ARCS & SPARKS

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ARCS & SPARKS
Fall - Winter 1971 Issue

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SPRING-SUMMER 1972

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16th International Spectroscopy Colloquium
Heidelberg, Germany

3rd International Atomic and Fluorescence Congress
Paris, France

1971 EASTERN ANALYTICAL SYMPOSIUM
New York City

1972 Pittsburgh Conference
Cleveland, Ohio

COMMITTEE CHAIRMEN: put Arcs & Sparks on your mailing list. We want to publish any information and photos which you feel will be of interest to your fellow spectroscopists.

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ADELAIDE SYMPOSIUM

Dr. J. R. McKellar, Chairman, Adelaide Symposium, giving the opening address. This inaugural symposium was held May 25-28, 1971, at the University of Adelaide under the sponsorship of the R.A.C.I., Division of Analytical Chemistry (see Spring-Summer issue Arcs & Sparks.) Dr. McKellar is a Lecturer at the Analytical Chemistry Section of the South Australian Institute of Technology, Adelaide, Australia.

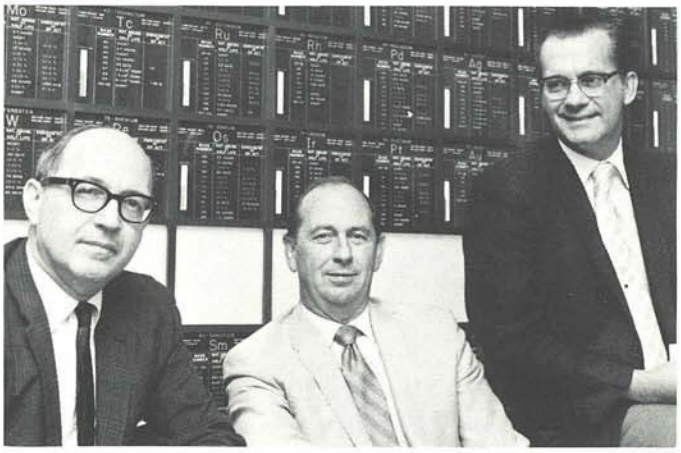
At left, Mr. Barry Timm, Symposium Committee Member. Mr. Timm is Officer-in-Charge of Analytical Chemistry, Australian Mineral Development Laboratories. At right, Mr. John Youngman, Sales Representative for O.H. O'Brien PTY. Ltd. Ultra Carbon Corporation is represented in Australia by O.H. O'Brien PTY. Ltd., with headquarters in Burwood and branch offices in Melbourne, Edwardstown and Milton.

3rd International Symposium on Research Materials for Nuclear Measurements

The Symposium, held under the sponsorship of Oak Ridge National Laboratory, U.S. Atomic Energy Commission, was held October 5-8, 1971 in Gatlinburg, Tennessee.

The purpose of the conference was presentation of preparative techniques in forming films, foils, single crystals, and high purity elements and compounds from separated stable and radioactive isotopes. Thirty-two papers on these topics were given. Both the accomplishment and problems in fabrication and compatibility of sample form to nuclear research were discussed.

Foreign countries represented at the meeting were Australia, Belgium, Canada, Denmark, England, France, Germany and Israel.



SOME OF THE OAK RIDGE NATIONAL LABORATORY MEN interested in the International Symposium on Nuclear Research Materials are (left to right) Arthur F. Rupp, ORNL, a member of the Symposium Program and Steering Committees; John H. Gillette, a Steering Committee member; and Edward H. Kobisk, Symposium General Co-Chairman.

The proceedings of the conference are available for $6.00, refer to: CONF.-71-1002, when ordering.

Write:

National Technical Information Service
U. S. Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22151

10th NATIONAL SAS SYMPOSIUM —

Dr. Charlotte Moore Sitterly is presented with an Honorary Membership, by Dr. Lee May, President of SAS. Dr. Sitterly is recognized as one of the world's foremost authorities of atomic, spectroscopic and solar spectrum data. Her "Atomic Energy Levels" and "Multiplet Tables" are standard references on which other scientists base their work.

Phil Kane, T.I., Rod Skogerboe, Colorado State U., Fred Breck, Fisher Scientific and Mrs. Kane.

R to L - J.H. Muntz, Wright-Patterson AFB, M.S. Wang, Monsanto, S.R. Koirtyohann, University of Missouri, Mrs. Koirtyohann, and E.E. Pickett, University of Missouri.

Ken Craver, Monsanto, Mrs. Clara Craver, Chemir Lab., Emanuel Singer, Singer Tech. Service, Mildred Vilger, Sohio, Martin Dietrich, Monsanto, Mrs. Dietrich, Jennie Grasselli, Sohio, Paul Wilks, Wilks Scientific.

Meggers Award recipient, C.D. Allemand, Fisher Research Laboratories, Fisher Scientific Co. Presenting the award, SAS President, Leopold May.

Stan Rasberry, NBS, Peter Keliher, Villanova U., John Johnson, Spectrogram Corp., Bill Gordon, Lewis Res. Center, NASA, Dr. Reuven Avni, Nuclear Res. Center, Beer-Sheva, Israel, William Barnett, Perkin-Elmer.

Committee Members, Dick Brobst, Norma Field, Emmet Kaelble, Program Chairman, Joan Steffen, Dave Schmidt, Louis Linder, Jim Ogilivie, Joan Westermeyer, Bill Koerner, Byron Field, and Mary Lou Hoevel.

Mrs. Pam Hieftji, Mrs. May Mossotti, John Fiorino, FDA, Victor Mossotti, U. of Minnesota, Sibyl Kane, Dan Golightly, NBS.

