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**Eleventh National Meeting - - Dallas, Texas
September 10-15, 1972 - Statler Hilton Hotel**

Arcs & Sparks is published by Ultra Carbon Corporation, P.O. Box 747, Bay City, Michigan 48706, for the advancement of the profession of spectroscopy. News stories, changes of address and other pertinent correspondence should be directed to the Editor.

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Bay City, Michigan 48706



Marion Tamblyn



23rd Pittsburgh Conference

Cleveland Convention Center
Cleveland, Ohio
March 6-10, 1972

Photos by Al Church



Ossie Wilkinson, Alcoa Research, Program Chairman, sells the first copy of long abstracts to Ray Milward of Polytec.



Bob Baudoux, U.S. Steel Research, Publicity Chairman, draws President Harry Fracek's attention to a proclamation from Ralph J. Perk, Mayor of Cleveland, designating the period March 6-10 as Pittsburgh Conference Week.



Activities Booth — (l. to r.) Norma Bottone, Union Carbide, Jayne Carson, USS Chemicals, Activities Chairlady, Marianne Harrison, David Pensentadler, Carnegie-Mellon University, Activities Chairman-Elect.



Symposium Scientists — The "OUT" Group — (l. to r.) Presider Foil Miller, University of Pittsburgh, Alan Nixon, President-elect ACS, W. E. Hanford, Olin Corporation, Pat McCurdy, C & E News, George Hammond, California Institute of Technology. (Dick Hein of H. J. Heinz Co. arranged the symposium but was unable to attend.)



Board of Directors — Front row (l. to r.) Robert Witkowski, Westinghouse Research, Chairman-Elect, Spectroscopy Society of Pittsburgh, Joseph Ryan, Harbison-Walker Refractories, Vice President, Harry Fracek, Fisher Scientific, President, Miss Jane Harter, Westinghouse Electric, Secretary, Joe Feldman, Duquesne University, Treasurer. Back row (l. to r.) Miss Ellen Gonter, Cyrus Wm. Rice Div. NUS Corp., Chairman-Elect, Society for Analytical Chemists of Pittsburgh, Robert Nadalin, Westinghouse Research, Chairman, Society for Analytical Chemists of Pittsburgh, Robert Mainier, Koppers Research, Chairman Spectroscopy Society of Pittsburgh, Bill Fately, Carnegie-Mellon University, Immediate Past-President and Chairman Long Range Planning Committee, John Jackovitz, Westinghouse Research, Assistant Treasurer.

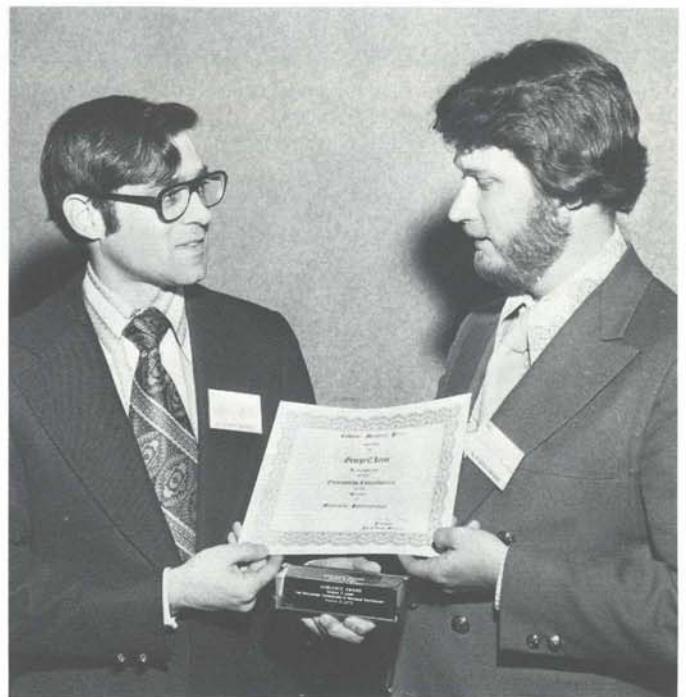


23rd Pittsburgh Conference — Cleveland Conv

Photos by Al Church



1972 Spectroscopy Society of Pittsburgh Award co-recipients Paul C. Cross (l.) and David S. McKinney (r.) display the awards presented by Robert Mainiers, Chairman of SSP.



1972 Coblenz Society Award recipient George E. Leroi (left) receives the award from James R. Scherer, President of the Coblenz Society.



Attended for 20 Consecutive Years — Miss Anne Bartruff is commended for her 20-year record of attendance at the Pittsburgh Conference by 1972 President Harry Fracek. Anne, a Senior Engineer at VR/Wesson — Division Fansteel, was initially employed with Hilton Davis, a division of Sterling Drug. She changed employment to General Electric where she would be working in metallurgy. To learn about metallurgical analysis and get a quick background, she was urged by fellow employees to attend the Pittsburgh Conference. She did, and returns each year to catch up on new techniques. She considers the Conference a "refresher course." Anne is a graduate of the University of Cincinnati, School of Engineering, and a Past-President of Anachem.

