



## Information Sheet

### 1. The Bill Tutte Alborada Trust Scholarship

The Bill Tutte Alborada Trust Scholarship has been set up to encourage young people in Newmarket and the surrounding area to study and excel in Mathematics and Computer Science, with the generous support of the Alborada Trust and other donors. The Scholarship will consist of a yearly payment of at least £1,000 for a maximum of 3 years of undergraduate study.

#### Essential – the applicant must:

- demonstrate outstanding potential and achieve at least grade A at 'A'-Level Mathematics. In exceptional circumstances a candidate who has achieved grade A at 'A'-Level in another subject will be considered.
- live within an 8km/5 mile radius of the Bill Tutte Memorial on Rutland Hill in Newmarket. In exceptional circumstances candidates who live outside this area but have some connection with Newmarket will be considered.
- have been offered a place at a British university to study Mathematics or Computer Science.
- agree to take part in any associated publicity for the Scholarship and the Bill Tutte Memorial Fund

#### Desirable – the applicant should:

- demonstrate commitment to his/her studies, either by overcoming difficulties in order to succeed, or by developing his/her interest in the subject independently. We will give particular credit to any candidate who has attended/assisted with the Bill Tutte Club at Newmarket Academy, but this is not a condition of application.
- attend university in the academic year following his/her last year at school; any candidate seeking deferred entry will need to convince the Trustees that his/her academic progress will not be adversely affected.

#### Please note:

- The amount awarded will be dependent upon the funds available.
- If in any year no candidate is considered suitable by the Trustees, then no award will be made.
- The first payment will be made in October following the winning candidate's registration at University.
- In order to qualify for the next year's payment, the successful candidate must complete a full year's study and write a short report on his/her year's work, to be received by the Trustees of the Fund by July 31<sup>st</sup>.

### 2. How to Apply

#### For Schools/Colleges:

- Please identify suitable candidates and encourage them to apply, giving them a copy of this information sheet. This and all other forms may be downloaded from [www.billtuttememorial.org.uk/scholarship](http://www.billtuttememorial.org.uk/scholarship).
- Please suggest a suitable academic (non-family) referee for the candidate.

#### For Candidates:

- Download and print an application pack (consisting of 2 forms and this information sheet) from our website.
- Pass Form B (Reference) and the Information Sheet to your referee and ask him/her to return Form B to you in time for you to enclose it with your application, which needs to reach the Trustees **by 31<sup>st</sup> August**.

- Return your completed Form A (Application, including Supporting Statements) with the completed Form B (Reference) to the address on Form A **by 31<sup>st</sup> August**.
- A panel appointed by the Trustees will interview short-listed candidates and announce the winning candidate in early September.
- The successful candidate's University/College must confirm that the candidate has started their course by October 31<sup>st</sup>, and then the first payment of £1,000 will be transferred.

**Please note:**

- Any necessary communication with candidates will (as far as possible) be by e-mail; **please ensure that you advise the Trustees of any changes to your e-mail address.**

**3. Key dates:**

31 <sup>st</sup> August	Applications and references in
Early September	Interview candidates; announcement of winning candidate
By 31 <sup>st</sup> October	Successful candidate's College/University to confirm that place has been taken up; Fund releases money.

**4. Bill Tutte: A Short History**

Bill Tutte was born in 1917 in Newmarket at Fitzroy House, where his father was a gardener. He was educated locally at Cheveley Village School and won a scholarship to the Cambridge and County Day School for Boys at the age of 11. A local charity provided a grant, and he was able to cycle from Cheveley to Newmarket, catch the train to Cambridge, and then walk to school; if the weather was good, he would cycle the whole way – and then back again after school.

In 1935 he earned a place to read chemistry at Trinity College, Cambridge, where he developed a keen interest in mathematical puzzles. Working with three friends, he published one of the first solutions to the problem of 'squaring the square,' which required a single square to be filled with squares of different sizes.

In 1941, at the height of the Second World War, he was invited to join the top secret Government Code and Cipher School at Bletchley Park, where he was responsible for cracking the German Lorenz code (called Tunny by the British). Working with intercepted messages, Tutte deduced that the code was generated by a machine with a series of settings or rotors, the first of which had 41 teeth. He and his team went on to describe all 12 rotors correctly without ever seeing a Lorenz machine. This was later described as one of the greatest intellectual feats of the war and enabled the Allies to read messages giving vital information on German capabilities and intentions.

Tutte also invented a statistical method to accelerate the immensely complex task of deciphering incoming messages. This led to the development of various machines, culminating in December 1943 with Colossus, the world's first programmable electronic computer, designed by GPO engineer Tommy Flowers. Tutte and his colleagues at Bletchley Park were credited with shortening the war in Europe by two years, saving countless lives.

After the War, Tutte returned to Trinity College and studied for a doctorate. He emigrated to Canada in 1948, joining first the University of Toronto, and then, in 1962, the University of Waterloo, Ontario. He became an eminent professor, particularly influential in the development of modern graph theory. He was elected a Fellow of the Royal Society in 1987 and made an Officer of the Order of Canada in 2001. He died in 2002 and is buried in Canada.

**If you have any queries about the Scholarship, please do not hesitate to contact the Trustees at [scholarship@billtuttememorial.org.uk](mailto:scholarship@billtuttememorial.org.uk). For further information about the Bill Tutte Memorial Fund, please visit [www.billtuttememorial.org.uk](http://www.billtuttememorial.org.uk).**