

SYMPOSIUM ON ELECTRON MICROSCOPY AND X-RAY APPLICATIONS
TO ENVIRONMENTAL AND OCCUPATIONAL HEALTH ANALYSES

(Preliminary Program)

April 25, 26 and 27, 1977

Denver, Colorado

Sponsored by Denver Research Institute, University of Denver, and
Philips Electronic Instruments, Inc.

MONDAY, APRIL 25

Opening Remarks

Session on X-Ray Fluorescence

Session Chairman - Dr. T. Dzubay;
Environmental Sciences Research Laboratory, Environmental Protection
Agency, Research Triangle Park, North Carolina

An overview of the present state-of-the-art of x-ray fluorescence
analysis.

Dr. T. Dzubay; EPA.

XRF analyses of respirable dusts on filter and on lung tissue.

Dr. P. DeNee; NIOSH, Morgantown, West Virginia

X-ray fluorescence spectrometric analysis of atmospheric particulate
samples for lead.

Dr. H. Moore; Air and Industrial Hygiene Laboratory, State of California
Department of Health.

Multielemental analysis of urine using energy dispersive x-ray fluorescence.

Drs. K. Nielson and D. Kalkworf; Battelle, Pacific Northwest Laboratories.

Environmental and occupational health analyses using proton induced
x-ray emission (PIXE).

Drs. M. Ahlberg, A. Leslie and J. Winchester; Dept. of Oceanography,
Florida State University.

Achieving long-term instrument independent calibration.

Dr. J. Russ; Director, EDAX Laboratories.

X-ray emission analysis: loss of volatile species during excitation.

Drs. R. Shaw, Jr., and R. Willis; Environmental Sciences Research
Laboratory, EPA.

TUESDAY, APRIL 26

Session on X-Ray Diffraction

Session Chairman - Dr. J. Haartz;

National Institute for Occupational Safety and Health, Cincinnati, Ohio.

✓ An overview of the present state-of-the-art of x-ray diffraction analysis.
Dr. C. Ruud; Denver Research Institute, University of Denver.

A review of x-ray diffraction procedures as related to the quantitative analysis of air particulates.

Dr. Ron Jenkins; Philips Electronic Instruments, Inc.

✓ Pitfalls in x-ray diffraction methods of analysis for impurities in cosmetic talcum powders.

Drs. J. Krause and W. Ashton; Colorado School of Mines.

Sulfur distribution studies of coals and air samples using commercially available XRF and XRD instruments.

Drs. B. Paris and P. Schumacher; Battelle, Columbus Laboratories.

Community amphibole fiber inhalation exposure: evaluation with combined x-ray diffraction and electron microscope analysis of high volume air samples.

Dr. P. Cook; Environmental Research Laboratory--Duluth, EPA.

✓ XRD characterization of asbestiform reference materials.

Drs. R. Scholl and R. Draftz; IIT Research Institute.

Note: Several other papers on XRD are anticipated, but cannot be cited at this time because they have not been approved by their internal regulatory group.

Session on Electron Microscopy

Session Chairman - Dr. C. S. Barrett;

Denver Research Institute, University of Denver, Denver, Colorado.

An overview of the present state-of-the-art of electron beam microanalysis.
Dr. K. Heinrich; U.S. Department of Commerce, National Bureau of Standards.

An overview of the present state-of-the-art of analytical transmission electron microscopy.

Dr. R. Lee; U.S. Steel Research Laboratory.

✓ Identification of asbestos.

Drs. P. Champness, J. Zussman, G. Cliff and G. Lorimer; University of Manchester, Manchester, Great Britain.

Electron optical identification of particulates.

Dr. R. Lee; U.S. Steel Research Laboratory.

WEDNESDAY, APRIL 27

Session on Electron Microscopy (cont.)

← Amphibole mineral fiber analysis by electron microscopy: comparison of sample preparation procedures.
Drs. E. Peters and T. Doerfler; Arthur D. Little, Inc.

Applications in air pollution research of quantitative analysis of individual microparticles with electron beam instruments.
Drs. J. Armstrong and P. Buseck; Arizona State University.

Energy dispersive x-ray microanalysis of mercury in environmental samples.
Drs. S. Ramamoorthy, A. Massalski and T. Bistricki; University of Ottawa.

Application of x-ray fluorescence, scanning electron microscopy, and x-ray microprobe to industrial hygiene studies of mineral wool exposure.
Drs. D. Fowler and L. Gerchmon; Stanford Research Institute.

SEM/EDX imaging techniques and applications.
Mr. G. Meyers; International Scientific Instruments, Inc.

✓ The detection of respirable dust by SEM backscattered electron imaging
Dr. P. DeNee; NIOSH, Morgantown, West Virginia.

A study of plume aerosols from a coal-fired power plant by electron microscopy and x-ray energy spectrometry.
Drs. F. Parunge, E. Ackerman, H. Proulx and R. Pueschel; Environmental Research Laboratories, NOAA, Boulder, Colorado.

Applications of electron microscopy to the analysis of atmospheric sulfur containing particles.
Mr. P. Russell; Denver Research Institute, University of Denver.