Convention Center — Cleveland, Ohio March 6-10, 1972



The President and His Lady — Esther and Harry Fracek.



Gretchen Baudoux and Alan Nixon, President-Elect, ACS.



(l. to r.) Ed Obermiller, Consolidation Coal, Special projects Chairman, Nadine Obermiller, Carol Evashavik, Gerald Evashavik, and Bob Mainier, Koppers Research, Chairman SSP and Past-President.



(l. to r.) Willis G. Rader, Republic Steel, R. L. Zickenfoose, Weirton Steel, J. T. Rozsa, Republic Steel Research take a coffee break between morning sessions.

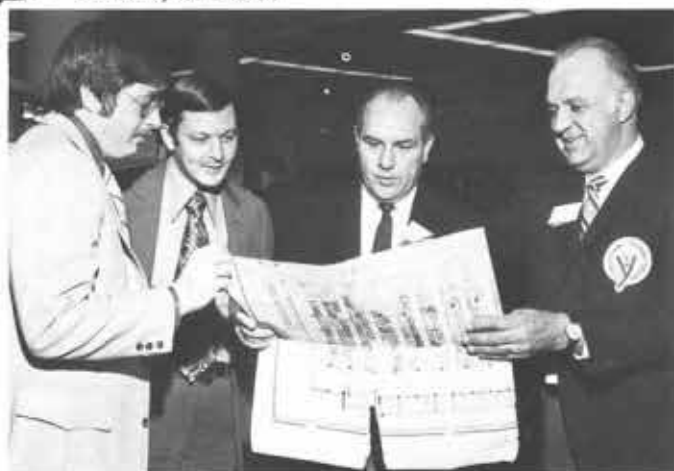


Nita Stone, Chairlady-Elect of the Ladies' Program and Joe Feldman, President of the 1974 Pittsburgh Conference, are being tagged for the next dance.



23rd Pittsburgh Conference—Cleveland Convention

Photos by Al Church



L. to r. Robert Spiegelman, United Exposition Service, Bob Witkowski, Westinghouse Research, Exposition Chairman-Elect, check over the booth chart with Harry Fracek and Alex Kavoulakis of Shenango Steel, Exposition Chairman.



Past-President Bruce LaRue, National Steel and 1972 Vice-President Joe Ryan, Harbison-Walker Refractories.



Alan Nixon, President-Elect ACS, and Bob Baudoux, U.S. Steel Research, 1972 Publicity Chairman, check the next speaker on the program.



Bill Stetson, Stetson Exposition Service, Bruce LaRue, National Steel, Jane Walsh and John Besanceney, Pittsburgh Convention Bureau and Frank Dickson, Gulf Research.



(l. to r.) Tom Clark, Cleveland Convention Center, Mrs. Clark, Jeannie Carrozza, Harbison-Walker Refractories, Joe Ryan, Harbison-Walker Refractories and Mildred Ryan.



(l. to r.) Dan Manka, Jones & Laughlin, Registration Committee, Louise Manka, Florence Sweeney, Harold Sweeney, Koppers Research, Housing Chairman, Francis Angeloni, Koppers Research and Faye Angeloni.

tion Center — Cleveland Ohio — March 6-10, 1972



Caught in an off-guard pose is Pete Stavrenos, supervisor for the Decorators and Furniture Handlers Union Local 48 of the AFL-CIO. Along with the cooperation of Pete and his men, the carpenters, electricians, teamsters, and all other Convention Center employees, the Exposition and the total 1972 Conference was a smooth-running affair.



The 1972 Conference saw 262 companies, occupying 482 booths at the Cleveland Convention Center. Those who visit the exhibits from Monday to Friday have no way of knowing how dependent the exhibitor is on the people he must work with to get his display set up and in operation. It is the cooperation and real concern shown by Pete Stavrenos and All the men and women who work there, that has earned the Cleveland Convention Center the reputation of being one of the best places to exhibit in the country!

Three days prior to the opening of the Conference, the view from the stairway overlooking the exhibit area is one of complete chaos. You wonder if it will be ready on time and you can't see how it possibly could be.

Unless you have been a part of it, you will find it hard to imagine the hundreds of people, boxes, crates, rolls of carpeting, piles of furniture and all of it a blur of movement. As you watch you suddenly realize that it is the greatest scene of "organized confusion" you have ever witnessed. Within minutes you will see the carpeting go down, a crate disappear and a piece of equipment in its place, the furniture is set, and all is ready for the exhibitor to add the finishing touches. You watch it happen first in one area then in another. Here and there the lights of an exhibit go on and you realize, that it will be ready on time.

All too often we tend to forget the people behind the scenes. We take this opportunity to extend our sincere thanks and hearty congratulations to the folks at the Center for a job well done. All of you played a big role in making 1972 a great success for the exhibitors. We look forward to greeting you again next year.



