in conjunction with any other award. The award will take into account the full range of diversity within Mathematics.

The prize is a year's free membership of the Institute. The IMA Membership Team will issue a Prize Certificate and details on how to claim the free membership to each prize winner.

### The Raymond Flannery Prize

The Raymond Flannery Prize will be awarded annually to the MSci graduate in the School of Mathematics and Physics with the best overall mark, with the condition that the student must have specialised in Applied Mathematics or Theoretical Physics. The decision will be taken by the Mathematics Board of Examiners based on the record of academic achievement.

### The School Distinction Award for BSc Performance in Pure Maths

School distinction award for excellence or distinguished performance in Pure Mathematics by a BSc Student as judged by the Mathematics Board of Examiners.

A certificate and cheque of £150 is issued.

### The School Distinction Award for best overall BSc Performance

School distinction award for excellence or distinguished performance in the Mathematics BSc programmes as judged by the Mathematics Board of Examiners.

A certificate and cheque of £200 is issued.

### The School Distinction Award for outstanding MSci Performance

School distinction award for excellence or distinguished performance in the Mathematics MSci programmes as judged by the Mathematics Board of Examiners.

A certificate and cheque of £200 is issued.

### William Blair Morton Prize in Applied Mathematics

This prize was founded in 1945 to commemorate William Blair Morton, Professor of Physics in Queen's College and The Queen's University of Belfast from 1897 to 1933.

It will be awarded to the student with the highest mark on the MSci Applied Mathematics project. Subject to the income available, the annual value of the prize is approximately £300.



## UNDERGRADUATE SCHOLARSHIPS, PRIZES AND AWARDS IN PHYSICS

### 1970 Physics Alumni Prize

The Prize was established in 2002 by Physics Alumni of 1970.

It consists of an award of approximately £150 and a certificate to be presented annually to the student of Physics, who in the judgement of the Board of Examiners, achieves the best performance at Stage 1 of their degree.

### Catherine Buchanan Scholarships (Three Scholarships)

These Scholarships were established in 2019 in memory of Catherine Buchanan to both inspire and support female physics students in the School of Mathematics and Physics. The Scholarships aim to advance the representation of women in science and enable progression to either MSci or PhD Physics.

In her short life Catherine, a student of Strathearn School in Belfast, was excelling at her A-level studies, and was focussed on a career as a scientist, specifically in physics and astronomy, having been inspired by a few days spent at Armagh Observatory. Just as she had finished off her university application, Catherine developed a very rare and aggressive form of blood cancer. Catherine passed away on September 21, 2013, one week after her diagnosis, with her family by her side.

Catherine had a tremendous passion for science and wanted to make a difference in life. She was



an outstanding individual just setting out in the world, and it is fitting that this scholarship has been established in her memory to encourage other young women to fulfil their potential and to pursue studies in physics and astronomy.

A degree in physics requires a huge amount of hard work and perseverance to complete. The award aims to relieve the financial pressure that some female students have, and thereby encourage them to pursue their studies. It also aims to reward those female students who, despite financial pressure, are able to excel in their studies.

Three scholarships of £2,000 will be awarded to the top ranked full-time BSc / MSci (female) Physics students in each stage 1, 2 and 3.

### Class of 59 Prize

Following a visit to the Physics Department in 2002, the Class of 59 presented a donation to provide a prize, consisting of a cheque of the value of £100 and certificate, for the best BSc Physics project work as judged by the Physics Board of Examiners.

### Greer Prize

Raymond George Hopkins Greer was a student and a member of academic staff at Queen's. He was known as an inspiring teacher, and in 1996 became Head of Teaching in Physics. Following his untimely death in January 2001, his family have instituted the Greer Prize in Physics in his memory.

The Greer prize, consisting of a sum of £500, will be awarded annually to the student graduating with an MSci in Physics (or Physics with Astrophysics

or Physics with Medical Applications) with the highest overall mark. The Prize shall not be awarded if, in the judgement of the Board of Examiners, there is no candidate of sufficient merit.

### John Geddes Physics Prize

John Geddes, born in Portadown in 1939, was a student at Queen's where he obtained a First-Class Honours Degree in Mathematics (1960), a First-Class Honours Degree in Physics (1961) and PhD in 1964. John was then immediately appointed to the academic staff of the Department of Pure and Applied Physics and embarked on a distinguished career as a brilliant researcher, an outstanding teacher and a respected administrator. Sadly, the life of John Geddes and his dedicated service to his students, his science and the University, was unexpectedly terminated on 4 December 1998 when he died suddenly from an intro-cerebral haemorrhage. In memory of Professor John Geddes' long and distinguished association with the Department of Pure and Applied Physics at Queen's, his surviving family instituted a Physics prize which will be awarded annually as follows:

The prize will comprise a bronze medallion and a monetary award of value of £200.

The prize will be awarded, on the recommendation of the Physics Board of Examiners, to the student scoring the highest mark for the (MSci) Physics Project. These special projects were originally devised and coordinated by John Geddes and reflect his deep interest in the development of students' learning and communication skills.



