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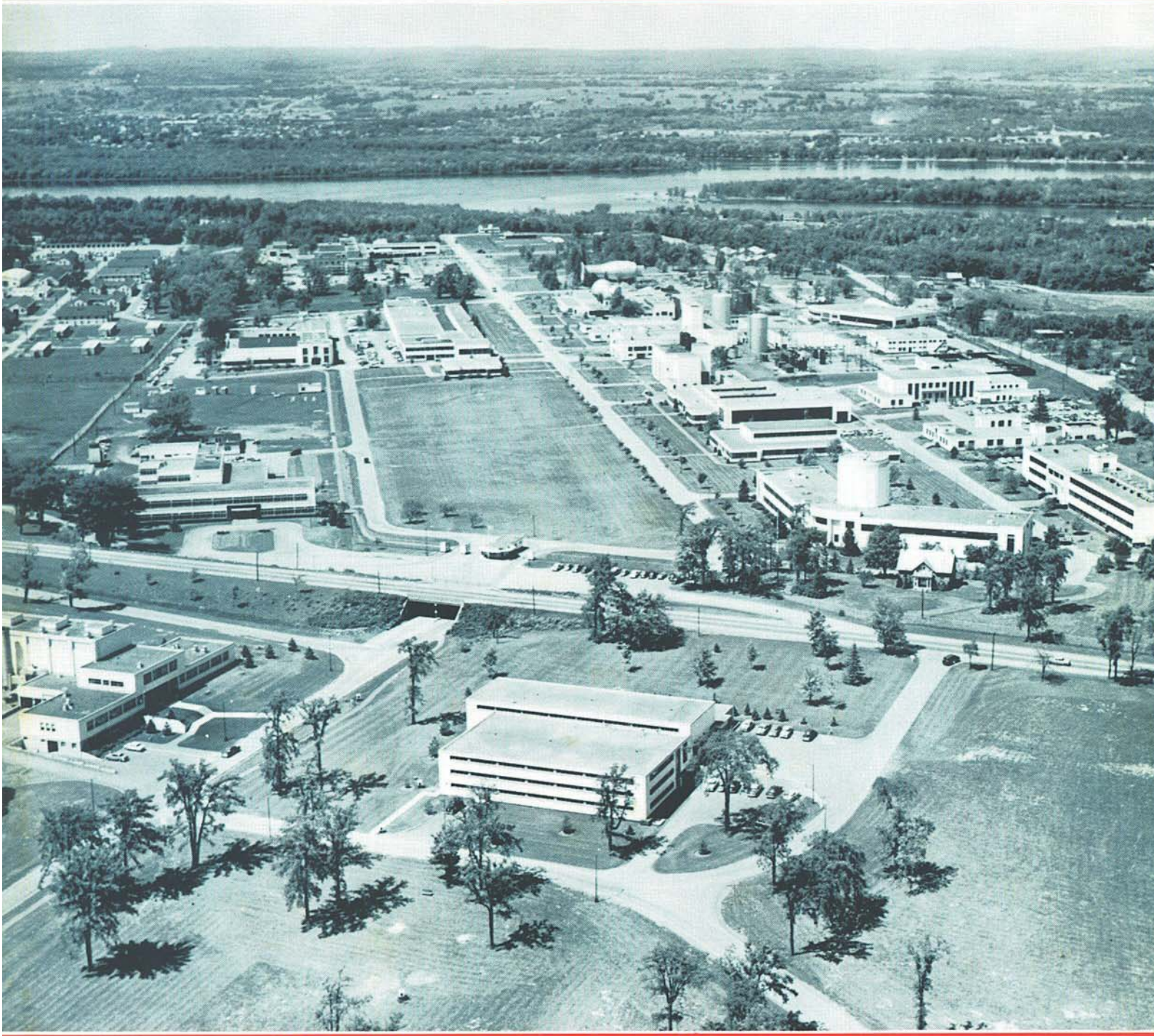
ARCS and SPARKS

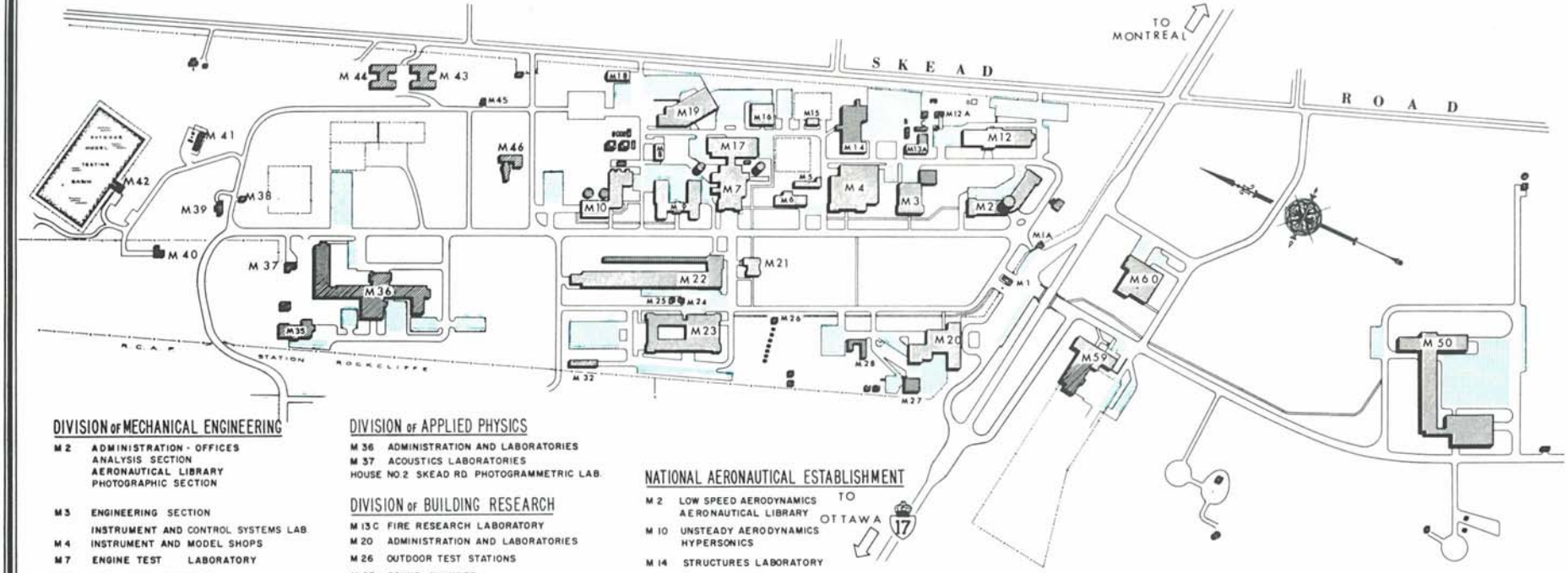


NATIONAL RESEARCH COUNCIL, OTTAWA

Published by the Ultra Carbon Corporation . . . for the advancement of Spectroscopy

COVER STORY

The crystal sharp aerial photograph on the front cover of this issue of Arcs & Sparks is of the National Research Council, Montreal Road Laboratories, Ottawa, Ontaria, Canada. It was in this inspiring area that the Ninth Ottawa Symposium was held. We thought it would be of considerable interest to our many readers to present the plat plan below indicating the various Divisions and the buildings involved. The congratulations of the entire registration, we are sure, are extended to the management of the Ninth Symposium for this admirable location choice.