23rd Pittsburgh Conference Center



(1. to r.) Ossie Wilkinson, Alcoa Research, Program Chairman, Virginia Wilkinson, Rose Marie Sharkins and Al Sharkins, Alcoa Research, Program Preprints.



(1. to r.) Virginia Wilkinson, Maryanne Jackovitz, Ossie Wilkinson, Delia Calabrese and Jim Lanese.



Ossie Wilkinson, Program Chairman, extracts one dollar from President Fracek for the week's worth of long abstracts of the papers printed in tabloid form. Pamela Jordon of the Convention Center observes the transaction.



"You never heard of a computer?" President Harry Fracek asks Bill Straub, U.S. Steel Research, Registration Chairman, while Joe Feldman (standing), Duquesne University, Treasurer, Bea Amersbach of the Convention Center, and S. David Cifrutlak, Calgon Corporation, Registration Chairman-Elect, listen intently. (Registration was computerized)



(1. to r.) Bob Witkowski, Westinghouse Research, Exposition Chairman-Elect, Adrian Van Hoften, Varian, Ann Witkowski, Bob Spiegelman and Ron Chan both of United Exposition Service.



(1. to r.) Joe Feldman, Treasurer, Bill Fately, Immediate Past-President, Robert Mainier, Chairman SSP and Past-President, Oswald Wilkinson, Program Chairman, Joe Ryan, Vice-President, Harry Fracek, President, Adrian Van Hoften, and Charles McCafferty, Chairman-Elect, Special Projects.

Cleveland, Ohio — March 6-10, 1972

Conference Candidats



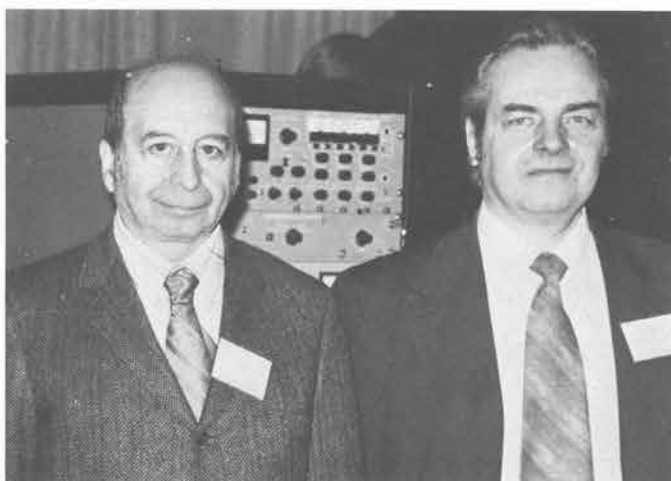
Bob Anthony and Carl Leistner, Ultra Carbon Corporation.



Dave Geigle and G. A. Kleinberg both of Aerospace Medical Research Lab., W.P.A.F.B.



Ed Cahill and Jack Conway both of Oil International Laboratories.



Sam Cohen and Barney Karplis, Ford Motors.



R. J. Jakobsen, Battelle Memorial Inst. and Thomas Page, Jr., General Electric.



L. B. Westover and W. J. Potts, both of Dow Chemical.

3rd International Atomic Absorption and



M. Pinta, General Secretary for the Congress, G. Baudin, Member of the Scientific Committee and Pres. of the Scientific Committee, Prof. M. L. Girard, all of France with G. Lindstedt of Sweden.



Prof. M. L. Girard and Carl Leistner, USA.



J. Szava, S. Mehesfalvi, Dr. Zapp, all of Hungary and M. Matherly of Czechoslovakia.



L. DeGalan, Netherlands, K. M. Aldous, USA, Z. T. Gakovic, Great Britain, L. R. P. Butler, So. Africa and G. M. Heijtje, USA.



S. R. Koirtiyohann, USA, P. L. Boar, Australia, F. Alberico, Italy, Dr. Beevers, Australia.



I. Rubeska, Czechoslovakia and J. Stupar, Yugoslavia.

Fluorescence Spectrometry Congress

September 27 -
October 1, 1971
Paris, France



M. L. Girard, Prof. A. Kastler, (Nobel Prize in physics, 1969), G. Baudin and M. Pinta.



J. Artaud and Mme. A. Frere both of France with L. R. P. Butler of So. Africa.



Georges Aubert and Mdm. Pinta, both of France with R. Mavrodineanu, USA.



F. Rousselet and H. Boiteux both of France.



C. Leistner, USA with L. R. P. Butler and H. G. C. Human both of So. Africa.



J. P. Wolff, P. Chovin and G. Cumont, all of France.

Colloquium Spectroscopicum Internationale,



All from So. Africa. Mr. and Mrs. L. R. P. Butler and Mr. and Mrs. W. W. Schroeder.



All from the USA, F. N. Abercrombie, A. S. Michaelson, R. McGowan, Elaine Baker, V. Stearns, and Mrs. McGowan. Miss Baker, a native of Bay City, Michigan, has resided in Munich for the past twelve years where she is a very successful and well-known operatic soprano.



