

PROFESSOR ROBERT A SHAW

Summary

Professor Robert Shaw was born in Vienna on 2 November 1924, where he spent his early childhood. Following the Anschluss, he left Austria by the Kindertransport - arriving in England on 6 July 1939. At the earliest opportunity, he joined the British Army and saw service in India, Burma, Thailand and Singapore. After war service, he studied at Leicester University College and, subsequently, embarked on an academic career in Chemistry, at Birkbeck College, University of London. His potential in research and teaching was quickly recognized with promotion from Lecturer directly to full Professor - the first such elevation at the University of London. He built a distinguished international reputation and was acknowledged as a world authority on the Phosphazenes. The nomenclature for this group of compounds was proposed by him and was adopted by the scientific community.

He has been recognized as a pioneer in inter-disciplinary and international research collaboration *inter alia* with: Bangladesh, Canada, France, Germany, India, Italy, Netherlands, Poland, Turkey, UK and USA.

He holds Honorary Doctorates from the University of Toulouse, France (1978) and Gebze University, Turkey (2005). Following his formal retirement in 1990 he has continued co-directing international and interdisciplinary research projects. He has also developed his interest in history. He recently co-authored (with his daughter) three articles on *The History of Medicine* in the *Journal of Medical Biography*.

To date, he has 363 publications and twenty patents to his name. His first book, "A Life in Science – Gifted by the Kindertransport" is soon to be published. He is also writing an extensive autobiography. Professor Shaw is married with a son and a daughter. His wife, Leyla, is a physicist with a PhD in Crystallography and an MSc in vascular science. Their children, Robert Jnr and Lily, are medical doctors. He and his wife currently reside in London

Childhood

Four years at Primary School [*Volkschule Hegelgasse (Übungsschule der Bundes-Lehrerinnen)*], were followed by three years at Grammar School [two years *Bundesrealgymnasium Wien 1 (Stubenbastei)*, and one year *Realgymnasium "Rainer" (in Mauer bei Wien)*]. Formal schooling was brought to an end prematurely, at the age of 13, following the Anschluss of Austria by Germany in March 1938. Nazi race laws and violence brought an end to a normal life. In 1938 the *Kristallnacht* pogrom forced his mother to consider sending him, alone, to England under a humanitarian program, the Kindertransport. This program undoubtedly saved his life. Many of his relations were murdered by the Nazis in the Holocaust. On arrival in England (6th July 1939) he worked as a farmyard-boy in Suffolk, where his duties included *inter alia* feeding pigs and poultry and cleaning out their pens, threshing corn, pulling sugar beet. He later joined his mother in London, where he witnessed the Blitz. Initially he worked as an errand boy in a delicatessen shop; this was followed by training as a centre lathe turner.

War Service

Volunteered for the British Army and served in the infantry in the UK, India, Burma, Thailand and Singapore. Despite not having attended school from the age of 13, he was determined to acquire a university education. While serving in the Army, he studied by correspondence course for his University entrance. Conditions were appalling for studying and he looks back on this time as amongst his most challenging periods.

University Qualifications

Studied at Leicester University College 1947-1953 for a external degrees of the University of London – graduated BSc University of London 1951. Subsequently awarded PhD University of London 1955 and DSc University of London 1966. As a PhD student in Chemistry he had the rare distinction of having chosen his own research topic.

Academic Career at Birkbeck College, University of London

Assistant Lecturer	1953-1956
Lecturer	1956-1965
Professor	1965-1990
Emeritus Professor	1990-present

His promotion from Lecturer directly to full Professor was (according to the Head of his College) the first such appointment in the University of London. The short spell between the BSc and the Professorship (14 years, in spite of three years of ill-health and hospitalization early on during his career) was considered a record for a chemist.

Honorary Doctorates

Honorary Doctorate	University of Toulouse, France	1978
Honorary Doctorate	Gebze University, Turkey	2005

Professional Qualifications

Chartered Chemist	1952
Fellow, Royal Society of Chemistry	1957
Member, Society of Chemical Industry	1958

Research Collaborations and International Lecturing Engagements

A pioneer in inter-disciplinary and international research collaboration *inter alia* with: Bangladesh, Canada, France, Germany, India, Italy, Netherlands, Poland, Turkey, UK, USA.

Extremely widely travelled (To all Continents, except Australia), mainly by invitation to lecture on his research, including:

Austria, Bangladesh, Belgium, Bolivia, Burma, Canada, Chile, China, Czech Republic, Croatia, Denmark, Ecuador, Egypt, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, India, Kazakhstan, Malaysia, Morocco, Netherlands, Norway, Peru, Poland, Portugal, Russia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Thailand, Turkey, Ukraine, United Kingdom and United States of America.