DIVISION OF MECHANICAL ENGINEERING

M 2 ADMINISTRATION - OFFICES
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AERONAUTICAL LIBRARY
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M 3 ENGINEERING SECTION
INSTRUMENT AND CONTROL SYSTEMS LAB.

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NATIONAL RESEARCH COUNCIL

MONTREAL ROAD LABORATORIES

OTTAWA ONT.

CANADA

AUTOMOBILE PARKING LOTS

MAP BY LANGEVIN

IT'S OUR PRIVILEGE TO PRESENT a group of Canadian dignitaries whose contributions to the Ninth Ottawa Symposium insured its success. We proudly present, (l. to r.) standing: Carlton S. Joyce, Vice President CAAS, Pulp & Paper Research Institute, Pointe Claire, Quebec; Dr. T. H. C. Michael, General Manager, Chemical Institute of Canada, Ottawa; Peter A. Serin, Treasurer, CAAS, Eldorado Mining & Refining Co., Ltd., Port Hope, Ontraio, and Dr. J. L. Gray, Guest Dinner Speaker, President — Atomic Energy of Canada, Ltd., Ottawa. Seated are (l. to r.) William J. Bennett, Past President, CAAS, Northern Electric Company, Limited, Lachine, Quebec; Dorothy Harper, Secretary CAAS, Research Laboratories, Dominion Tar & Chemical Company, Ltd., Cornwall, Ontario; and Dr. Shier Berman, President CAAS, Division of Applied Chemistry, National Research Council, Ottawa.

OTTAWA IS ALL NEW FOR '62

Most Canadian spectroscopists, and great numbers of others in the United States, look forward to the famed Ottawa Symposium for "what's new" in our profession. This year, the Ninth Ottawa Symposium not only upheld its reputation for presenting interesting innovations, but provided a brand new location which won acclaim by all attending. . . . Ottawa was really "all new for '62!"

The Ninth Ottawa Symposium sponsored by the Canadian Association for Applied Spectroscopy in conjunction with the Analytical Chemistry Division of the Chemical Institute of Canada was held September 17, 18, 19, 1962. A most encouraging registration was treated to the wonderful facilities of its new location at the Montreal Road Laboratories of the National Research Council in Ottawa. So extensive and interesting is this facility that Arcs & Sparks happily reproduces a magnificent aerial view on its front cover and a plat plan, properly identifying the various installations, on the inside front cover. Not only were the surroundings most conducive for scientific discussion but the session rooms were excellent and the convenient auditorium had seating, visual, and audio facilities absolutely second to none. Consensus was that this new location was an admirable choice.

During the middle of September when the Symposium is held, Southern Canada is magnificent . . . truly nature's spectrum. Those traveling to Ottawa for this meeting find this is one business trip eagerly anticipated . . . whether you're a color-camera-bug or not. Adding to the delightful scenery were the unique accommodations at the Chateau Laurier which never fail to please and afford a true continental "touch" to the visit. Conveniently close to the Montreal Road Laboratories, there was excellent bus transportation provided.

Following up on the "forward look" of Canadian Spectroscopy of last year's symposium, the IX Ottawa Symposium could probably be best characterized by an emphasis, even stronger than in past years, on quality of papers and program. Attention given to the details, the fine degree of programming, the skilled selection of the papers all contributed to the feeling that Canadian Spectroscopy is entering into a new cycle

(Continued on page 4)

"HEY, THAT'S ALL RIGHT" . . . our three diners seems to be in smiling agreement about either a joke or the joker behind the camera . . . whatever, we're happy to picture (l. to r.): Peter A. Serin, Eldorado Mining & Refining Company, Ltd., Port Hope, Ontario; Dr. L. S. Valberg, Queen's University, Kingston, Ontario; and Gene Zotov, Atomic Energy of Canada, Limited, Chalk River, Ontario.

"NOW HERE'S THE WAY IT REALLY HAPPENED" says Bill Bennett as he has his three buddies comfortably cornered on a couch (l. to r.): Dr. B. F. Scribner, National Bureau of Standards; John C. Bartlet, Food & Drug Directorate, Tunney's Pasture, Ottawa; Nick Tomingas, Canadian Copper Refiners Limited, Montreal East; and William J. Bennett, Northern Electric Company, Ltd., Lachine, Quebec.

(continued from page 3)

in its growth. Talk around the corridors, and in "bull sessions", gave credence to the fact that the image of Canadian spectroscopy in the eyes of the world is most satisfactory, indeed.

At 9:00 A.M., Monday morning, Dr. S. S. Berman, President CAAS and Dr. J. A. Page, Chairman CIC, Analytical Chemistry Division, opened the Symposium with appreciated words of welcome. Following this, Dr. E. I. Puddington, Director, Division of Applied Chemistry, National Research Council presented the official greetings from the NRC to the assemblage. The first morning was then spent by select panel discussions of spectroscopy, gas chromatography, and polarography. Afternoon sessions, and those during the following two days of the symposium were divided into Sessions "A" and "B" for registrant convenience.

Tuesday, September 18th, was a big day, featuring beside the excellent symposium fare, a Social Hour at 6:30 P.M. followed by the Annual Symposium Dinner at 7:15 P.M. Held at the favored Golden Totem Restaurant, the Social Hour with refreshment provided through the courtesy of Technical Service Laboratories of Toronto, was a socializer par excellent. The dinner, wonderful fare as usual, was followed by a thought-provoking address by J. L. Gray, President, Atomic Energy of Canada, Limited. In every way, it was a memorable day.

Wednesday, September 19th, the last day of the Symposium, was perhaps the busiest of all with the registrants making sure they "covered" all the subjects on their "must" lists. The Annual executive and general meetings were held early in the week: the National Executive Meeting of the CAAS on Monday, September 17th as was the annual general meeting of the Analytical Division of the Chemical Institute of Canada. However, the last day always calls for impromptu gatherings needed to iron out problems for the coming year.

However, as the high spots of the Symposium fade in our memories, the real "heart" of Ottawa in 1962 reflected itself in the number and character of the papers. This year some 48 papers were presented . . . almost 25% more than the year before . . . a tremendous forward step by any standard. Tailored, as they should be, to the Canadian scene, the papers were of uniform high quality and presented an even greater degree of sophistication then previous. Officers and registrants, alike seemed highly pleased.

Any spectroscopist, active in the affairs of his local SAS, knows that a successful symposium doesn't just happen. It is the result of months of hard work, planning, and the taking of calculated risks. On these pages are listed some of the people responsible for this outstanding event. They, along with the officers of the CAAS, the officers of the Analytical Chemistry Division, CIC, the featured speakers, panelists, and authors of papers . . . to all we say "well done" and we hope to see you again in 1963.