St. Louis, Missouri

October 18-22, 1971
Stouffer's Riverfront Inn

St. Louis Section Committee Members put finishing touches on the plans for the 10th National SAS Meeting. Left to right they are, William E. Koerner, Joan Steffen, Joan E. Westermeyer, Emmett F. Kaelble, Byron D. Field and Robert E. Keller.

J.W. Brasch, Center of Materials Research, Gerald L. Carlson, Carnegie Mellon University, S.S. Nitra, University of Rhode Island, R.J. Jakobsen, Battelle Mem. Inst., Malcom Niel, University of California.

T. Myers, US Geological Survey, Paul Pelton, Durham U. of N.H., Dr. Grant, U. of N.H., Joe Loongo, Don Malm and Tom Loomis all of BTL.

John Ward, D.O.D. Navy, Washington, D.C., Mrs. Bond and Mr. Bernard B. Bond, Technical Support Center, and Richard Whitman, Interactive Technology.

HASLER AWARD RECIPIENT

DR. VELMER A. FASSEL
Iowa State University, Ames, Iowa

Les. Ohmstead, N.L. Industries, G. Wheeler, Allied Chemical Corp., Roy Woodruff, Montana State U., Joan Westermeyer, N.L. Industries and F.E. Swartz, N.L. Industries.

Seated—Walter F. Edgell, Purdue University, Walter W. Morris, Food & Drug Administration, John Ferraro, Argonne National Lab., B. Murray, Argonne National Lab., standing, Leopold May, Catholic University and A. Bober, U.S. Customs.

CONTINENTAL OIL LABORATORY
PONCA CITY, OKLAHOMA

CONOCO'S ANALYTICAL RESEARCH PROVIDES CENTRALIZED FUNCTION WITH PRACTICAL SALES SUPPORT

Analytical research at Continental Oil Company—one of the nation's largest industrial firms—combines a centralized analytical function with practical sales support to provide the company with scientific and commercial benefits. What is more, the company's experience in trace metals analysis has resulted in the commercialization of "CONOSTAN," the trade name for a line of metallo-organic standards which have been receiving wide acceptance in analytical laboratories worldwide.

Located in Ponca City, Oklahoma, sometimes referred to as "the service center for the Conoco world," the Analytical Research Section is staffed with 68 professional, technical and clerical employees. It is the largest of four research activities of the Research Services Division in Conoco's Research and Development Department. Research Services is headed by Dave Burrows, a graduate of Oklahoma State University and a 23-year Conoco veteran.

"The best way to describe the Analytical Research Section is to say we are the 'referee' or resident expert on anything analytical," says Burrows. "We work for the company at large . . . petroleum, chemicals, minerals. Our refineries and plants perform some analytical work, but our Ponca City group is there to back them up with procedures, materials and solutions to any problems they might have.

"We have invested approximately $1.5 million in instrumentation and other equipment and believe that our organizational structure puts us in an excellent position to be of service to the company," comments Burrows. "You might say that as a laboratory we try to 'keep up with the Jones' and ahead of them if possible." Burrows adds.

Specific responsibility for the analytical research section is in the hands of Supervising Research Scientist Dr. Gerald Perkins, Jr., who received his graduate degrees in chemistry from Louisiana State University. "We have been trying to minimize the amount of sample handling and to do as much work as possible using automation," explains Dr. Perkins. "Instrumentation accounts for about 75 percent of our analytical effort and our constant concern is to increase the sensitivity of our methods. It is part of a general trend in industrial analytical work to upgrade quality specifications. Just five years ago, for example, the available method provided for parts-per-million specifications. But today,

Dr. Gerald Perkins (left) is Supervising Research Scientist in charge of Continental Oil Company's Analytical Research Section. At right is David B. Burrows, Manager, Research Services Division.

Dr. Donald E. Jordan injects a sample of water into the Beckman TOC (total organic carbon) analyzer.

largely as the result of concern with ecology, specifications call for parts-per-billion analysis," Dr. Perkins states.

The Analytical Research Section is composed of five groups, each with specific duties as described in the following:

SEPARATIONS ANALYSIS GROUP

The Separations Analysis Group takes the first step toward solving many analytical problems. The group employs the methods of distillation, solvent extraction, and chromatography. Its work can be described as the "sorting out" process prior to examination by other analytical techniques. The separation of components is made according to their chemical and physical composition. Procedures include thin-layer, gas-liquid, liquid-solid, ion exchange, and liquid-liquid chromatography. Separations of samples in liter quantity size can be performed when using preparative gas chromatography. Resulting components are of high purity and can be used as analytical standards.

CHEMICAL ANALYSIS GROUP

The Chemical Analysis Group is the "first line of defense" in Conoco's analytical chemistry section. This group, originally formed around classical methods, is now heavily instrumented. Many analyses, including organic functional groups, metals and nonmetals are automated. Active research and development programs include thermal and kinetic methods and the quantitation of trace levels of organic and inorganic ions.

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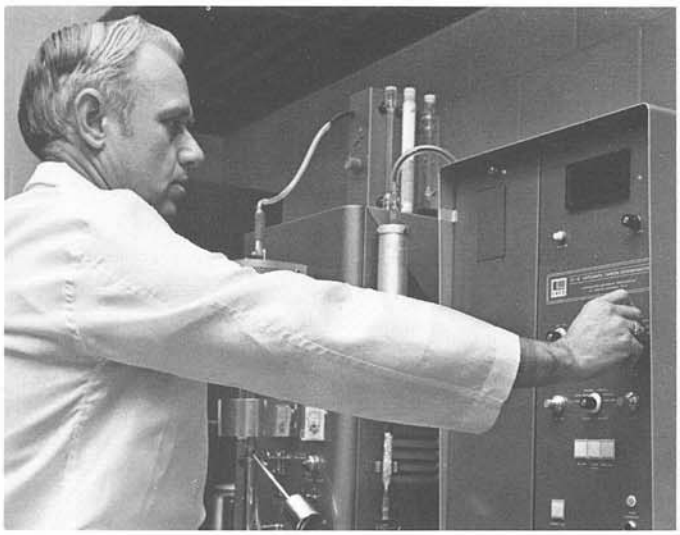
Mr. Charles F. Maddox measures the total and organic carbon content on the Leco Model TC-12 analyzer.



