

## Member Profile: BRIAN J. FORD



(LEFT) Photo taken by Joe Barabe at McCrone Research Institute in Chicago as Brian Ford was awarded the inaugural Dr. August Kohler medal by the State Microscopical Society of Illinois. (RIGHT) At the moment of discovering Leeuwenhoek's specimens in the vaults of the Royal Society.

Brian was always fascinated by science. The earliest pictures of him as an infant show him examining flowers and drawing steam trains. He used to collect specimens of sand, butterflies, and pressed plants from an early age, and first looked through a microscope when he was nine years old. His father William, an engineer, used to purchase a Stilton cheese each Christmas, and when the young Brian showed his father the cheese mites on the surface, that cheese was placed in the garden in the rain where the birds ate it. After seeing those little organisms, Brian's father never ate Stilton again. As a boy, Brian lived in a large house in North London. It had an orchard and extensive grounds, and had battlements at one end. He used to study wild life and even mapped the district by hand at the age of ten.

At the King's School, Peterborough, Brian had A. G. Lowndes as his science tutor. As a young man, Lowndes had taught Sir Peter Medawar. Since then he had worked as a research zoologist at the Marine Biological Research laboratory in Plymouth, and took a sabbatical at King's to act as a science tutor. When he offered to give Brian science tuition, his father protested that education cost enough already, but Lowndes said he did not propose to charge anything. It was this tuition that introduced Brian to microbiology, and also to the name of Leeuwenhoek. By the time he was sixteen, Brian was building micrographic cameras from wood and metal, and some of the pictures he took with those basic cameras have since been published. The Van Nostrand Scientific Encyclopedia, for example, has included some of his teenage pictures for over thirty years.

When the family moved to Cardiff, Brian soon became acquainted with the science departments at Cardiff University. He was collecting cultures of bacteria by this time, and developing enthusiasms for rock and roll. With two brothers Geoff and Dave Edmunds he used to play rock keyboards, and performed in London and the provinces and on television. In fact, his first TV appearance at the age of 22 was not as a biologist, but as a pianist. Brian played Albert Ammons' 'Shout for Joy', a great piano blues number, in a series presented by the popular singer Donald Peers. Among the other people who appeared in the program was a young singer named Tom Jones, also making his first-ever television appearance. Dave Edmunds is now based in Los Angeles and produced many of the rock greats, including Roy Orbison and the Everley Brothers.



(LEFT) Brian and wife Jan, at a pub in Grantchester near Cambridge. (RIGHT) On Sky News television, October 1999.

Brian had a particular interest in cryptogams at the time, amassing a fine collection of ferns and being cited as an authority on locations in the standard texts. Instead of immediately going to university, Brian took a post at the Medical Research Council in ‘the most junior position you can imagine’, as he now says, working under Professor Scott Thompson. He did work on bacterial sensitivity and frog physiology and studied histopathology. He now has huge collections of preparations of human tissue specimens that he has prepared over the years.

At the same time, he began his studies of blood coagulation. Brian’s discovery of the penderocyte in clotting blood was heralded in the medical press and in the newspapers as an epoch-making discovery, and it featured (opposite a picture sent back from the lunar surface) as one of the year’s leading discoveries in the 1968 International Yearbook of Science.

Brian did not want to go to university, believing it to be cause of too much conformity in science. He believed that real science was basically a rebellious occupation, while the schools and universities simply encouraged students to conform. Instead, while he was at the MRC he also took on a commission to write a weekly newspaper column on science. Thus he became a newspaper columnist by the time he was twenty.

However, Brian was meeting still more of the university people through his work at the MRC and decided on the spur of the moment that he would go to university, after all. It was only a few days before the first day of the semester, and everyone said it wasn’t possible to start at such short notice.

Brian had made up his mind, however, and went personally to see the Director of Education about getting a grant, and also to the University here they found him a place at the last minute. Brian’s family were displeased at his decision to study biology, rather than engineering, which may explain why he received no parental support for his studies. Instead, he was writing his weekly newspaper column and performing in his own ‘Rhythm and Blues Spot’ at a night-club twice a week.

Soon he was writing larger feature articles on special topics, and was invited to contribute to radio programs explaining his views on science. Brian wrote many pioneering leader-page articles on topics like genetic modification and environmental conservation while still in twenties, and when such subjects were highly unfashionable. Brian always spent a lot of time at the seaside, and prepared a detailed floral and structural map of Sully Island. He was also commissioned to carry out an ecological survey when in his early twenties, anticipating developments of subsequent decades.



