The Michael Baker Tutorial Fellowship in Physics

Target: To raise £1 million to endow permanently a Tutorial Fellowship in honour of Michael Baker. This will underpin the excellence of Physics at Merton for future generations.

Michael Baker and the Merton Physics School

Michael Baker was Merton’s first Tutorial Fellow in Physics. When he arrived in 1957, there was only one undergraduate reading the subject, and much of the teaching was undertaken by tutors in related physical sciences or at other colleges. By the time he retired in 1998, the Merton Physics School comprised a team of three Tutorial Fellows, who had collectively taught over 300 students and explored areas as diverse as the structure of galaxies, electron-nuclear double resonance, and the limits of the Standard Model of particle physics.

Known affectionately as ‘the three Bs’, Michael Baker, Michael Bowler and James Binney created an environment of academic excellence, cutting edge research and mutual support. Many of their students went on to great distinction in science and other fields, such as business, publishing and teaching. To name only a few, distinguished alumni include Nobel Prize winner Sir Anthony Leggett (1959), former chairman of Laird plc, Martin Read (1971), and founder and CEO of Good Energy, Juliet Davenport (1986).

Professor Baker left a generous bequest in his will towards tutorial teaching at Merton, and building on this, an endowed Fellowship in his name will help us to preserve and enhance the exceptional academic standards for which the Merton Physics School is renowned. The Fellowship will be a fitting commemoration of the great contribution that Michael and his colleagues have made to science and to generations of Mertonians around the world.

Physics at Merton today

Michael Baker was pivotal in the formation of the modern Merton Physics School, which resonates with the Merton Calculators in the 14th century and the astronomy of Sir Henry Savile in the 16th century. Today, we have a large and vibrant Physics community, with approximately 30 undergraduates and 25 postgraduates at any one time. Our students have full access to the laboratory and scholarly resources of the Oxford Physics Department, which is one of the largest in the UK and among the best in the world.

In conjunction with labs and lectures at the Department, our undergraduates receive an exceptional level of support and unparalleled intellectual opportunities through the Tutorial System in College. It is the strength of this system that makes a Merton education in Physics unique and truly distinguishes us from other leading institutions.

Tutorials place our students in regular contact with senior academics, all of whom are world-renowned experts. Our tutors are able to devote a significant amount of time and personal attention to each student, through a mixture of one-to-one and small group teaching. This format gives them the opportunity to adapt to students’ needs and interests, provide help where it is most needed, and closely follow each individual’s progress. The system also enables our tutors to offer first-hand insights into the world of research and provide connections to research groups around the world. These groups can give undergraduates the chance to undertake summer research programmes and help spark their interest in further study.

Our Physics students typically obtain excellent results in their examinations, and in the 2018-2019 academic year, six of our seven finalists graduated with first-class degrees. Furthermore, in the last six years, three Merton students have won the University-wide Scott Prize for best performance in Physics final examinations. These results reflect a comprehensive understanding of the subject and will give our students an outstanding foundation for careers in academia and many other areas.
Teaching in Physics at Merton is the responsibility of our three Tutorial Fellows, each of whom specialises in different areas of the discipline: particle physics, atomic and laser physics, and theoretical physics. They play a decisive role in fostering the excellence of the College’s academic environment. Along with their own research and teaching, our Tutorial Fellows coordinate wider specialist tutorial support from a team of Research Fellows and Lecturers associated with Merton. Their expertise covers subjects as diverse as astrophysics, philosophy of science, quantum cryptography, and radiocarbon dating.

In addition to their formal academic duties, our Tutorial Fellows provide pastoral support for students and encourage a vibrant intellectual culture which brings the whole Merton Physics community together. For example, the Fellows arrange the Ockham Lecture three times a year, at which undergraduates, postgraduates, alumni and academics gather to hear a talk by a prominent scientist in academia or industry. The talk is followed by a further discussion and exchange of ideas over dinner.

**The Michael Baker Tutorial Fellowship**

None of the three Tutorial Fellowships in Physics at Merton are currently supported by a permanent endowment fund. This puts Physics among a minority of subjects at the College in which tutorial teaching is not yet backed up with dedicated, long-term funding. Significant progress in this respect was made on behalf of most other subjects during the 750th Anniversary Campaign.

Our Tutorial Fellowships in Physics are jointly financed by the College and the University, which in turn receive support from the government, industry, alumni and friends. By endowing the Michael Baker Tutorial Fellowship, we will be able to underpin the basic costs of the College funding for one of our teaching positions in Physics (currently c. £34,000). This will safeguard the permanence of the post and protect it from potential fluctuations in the support provided by the University and external sources. Moreover, the endowment will assist Merton in ensuring that a Tutorial post is not transferred to another college, should one of our current Fellows leave or retire. A reduction in the number of Tutorial Fellows in Physics, as happened for several years following Michael Baker’s retirement, would significantly impact on the time and resources our academics are able to devote to both teaching and research.

The College is therefore seeking major gifts to reach a target of £1 million, which will endow the Michael Baker Tutorial Fellowship for future generations. With an anticipated annual return of 3.5%, an endowment at this level will be sufficient for supporting the basic costs of a Fellowship. It is our hope that anyone who is passionate about cultivating an exceptionally high academic standard in Physics, which Michael Baker did so much to establish at Merton, will see the value of supporting this project. We would be most grateful if you would consider adding your contribution to the funds that have already been raised.

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**For further information, and to discuss your interest, please contact:**

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Photographs courtesy of The Clarendon Laboratory, University of Oxford (overleaf) and John Cairns (above).