Dr. George Dickinson is shown determining metal compositions with an X-ray spectrometer.

CONTINENTAL OIL LABORATORY, Ponca City, Oklahoma

Mr. Fred Rowe examines a mineral specimen with a Leitz polarizing microscope.

Mr. Dallas Winter (standing) and Mr. Knox Moore record high resolution mass spectra on photoplates as materials are eluted from GLC inlet.

SPECTROSCOPY GROUP

The Spectroscopy Group uses instrumental methods to complete compositional analyses for both organic and inorganic materials. These analyses range from simple trace metal determinations to complex structural identifications of experimental materials. Physical property measurements, such as viscosity, particle-size distribution, and microscopic measurements, coupled with detailed X-ray diffraction, electron microscopy, infrared, ultraviolet, and electron microprobe analyses, are examples of techniques used to complete detailed characterizations.

Quantitative determinations of major and trace metals are completed in the X-ray, atomic absorption, and emission spectrometric laboratories.

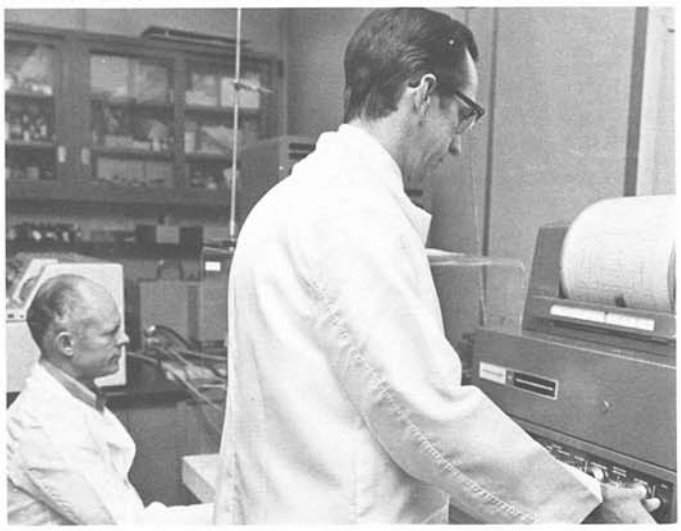
ANALYTICAL SYSTEMS RESEARCH GROUP

Computers are the basic tools of the Analytical Systems Research Group. Data acquisition systems and computer programs designed by the group provide for the automatic processing of data from a variety of analytical instruments. In some cases, computer control of the experiment is also provided. Other functions of the group include overseeing the operation of a sample accounting system for the Analytical Research Section and providing some programming support to the R&D Library.

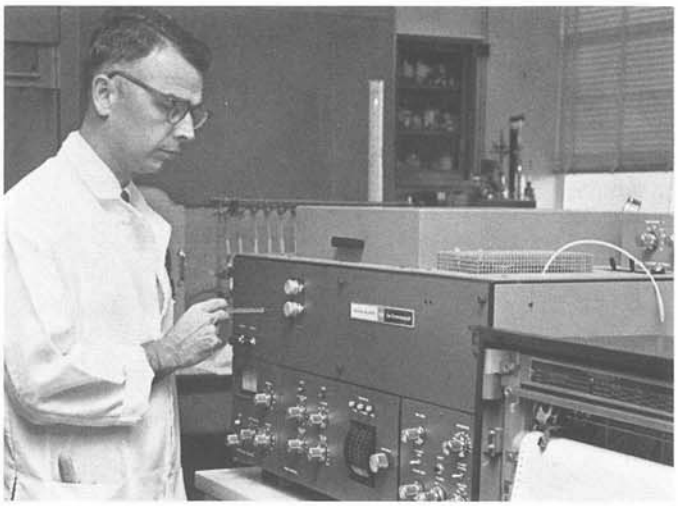
MAGNETIC RESONANCE-MASS SPECTROMETRY GROUP

The primary mission of the Magnetic Resonance-Mass Spectrometry Group is the identification of a variety of organic materials. Both qualitative and quantitative analyses are done on 1 to .001 micrograms of sample via mass spectrometry. Nuclear magnetic resonance, performed on larger samples, provides unique information about the kinds of hydrogen present in a sample and therefore about the functional groups present. Electron spin resonance provides information about unpaired electrons, so it is used to study organic free radicals as well as

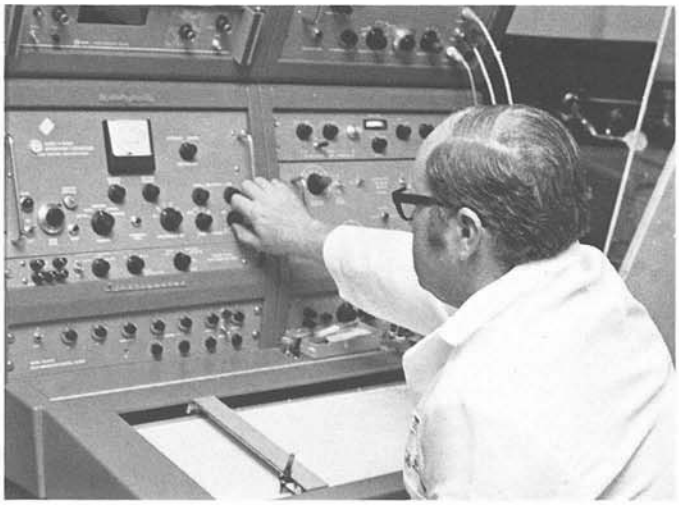
Dr. Monte Evens and Mr. Jack Taylor (left) complete structural characterizations with an infrared spectrophotometer.



