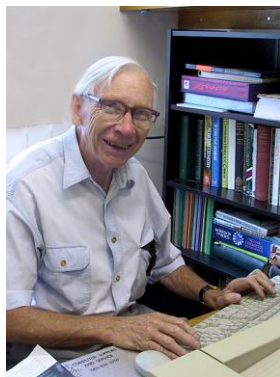


## Emeritus Professor Gurnos Jones FRSC



Professor Gurnos Jones who died in June 2016 was renowned for his original contributions to heterocyclic organic chemistry. He was a lifelong member of staff of the Department of Chemistry at Keele and played a full part in the life of this unusual and intimate institution. He was a mountaineer, cricketer, squash and tennis player and an enthusiast for fine wines.

Gurnos Jones was born in Clydach, a small village in South Wales in December 1928. It was here at the local school that he began his academic career at the remarkably early age of three and a half. This was the only period in which Gurnos lived in Wales as the family emigrated to England when he was six. At the age of nine Gurnos was a pupil at Samuel Brunt's Grammar School in Mansfield, Nottinghamshire where he was assigned to the arts course. Among his fellow pupils at this time was another fledgling organic chemist – John G. Topliss. Although forced to follow a predominately arts curriculum with little science or mathematics, by the sixth form Gurnos was "hooked on maths" and a transfer to the sciences led to the award of a Notts. County Senior Scholarship and a place to read chemistry at the University of Sheffield.

Sheffield was a grim industrial city in the late 1940s: much of its centre had been destroyed. However, the Chemistry Department at the university was strong and there were a number of outstanding chemists on the staff, including R. D. Haworth (Head of Department), Stuart "Soapy" Laurence and T. S. "Tommy" Stevens. In this environment the young Jones's enthusiasm for organic chemistry thrived. He graduated with first class honours in 1949 and began his research career by studying for a PhD under the supervision of Tommy Stevens.

Gurnos Jones doctoral project was in natural product chemistry attempting the tough assignment of isolating samples of gelsemine and determining its structure. The structure was eventually determined not by classical methods but by X-ray crystallography. However, it was during this period that a future research interest was initiated. While waiting for more starting material for extraction of further supplies of gelsemine, he investigated routes to the quinolizinium ion which occurs in the structure of the alkaloid sempervirine, whose structure had been determined simultaneously by Stevens and by Woodward. With this a long-standing interest in heterocyclic chemistry began. He was awarded a PhD in 1952. His external examiner was Lord Todd and the oral examination lasted

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fifteen minutes! Gurnos had fond memories of his time in Sheffield and remembered Tommy Stevens as a "brilliant chemist and a wonderful supervisor."

Completion of the PhD led to the award of an Ellison Fellowship to work with Prof. F.E. "Freddy" King at the University of Nottingham. He investigated a hardwood gum from British Guyana from which he isolated and determined the structure of eperuic acid using classical methods, and "no instruments other than a UV single beam spectrometer."

Nottingham was followed by a brief period in the Civil Service, working in the Colonial Products Laboratory in central London. However, dissatisfaction with the routine nature of this work led the young Gurnos Jones (recently married to Pat) to apply successfully for the post of Assistant Lecturer in Organic Chemistry at the recently founded University College of North Staffordshire – later to become the University of Keele. Gurnos took up this appointment on the 1<sup>st</sup> January 1955, probably not realising that he was to spend the remainder of his career in this institution and play a major role in its development.

The move to Keele provided the opportunity for independent research. The 1950s were times of rapid change in chemical research. Although still deeply interested in natural product chemistry, it seemed to Gurnos that X-ray crystallography was the future for structure determination of natural products and he made a deliberate decision to move his research interests into heterocyclic synthesis. His first research student at Keele (Ted Glover) synthesised quinolizinium bromide in quantitative yield and a long-standing interest was established. This was the beginning of many studies of bicyclic heterocyclic molecules with bridgehead nitrogen atoms, including aza-azulenes and, more recently, triazoloquinolines.

Gurnos's regular attendance at international meetings and sabbatical visits influenced his research (and teaching). In 1962 Gurnos spent a sabbatical leave as a visiting scientist at the NIH in Maryland where he worked with Bill Wildman and Hank Fales and established the structure of the alkaloid tecomanine 3 (now using NMR as well as UV). This visit enabled him to attend a Gordon Conference and prompted him to return two years later to the 1<sup>st</sup> Heterocyclic Gordon Conference. Here he met a number of leading heterocyclic chemists, including Al Meyers, Leo Paquette, Ted Taylor and Alan Katritzky, all of whom had a significant influence on his scientific activities.

