from the guinea-pig. He had many co-workers as assistants in his laboratory, many of whom are now heads of departments in Japanese universities: these included Takuro Osa (Yamaguchi, now retired), Yasuji Sakamoto (Fukuoka, retired), Hikaru Suzuki (Nagoya City) Yoshi Ito (Kyushu) Takeo Itoh (Nagoya City) and Kenji Kitamura (Fukuoka Dental College), among others. A massive number of medically qualified students passed through his laboratory over the nearly 30 years in Fukuoka, producing papers on a wide variety of aspects of smooth muscle electrophysiology, and later biochemistry and contractile processes using skinned fibres.

In his heyday between 1970 and 1990 Kuriyama’s group produced the majority of electrophysiological and physiological studies which were published on smooth muscle in the era. The membrane properties of trachea, intestine, stomach, rectum, bladder, vas deferens, uterus, portal vein, and arteries such as the mesenteric, coronary, pulmonary, aorta and basilar, previously unknown, were investigated and characterised; rabbit, dog and pig tissues were investigated, in addition to guinea-pig, rat and mouse.

These studies laid the foundation for our present knowledge of smooth muscle electrophysiology upon which later voltage-clamp studies of membrane currents were able to be developed. His career spanned the period when microelectrode technique was in vogue and later tight-seal patch clamp which began in smooth muscle in the early 1980s and largely superseded it.

Studies by Kuriyama’s group, and from other laboratories around the world at that time, established the basic similarities and differences of smooth muscles: voltage-dependent calcium and potassium currents acting in concert with calcium store release, complete with different combinations of receptors and innervations but with exquisite variations on a theme fitting them to perform their physiological functions in a wide variety of different situations in the body.

When invited to speak at international meetings Hirosi Kuriyama would produce copious numbers of slides, solid with membrane potential recordings or other data. During the talks he would sometimes retire to smoke his pipe outside the hall where he could be engaged in conversation. While a stern taskmaster in the laboratory, at meetings he was always relaxed, affable and approachable.

He was a council member of the Japanese Physiological Society, the Japanese Pharmacological Society, the Japan Society of Smooth Muscle Research and the Japanese Circulation Research Society. He was a member of the Physiological Society and the American Physiological Society. He was a Senator of Kyushu University and, later, of Seinan Jo Gakuin University.

Hirosi Kuriyama leaves a massive legacy of smooth muscle research, mainly electrophysiological. In his early days he was an arch exponent of microelectrode technique; he would sit by the preparation smoking his pipe, lowering the microelectrode to touch the tissue and then slightly indent it so applying a little pressure; a sharp tap with his pipe and the electrode would enter a smooth muscle cell. His practical knowledge of microelectrode technique gained during his early years enabled him to direct others using the technique very effectively and productively.

His contributions to smooth muscle electrophysiology were immense, not least in the numbers of disciples he left who now lead Japanese smooth muscle research. Internationally his group was pre-eminent in smooth muscle research for two decades; his passing marked the end of an era.

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Rob Clarke made an important contribution to physiology and to the life of the Physiological Society. An active Member since 1985, he was a regular attendee at Society Meetings where he presented more than 60 communications over the years, in his inimitable laid back style. As convenor for the Somatosensory Physiology Special Interest Group he organised numerous lively symposia during his 6 year term of office, each one invariably followed by a convivial dinner at a local hostelry, one notable occasion terminating in a game of neurophysiological charades, much to the bemusement of other patrons and, indeed, some of the participants.

In 1998 he was elected to the Committee of the Society (now the Council) where his hard work, good sense and good humour were to prove invaluable assets that won him respect and many friends. He was to have become its Chairman this year if ill health had not forced him to resign prematurely. Rob met almost every project with enthusiasm. He served on the Higher Education Sub-committee and was involved in producing a benchmarking statement with David Sanders at Newcastle. This was a proactive move on behalf of Physiological Society and required an immense amount of work. The statement was widely used, particularly by new and overseas universities in the process of starting up physiology or physiology-related degrees and it is still available on the Society website. With others, he also helped write the booklet for schools Understanding Life, which gets excellent feedback from teachers and school children.
A passionate believer in the systems approach to physiology, Rob was concerned at the loss of the skills needed for integrative physiology. He led the Society’s involvement in a collaborative initiative with the British Pharmacological Society to start vacation courses for undergraduate training in in vivo techniques. Now in their third year, these courses are running at three locations, the feedback is excellent and they are undoubtedly a positive move towards redressing a diminishing skills base.