Dr. Thomas Cowley and Dr. Donald Kampbell are seen at the console of a 3.4 meter Ebert Spectrograph.



Dr. Charles Herrin injects a sample into a gas chromatograph.



Organic identifications are made by Mr. Charles Godsey via the HA-100 NMR.

transition metal compounds. Magnetic resonance and mass spectrometry independently provide unique information which is complementary in the determination of organic structure.

Working with petroleum chemical and ore samples, Conoco's Analytical Research Section tests for the presence or absence of trace metals, color bodies, odor and carcinogenic agents. National concern over polluted air and water has resulted in heavy emphasis on analyses of refinery, petrochemical and natural gasoline plant discharges. Systematic sampling and analysis of discharges from the company's seven refineries, five petrochemical plants and sixteen natural gasoline plants is performed by commercial analytical laboratories under the technical direction and surveillance of the Analytical Research Section.

In the field of trace metals analysis the company's analytical researchers have been able to provide significant support in increasing sales of Conoco's lubricating oils. In coordination with Conoco's petroleum marketers, the analytical section performs wear metals analyses on engine oil samples taken from users of Conoco products. "It is a sophisticated, but not complicated, analytical procedure," says one marketing specialist.

The testing program, termed Conoco Monitored Maintenance, is aimed at preventing engine breakdowns through determination of the types and quantities of wear metals found in oils which have been used over periods of time. Analytical findings indicate which engine parts—valves, pistons, bearings, etc.—might have suffered excessive wear. Replacement, if necessary, of excessively worn parts can save the Conoco customer from expensive overhauls and downtime resulting from breakdowns of his vehicles or stationary engines.

Begun in 1968, the Monitored Maintenance program has gained additional customers for Conoco engine oils. The service is particularly valuable to bulk purchasers

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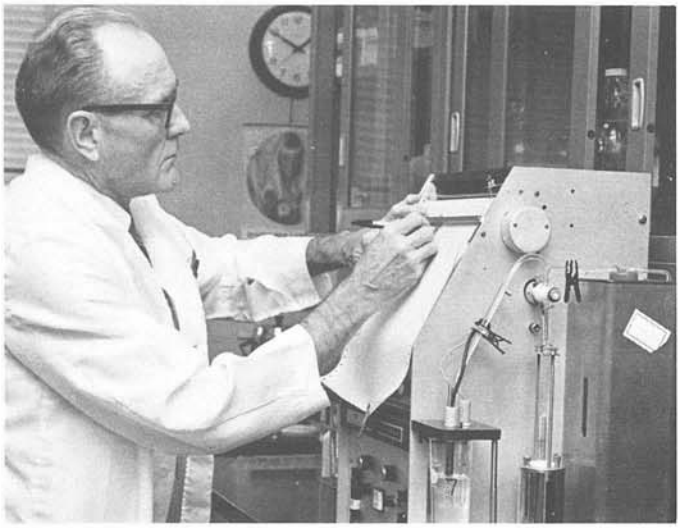
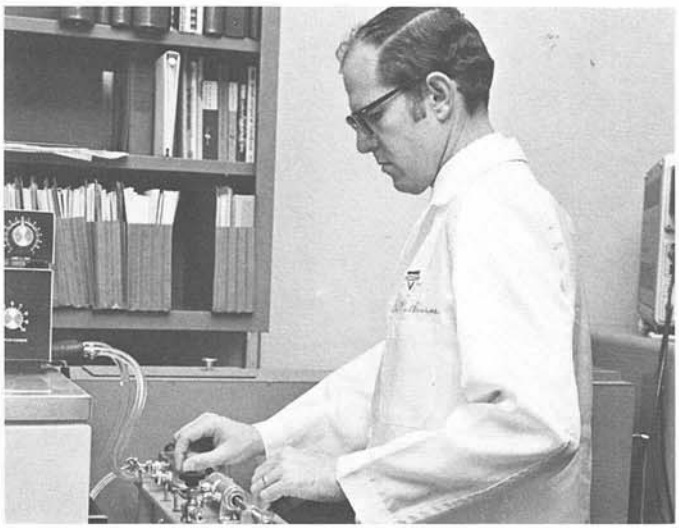
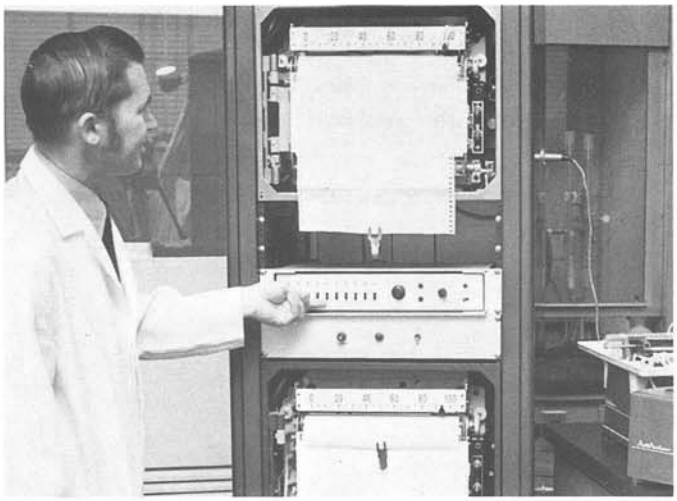
Mr. Charles H. Hale can be seen completing a potentiometric titration on an automatic recording titrator.



