Molecular Crystals and Liquid Crystals
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/gmcl20

Obituary: Professor George Gray CBE, FRS

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Published online: 02 Sep 2013.

To cite this article: Mike Hird (2013) Obituary: Professor George Gray CBE, FRS, Molecular Crystals and Liquid Crystals, 578:1, 1-2, DOI: 10.1080/15421406.2013.827049

To link to this article: http://dx.doi.org/10.1080/15421406.2013.827049

Mol. Cryst. Liq. Cryst., Vol. 578: pp. 1–2, 2013

ISSN: 1542-1406 print/1563-5287 online
DOI: 10.1080/15421406.2013.827049

Obituary: Professor George Gray CBE, FRS

Professor George Gray CBE, FRS passed away peacefully on Sunday 12th May 2013 in Poole Dorset, aged 86 years. George and his wife Marjorie, who passed away peacefully 2 weeks earlier, produced three daughters, Veronica and Caroline who survive them and Elizabeth who predeceased them.

George was born on 4th September 1926 in Scotland and graduated from the University of Glasgow in 1946. He then came to Hull to work as a demonstrator in the Department of Chemistry at the University of Hull. In 1947, he was promoted to Assistant Lecturer and registered for a PhD. At this time, Professor Brynmor Jones was Head of the Department of Chemistry, and he directed George toward study in liquid crystal materials, however teaching duties alongside research meant it was not until 1953 that George submitted his thesis. Liquid crystals research continued through the 1950s with George adding considerably to the wealth of structure–property relationships through the synthesis of many novel liquid crystal compounds. In 1962, George wrote a book *Molecular Structure and the Properties of Liquid Crystals*, which increased his international recognition; however, owing to the lack of importance and potential applications, liquid crystals research became unfashionable and difficult to justify. Hence George began research in the area of biological chemistry, but he was to return to liquid crystals with a most significant impact.

Research at the Radio Corporation of America (RCA) in 1968 began to realize the potential application of liquid crystals in displays. However, at this time, the test devices worked at high temperature and degraded quickly because of unstable liquid crystals, nevertheless the concept was proved and brought about a resurgence in liquid crystals research. In 1970, George and his research team began working on the synthesis of novel substances designed to be chemically and photochemically stable and existing as a liquid crystal around room temperature and of course possessed a wide range of other necessary physical properties. In the summer of 1972, a breakthrough was made with the synthesis of the cyanobiphenyl class of stable, room temperature nematic liquid crystals; these combined with other analogs provided the first liquid crystals suitable for commercial liquid crystal displays (LCDs) and became used extensively in so many research studies and importantly underpinned the rapid growth of commercial LCDs to the high-quality products we see today in high-technology devices.

George became Professor of Organic Chemistry at Hull in 1974, and he led many other highly successful research programs at Hull in liquid crystals and related areas, resulting in many journal publications, patents, and books. His research resulted in the award of the "Queen's Award for Technological Achievement" in 1979, a Rank Prize for opto-electronics in 1980, a Fellowship of the Royal Society in 1983, a Gold Medallist of the Royal Society in 1987, a Fellowship of the Royal Society of Edinburgh in 1989, a Commander of the Most Excellent Order of the British Empire (CBE) in 1991, and the Kyoto Laureate in Advanced Technology in 1995, which is the Eastern World's equivalent of a Nobel Prize. In 2005, the Royal Society of Chemistry awarded a Historical Chemical Landmark to the University of Hull to commemorate 50 years of liquid crystal research, which is a fitting recognition of George's superb achievements during his time at Hull and the ethos following his retirement

in 1990. Outside of scientific awards, George was absolutely thrilled when in 2005, Hull Trains named a new Pioneer high-speed train after him.

George had a very long, enjoyable, and successful research and teaching career in the Department of Chemistry at the University of Hull. George was a superb, inspirational teacher who provided much encouragement to reach the very top, as indeed many of his students did, both in industry and academe. George was well liked and well respected by peers and students, and he will be widely remembered throughout time for his pioneering invention, which provided and facilitated displays for high-technology devices that are now a quintessential part of everyday life. Those who knew George more closely will remember him for his warm and friendly personality, his sense of humor, and fun.

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