

Dr Kenneth Rabone

Personal Details

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Profile

I am currently a Director of Four Delta Consulting Limited and a Senior Fellow in the Department of Physics at the University of Liverpool.

I retired from Unilever Research Port Sunlight on 31 July 2002 as Lead Scientist after nearly 33 years service. An organic chemist, I carried out research in a number of key areas, most recently on the formulation of novel, cost-effective hygienic cleaners through design-driven use of high-throughput experimentation. I am experienced in the management of multidisciplinary research teams.

Relevant Skills

- Surfactants and Colloid Science
- Rheology and Rheometry
- Statistics and Experimental Design (SAS/JMP/SPSS)
- Organic Chemist (specialist in fluorescent whitening agents)
- Colour measurement and reflectance spectroscopy
- Ultraviolet and visible spectroscopy
- Fluorescence spectroscopy

Achievements

- More than 10 granted patents and published papers.
- Leader of multidisciplinary team that invented and filed a patent on novel methodology for high throughput disinfection testing based on logistic regression
- Discovered and patented the disinfecting properties of alcohol ethoxylate nonionic surfactants

Experience

I joined Unilever Research as an Established Scientist in 1969 from a Post-doctoral Fellowship in Organic Chemistry in the University of Southampton. I have carried out research and development of surfactant-based cleaning formulations for fabrics and hard surfaces until taking early retirement in 2002. I joined the Department of Physics, University of Liverpool, as a Senior Fellow in September 2003.

Career Summary

- 2003- **Director, Four Delta Consulting Ltd.**
Senior Fellow, Department of Physics, University of Liverpool
Teacher and Research Project Supervisor, Masters Course on Physical Analysis of Biological Interactions at Surfaces
- 1991-2002 **Lead Scientist, Unilever Research Home Hygiene and Mechanisms of Chemical Disinfection**
Led a small multidisciplinary team involved in the investigation of the disinfection of pathogenic microbes by chemicals.
- 1985-1991 **Manager, Unilever Research**
Hard Surface Cleaning and Cleaner Formulation
Responsible for the innovation and evaluation of a range of structured liquid abrasive cleaners for hard surface cleaning that was able to deliver a range of consumer benefits from a variety of systems for rheological control.
- 1982-1985 **Manager, Unilever Research**
Fabric Detergent Liquid Formulation
Responsible for the elucidation of factors controlling the stability of detergent structured liquids (that is, liquids that use surfactant liquid crystal dispersions for rheological control).
- 1977-1982 **Manager, Unilever Research**
Mechanisms of Fabric Detergency
Responsible for developing quantitative physico-chemical models of the action of commercial surfactant mixtures in removing soil from fabric under a range of conditions using a variety of techniques (including video microscopy, radiotracers and quantitative reflectance spectroscopy)
- 1975-1977 **Manager, Unilever Research**
Development of Evaluation Methodology for Fabric Washing
Responsible both for the development of evaluation methodology on coloured articles in the wash using quantitative diffuse reflectance spectroscopy and for supporting the provision of routine evaluation to Fabrics Division.
- 1969-1975 **Manager, Unilever Research**
Responsible for elucidation of the photochemistry of fluorescent whitening agents, particularly on fabric and to isolate photoproducts for safety testing by the Unilever Environmental Safety Laboratory

Education

- 1969 **Post-Doctoral Fellowship**
University of Southampton
Conformational Transmission in the Solvolysis of Steroidal Tosylates
- 1967 **Doctor of Philosophy**
University of Lancaster (Lonsdale College)
Thesis: "*On the Rearrangements of Some Bridged Bicyclic Carbonium Ions*"
- 1964 **Summer Research Student** (Chemistry in Gas Discharges)
Department of Chemistry, University of Toronto, Canada
- 1964 **BSc (Hons) 2ii (Chemistry)**
University of Birmingham

Additional Information

- Past-Chairman of Liverpool Section Trust Committee of Royal Society of Chemistry
- Associate of Centre for Complexity Research, University of Liverpool
- British National
- References available on request