Dr. Dale K. Cabbiness operates a stopped-flow spectrophotometer for an analytical kinetics research project.



CONTINENTAL OIL LABORATORY, Ponca City, Oklahoma



Mr. Jack L. Hoyt adjusts the data acquisition system during an AutoAnalyzer analysis for low levels of detergent in water.

Mr. Alfred B. Carel studies a thermogram obtained from a thermal gravimetric analysis.

who must depend upon their engines in conducting their businesses. In the words of Conoco marketers, "Monitored Maintenance is solving serious engine problems before they happen."

An outgrowth of the company's Monitored Maintenance program was the introduction in 1970 of "CONOSTAN," a line of metallo-organic standards. Formulated by Conoco's Analytical Research Section and sold exclusively by the "CONOSTAN" Division, the standards are metallo-organic sulfonates designed to improve the accuracy and reliability of spectrometric oil analysis techniques. "CONOSTAN" standards possess exceptional solubility, stability and compatibility seldom encountered with other chemical types of oil standards.

Prepared in concentrations ranging from 5,000 to 3 parts-per-million, the standards are available in mixtures of 12 or 20 elements or as single-element concentrates. They are used by the U. S. Department of Defense laboratories and in dozens of industrial and commercial laboratories throughout the world to determine types and concentrations of metallic trace elements in oil.

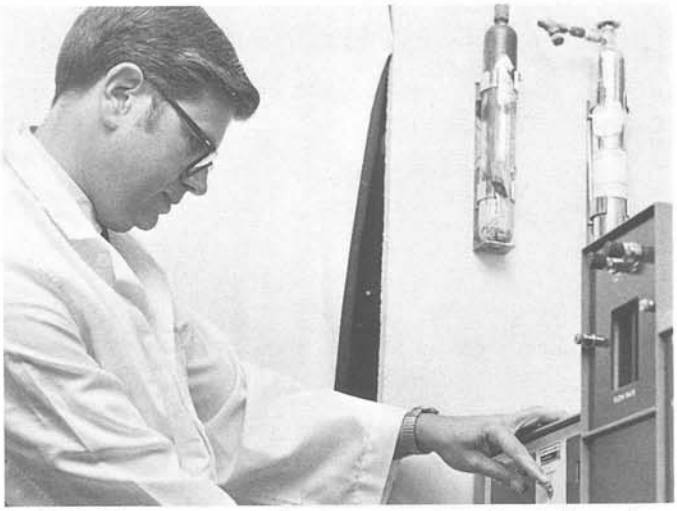
A "sister" product of "CONOSTAN," introduced by Conoco in September, already is receiving wide acceptance as a convenient and inexpensive solution in analyzing trace metals in either organic solids or liquids. Called "CONOASH-M," the preparation is a metallo-organic solution specifically designed for X-ray fluorescence analysis. "CONOASH-M" is a magnesium sulfonate ash aid prepared at one percent by weight magnesium in oil. The low trace metal levels of "CONASH-M" afford accuracy even when large amounts of magnesium sulfate ash relative to sample ash exist.

Petroleum analysis constitutes more than 75 percent of the output of Conoco's Analytical Research Section with the remainder in chemical and ore analyses. A lesser known, but very important aspect of the Section is the training of others to perform analytical work.

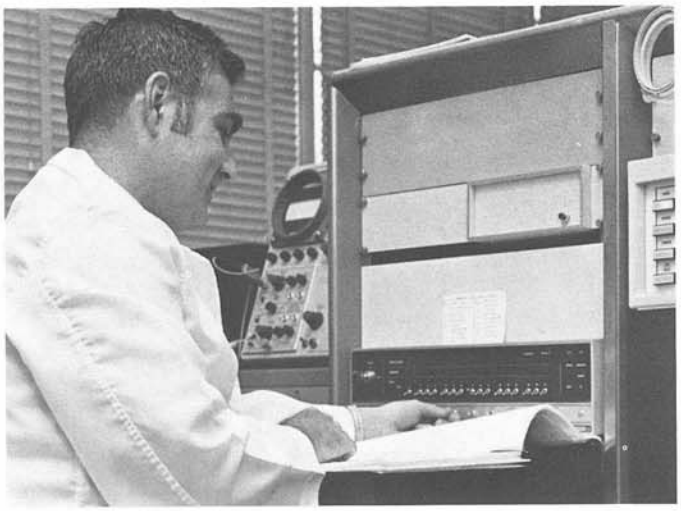
Routine quality control analysis at refineries and plants is performed at various plant sites with the guidance

Here, Dr. Charles McKinney operates an EMX-SM microprobe.

Dr. Don Linder monitors a separation on a liquid-liquid chromatograph.



Dr. D. E. Monn operates a local console of the Perkin-Elmer data acquisition system.



Dr. Arthur S. Rosenberg enters a computer program into the mass spectometry data acquisition system.

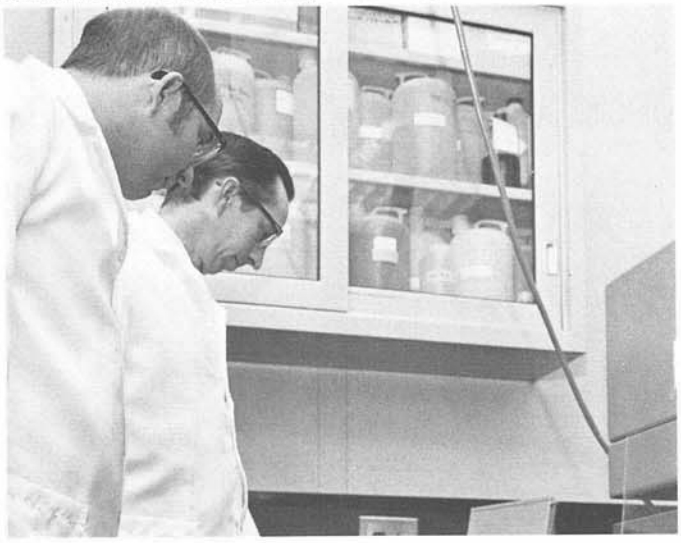
and support of Conoco's "resident experts" in Ponca City. The Analytical Research Section holds periodic training sessions for plant chemists and technicians at the Ponca City laboratories. The sessions are designed to keep refinery and plant personnel up to date on new analytical methods and techniques and to familiarize them with instrumentation unavailable in plant laboratories.