KEY OTTAWA COMMITTEES

SYMPOSIUM COMMITTEE:

Chairmen:

Ben Farrar, CAAS ..... J. T. Donald & Co. — Montreal
J. A. Page, CIC ..... University of Toronto

Members:

W. A. Bennett ..... Northern Electric Co — Montreal
R. A. Burley ..... Northern Electric Co. — Montreal
G. C. B. Cave ..... McGill University, Montreal
C. C. Craib .. Sherwin-Williams Co. Canada — Montreal
L. Duff ..... J. T. Donald & Co. — Montreal
J. G. Carriere ..... Noranda Copper & Brass — Montreal
A. W. Pross .. Canadian Industries Ltd. — McMasterville
R. Barefoot .. Canadian Industries Ltd. — McMasterville

OTTAWA COMMITTEE:

Chairman:

D. S. Russell ..... National Research Council

Members:

I. Hoffman ..... Department of Agriculture
A. Gillieson ..... Dept. of Mines & Technical Surveys
S. Berman ..... National Research Council
D. Shearer ..... Department of Agriculture
R. Lauzon ..... National Research Council
J. Maxwell .... Department of Mines & Technical Surveys
G. Lachance ..... Geological Sciences
P. Barrett ..... Department of Agriculture

REGISTRATION CHAIRMAN:

R. Lauzon .....National Research Council
Division of Pure Chemistry — Ottawa 2

MUST BE AFTER DINNER, judging from the pleased expressions on the face of these four registrants (l. to r.): Nick Tomingas, Canadian Copper Refiners, Limited, Montreal East; J. A. D. vanEngelen, Technical Service Laboratories, Toronto; Jim O'Neill, Technical Service Laboratories, 355 King Street, Toronto; and George T. Sermon, Ultra Carbon Corporation, Bay City, Michigan.

OFF IN AN ALCOVE, this dapper foursome looks like a clothing ad in Esquire. Handsome devils are (l. to r.): William J. Bennett, Northern Electric Company, Ltd., Lachine, Quebec; Donald R. Jackson, Research & Development Laboratories, Canadian National Railways, Montreal; Jean Guy Carriere, Noranda Copper & Brass, Ltd., Montreal East; and William J. Wright, Noranda Copper & Brass, Ltd., Montreal East.

Canadian Coups

THE GREAT CONFRONTATION occurred in the life of Prof. C. L. Grant, University of New Hampshire when he was brought face-to-face with a plate of snails. Encouraged, with malicious glee, by John C. Bartlett, Food & Drug Directorate, Ottawa; and our George T. Sermon and Carl J. Leistner . . . Professor Grant had no handy means of escape. So he ate them. He loved them. He is going to enjoy them forever. That for you — Bartlett, Sermon and Leistner!

YOU COULD BLOW UP THE BRIDGE between Ottawa and Jull and our spectroscopists would swim across just to eat at Madame Burger's. It was here, in 1961, that the SEA (Snail Eaters Association) was created by some of our good spectroscopic friends. So watch out, fellow spectroscopists, those invitations to dinner at Madam B's place are but a thinly shrouded device to get you into SEA!

ALGONQUIN PARK GETS THE AIR from Carl Leistner's pneumatic mattress. Seems our two sturdy woodsmen, George Sermon and Carl, decided to camp out in beautful Algonquin Park and really enjoy the Autumn colors. Things were just great until sack time arrived . . . then, our muscular Carl, jumping onto his air mattress was startled by a "blowout". Slowly settling down amidst the hiss of escaping air, Carl spent the night on a "flat" air mattress . . . on the cold, cold ground. This "camping out" may be all right for these young guys . . . but not for me, Buster!

THIS MIGHT BE A STORY, but a spectroscopist friend tells about a walk in downtown Ottawa. He wanted to bring home a bag-pipe and looked up a music store. When he got there, it was locked up with a sign in the door reading "Out to lunch. BACH at 2:00 p.m. OFFENBACH a little earlier!"

THEN WE HEARD one about our own clan in attendance at the big Annual Dinner at the Totem Pole restaurant out at the airport. Seems he started in on the Social Hour a little earlier than the schedule . . . and continued beyond the schedule. According to our unreliable source, when last seen, our friend was standing in front of the Totem Pole muttering "Take me to your leaders!"

FOUR "YOUNG" MEN, decided one night that they were going to put on a "Twist" exhibition. So, they started touring local "dine and dance" locations for suitable musical accompaniment. After a number of spots were visited (where out of courtesy they "dined" a little at each spot) they ended up at Hull. Here they found an honest-to-goodness Twist Combo really giving out. So what happens? They sit around a while — watching — then wend their way back to the Chateau Laurier. Come on fellows, this isn't '32, it's '62!

CARNAVAL'S ICE PALACE, the hub of all activity, located in the heart of the city is the symbol of the festivities. Formally opened by Canadian Dignitaries at the beginning of the Carnaval it serves as the central stage at which are featured ceremonies, awards, entertainment, and the final midnight closing.

SPECIAL CANADIAN FEATURE

QUEBEC WINTER CARNAVAL

There are many things special about Canada . . . and one of the extra-special attractions is the world famous Quebec Winter Carnaval. Held in the months of February and March, it is truly unique, spectacular, and an absolute "must" for the Canadian Traveler.

Imagine, if you can, through the dead of winter, the historic French city — the oldest in Canada — Quebec, taking on the brilliance of great masquerades, lavish balls, sensational parades, dramatic spectacles, and a continuous program of popular sporting events . . . this is the Quebec Winter Carnaval.

Like the Mardi Gras of New Orleans transplanted into Canada and running a full three weeks! Cosmopolites from all over the world flock to enjoy the stimulating atmosphere of gaiety and bustle in a city already mobilized for pleasure. A true peoples' Carnaval, it is almost a month fun fest in which all peoples — from the highest to the humblest — truly "live it up."

Streets vie with each other in displaying colorful decorations and beautiful ice and snow monuments. Districts compete by glamorizing their "Duchesses" — the seven lovely girls from among whom the "Carnaval Queen" is finally chosen. Organizations and teams strain to be the winners at spectacular sporting events. People try to outshine each other in vividness of their costumes. Everybody succeeds in having a grand and glorious time . . . to be remembered until the moment the next Carnaval starts.

Rich or poor, the Carnaval caters to all. From the regal elegance of the famous Chateau Frontenac Regency Ball to the spectacular Popular Ball where dancing in the streets may be genuinely enjoyed . . . there's just the right entertainment for you. The exciting Ice Canoe Race across the St. Lawrence river — the International Dog Sled Derby — the torch-lit Ski Exhibition — are just a few of the scores of entertainment firsts at the annual Quebec Winter Carnaval.

Arcs & Sparks, in this Canadian issue salutes not only the scientific achievements of Canada . . . but also, in full measure, the Canadian philosophy of enjoying life to the full . . . summer and winter.

POPULAR PANEL DISCUSSION, one of four held during the conference, includes members (l. to r.): Dr. D. S. Erley, Dow Chemical Company; Dr. Oscar K. Reiss, University of Colorado Medical School; Father William T. Miller, S. J., Regis College; and Dr. Leopold May, Editor-In-Chief, Applied Spectroscopy.

GETTING DOWN TO BUSINESS, in his shirtsleeves, is internationally-famous Dr. Wallace R. Brode, former Scientific Advisor to the Secretary of State. Giving a fabulous address on "Colorful Americans", Dr. Brode attracted not only a full house of registrants to his featured address, but many wives who were entranced by his expose of Indian rugs, blankets and pottery. His charming wife, shown to his left, shares his intrest in the study of the American Indian.