Frau Laqua, Germany, Dr. W. W. Schroeder, So. Africa, Frau Butler, So. Africa, Dr. Radmacher, So. Africa, Dr. Pfeilsticker, Germany, Frau Schroeder and Dr. K. Laqua.



Dr. P. Szarvas, Hungary, Mrs. and Dr. G. Milazzo and Father Salpeter, all of Italy.



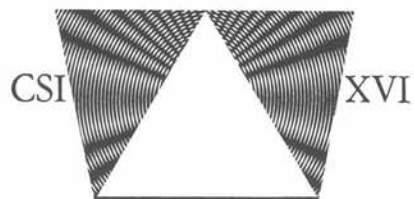
J. J. Hobbs, Great Britain, Frau Wolbert and Frau Materne, both of Germany and A. Read, Great Britain.



Dr. Torok, Hungary, Dr. Pfeilsticker and Dr. Kaiser, both of Germany. (Dr. Kaiser was General Chairman CSI XVI) Dr. Svejda, Austria, Dr. Nagy, Hungary, Dr. Laufer and Dr. Eichhoff both of Germany and Dr. and Mrs. Addink of the Netherlands.

Heidelberg, Germany

October
4-9, 1971



All from the USA, F. N. Abercrombie, Mrs. I. G. Reif, G. M. Heiftje, and K. M. Aldous.



Dr. M. Pinta, France, Mrs. Kemp, Belgium, H. Lelong, France, Mrs. Pinta and Carl Leistner, USA.



Mr. and Mrs. H. Nickel, Germany, Mrs. and Mr. M. S. Todorovic, Hungary, J. Bril, France, K. Zimmer, Hungary and F. Alvarez, Spain.



Father Junkes, S. J., Italy and Dr. Laqua, Program Chairman, CSI XVI.



R. M. Dagnall, Great Britain, G. M. Heiftje, USA, K. M. Aldous, USA, G. F. Kirkbright, Great Britain, J. B. Willis, Australia and J. B. Dawson, Great Britain.

Looking Ahead

- | | | | |
|-------------------|---|------------------------|---|
| June 5-7 | 1st Chicago Spectroscopy Forum. Illinois Benedictine College. Contact: Dr. L. J. Male Nalco Chemical Co., 6212 W. 66th Place, Chicago, Ill. 60638 | September 10-15 | 11th National SAS Meeting, Statler Hilton, Dallas, Texas. Contact: Phil Kane, Texas Instruments Inc., P.O.B. 5936, M/S 147, Dallas, Texas 75222 |
| July 31, August 1 | 14th Rocky Mountain Spectroscopy Conference, Albany Hotel, Denver, Colo. Contact: B. D. McCarty Marathon Oil Research Center, P.O.B. 269, Littleton, Colo. 80122 | October 23-25 | 19th Spectroscopy Symposium. Le Chateau Champlain Hotel, Montreal, Quebec, Canada. Contact: Prof. J. G. Dick, Dept. of Chemistry, Sir George Williams Univ., 1435 Drummond St., Montreal, Que. Canada |
| August 23-25 | Recent Advances in the Analytical Chemistry of Pollutants. Dalhousie University, Halifax, N.S. Canada. Contact: Louis Ramaley, Dept. of Chemistry, Dalhousie Univ., Halifax, N.S., Canada | October 31, November 2 | 14th Annual Eastern Analytical Symposium, Chalfonte-Haddon Hall, Atlantic City, New Jersey. Contact: R. M. Crocco, Ortho Pharmaceutical Corp., Route No. 202, Raritan, N.J. 08869 |

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Summer Courses

ARIZONA STATE UNIVERSITY

July 24 - 28, 12th Annual program in Applied Molecular Spectroscopy: Infrared - Raman - Ultraviolet. Cost: \$200

August 7 - 18, 17th Annual program in Modern Industrial Spectroscopy. Cost: \$300. Contact: Dr. Jacob Fuchs, Dept. of Chemistry, Arizona State University, Tempe, Arizona 85281

FISK INSTITUTE

August 14 - 25, 23rd Annual Fisk Institute will include short courses in Infrared and Raman Spectroscopy, Interpretation of Infrared and Raman Spectra, Laser Raman Spectroscopy and Gas-Liquid Chromatography. Each course \$200. Contact: Dr. E. Silberman, Acting Dir., Fisk Institute, Box 8, Fisk University, Nashville, Tenn. 37203

CENTER FOR NUCLEAR SCIENCE

GRENOBLE, FRANCE



This building houses the Central Analysis and Control Laboratory at the Grenoble Center.



Dr. Ayme F. Cornu
Head of the Analytical
Chemistry Service
of Grenoble.

Situated in the foothills of the French Alps, the Center is an impressive array of laboratories and buildings devoted to a very complex and complete study of nuclear energy and its applications and effects on everything from metals to pollution.

Studies of animal cells, analysis of agricultural products, chromosomes and human blood studies are only a few of the many works being carried on in this vast and beautiful complex.