The training and upgrading of skills among professional members of the Analytical Research Section is not neglected. Several members of the analytical staff, including its head, Dr. Perkins, are enrolled in courses presented over closed-circuit television from Oklahoma State University, the University of Oklahoma, and Tulsa University. The system is a "talk-back" television network which allows students to see and hear their instructors and also to discuss points by telephone as the lesson progresses. The classrooms and television monitors are located in Conoco's education center in Ponca City.

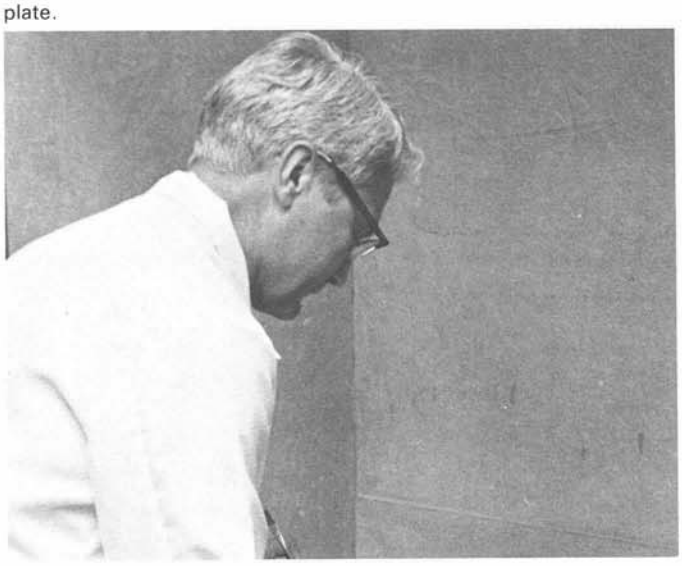
Dr. Perkins points out that almost all professional members of the Section attend one or more conferences or symposiums, such as the Pittsburgh conference, each year. The preparation and presentation of research papers is encouraged.

What is the future of analytical research at Continental Oil Company? Let Dr. Perkins explain it. "The trend in our section is toward increased examination of production ores and milled ore samples. Our company is intimately involved in the exploration and production of natural resources and this is where the sophisticated support of analytical research is most needed. Of course, petroleum analyses will always take the lion's share of our time. But chemical and ore examination will grow. Hard rock minerals exploration is a relatively new activity in Conoco. We look forward to being an integrated part of that business as it develops in our company. We are smart enough as scientists to recognize we are also businessmen."

Dr. Thomas Cowley and Dr. Monte Evans review CONOSTAN data from a 1.5 meter direct-reading emission spectrometer.



Mr. Ted Martin completes a char of a thin-layer chromatographic plate.



1971
ANACHEM
AWARD
WINNER

NINETEENTH ANNUAL

Detroit Anachem Conference

OCTOBER 11-13, 1971
DEARBORN INN
DEARBORN, MICHIGAN

Dr. Velmer A. Fassel, Deputy Director of the Institute for Atomic Research, Iowa State University, Ames, Iowa, has been named to receive the 1971 Anachem Award in Analytical Chemistry. The award goes annually to a scientist who has made outstanding contributions to analytical chemistry through research, administration, teaching and other activities advancing this division of chemistry as a profession. Dr. Fassel was cited and presented the award at a special symposium held in his honor at the 1971 Anachem Conference held at Dearborn Inn, Greenfield Village, Dearborn, Michigan on October 12, 1971. Dr. Fassel's address was "Electrical Plasmas as Free-Atom Generators and Reservoirs for Analytical Atomic Absorption, Emission and Fluorescence Spectroscopy."

He received degrees of B.A. at Southeast Missouri State College in 1941 and Ph.D. in physical chemistry from Iowa State University in 1947. Since 1942, Dr. Fassel has been associated with Iowa State University, first as a spectroscopist with Iowa State Manhattan Project and as a member of the faculty. In 1956 he was appointed professor of chemistry, a position he held concurrently with that of Senior Scientist in the University's Institute for Atomic Research until 1965. In that year he was elevated to the position of Section Chief of the Institute and in 1969 he assumed the position of Deputy Director, while retaining his academic position of Professor of Chemistry.

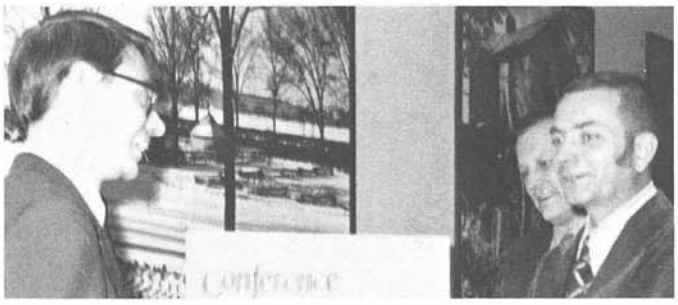
He is the author of 110 publications on various aspects of atomic emission and absorption spectroscopy, molecular spectra and structure and high temperature analytical chemistry. He has received four major awards: The Annual Medal Award of the Society for Applied Spectroscopy in 1964, the Spectroscopy Society of Pittsburgh Award in 1969, a special gold medal presented by the journal SPECTROCHIMICA ACTA in appreciation for his service as co-editor for 13 years and the Hasler Award (1971) which is an international award sponsored by Bausch & Lomb "to recognize and encourage notable achievement in spectroscopy which has resulted in significant application of broad utility." He has been a member of the IUPAC Commission of Spectrochemical and Other Optical Methods of Analysis since 1958 and now holds the position of Secretary of this Commission. In 1967, he was appointed to the Joint Commission on Spectroscopy, International Council of Scientific Unions. He has lectured extensively in foreign countries, including a three week tour in Japan in 1962.