FIFTH DENVER CONFERENCE RECORDS GROWTH

"Mile-Highers" Increase Registration Well Over 1961

Up where the air is pure, the scenery magnificent, and all conversation concerns the dynamic growth of the area . . . the Fifth Annual Rocky Mountain Spectroscopy Conference, held August 6-7, 1962 also recorded growth. Sponsored by the Rocky Mountain Section, SAS, the Fifth Annual was held at the attractive Olin Hotel, within a hop-skip-and jump from Denver's famed Civic Center and busy downtown business district.

All the natural attractions, however, did not keep official registrations from hitting a new high of 150. If visitors were added to this, the attendance proved to be the highest yet and a forerunner of even bigger things in an area dynamically identified with some of our highest priority research projects. As always, a welcomed air of informality pervades the conference which makes both socializing and learning more attractive to all. The two-day program was well planned and exceedingly well handled by the presiding chairmen. The Monday, August 6 programs were chaired by: Richard L. Beno, Dow Chemical Company, Rocky Flats, Colorado and Joseph Haffty, U. S. Geological Survey, Denver, Colorado. Tuesday, the chairs were occupied by Blair Roberts, Bear Creek Mining Company, Denver, Colorado and David Conway, Ohio Oil Company, Littleton, Colorado. Here, again, the assemblage was impressed by the consistent high level of papers.

Monday evening's enjoyable Social Hour, held on the Olin Hotel's Veranda, overlooking the swimming pool, was followed by the featured speaker, internationally famous Dr. Wallace R. Brode, former Scientific Advisor to the Secretary of State and presently a scientific consultant with offices in Washington, D. C. His subject fascinated the audience being "Colorful Americans," a description of the use of natural coloring materials and dyes employed by the American Indians. Many wives attended and enjoyed Dr. Brode's talk after which, we understand, they went out and made additional purchases of the beautiful rugs, blankets, and pottery available in the area . . . oh, well!

Kudos are certainly in order for the Officers who gave of their time and talents: President, M. W. Skougstad, U. S. Geological Survey, Denver; President-Elect, M. L. Salmon, Fluo-X-Spec Analytical Lab, Denver; Secretary, Nancy M. Conklin, U. S. Geological Survey, Denver; and Treasurer, L. Kahn, Shell Chemical Company, Denver. Particularly, credit goes to the 1962 Conference Committee: Francis S. Bonomo, Denver Research Institute, Denver; and Fred N. Ward, U. S. Geological Survey, Denver. This all-Denver production is fast becoming a most anticipated summer symposium by the spectroscopy profession.

1ST

DID YOU EVER SEE a more pleased group than this . . . and well they should be beaming at the success of the 1st Annual Pacific Meeting. Seated (l. to r.) they are: Donald M. Frankel, Perkin-Elmer Corp., Norwalk, Conn.; Richard Russell, Research & Control Instruments, Woburn, Mass.; Betty Lawler, Stanford Research Institute, Menlo Park, California; Harold Emory, Research & Controls Instruments, Woburn, Mass.; and Janis Butler, Stanford Research Institute, Menlo Park, California.

Standing (l. to r.): George Buzzeli, General Atomic, San Diego, Cal.; and Albert Ehm, Perkin-Elmer Corp., Monrovia, California.

"RIGHT IN THE CORNER" where these fine folks are, you can bet the conversation is interesting. Pictured are: (l. to r.) Dr. William F. Ulrich (Meeting Chairman), Beckman Instruments, Inc., Fullerton, California; Mrs. Katheryn Lawson, Sandia Corporation, Albuquerque, New Mexico; Mr. Lawson and Mrs. William (Gloria) Ulrich.

THE MORE STUDIOUS SIDE of the conference is mirrored in the faces of these two well known West Coast spectroscopists: (l. to r.) George Brace, Lockheed Aircraft Corporation, La Canada, California; and Emil Sasko, Hughes Aircraft Corporation, Whittier, California.

PRESENTING FOUR "SOCIAL LIONS" getting ready, perhaps, to do a little "roaring" at the delightful Social Hour preceding the banquet are (l. to r.): Joe Linn, Stauffer Chemical Company, Richmond, California; Al Bernhard, Applied Research Labs., Inc., Glendale, California; Dr. Ralph Nussbaum, Laboratory of Nuclear Medicine & Radiation Biology, UCLA, Los Angeles, California; and Sam Di Dio, University of Southern California, School of Medicine, Los Angeles, California.

A BIG BOUQUET OF ROSES, not only from Pasadena the "City of Roses" but from the whole country, goes to these four gentlemen who contributed so mightily toward making the 1st Annual Pacific Meeting an historical success. They are (l. to r.): Dr. Harrison Brown, Professor of Geo-chemistry, California Institute of Technology, Pasadena, Cal., dinner speaker; Arthur A. Chodos, California Institute of Technology, program chairman; Howard Cary, Applied Physics Corporation, Monrovia, Cal., toastmaster at dinner; and Dr. James E. Lovelock, Baylor University, College of Medicine, Waco, Texas, invited speaker.

Big Premiere Bows On West Coast

ANNUAL PACIFIC MEETING

It was a natural . . . it was a long time coming . . . but when it finally entered the scene, it came in BIG. It was the 1st Annual Pacific Meeting for Applied Spectroscopy and Analytical Chemistry, held October 18-19, 1962 at the beautiful Huntington Sheraton Hotel, Pasadena, California. Here in the magnificent City of Roses (billed as surban Los Angeles), amidst lush California landscape, the Bit Premiere was a smashing success in every way.

Notably, while we were expecting a typical Hollywood & Vine grand opening, this important "first" was expedited with a minimum of fanfare and the optimum of what it takes to present a solid, sound, successful analytical symposium. Our congratulations surely go to the sponsoring organizations: the Los Angeles Chapter of the SAS, in cooperation with the San Diego and San Francisco Chapters of the SAS; and the Southern California Section of the A. C. S. The cooperation and planning between these groups was superb.

Total and official registration for this first Pacific Meeting was 406. Adding to this a score, or so, of those not registered plus invited guests, there is no doubt that total attendance was about 500 . . . some sort of a record, we are sure, for a first time, West Coast, technical meeting. Incidentally, the handling and distribution of the registration list before the show was over was an appreciated service to all and one which might well become standard practice at all symposia.

Again, for an initial meeting, the presentation at some 32 booth spaces was quite impressive. Exhibitors represented an excellent cross section of our field and there is no doubt that succeeding years will find not only good exhibitor representation but a constantly growing number of organizations exhibiting. Our own booth, austere as it was, and located off the Ballroom not in the main stream of traffic, nevertheless met with most satisfactory results.

A general review of the papers indicated quality work in the fields of: Emission, Flame, Infrared, Electron Probe, X-Ray Fluoresence, Mass, Isotopic, Gamma Ray, NMR, Gas Phase Thermal, Electron Absorption, Poloragraphy, Chromatography, and Spectroscopy In Space Exploration. Each session consisted of one invited and six contributed papers. The subjects of the sessions and the invited speakers were:

Thursday A.M.: Absorption Spectroscopy: Dr. D. J. Decius, "Infrared Studies of Impurities in Alkali Halides."