Electronics, thermodynamics and metallurgy are an integral part of the program. The Grenoble Center

Henri Decoster operates special automatic lathe for turning plutonium metal ingots into chips prior to spectrographic and chemical methods of analysis.

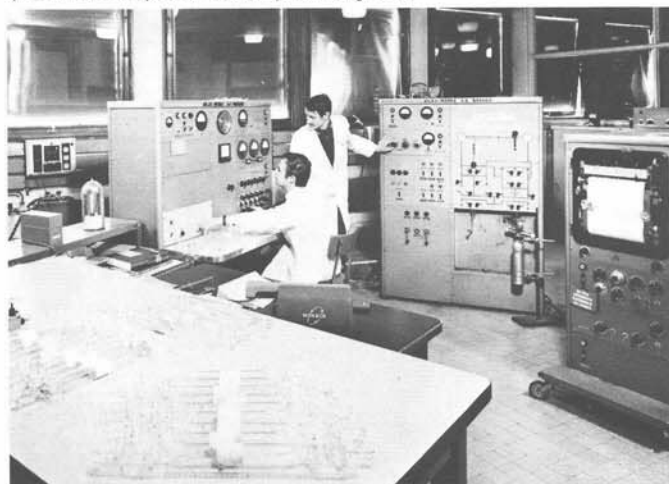


can provide the answers in elemental, fine and complete analysis in organic and inorganic chemistry by chemical and physicochemical methods.

Director of the Grenoble Center is Dr. Maurice Pascal. Dr. Ayme F. Cornu is head of the Analytical Chemistry Service. Under his direction is Dr. Andre Huart, Chief of the Analytical Control Laboratory, and Dr. Robert Bourguillot, Chief of the Physicochemical Studies and Analysis Section.

Employing more than 2,000 people, the staff includes scientists, technicians, engineers and sup-

Maurice Pernin and Alain Ruchier prepare mass spectrometer for quantitative analysis of fission product gases.



CENTER FOR NUCLEAR SCIENCE *continued*



Christabel Picca and Andre Mayol utilize atomic absorption spectroscopy for metal trace determinations in solutions.

porting personnel. Representatives of many disciplines are included here, physical chemists, physicians, physicists, biochemists, zoologists, ecologists, radiologists, spectroscopists and many more.

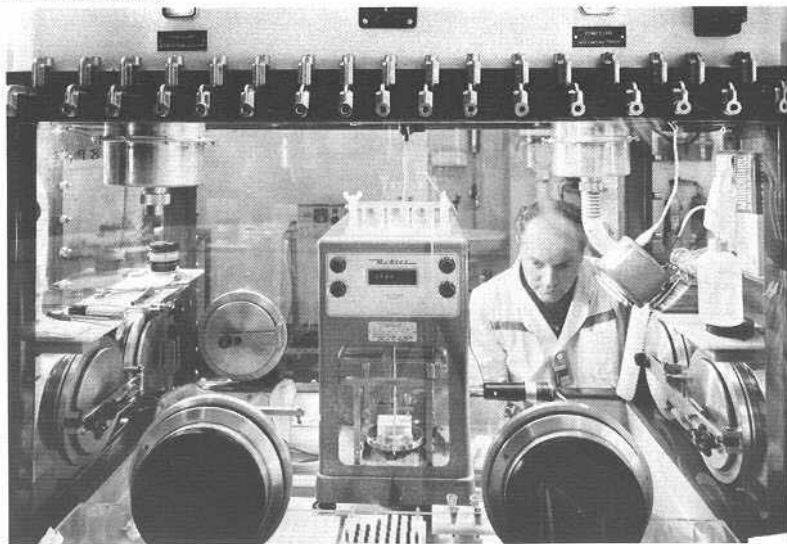
The Center is entirely self-contained. There are three swimming pool type reactors, "D'Siloe, Melusine and Siloette." Many of the analytical instruments and other necessary equipment are constructed on site. Recreational and medical facilities are provided for the personnel. A variety of farm animals are maintained and agricultural products are grown in this very specialized area.

The Grenoble Center was put into operation in 1958 by the French Atomic Energy Commission. The



Running an uranium content determination of liquid uranium concentrates in the Wet Lab, are Jacqueline DeCoster and Michele Mercadier.

A series of hot cells equipped with all electrochemistry devices for plutonium wet chemical analysis.

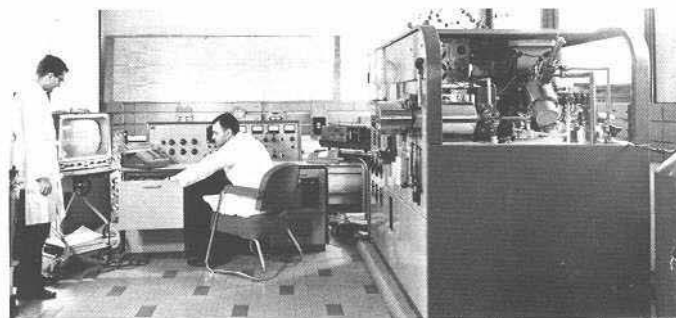


Henri Decoster supervising plutonium weighing device in the Hot Lab.