Rob Clarke obtained a BSc in physiology at the University of Manchester in 1978 before moving go to University College London to work for his PhD with Jim Pascoe. After a post doctoral fellowship in Bruce Matthews’ lab in Bristol, he accepted a lectureship in the Department of Physiology and Environmental Sciences (now Animal Sciences) at the University of Nottingham and was promoted to Senior Lecturer in 1995.

Rob was fascinated by nociceptive reflexes and how spinal processing of nociceptive information could be tempered by other nociceptive inputs that might be activated during surgical trauma or other extreme circumstances. He leaves a legacy of more than 50 papers, many published in The Journal of Physiology. Rob was a hands-on research scientist, never happier than in his ‘lab-in-a-field’ in the rural setting of the Sutton Bonington campus at Nottingham University. He was particularly excited at the prospect of taking his work forward by leaving behind the constraints of working in anaesthetised preparations and moving into the world of instrumented freely moving animals.

As well as a committed research worker, Rob was an innovative teacher who taught physiology across the board at undergraduate level. The latest edition of his textbook Physiology at a glance, co-authored with Jeremy Ward and Roger Linden, is due to be published in 2004 by Blackwell Publishing.

Rob Clarke died in August after a lengthy battle with cancer. It is typical of Rob that he endured his ill health with stoicism and good humour and continued to work and to actively support the Society until earlier this year. Remarkably, he was even able to see a constructive side to his misfortune, once remarking how much better he felt that his lectures on pain had become as a result of personal experience. He is survived by his wife Susan and two sons.

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In recognition of his contribution to in vivo physiology and to the training of young physiologists, Pfizer Ltd are sponsoring a Rob Clarke Memorial Symposium to be held in conjunction with a Physiological Society meeting in 2005. Further details will be posted on the website: www.physoc.org.

Oliver Holmes
1933 – 2004

Oliver Holmes, Honorary Research Fellow in the Faculty of Biomedical and Life Sciences in the University of Glasgow since retiring as Senior Lecturer in 1998, died at home on 13 June after a short illness with rapidly progressive cancer. He had been a Member of the Physiological Society since 1961, and from 1972-76 a Committee member and Convenor of the Sub-Committee on Education and Information.

As an intercalating BSc student at University College in the 1950s, followed by an MSc as a Bayliss-Starling Scholar with GL Brown, Oliver was inspired by neurophysiology. But first he completed his medical degree and pre-registration posts. Returning to physiology, he spent a year in Liege (teaching in French!). Back in London, as an MRC Fellow with GD Dawson at the Institute of Psychiatry, he began the study of experimental epilepsy that became his life’s work. He went next to Leicester as a Senior Lecturer, then as a Special Wellcome Research Fellow to the Royal Postgraduate Medical School with Professor Sir Gordon Robson and finally, in 1975, to the Institute of Physiology in Glasgow.

His investigations into the neural circuitry responsible for epilepsy involved sophisticated analysis of electrical activity in the different layers of the cerebral cortex, using anaesthetised rats with chemically induced epileptiform foci. At an early stage, he realised the need to educate himself further in mathematics, and took courses in this and in computer programming, to enable the complex cross-correlations that were required. Much later, in his 50s, he further advanced his analytical skills by taking an Open University Hons BA in mathematics.

Research-wise, Oliver was a loner among staff colleagues in Glasgow, but was rarely sole author of his many publications. A succession of PhD and Hons BSc students presented papers to the Society and published with him. Erstwhile postgraduate students testify to his inspirational influence and also to his unfailing kindness and generosity.

He also collaborated widely with clinical and academic pharmacologists, psychologists, chemists and anatomists, attracting regular grant support. He and these co-workers contributed significantly to basic epileptology. Latterly, again with grant support and in characteristically innovative fashion, he had turned to research on gastric secretion.

Oliver’s teaching commitment in Glasgow was well above average not only in man-hours, but also in willingness and diligence, including organisation of courses and examinations as well as direct class contact. Modest in some contexts to the point of diffidence, Oliver could be outspoken particularly where students and teaching were concerned. An