

SCIENCE HISTORY INSTITUTE

**JEAN KANE**

Transcript of an Interview  
Conducted by

Benjamin Gross

at

Culpeper County Library  
Culpeper, Virginia

on

27 and 28 February 2012

(With Subsequent Corrections and Additions)

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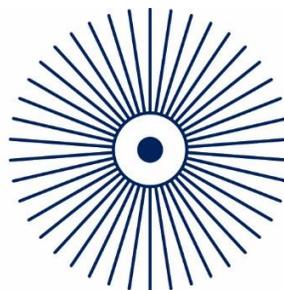
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## JEAN S. KANE

1940 Born in Poughkeepsie, New York on September 29

### Education

1962 BA, Keuka College, Chemistry

1964 MS, Mount Holyoke College, Chemistry with Thomas O. Zajicek at the University of Massachusetts

### Professional Experience

1964 Douglas Freeman High School, Henrico County, Virginia  
Math Teacher

1964-1967 RCA Laboratories, Princeton, New Jersey  
Research Chemist

1973-1976 Freehold, New Jersey, and Fairfax County, Virginia  
Degree Substitute Teacher

1976-1988 United States Geological Survey, Reston, Virginia  
Research Chemist, Geochemical Analysis and Method  
Development

1988-1990 Research Chemist, Coordinator USGS Geochemical Reference  
Sample Program

1990-1995 National Institute of Standards and Technology  
Research Chemist, Project Manager in the Standard Reference  
Materials Program

1988-present Member of the Editorial Board of *Geostandards Newsletter*, later  
renamed *Geostandards and Geoanalytical Research*

1997-present Member of the International Association of Geoanalysts, and at various  
times a member of Governing Council, the Proficiency Testing  
Program's organizing committee, and chair of the Certification  
Committee

## Honors

- 1960, 1961      Research Experience for Undergraduates, National Science Foundation
- 1992      Invited speaker at Open University meeting titled *Geoanalytical Techniques: Current Capabilities, Future Potential*
- 1997      Guest editor for Geoanalysis Conference Proceedings  
*The Analyst* (v. 22, # 11) following Geoanalysis 1997
- 2004      *Geostandards and Geoanalytical Research* (v. 28, #1) following  
Geoanalysis 2003
- 2004      Guest lecturer at the National Research Center for Geoanalysis in Beijing, China, for three days; invited as IAG Certification Committee chair; spoke not only at the NRCG but also at the Chinese Bureau of Standards, Metrology, and Inspection
- 2009      Special Commemorative Session organized at Geoanalysis 2009 in South Africa to honor work in the IAG since its formation

## ABSTRACT

**Jean S. Kane** grew up mostly in Tenafly, New Jersey. Although her father was an accountant, Jean was the first in her family to attend college. She began at Keuka College, intending to get a nursing degree, but she discovered chemistry and changed her major. By her senior year she had finished all Keuka's science and math courses and, with Margaret Cushman's help, entered Mount Holyoke College and obtained a master's degree in chemistry. Kane wrote her thesis with Thomas Zajicek at the University of Massachusetts; there she also met Robert Kane, a chemical engineering graduate student whom she married.

Moving to New Jersey, Kane got a job at RCA, working on potassium tantalum niobate under John van Raalte, and solid-state crystals under David Kleitman. She left RCA before the birth of her second child and volunteered with the public schools while her children were young. The family moved to Vienna, Virginia, for her husband's next job, and Kane found employment at the United States Geological Survey (USGS) in the Branch of Analytical Chemistry, working mostly on atomic absorption spectrometry and publishing about method development research. Inductively coupled plasma optical emission spectrometry (ICP-OES) replaced atomic absorption spectrometry (AAS), as it greatly increased the efficiency of sample testing. Kane took over the Geochemical Reference Sample Program at USGS, which attempted to categorize and standardize geological samples according to their chemical composition, using analyses from labs all over the world.

Kane was recruited to the Standard Reference Materials Program at National Institute of Standards and Testing (NIST). There she was manager of about ninety reference materials; her customers included laboratories from all over the world, labs seeking a wide range of materials. She managed the certification of forty or so reference materials while at NIST and standardized the certified values, as required by the International Organization for Standardization (ISO). Retiring from NIST, Kane remained on the editorial board of *Geostandards and Geoanalytical Research*, and took an active role in the leadership of the International Association of Geoanalysts (IAG).

Kane discusses her feeling that the concept of materials standards is esoteric and theoretical and error-prone. She explains some of the difficulties controlling ultimate standards and data collection. International Association of Geoanalysts (IAG) requirements strengthened the data's reliability. Kane's contribution of greater precision in analysis and standardization of methods is widely acknowledged. Finally, Kane advises women interested in pursuing chemistry to follow their inclination. She says the subject is fascinating; women have become accepted in upper echelons of the workplace; affordable child care and workplace flexibility are more available than they were during her early career years.

## INTERVIEWER

**Benjamin Gross** studies the history of corporate science and the American consumer electronics industry. During his postdoctoral fellowship at the Chemical Heritage Foundation's Institute for Research, he oversaw a variety of projects related to material innovation. He also served as curator of the Sarnoff Collection at The College of New Jersey and oversaw the development of *Innovations That Changed the World*, an exhibition on RCA's contributions to

the history of electronics. Dr. Gross earned a PhD in the history of science from Princeton University and in 2018 published *The TVs of Tomorrow: How RCA's Flat-Screen Dreams Led to the First LCDs*. He is currently Vice President for Research and Scholarship at the Linda Hall Library of Science, Engineering and Technology.

## **ABOUT THIS TRANSCRIPT**

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