Thursday P.M.: Electron Microprobe, X-Ray Emission and Diffraction Spectroscopy: Dr. D. Wittry, "Future Developments In Electron Probe X-Ray Analysis."

Friday A.M.: Optical Emission Spectroscopy: Dr. P. Shlichta, "Spectroscopy In Space Exploration."

Friday P.M.: General Analytical Chemistry: Dr. J. E. Lovelock, "Analysis by Gas Phase Termal Electron Absorption."

Most stimulating was the Thursday Evening program starting out with a delightful Cocktail Hour, followed by a banquet in the Viennese Room under the spell of the beautiful Viennese Crystal Chandeliers, and capping the whole wonderful evening a thrilling, inspiring, and thought-provoking Special Dinner Address by the noted Dr. Harrison Brown, Professor of Geochemistry, California Institute of Technology and member of the Space Science Board of the National Academy of Sciences. His talk on work concerning the origin of the solar system and its role in current space exploration studies will be long remembered by every last spectroscopist in attendance.

From session room, to banquet hall, to pool side, the 1st Annual Pacific Meeting ran smoothly. Enthusiasm was apparent from all quarters and, in particular, congratulations must be extended to the various committees for their expeditious handling of a "first" show. That the meeting was a success is now history . . . and that future meetings will be bigger and better is only a matter of time. Announcement of the 1963 2nd Annual Pacific Meeting appears in the "Grapevine" section of this issue of Arcs & Sparks . . . it's bound to set new records.

1st ANNUAL PACIFIC MEETING
OFFICERS AND COMMITTEES

Society For Applied Spectroscopy

Los Angeles Chapter

OFFICERS

William Ulrich	Chairman
Edward Copelin	Program Chairman
Al Ehm	Treasurer
Michael Klenk	Secretary

COMMITTEE CHAIRMEN FOR PACIFIC MEETING

William Ulrich	Meeting Chairman
Arthur Chodos	Program
Roland Hawes	Arrangements
Jack Cadman	Finance
Paul Ressler	Publicity
Phil Evans	Exhibits

American Chemical Society

Southern California Section

OFFICERS

John Bills	Chairman
Ulric Bray	Chairman Elect
Alvin May	Treasurer
Yoshie Kadota	Secretary

REPRESENTATIVE FOR PACIFIC MEETING

Milton Wilson

LABORA-
STORY
OF THE MONTH

WESTERN ELECTRIC COMPANY

ALLENTOWN, PA.

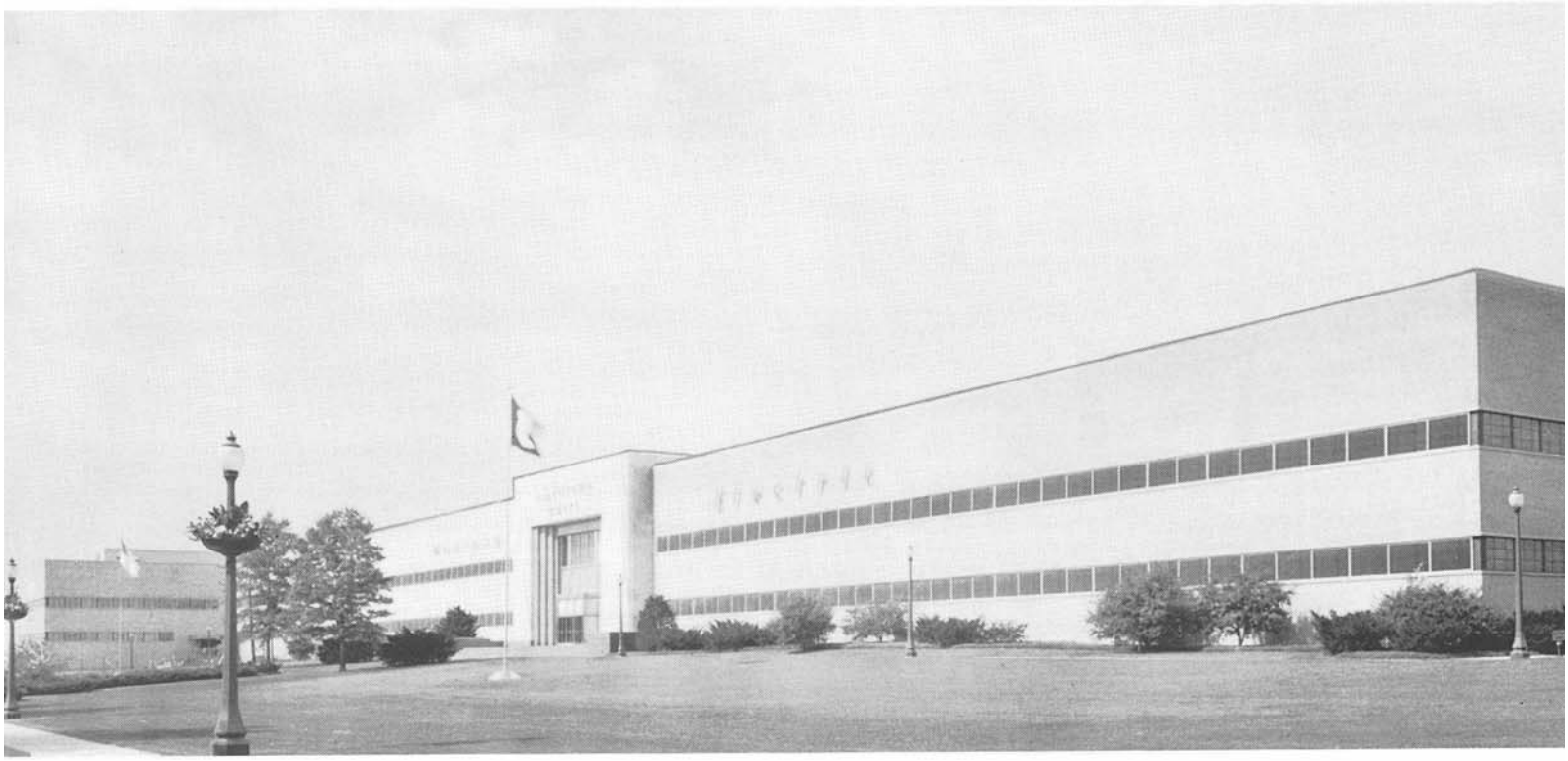
If any laboratory can be described as doing work "out of this world", the honor most surely should be awarded to Western Electric Company's facility at Allentown, Pennsylvania. Here, housed in huge modern rectangular buildings, materials undergoing constant testing may soon find themselves orbiting in space around old Mother Earth.

A most dramatic case in point of the importance of this key laboratory concerns a touch-and-go situation in relation to the solar cells used in Telstar. At one point in the production of these solar cells, production was almost stopped due to the adherence of a solder to a metal surface deposited on the silicon slices. A rush call went to the lab to look into the problem. Through team work of the development and production laboratories, the problem was solved in eight hours . . . and production yields immediately jumped from 50 to 98%.

MR. DICK DOLL, Engineering Associate, at the controls of the Jarrell-Ash 3.4 meter spectrograph is discussing with Mr. Don Hill, Section Chief, and Mr. George Ziegenfuss, Engineering Associate of the production laboratory, the electrical parameters needed to run the impurities in a tantalum anode.