Central Analytical Laboratory was opened in 1960 and the Physicochemical Section in 1961. This is one of three centers operated under the direction of the F.A.E.C.

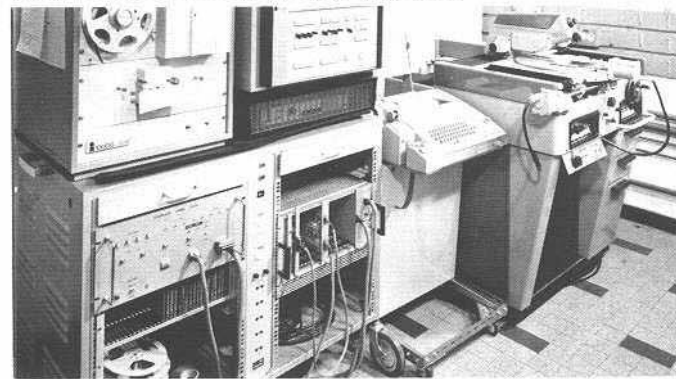
It would be impossible to detail the wide range of testing, studies and applications for peaceful uses of the Atom which have been done and are under way at the Grenoble Center. The accompanying photos and the following brief outline of a few of the projects will give the reader an idea of the extent and the importance of the activities.

The effects of radiation on solids, radiation at various temperatures, along with the magnetic effect on the composition of crystals and neutron dif-



Bruno Blanchard and Jacques Champy check the high resolution MSG mass spectrometer for organic structure determinations.

Automatic computerized densitometer for spark source mass spectrograms. Most of the equipment is produced by French industry and many instruments are constructed at the Center.



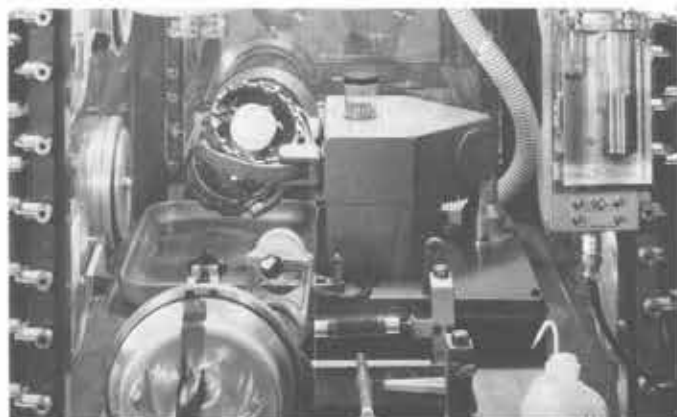


With on-line mass spectrometer output data, Adriana Godard is computing precise deuterium content of effluents flowing from the pilot plant for French heavy water producing process.

fraction are being studied. Nuclear resonance, its applications and effects with radiation is a part of the program, as is the study of radiostopes.

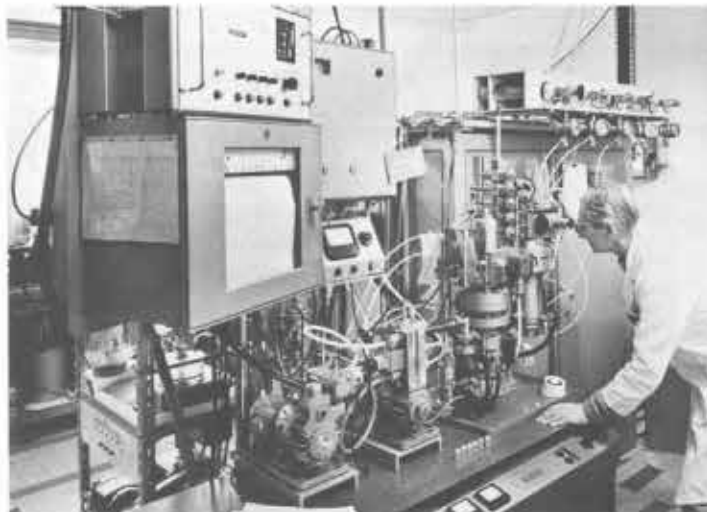
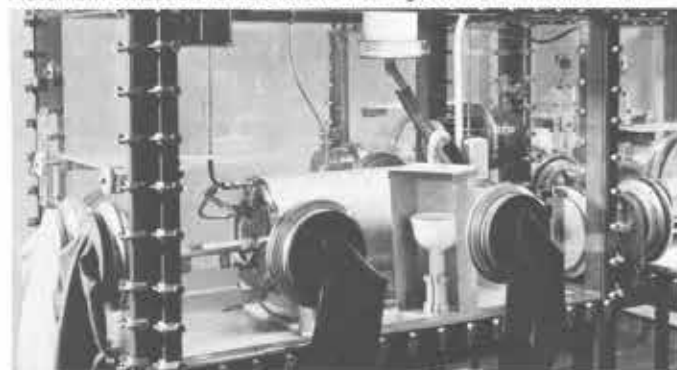
The Electronics Section of the Center is involved in researching magnetic memories and the development of integrated circuits. Here too, rapid instrumentation is used to measure electronic deposits at time intervals of nano-seconds.