The Optical Society of America and the American Association for the Advancement of Science have elected Dr. Fassel to Fellow Membership.

Left to right—Dr. V.A. Fassel receives the 1971 Anachem Award from R. B. Luers, Award Chairman.

Left to Right - C.J. Leistner, Ultra Carbon, F.M. Evens, Continental Oil, Edward DeKalb and V.A. Fassel, both Iowa State U., Mrs. Fassel, W.B. Barnett, Perkin-Elmer, C.H. Anderson, Applied Research Lab.

Left to right—Ronald Kozara, Food & Drug Adm., Ed Havlena and Harry Myers both of Detroit Edison, Dorie Hefty, Convention Bureau, (standing) Dick Luers, Park-Davis Co.



Left to right—Fred Lytle, Purdue University, (rear) J. A. Howell, Western Michigan U., E. C. Toren, Jr., University of Wisconsin.

13th Annual Rocky Mountain Spectroscopy Conference

AUGUST 9-10, 1971
NEW ALBANY HOTEL
DENVER, COLORADO

The Outstanding Service Award was presented to (right) Dr. Marvin W. Skougstad in recognition of his service to the Rocky Mountain Section of the Society for Applied Spectroscopy. The presentation was made by (left) Harlan N. Barton, Chairman of the Rocky Mountain Section.

Left to right—George M. Pachelo, Dow Chemical Co. Chairman of the 1971 Conference, Mrs. Pachelo, Charles C. Macnamara, Colorado Department of Health, Banquet Speaker, Mrs. Macnamara, Richard C. Cavenah, Beckman Instruments, Inc., Conference Chairman-Elect and Mrs. Cavenah.

Left to right—Al Bernhard, Bill Davis and Leo O'Brien, all of Labtest Equipment Co. J.R. Churchill can be seen in the background.

Left to right—Harlan Barton, Dow Chemical, Ray Woodriff, Montana State University and Mrs. Woodriff.

Left to right—Mrs. Shaw, Van E. Shaw, Mrs. Skoustad, Dr. Marvin Skougstad, Mrs. Myers, A.T. Myers, Mrs. Brennan and Robert Brennan. All the gentlemen are with U.S.G.S., Denver, Colorado.

Left to right—Frank M. Tindall, Consultant, John W. Yule, Ideal Cement Co. and F. W. Johanson, Siemens Co.

ULTRA PEOPLE

Francis Lobo

INTERNATIONAL SCIENTIFIC OF CANADA To Market Ultra Carbon Products

Ultra Carbon Corporation, Bay City, Michigan, recently announced the appointment of INTERNATIONAL SCIENTIFIC of CANADA as their Canadian representative for their carbon/graphite laboratory and industrial products.

With headquarters in Ottawa, ISC also maintains sales offices in Montreal and Toronto.

A young aggressive company, ISC began operation in January 1967. Organized and headed up by Mr. Francis Lobo, with an aim to representing foreign manufacturers of research equipment and accessories in the chemical and bio-medical fields, ISC has shown rapid growth and expansion in these areas.

Mr. Lobo is well qualified for the job he has undertaken. His early childhood was spent in Spain. He attended a private school in England, graduating from high school when he was 15 years old. He attended Cambridge University for a year and then went to Canada. Here, he attended McGill University in Montreal, graduating in 1963 with a degree in science and engineering. Francis worked his way through college by selling magazines. As a student he showed his organization and leadership ability by employing 10 to 40 students during summer vacations to assist him selling magazines.

After graduation he went to work in Ottawa for the Bendix Corporation, Scientific Instrument Division, as a sales engineer. After two years he was transferred to their head office in Cincinnati, Ohio, as sales manager where he remained until opening ISC sales offices.

Francis traveled extensively throughout Europe and Canada while a student. It was during this time that he became an avid stamp collector, a hobby he still enjoys. An enthusiastic ski buff, the winter months find him taking every opportunity to enjoy the magnificent ski slopes Canada offers. He is active in the Kiwanis and has been interested in the theatre since his college days and presently is a member of the Board of Directors of Ottawa Little Theatre.

Heading up the Montreal office of ISC, is Robert Murray. Bob received his degree in chemistry from McGill University in 1962. After graduation he was employed by Bell Telephone for five years. He then went to McGill as a research assistant. He has been with ISC since 1970 and is responsible for sales in Quebec and the Maritime provinces. Bob is an outdoor enthusiast and free moments find him sailing, flying or skiing, depending upon the weather or the season of the year.

ISC is ably assisted by William Robinson, who is responsible for sales in Ontario and Manitoba. He makes his headquarters in Toronto with his wife and daughter. Bill has a Masters Degree in Chemistry, graduating from the University of Toronto in 1966. Prior to joining ISC in 1969 he was employed in the research department of the IBM Corporation. Bill is an excellent amateur photographer and enjoys golf, camping and skiing.