The analytical steps leading to the solving of this problem will be of particular interest to the readers of Arcs & Sparks. The surface of the material was first observed under a metallurgical microscope. It was ascertained that the surface had dross on it and that the surface texture was that of a rough crystalline metal. Assumptions were made from this observation that the temperature of the solder bath was too cold and that the surface in the solder pot was not properly skimmed. The deposited metallic surface on the slices darkened where the solder did not adhere. On the basis of this information, it was thought that the surface metal was dissolved from the slice into the solder. Emission spectrochemical analyses of the solder and of the silicon slices showed that the surface metal was transferred to the solder. From this it was recommended that some of the surface metal be added to the solder pot. X-ray spectrochemical methods were used to determine the optimum concentration of the metal addition to the solder.

On the basis of these findings, the temperature of the solder pot was elevated, proper methods of skimming the solder pot were instigated, and a controlled amount of the same material as the deposited surface metal was added to the solder. By the use of three different instruments and the help of three analysts experienced in their respective fields, a knotty production problem was corrected in a minimum of time. Most importantly, an extremely close production schedule was



ON A SCENIC 50-ACRE SITE, the massive, modern architectural beauty of Western Electric Company's Allentown, Pa. plant is truly impressive. The expanding, progressive laboratory here presents an exciting story of the spectrographic function in the electronics field.

not slowed down and the lab knew it made a major contribution toward getting Telstar in orbit on the scheduled date.

This is only one of countless dramatic analytical achievements which have occurred since the beginning of the Western Electric Company's Allentown operation back on October 11, 1945. On this date it was formally announced that the company had selected the Lehigh Valley as the site for a new electronic manufacturing plant. Pilot operations were started in leased quarters in June, 1946 and it was during this year that a chemical analytical lab was established. The first project was the control of plating baths which was then done right in the plating shop. Bench space for the chemical lab was finally made available in the Chemical Engineering laboratory where it stayed for approximately one year until the Chemical Laboratory was completed.

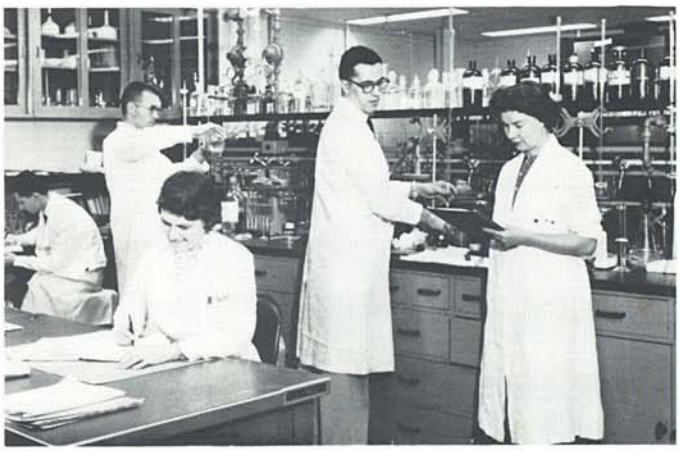
For about five years, the laboratory consisted of a wet chemical facility along with a micro chemical section manned almost single-handedly by Don Hill. In 1953, the Gas Mass Spectrometer was added to the laboratory to evaluate impurities in inert gases used in electron tubes. The emission spectrograph was installed in 1955 to speed up the analysis of impurities in all sorts of materials. From this point on, more and more equipment was added as needed. With the introduction of transistor manufacturing, the analytical problems increased greatly, not only increasing the number of samples, but greatly extending the number of different materials used.

As the Allentown works grew, so did the variety and scope of lab problems. While the original plant went into operation in November, 1947, in June, 1955, ground was broken for an expansion program that increased the floor area from 430,000 to 795,000 square feet. Located on a truly scenic 50-acre site, the buildings of the Allentown works are designed in modern architectural style. The plant provides scientifically controlled conditions . . . clinical standards of cleanliness . . . and utmost flexibility to meet the fast-changing demands of electronics manufacture. During the early years of transistor manufacturing, changes in design and materials were many. Purer materials were made available which put a constantly increasing load on the wits of the analysts to keep ahead. The analytical range has quickly and significantly changed from "parts per million" to "parts per billion"

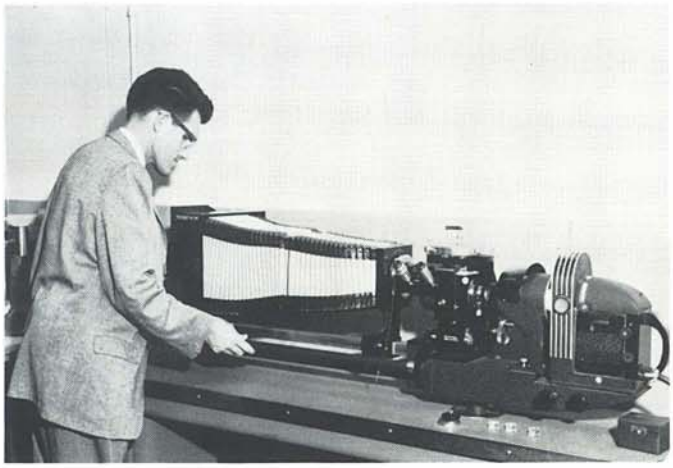
MR. GEORGE WIDDICOMBE, Engineering Associate, is introducing a sample into the General Electric mass spectrometer to analyze the gaseous impurities contained in a solid state device.

"INSIDE ALLENTOWN"

MR. GEORGE MAC BRIDE, Engineer, in the chemical development lab is running a sample of trichloroethylene for impurities on the Perkin-Elmer 421 grating infrared spectrophotometer.



MRS. BARBARA KELLER, Engineering Associate (foreground) and lab assistants (from left to right) John Siwy, Stew Price, Mike Zeleski, and Sue Voyden are shown in the standard wet chemical production laboratory busily analyzing materials that may contain any element from aluminum to zirconium.



MR. TOM BRIGGS, development engineer, of the development chemical laboratory is making an adjustment to the camera of the Bausch & Lomb research metallograph prior to taking a micro-photograph of the structure of a semi-conductor device.

MR. AL BIGATEL (left) Engineering Associate of the production laboratory, and Mr. Bob Ramsey, Engineer of the development laboratory are using the General Electric Company XRD-5 X-ray spectrometer with the Heinrich miniature probe to identify metallic particles 0.005 inches in size separated from an electron tube mixture.