Heat transfer studies, special applications for physics and physical organic chemistry are highly developed sciences at the Center. The effects of radiation on animal cells and chromosomes and the transfer of energy in living cells are projects under



Automatic mixer for plutonium oxide standard preparation.

Plutonium oxidation furnace contained in glove box in the Hot Lab.

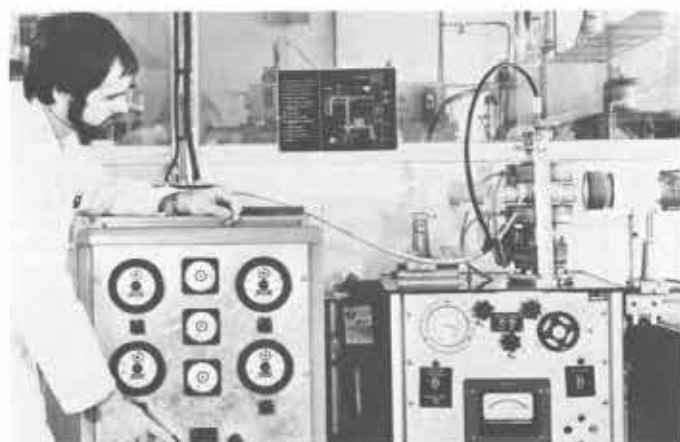


Jean Corgier, Head of the Gas in Metals Section, doing an oxygen determination on a stainless steel sample.

constant investigation. Too, very extensive work is being done with both human and animal blood reactions.

The Laboratory of Radio-Chemistry is working on a special project with the French Petroleum Institute. Gas-solid reactions and special graphites are under study, as is the separation of stable isotopes.

Working toward a goal of finding and using atomic energy to benefit all mankind, the French Atomic Energy Commission is continually adding to, and sharing their knowledge of the atom with other scientists throughout the world.



Fassel chamber vacuum system for oxygen determination in metals is being checked by Bernard Mariet. This equipment was built at the Center.

1971 Eastern Analytical Symposium

Statler-Hilton
New York City
November 10, 11, 12



Dr. Leonard Skeggs, the pioneer of the Autoanalyzer, (right) is presented with the 1971 Benedetti-Pichler Award by Committee Chairman, Ken Fleisher.

Dr. Skeggs described the principle and the early development of the autoanalyzer and its revolutionary application in the modern clinical laboratory. Its capability in handling large quantities of samples in one day as opposed to what formerly took a month has revolutionized the clinical laboratory. The innovation of using air bubbles for longitudinal mixing and effectively separating one portion of sample from the next which prevents transfer of sample between bubbles has been a major factor in improving the accuracy and versatility of the autoanalyzer. Dr. Skeggs foresees greater accuracy and precision as well as a broader application for the autoanalyzer into many other fields especially in the area of environmental pollution. There will also be a considerable reduction in the requirement for sample size and a reduction in the size of the equipment.



Dr. Klaus Biemann has been involved with the identification and structure of natural products. He utilizes a gas chromatograph for separation, mass spec and computer interface for identification and structure determination. His technique has been used to assist local hospitals with the identification of drugs in poisoning cases. The computer takes the data from the gas chromatograph and mass spec and prints out the name of the drug. The name of the drug is available to the medical profession almost instantaneously.



L to R: 1971 EAS Chairman, Ivor Simmons and Program Chairman, A. Z. Connor, shown with Plenary speakers, Dr. Peter Zuman, Clarkson College of Technology, Dr. Klaus Biemann, M.I.T. and Dr. J.F.K. Huber, University of Amsterdam, The Netherlands.



Dr. J. F. K. Huber stated the reasons for the "Second Renaissance of Column Liquid Chromatography." The trend to L.C. has been accelerated by applying the principles of gas chromatography to liquid chromatography. It has resulted in high pressure techniques with a resultant reduction in the time necessary to effect separations. The drug industry is one of the areas in which great interest has developed.



Prof. Zuman mentioned the use of polarography in the field of medicine in Europe. It is one of the 10 acceptable methods used for the detection of cancer.

The field of liquid crystals, once a novelty, is now emerging as an area of practical application. In medicine it is used to define the area of a tumor; chromatography - to separate optical isomers formerly a difficult task; liquid-liquid crystal chromatography; determination of transition temperatures plus numerous other applications on the horizon.

ULTRA PEOPLE

HARVEY J. WILSEY

A recent addition to the Ultra Carbon sales staff is "Harv" Wilsey. Formerly with Dow Corning, Harv began his career there some fourteen years ago as a lab technician. His main function in this position was evaluating the physical and electrical properties of silicone materials. He moved on to become supervisor of single crystal development in the semiconductor division. Later promoted to the production scheduling department, Harv was responsible for setting up production schedules for various areas and the monitoring of production by utilization of data processing systems.