Oil Analysis Paper read by

CARL J. LEISTNER

Technical Director, Ultra Carbon Corporation

at

16th International Spectroscopy Colloquium

Heidelberg, Germany

For several years Mr. Leistner has been closely associated with many of the oil analysis programs being conducted throughout the country. The paper he presented at the recent Heidelberg meeting is the result of his own experiments and those of the co-author, Mr. L.A. Dugas of Hattisberg, Mississippi.

Spectrochemical Analysis of engine wear metals in lubricating oils is recognized as an effective means of diagnosing engine deterioration due to excessive wear of moving parts. It is a proven safeguard, when used routinely, cutting the cost of replacement parts and down time for engine repair.

A sample of oil is removed from the crankcase of each engine on a systematic schedule. Using the rotating disc technique the values are obtained and charted for lead, tin, magnesium, iron, aluminum, chromium and copper. Continued increases in the metallic concentrations in the oil is instantly recognized as a sure sign of possible malfunction of the engine.

For some time, it has been the opinion of the authors that electrodes produced from different graphite grades, result in varied analytical results. The paper read by Mr. Leistner, shows statistically, that the physical property parameters of the graphite, in the direct burn method, effect the reproducibility and accuracy of the method, when using the paired comparison test.

Oil standards were prepared and tests performed on one purification lot of electrodes. The electrodes were one configuration of disc and rod, fabricated from four different grades of extruded graphite rod. Type I and II were fabricated from a low density graphite grade. Type III

was an intermediate density graphite grade and Type IV was a high density grade.

The complete text and comparison charts are available. Write: Mr. Carl J. Leistner, Technical Director, Ultra Carbon Corporation, P.O. Box 747, Bay City, Mich. 48706.

MIDWEST REPRESENTATIVE

George Hanna

Recently joining Ultra Carbon, George Hanna, is responsible for sales of laboratory and industrial graphite products in Michigan, Wisconsin, Illinois, Indiana and Ohio.

George is a native of Cleveland, Ohio. He received his B.M.E. from Cornell University in 1957. Entering the service soon after graduating, he served in Army Intelligence with the rank of Captain.

Carbon and graphite materials and products are not new to George. He was employed in the Carbon Products Division of Union Carbide Corp., as Product Manager. His responsibility was the sale, marketing and technical support of the product. For the past seven years he has been with Carborundum Corp., as Central District Sales Manager, in the Graphite Products Division.

The Hanna Family make their home in Chagrin Falls, Ohio. There is his wife, Mary, and a daughter and two sons.

He is a Deacon in the Federated Church of Chagrin Falls and is a member of the American Society of Testing Materials and American Institute of Metallurgical Engineers. George is also active in the American Management Association and has instructed courses in various phases of management for them.

With a tight working schedule it is difficult to find time for his favorite sport, fishing, but as an amateur photographer, he is able to pursue this hobby even on business trips.

LABORATORY AND SALES LIAISON

Robert Anthony

Robert J. Anthony joined Ultra Carbon in May 1971 as a trainee for laboratory and industrial sales. His aptitude and background prepared him well for the position he assumed in September as Laboratory and Sales Liaison in the R&D Group.

Bob is a native of Bay City and a 1954 graduate of St. James High School here. He worked his way through college as a machine operator for the Bay City Division of General Motors. He graduated from Delta College with an Associate of Science degree.

He was employed by Dow Corning, Hemlock, Michigan, first as an Intermediate Product Technician then moved on to the Research and Development Group as a Lab. Technician. He was promoted to Senior Lab. Technician and worked as a Mass Spectroscopist.

Just prior to joining Ultra he was employed as Supervisor of Quality Control and Evaluation for High Performance Technology, Incorporated, Midland, Michigan.

Bob recently represented Ultra Carbon in the United Fund Campaign as a "loaned executive". He is an active member of the Knights of Columbus, Elks Club and the American Society for Mass Spectroscopists.

Like most Michigan families, Bob, his wife Clarice and their four children are outdoor enthusiasts. They enjoy hunting, fishing and camping. Winter finds them all on snow machines as long as the snow holds out. Bob plays baseball on a local team and names another of his favorite sports, pitching horseshoes, whenever he can find anyone to take him on.

A number of Ultra customers have already talked to Bob on the phone and many more will be seeing him or talking to him in the future.

1972 PITTSBURGH CONFERENCE PRELIMINARY REPORT

The Twenty-third Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy will be held at the Cleveland Convention Center, Cleveland, Ohio, U.S.A., March 6-10, 1972. An estimated 300 papers on all phases of Analytical Chemistry and Spectroscopy will be presented. Symposia on the following subjects are now being arranged.

1. Analytical Applications of ESCA.
2. Analysis of Surfaces - What Can the New Techniques Tell Us.
3. Dedicated Computers - State of the Art in Their Use in Analytical Chemistry.
4. Biochemical Applications of Mass Spectrometry.
5. Standard Methods for Ambient Air Analysis.
6. Analytical Applications of X-ray Diffraction.
7. Teaching Analytical Chemistry - Industrial and Academic Views.
8. Scientists - The "Out" Group.
9. The Role of the Analytical Chemist in Process Control.
10. Thermal Methods of Analysis - Applications.
11. Coblentz Award Symposium.
12. Spectroscopy Society of Pittsburgh Award Symposium.

In addition to the program of technical papers, more than 250 companies, both foreign and domestic, will be represented at the Exposition of Modern Laboratory Equipment, the largest exposition of analytical instrumentation and related materials in the world. Information concerning the exhibits should be directed to:

Mr. Harry W. Fracek, Pres.
1972 Pittsburgh Conference
Fisher Scientific Company
585 Alpha Drive
Pittsburgh, Pa. 15238

Mr. A.J. Kavoulakis, Exposition Chrm
1972 Pittsburgh Conference
Shenango, Inc.
200 Neville Road
Pittsburgh, Pa. 15225

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