According to Don O. Hill, Section Chief, Chemical & Analytical Labs, who coordinates the flow of samples to the various analytical groups and functions in an advisory capacity for the development group, the function of the lab can be classified into three major areas:

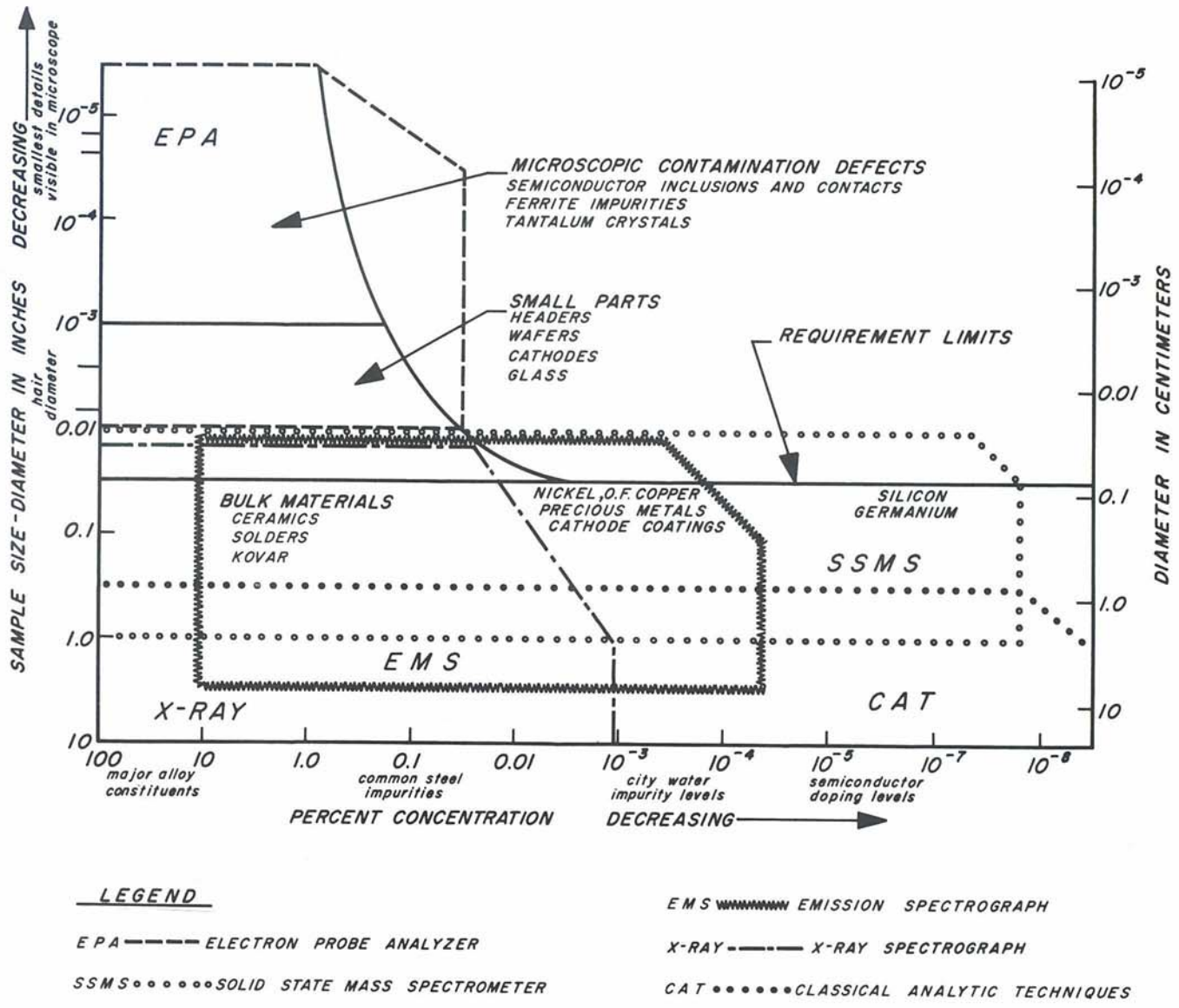
a. Inspection of raw materials and piece parts to specification limits.
b. Control of critical chemical processes, such as plating baths, furnace atmospheres, de-ionized water, and dust control.
c. Solution of engineering problems involving analytical procedures.

The amount of analytical work within each of these major catagories is truly huge. For instance, the raw materials problems encountered are such that, at the present time, at least 63 different chemical elements are being examined. Or, to insure a reliability of twenty years in submarine cables, extra ordinary laboratory procedures must be used. For example: in inspecting a specific lot of electronic cathode nickel, 60 bars may be involved. It is necessary to take the usual lot sample for analysis, but in addition, each bar must be sampled and certified individually. This being necessary to ensure complete uniformity within the entire lot.

Analysis of this character and scope naturally requires a full complement of up-to-the-minute equipment. Some of the necessary equipment is:

Jaco 3.4 Meter Wadsworth Spectrograph with
Jaco Varisource and NSL Spec Reader
G. E. Gas Mass Spectrometer
G. E. XRD-5 X-ray Spectrograph and Diffraction Unit

ALLENTOWN ANALYTICAL REQUIREMENTS



Perkin-Elmer 421 Grating Infra Red Spectrometer
Bausch & Lomb Research Metallograph
Baird Radiation Sampler & Scintillation Detector
F & M Gas Chromatograph
Coulter Counter for particle size determination
Leco Conductimetric Analyzers for carbon and oxygen
Beckman DU Spectrophotometer
Leitz Ortholux Microscope
Leco Carbon and Sulfur determinater

While it would seem that this imposing array of equipment should do the job, Mr. P. P. Prichett, Department Chief, Development Laboratory, states that the increasing analytical demands put upon the lab call for a very significant expansion program. The expansion is even now under way and will be completed by early 1964. It will be an integrated laboratory to be used by both Inspection and Engineering Departments and, in addition to the present equipment, will include: electron probe analyzer; spark source mass spectrometer; new gaseous mass spectrometer; recording UV and visible spectrophotometer; atomic absorption spectrophotometer; vacuum fusion gas analyzer; and a complete complement of necessary accessory equipment.

Western Electric Company, as an important subsidiary of American Telephone & Telegraph Company, can be proud of its laboratory facilities and personnel at Allentown. Engaged, as they are, in not only vital national communications but highest-priority electronic missile and space work . . . the character of its lab work is paramount. Not only Arcs & Sparks, but the spectrographic profession as a whole, I am sure, is justly proud to salute WESTERN ELECTRIC COMPANY, Allentown, Pennsylvania as the "Labora-story of-the-Month".

PRESENTATION OF THE 1962 ANACHEM AWARD is the high point of the 10th Conference. Shown above, at the historic moment, are (l. to r.) Dr. B. E. Tiffany, Ford Motor Company presenting the award to Dr. Paul K. Winter, General Motors Corporation.

ANACHEM AWARD WINNER
Dr. D. K. Winter

It would be difficult, indeed, to select any man who has done more for the professional practice of analytical chemistry and the progress of the Anachem organization in the Detroit Area than Dr. Paul K. Winter, Research Associate, Research Laboratories, General Motors Corporation.

The award is based on service through research, administration, teaching or other activities devoted to the professional practice of analytical chemistry. Best known for his work in polarography and spectrophotometry, Dr. Winter's research fields have included development of analytical methods for metals and alloys, particularly high-temperature alloys, gases, halogens and phosphorus. His writing includes a co-authorship of a chapter in a recently published treatise on analytical chemistry.

A native of Iowa, Dr. Winter obtained his B. S. degree in 1925 from Muskingum College, New Concord, Ohio. From 1925-30 he was a high school teacher and principal. In 1932 he received his M. A. degree and, in 1934, his Ph.D. from Ohio State University. After serving as research assistant at the Institute of Paper Chemistry, Appleton, Wisconsin, and consulting assistant to Dr. C. E. Boord at Ohio State University, Dr. Winter joined General Motors Research Laboratories in 1937 as a member of the Fuels & Lubricants Department and in 1953 was one of three men named to the newly created rank of Research Associate.