#### **Karl George Emeleus Physics Prize**

This prize, in the form of a medal and monetary award, was established in 1984 by former students and friends of Karl George Emeleus, Professor of Physics in the University 1933- 1966.

Two awards will be available annually each consisting of a silver medal and a monetary award of £300.

It is awarded on the recommendation of the Chair of the Physics Board of Examiners for the best performance by a BSc single honours Physics student and, exceptional performance by an MSci single honours Physics student.

#### **Philip Burke Memorial Award**

Awarded annually in the memory of the late Professor Philip Burke CBE FRS to the student who is placed first by the examiners in the Level 4 examination in Advanced Quantum Mechanics.

A certificate and cheque of £250 is issued.

#### **Seagate Solid State Physics Prize**

Seagate is a major global company specializing in digital storage solutions. They are one of the largest employers in Northern Ireland at their Springtown facility in the northwest of the Province. Seagate have strong links with researchers at QUB and they employ many Physics graduates. In recognition of the importance of Solid-State Physics to their industry, Seagate want to encourage high quality teaching and learning of Solid-State Physics at QUB. The prize, comprising a cheque for £200 and a certificate, is awarded to the MSci student with the best overall performance in Solid State Physics.

#### **The O'Sullivan Prize for Physics with Medical Applications**

The O'Sullivan prize will award the student who achieves the highest overall degree mark for MSci Physics with Medical Applications in the School of Mathematics and Physics. The Prize was established by Mrs Mae Kirkpatrick (nee O'Sullivan).

#### **The School Distinction Award for outstanding MSci Performance**

School distinction award for excellence or distinguished performance in the Physics MSci programmes as judged by the Physics Board of Examiners.

A certificate and cheque of £150 is issued.

#### **Unilever Earnshaw Prize**

John Earnshaw was Professor of Physics and Head of the Plasma and Laser Interaction Physics Division from 1990-99. In recognition of many productive research collaborations with Professor Earnshaw, Unilever donated funds for the Unilever-Earnshaw Prize.

It comprises a cheque for £60 and certificate and is awarded annually to the physics student with the highest overall mark at Level 2.

#### **The Raymond Flannery Prize**

The Raymond Flannery Prize will be awarded annually to the MSci graduate in the School of Mathematics and Physics with the best overall mark, with the condition that the student must have specialised in Applied Mathematics or Theoretical Physics. The decision will be taken by the Mathematics Board of Examiners based on the record of academic achievement.



## UNDERGRADUATE FOUNDATION SCHOLARSHIPS: SCHOOL OF MATHEMATICS AND PHYSICS

Awarded for overall performance at Level 1; and in Level 2. To qualify a student must have completed 120 CATS of modules within the School of Mathematics and Physics at that particular Level.

A normalised rank position for each student in a qualifying module would be determined:

- Rank the students in each class (best first)
- Assign a rank score to each student:  
 $r = \text{position} - 1$  so that the top student has  $r=0$ , the next has  $r=1$ , etc.
- Normalise to a class size of 100:  
normalised rank position  $R = r * 100/N$   
where  $N$  is the actual size of the class.

For each student, add up the values of  $R$  for all the qualifying modules.

The student with the lowest total is the prize winner.

There will be two or three awards annually at each level valued in total at £600, with no award being greater than £300.

These awards are open to full-time and part-time students.

## POSTGRADUATE MATHEMATICS PRIZES

### Bates Prize

This prize was founded in 1983 by the friends and colleagues of Sir David Bates, Professor of Applied Mathematics and of Theoretical Physics in the Queen's University of Belfast from 1951 to 1982.

It will normally be awarded annually to a Queen's student in the Centre for Theoretical Atomic, Molecular and Optical Physics (CTAMOP), with the highest undergraduate degree mark and who subsequently pursues research in CTAMOP.

Subject to the income available, the value of the Prize is approximately £100 and it aims to assist a Postgraduate student within the CTAMOP to use towards research costs.

### Sir David Bates Postgraduate Student Fund

This fund was established in 1995 by former colleagues and friends of the late Sir David Bates, MRIA, FRS, Professor of Theoretical Physics, who died on 5 January 1994. It was inaugurated to commemorate his lifetime of service to Northern Ireland, the Queen's University of Belfast and to original research in science, especially in theoretical atomic, molecular and optical physics.

There will be a number of awards, each of not less than £200, not more than seven per year or fifteen every other year, but in any event deriving from the income of a capital sum.

The purpose of the awards is to assist postgraduate research students in the Centre for Theoretical Atomic, Molecular and Optical Physics (CTAMOP) (School of Mathematics and Physics) to attend and actively participate, in any one year, in an international conference in atomic, molecular, and optical physics, such as ECAP, ICAP, or ICPEAC (and Satellites). The encouragement of this participation in the dissemination and exchange of research expertise was dear to Sir David's heart. Each award holder will be expected to acknowledge the 'Sir David Bates Postgraduate Student Fund' in any published abstract or invited talk and to submit a short report afterwards to her/his supervisor and to the Head of Centre (CTAMOP).