Trained students from many countries including:

Australia, Bangladesh, China, Egypt, Eire, Ethiopia, France, Germany, Ghana, Greece, Hong Kong, India, Iran, Israel, Japan, Nigeria, Pakistan, Poland, Qatar, South Africa, Turkey, UK, USA and USSR. Had acted as the director of Studies and Research for more than 80 post-graduate students in UK, France, India and Turkey, as well as for more than 100 of post-doctoral research fellows.

Research Grants/Contracts and Consultancy

Negotiated, managed and delivered projects with: Shell, US Department of Agriculture, Ministry of Overseas Development, US Air Force, US Army, Ministry of Supply, Ministry of Aviation, Ministry of Technology and European Commission.

His experience was sought by a range of international organizations and multi-national companies as a consultant: UNESCO, Shell, Du Pont, Hooker Chemical Corporation, NuSwift, Humphreys & Glasgow, US Navy, Hercules Inc., etc. Visited and lectured at most major chemical companies in the USA, UK, West Germany and Switzerland.

Hobbies and Sports

He is a voracious reader; science in general (from cosmology to genetics) and history. His interest in travelling, learning about other cultures produced a huge collection of photographs, which was another passion of his.

Fencing, skiing, table tennis and road walking were the sports, where he excelled. Whilst a student at Leicester University College, he was Captain of the Fencing Club 1949-1953 and County Épée fencing champion in 1953. His early interest in travelling was evident as he became the President of the College Exploration Society 1951-53.

Language Skills

He is Bilingual in English and German, has a very good working knowledge of French. He also speaks some Swedish and understands Turkish.

Major Notable Achievements

- Was for about two decades on the Nomination Panel for the Chemistry Nobel Prizes. Both of his nominees were successful and received the Nobel Prize.
- To date at least twenty-five of his former co-workers and students have achieved full professorial status at universities across the world. Others achieved high reputations and positions in industry and Governmental organizations.
- UNESCO Consultant: (A) to Turkish Government (1977). (B) (Had to decline, in 1976, similar assignments to Damascus and Calcutta due to time constraints.)

- Program Chairman, Gordon Conference on Inorganic Polymers-New Materials, New Hampshire, USA (1974).
- Published more than 360 scientific papers, as well as some twenty patents.
- First university invitee by Indian Government under the Commonwealth Education Co-operation Scheme (1969).
- Co-director of an International Research Project at the Indian Institute of Science in Bangalore, India, supported by Ministry of Overseas Development, UK and University Grants Committee, India (1971-1981). Six of the students jointly trained there became Professors at India's most prestigious academic institutions. Three others achieved high status in the chemical and pharmaceutical industries in the United States of America.
- Invited Speaker at a meeting sponsored by the UN Conference on Science and Technology for Development, London (1979).
- Founder member and on steering committee of University of the Third Age, London.
- Member of the Academic Policy Committee of the Inter-University Council for Higher Education Overseas (1976-1981).
- Co-director of an International Research Project in Toulouse, France (1970-1980).
- Jubilee Lecturer at Symposium of *Land Rheinland-Pfalz* on "*Lebenslanges Lernen*" ("Life Long Education"), Koblenz, Germany (1978).

Other Notable Achievements (in chronologically reverse order)

- Invited to deliver the 2015 Holocaust Day Memorial Lecture at the University of Wolverhampton "*A Life in Science – Gifted by the Kindertransport*". An extended version is due to appear in book form.
- Plenary lecturer to Turkish Chemical Congress, Konya (2002) & Kars (2004).
- Co-director of International Research Projects with Turkey (1997- to present).
- Co-Director of an International Research Project with Poland (1994-2000).
- Plenary lecturer at Chinese Chemical Congress, Beijing, China (1988).
- UNESCO lecturer in Chile (1986).
- Visiting Professor University of Chile, Santiago (1986).
- Co-Director of an International Research Project in Ankara, Turkey (1983-87).
- Plenary Lecturer at Inorganic Heterocycles Symposium, Paris, France (1985).
- Plenary Lecturer at International Conference on Phosphorus Chemistry, Halle, DDR (1979).
- Main speaker and on organizing committee of conference sponsored by Institut Mondial du Phosphate, Rabat, Morocco (1977).
- Plenary Lecturer at Phosphorus Chemistry Symposium, Kiev, USSR (1977).
- Plenary Lecturer at Inorganic Heterocycles Symposium, Madrid, Spain (1977).
- Plenary Lecturer at Inorganic Heterocycles Symposium, Besançon, France (1975).
- Plenary Lecturer at Symposium on Inorganic Phosphorus Compounds, Prague, Czechoslovakia (1974).
- Plenary Lecturer at Symposium on Inorganic Phosphorus Compounds, Prague, Czechoslovakia (1970).
- Plenary Lecturer at Symposium on Organosilicon Chemistry, Prague, Czechoslovakia (1965).