In 1973 the Joneses spent six months at the Australian National University in Canberra where Gurnos was a Visiting Professor. Here he established links with a number of Australian heterocyclic chemists. In particular, an association with Bill Crow led to an interest in flash vacuum pyrolysis and nitrenes.

More recently, a common interest in triazolopyridine chemistry led to a fruitful collaboration with Belen Abarca at the University of Valencia, Spain and an interest in the Vilsmeier reaction that has resulted in two substantial and comprehensive reviews for *Organic Reactions*. In later years there was a fruitful exchange of people and ideas between the groups in Valencia and Keele.

The research at Keele provided intensive training for more than forty research students and resulted in more than one hundred and twenty papers in the refereed literature as well as numerous learned articles and book chapters.

In retirement Gurnos continued to maintain an active interest in heterocyclic chemistry. He appeared in the department on most days (usually around coffee and tea-time) and regularly attended scientific meetings in the UK and elsewhere.

Gurnos always played a full and active role at the University of Keele as it developed from a new, and sometimes controversial, University College with innovative teaching methods to a thriving research based University. While he was much appreciated for his clear systematic organic chemistry lectures, he also ran a multi-disciplinary Foundation Year Discussion Group for many years. Gurnos also contributed an innovative course for Arts students on Environmental Chemistry, before it became a fashionable subject.

He was Head of the Chemistry Department for ten years, Dean of the Science Board, served on almost every committee in the University and was Chairman of the Physical Recreation Committee of the University for twenty years. As departmental Head, Gurnos is remembered as firm in his decision making, but always fair. He instituted regular staff meetings at a time when the department was small but independent.

Gurnos was a loyal and active member of the RSC, being Treasurer of the Local Section for several years as well serving as Chair. He also served on the RSC Council as member for Manchester and North Staffordshire

In 1966, Gurnos Jones enthusiastically supported Alan Katritzky in founding the Heterocyclic Group, one of the new groups initiated by the then Chemical Society. The first meeting of this group was held at Keele in 1967 and Gurnos was the first Secretary/Treasurer and subsequently Chairman of the group (1979-1981). The group has been hugely successful: the biennial Grasmere meeting, with its intense sessions of organic chemistry combined with vigorous hill walks, had a broad appeal and the meeting continues to have an international reputation. Gurnos never missed one.

Gurnos played cricket for the University Staff and continued playing Tennis and Squash until a surprisingly late age. He was a fierce, but fair, competitor and clearly enjoyed not only the games but also the arguments of what constitutes a legitimate "let" in Squash.

In his early years he was an enthusiastic rock climber enjoying ascents in the Cuillin on Skye and other climbing venues but, later, his most prominent outdoor activity was hill walking. He was a member of the Climber's Club for 58 years and was President of the Keele Mountaineering Club for thirty years. The "President's Walk" sometimes surprised the younger climbers, taking place as it often seemed to do in inclement weather on Kinder Scout in January; they perhaps realised that hill walking is not such a soft option after all. His interest in Kinder resulted in him co-authoring a book, *Kinder Scout - a Guide 1983-87*, with his friend John Wallace. Together they walked Kinder almost every weekend for five years. For John, Gurnos is remembered as a most loyal and supportive friend whose friendship was valued greatly.

The hill walking combined well with Pat's interest in bird watching; after retirement they went far afield enjoying birds in Kazakhstan and Costa Rica.

A later interest was found in a wine group; Gurnos was a prime mover and galvanised the group into regular meals together as well as trips abroad.

The widest group of friends remember Gurnos for his and Pat's hospitality, every Shrove Tuesday, at the pancake party which Pat organised at home. A multitude of pancakes accompanied by generous quantities of wine provided a basis for cheerful evenings of animated conversation.

As one friend has commented: Gurnos enjoyed a full life and achieved so much across such a wide range of interests. Gurnos's professional life is a clear demonstration of what can be achieved with reasonable support by a talented researcher with an active research group within a small department. We shall all miss him.

*A tribute by Chris Ramsden, published in the year 2000 in an issue of Arkivoc (Arkivoc, 2000, (iii) 186-444) dedicated to Gurnos Jones's contribution to heterocyclic chemistry, provided the basis for this article. We are most grateful to many colleagues who have commented to us about Gurnos – particularly Watson Fuller, Rob Jackson, Graeme Jones, Keith Jones, David Morgan, Eddie Slade and John Tebby.*

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