The award(s) will be made each year on the recommendation of the Head of Centre, CTAMOP, in consultation with the Professors of that Centre. Preference will normally be given to second- or third-year full-time research students. Merit and active participation are the principal criteria.

Candidates should submit written proposals, with the explicit support of their supervisors, to the Head of the Centre for Theoretical Atomic, Molecular and Optical Physics. The proposal should detail the activity to be undertaken, the aims, and the amount of funding sought.



### James Caldwell International Travel Scholarship

The Scholarship was established by Professor James Caldwell in 2010. Professor Caldwell achieved a 1st class Honours BSc degree in Applied Mathematics in 1964 followed by an MSc in Numerical Analysis in 1966. After lecturing overseas in England and Australia he returned to Queen's for the award of a higher doctorate (DSc) degree in 1985. He was then invited back to the University in 1986 as a Visiting Professor to give a series of lectures on his research work.

This Scholarship aims to assist Postgraduate Research Students within the School of Mathematics and Physics, in areas closely allied to Applied Mathematics (such as theoretical physics) access to online or in-person schools, courses and conferences during the academic year.

The Scholarship aims to support interaction between postgraduate research students and international collaborators. The Scholarship thereby also aims to improve the international visibility of these students.

The Scholarship will be made available to Postgraduate Research Students through an application process detailing the activity to be undertaken, the aims of the activity/course and the amount of fees sought. Applications are to be made to the Head of Centre for Theoretical Atomic, Molecular and Optical Physics. Applications will be considered by selected members of staff who are not the principal supervisor of any applicant.

### Purser Studentship

This studentship was founded in 1904 by Professor Frederick Purser in memory of John Purser, Professor of Mathematics in Queen's College, Belfast, from 1863 to 1901, and Registrar from 1878 to 1901.

The studentship may be awarded to an internal candidate or a graduate of another University. The awardee(s) must hold a first-class MSci, MMath or equivalent, and the award will be made to the candidate(s) judged most likely to enhance the standing of the area in which they will study.

Students will be invited to submit a 1-page overview of why their PhD research project is timely, how they plan to contribute to it and where they see the developments going in the long-term. The deadline for completing this 1-page summary will be set by the School in October/November.

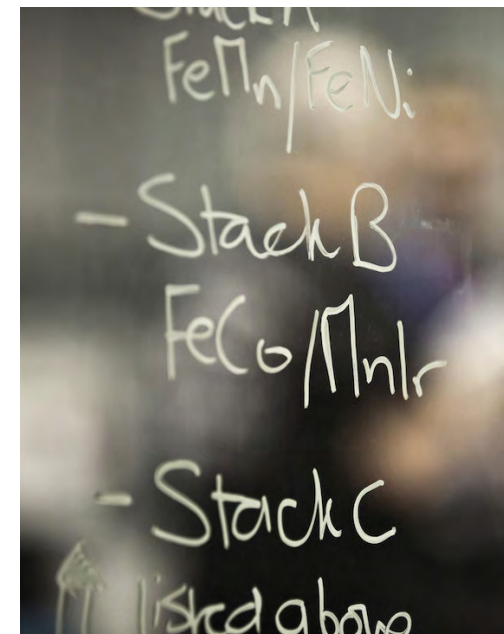
The holder(s) shall be required during the tenure of the studentship to pursue, to the satisfaction of the professor or lecturers concerned, a course of postgraduate research in pure or applied mathematics.

Any holder must be a full-time student; and the payment of each instalment shall be subject to the report of the professors or lecturers under whose direction the student is working.

The studentship is normally tenable for three years.

The value of the award shall normally be £1000 per annum. More than one award may be made annually if funds are available.

If no suitable candidate is available, no award will be made and the funds will be reinvested, to increase the value of the fund.





## POSTGRADUATE PHYSICS PRIZES

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### **Lorna Clements Studentship**

This scholarship was founded in 2020 by the late Agnes Rosa Dorothy Clements in the memory of her daughter, Dr Lorna Dorothy Clements who was a Lecturer in the Department for Pure and Applied Physics at Queen's University Belfast in the 1970s.

The purpose of this scholarship is to encourage female students to pursue postgraduate research in Physics to enable them to enhance their learning experience by participating in academic conferences.

One award of £1,000 will normally be awarded to a female postgraduate research student in Physics registered as full-time across the first 3 years of their PhD studies (£1,000 per year for 3 years). The award should be used towards international travel for attending a conference, or a course, or a visit to a research establishment, University or industry in connection with their research.

Should travel not be possible then the fund can be provided as a stipend payment.

The awardee(s) must hold a first class MSci in Physics or equivalent, and the award will be made to a female candidate. Graduates from Queen's or other institutes are eligible for consideration.

For further details:

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Visit our website at:

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