(LEFT) Working with a palmtop on the train. (RIGHT) With old friend Joe Brown, rock and country musician, on a German TV program.

Brian made many enduring friends at university but he did not really care for the need to conform to what he felt were 'old-fashioned' scientific ideas, and to learn by rote. One of his semesters was devoted to the phycomycete fungi, but Brian had already learned about those in his teens and was keen to do research. In the end he left without graduating to set up a private laboratory of his own and by the time his friends were graduating he was already popular on radio and television and publishing many articles on science. While still in his twenties he gave vent to his dissatisfaction in our understanding of the role of bacteria, not by protesting, but more positively, by writing a textbook *Microbiology and Food*. It became a best seller and was widely cited in the United States as a source of new ideas. From his private laboratory he did research for the university, including polarimetry on plastics, methods of breeding locusts, and the microscopy of algal reproduction. At this time he was elected a Fellow of the Royal Microscopical Society.

The research on blood brought Brian for the first time to the Royal Society in London, and in his twenties he lectured in their meeting room in Burlington House, Piccadilly, on blood coagulation mechanisms at a symposium organized by the British Microcirculation Society. Since then he has been a regular visitor to the Royal Society, recently as after-dinner speaker at functions for Stephen Jay Gould and also for the former editor of *New Scientist*. Brian has known many of their Presidents, and it was during the presidency of Sir Andrew Huxley that Brian was invited to consult the original Leeuwenhoek letters. His momentous discovery of the original specimens after more than 300 years is one of the most important developments in the study of the history of the microscope.

Brian continued to conjure up major new theories, proposing that life on earth began as prebiotic molecules in outer space, a theory that has remained popular at Cardiff ever since, and advancing the idea that we can best study multicellular organisms by examining the cells of which they are composed. In *Microbiology and Food* he first wrote of 'mankind as microbe', and the idea is central to his recent book *Genes, the Fight for Life*. The British publication *Laboratory News* recently wrote that this was 'a wonderful book'. Also in his twenties, Brian began diplomatic work that was to prove highly influential. He traveled widely in Europe, for example he was in Czechoslovakia when the Russians invaded in 1968 and photographs taken in East Germany show him in earnest debate with the Russian officers. Brian soon came to the attention of the East German authorities, and he negotiated the publication of a supplement in *The Times* of London under the heading of the German Democratic Republic. Official approval for this was obtained from the British government, and this was the first document in the bibliography of détente. Subsequently, the East German authorities opened wartime their archives to him, and Brian was also allowed to read the top-security files from the Allied invasions of scientific institutes at the end of World War II. The result was his very first book, *German Secret Weapons*, which soon became a classic. This book has been in print ever since it was first published more than thirty years ago.



(LEFT) With friend of 30 years, Sir John Maddox, distinguished former editor of *Nature* with whom he has chaired many meetings. (RIGHT) Brian and Jan last week discussing Brian's monthly magazine column with Peter Boizot, the proprietor, at Kettner's restaurant in Soho, a former haunt of Oscar Wilde.

Brian analyzed voice patterns, and his research on speech was published and used by the British government when drawing up laws on the use of tape-recorded evidence. More recently still, Brian's views on the spread of BSE were quoted by the British Labour Party, and this report is still on their web site. Brian has also prepared scientific reports for the European Union in Brussels, and is currently editing a book on the History of the Institute of Biology in London. Another of his diplomatic projects was the introduction of biohazard legislation around the world.

During his work with the MRC, Brian had been concerned about the lack of safety regulations covering the handling of dangerous bacteria. He published a paper in *Nature* and another in the *New Law Journal*, setting out his requirements for legal controls. The ideas were widely quoted in America and Britain (for instance, there was a leading article and a large interview with Brian published in *The Times*).

As a result of his campaigning, his proposals have been made into laws around the world. He also succeeded in having the sale of opiate-containing medicines banned in Britain. Brian's work on head lice, published in the medical journals, resulted in better control of outbreaks and the louse page on his web site is very popular with surfers.

Brian worked on the mucous coating of *Spirogyra*, on the chromosomes of *Scilla* (of which he took particularly beautiful micrographs) and on the hibernation of aquatic protozoa including *Spirostomum*. His beautifully colored studies of snowflakes appeared in reference works at the time, and he used one to make his first personal Christmas card. The family greetings cards Brian's many friends receive each Christmas have continued ever since. Brian continued to play rhythm and blues throughout his twenties, and his enthusiasm for the arts led him to launch the first course on science and technology for art students. His twice-weekly lectures are still remembered by the students, many of whom went on to become successful artists and designers.

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