Harv rounded out his knowledge of the business by getting into the selling end of Dow Corning's semiconductor materials. Working closely with his customers by phone and personal calls, he prepared their quotations, expedited their orders, creating a very good customer-sales relationship in general.

At the age of ten his family moved from Pellston, Michigan to Hemlock, where he still resides. He attended school there and on graduating from high school went to work at the

Farmers Co-op where he took care of customers and did general office work. He attended Central Michigan University while employed at Dow Corning. Harv served a hitch overseas with the Army during the Korean War and is now an active member of the American Legion and the AMVETS.

He, his wife Joyce and their six children love Michigan's north country, spending as much of their free time as possible at their place near Mackinac City.

Since joining Ultra in January of this year, Harv has achieved a high degree of rapport with customers and his co-workers. He gives to all the "old fashioned" kind of interest and service that is becoming a thing of the past in today's fast-paced industrial world.



Harvey J. Wilsey
Sales Coordinator

Ultra reserves this space to introduce the men and women that our customers and friends seldom have an opportunity to meet or see. For more than 26 years Ultra Carbon has been the leader in producing the ultimate in high purity, precision machined carbon/graphite parts for science, industry and government. It is the combined efforts of the individuals you will meet in this, and future issues of Arcs & Sparks, that have contributed to our continuing growth and expansion.

Each is eminently qualified for the function he or she performs. All

have been employed by Ultra for at least five years and most many years more. It is their enthusiasm and concern for the quality of the products and services that has enabled Ultra to maintain its leadership role for over a quarter of a century. Obviously, all are highly regarded "Ultra People."

In this issue we feature two of our processing operators, Don Johnson and Leo Forcade.

LEO FORCADE has been with Ultra Carbon for fourteen years. A native of the Bay City area, he worked in a gasoline station during his years in high school and became manager of a local station soon after graduating. He was offered an opportunity to become co-owner of a station in Detroit, an offer which he accepted. It was several years before he returned to his home town and joined Ultra.

As a child of nine, Leo started working for local farmers and soon took on a paper route to further supplement his earnings. Starting to work so early in life is perhaps the reason that he and his family have developed a wide variety of interests. They love to travel and have visited all of the points of interest and historical sites in Michigan's lower and upper peninsula. He and his wife, Betty are teaching their three children the value of what nature has to offer.

They enjoy camping and fishing. Each week-end throughout the season finds them utilizing their trailer and boat at one of the hundreds of lakes in the area. Extended vacations visiting other states are in their plans for the near future. They are enthusiastic harness racing fans and travel to Detroit and Windsor several times a year to take in the races.

Leo enjoys repairing motors, a hobby he developed when he was a young man. He makes all of his own auto repairs and hasn't had one of his cars in the garage for years.

Enthusiasm is the key word for the Forcade Family. Their lively interest in everything they do makes one believe that they will make all their plans reality.



Leo Forcade and Don Johnson Processing Operators

DON JOHNSON will mark his 20th year with Ultra Carbon in September of this year. Just prior to joining Ultra he was employed as a core maker with General Motors.

Don was born and reared in the small town of Remus, Michigan. Like most teenagers he did many kinds of odd jobs to earn spending money. Don recalls, at that time the area was well known for its silver fox ranches and he worked at the various ranches as he was needed. He learned so much about the care and raising of foxes that the ranchers were soon calling on him to take over when they planned to be away any extended period of time.

As a young man he moved to Detroit and worked as supervisor of production for a company which manufactured small parts for aircraft. It was during this time that World War II began and Don entered the service. He served three years in Europe in the Army Medical Corps.

After his discharge from the Army he settled in Bay City. It was here that he met and married Beulah, his wife. They are now the proud parents of eight children. Beulah is a twin, so it came as no surprise when they had two sets of twins a little more than two years apart.

Don's leisure time is spent in activities in which the entire family can participate. Hiking, fishing and mushroom hunting are their favorite hobbies. Two of the children are married but with six still at home ranging in ages from 7 to 16, Don finds they keep him busy. There is always a bike to fix or a toy to repair.



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when you consider what goes into it, we ought to charge more



Ultra Carbon has the technological and production capability to produce preformed graphite and carbon electrodes at half the price we currently charge, but we also know that to do so would cost our customers more. Without our meticulous examination of basic materials, our more time-consuming graphitization procedures that assure known energy levels, our quality control standards for machining and grinding, and the utilization of our "F"™ purification process that achieves purity second to none—our electrodes would lose some of their accuracy and reproducibility. Any questionable analysis results in additional costs far greater than the few extra pennies Ultra Carbon electrodes cost. Have you checked your additional costs recently? It may lead you to standardize on Ultra Carbon—as many leading labs have done. Ultra Carbon Corporation, Bay City, MI 48706



the graphite specialists