A most popular man in the Detroit area, Dr. Winter has held many positions in the Association of Analytical Chemists including President, Program Chairman, and Conference Chairman . . . as well as being active in the Division of Analytical Chemistry of the ACS. Perhaps his most outstanding characteristic, though, is the personal support and encouragement he has given to young industrial chemists. What do we think of this year's Anachem Award Winner — just great!

Detroit Show Dazzles

10th Detroit Anachem Conference Joins A.C.S., O.S.A., and S.A.S. Together In Giant Forward Step

While it might sound paradoxical, the biggest news at the 10th Annual Anachem Conference in Detroit, October 22-24, 1962 was the 11th Conference to be held in 1963. The Detroit Anachem Conference, a successful and growing symposium, sponsored by the Detroit Section, A. C. S. during its first ten years has enlisted the enthusiastic cooperation of the Detroit Sections of the Optical Society of America and the Society for Applied Spectroscopy . . . and has laid the foundation for a greatly enlarged conference in 1963.

This was the big news at the 10th Annual Anachem Conference held, as formerly, in the modern spaciousness of the McGregor Memorial Conference Center, Wayne State University in Detroit, Michigan. However, even without the excitement of this merger, the 10th Anachem was an outstanding success in many other ways: a registration of nearly 600 exhibitor booths jammed with the very latest in instrumentation and equipment; and an impressive total of 65 papers of truly impressive quality . . . all added up to the most successful Anachem conference yet.

The program was divided into daily sections. Monday, October 22: Two Sessions of Emission, X-Ray, and Flame Spectroscopy; Analytical Biochemistry; Electroanalytical Biochemistry; and Atomic Absorption Spectroscopy. Tuesday, October 23rd starred the Anachem Award Symposium with the presentation to Dr. P. K. Winter and symposium address by: Hugh J. Beeghly, Jones & Laughlin Steel Corp.; M. L. Moss, Aluminum Company of America; Runyan G. Ernst, American Metal Climax, Inc.; S. S. Lord, E. I. duPont de Nemours & Co., Inc.; Willard E. Houth, AC Spark Plug Division, General Motors Corporation; and Charles M. Gambrill, Ethyl Corporation. Wednesday, October 24th sessions included: Gas Chromatography, Analytical Absorption Spectroscopy, Analytical Chemistry, and Electroanalytical Chemistry. A wide variety of papers in all those fields provided stimulation for registrants of all interests.

Of the many high points on the program, two were truly epochal. The Anachem Conference Dinner, 6:30 P.M., Monday, October 22 was presided over by H. H. Willard, University of Michigan, and presented the featured address, by Harvey Diehl, Department of Chemistry, Iowa State University, entitled, "The Wet Oxidation of Organic Matter With Perchloric Acid." The following morning, presentation of the Annual Anachem Award was made to Dr. P. K. Winter, General Motors Corporation, who spoke on, "The Contributions of Analysts In A Non-Chemical Industry." Both of these events galvanized the entire registration.

As the first historic decade of history closes on the Detroit Anachem Conferences, a new and brilliant chapter seems to be opening up. While no look into the future is a "sure thing", we confidently predict new and greater achievements in the "Motor City." With the ACS, OSA, and SAS cooperating, the sky is the limit and excitement is running high as eyes focus on the 11th Anachem to be held in 1963 . . . the best of luck to Anachem and the group of devoted members who have been responsible for the successful first in ten years.

10th DETROIT ANACHEM OFFICIALS
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General Chairman-Elect
Tom O. Morgan ..... General Motors Corporation

Anachem Award Chairman
Burton E. Tiffany ..... Ford Motor Company

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NO "MIKE" JITTERS HERE, as during the annual banquet a few well chosen words are spoken by Tom O. Morgan, General Motors Corp., General Chairman Elect and Prof. D. F. Boltz, Wayne State University, Program Chairman.

REGISTRANTS were treated to smiling beauty Patricia McLaughlin, GM Research Lab., Detroit. Oh yes, we almost forgot, those men in the picture are (l. to r.) Dr. J. L. Johnson, GM Corp., Registration Chairman, and Ken Hutchinson and Richard Mullins, both of Detroit Edison Company.

HONORED CELEBRITY, PROF. H. H. WILLARD, Professor Emeritus, University of Michigan and Mrs. Willard are shown in attendance. Prof. Willard was the winner of the first Anachem Award and shall always remain most honored in Anachem history.

SPECTROSCOPIST of-the-month

EDWIN S. HODGE

One of the all-around busiest guys in the 50 states, Dr. Edwin S. Hodge gets Arcs & Sparks "21-gun salute" as one of America's top spectroscopists.

One of the descriptions that most of us would most like associated with conversation about us is the phrase . . . "Yes sir, he's a real pro!" And this is the praise that one hears so often when "Ed" Hodge's name comes up. It gives Arcs & Sparks honest pleasure to select Edwin S. Hodge as Spectroscopist-of-the-Month . . . and present a biography that amply proves the point.

Like many another spectroscopic "pro", "Ed" Hodge whimsically looks back to the days of the MIT Conferences . . . when grating instruments were looked upon as almost being an oddity; a complete analysis in ten minutes was something to dream about; and, arc and spark sources divided the conferees into two friendly fighting camps. It was back in 1937, when he saw the spectroscopic laboratory in a plant where he was seeking employment, that Dr. Hodge first became personally — and vitally — interested in spectroscopy.

But, there are a few pungent facts about "Ed" before he followed his spectroscopic star. Born and raised in Charlotte, North Carolina, he chose Davidson College, Davidson, N.C. and graduated with the B.S. degree Cum Laude. This significant achievement proved but the first step as, in 1937, Syracuse University conferred on him an M.S. degree in Chemistry and Ohio State University bestowed upon him his Ph.D. It is interesting to note that, at Syracuse University, he held a graduate assistantship in general chemistry. Then, at Ohio State, he was a University Scholar 1937-38, and during 1938-40 served as graduate assistant in the spectroscopy courses under the internationally recognized Dr. Wallace R. Brode, then Professor.

While deeply enamoured with Ohio at the time, "Ed" Hodge took his first full-time position in picturesque Kentucky. Here, during 1940-42 he was Associate Chemist and Spectroscopist with the Kentucky Agricultural Experiment Station. The principal concern here was the application of spectroscopy to the study of trace elements in plant and animal nutrition. (Ed. Note: we have no way of determining if "Ed" worked on the horses in the Kentucky Derby!) Seriously, Dr. Hodge left this beautiful country to devote himself to important war work at the Harry W. Dietert Company, Detroit, Michigan from 1942-46. Enlarging the scope of his practical knowledge in the field, he was Consulting Spectrographer on spectrochemical analysis and customer service of installations in plants connected with the war effort. It was during this period, however, that he became reacquainted with his alma mater by supervising (while on leave from the H. W. Dietert Co.) an OSRD contract connected with infrared filters and phosphors for image devices as World War II ended in an allied victory.

The fresh, new winds of peace were sweeping the nation when "Ed" Hodge was induced to accept the position of Senior Chemist at Eastman Kodak Research Laboratories, Rochester, New York. During a period from 1946-49, work was done on the establishment of a testing program for special Schumann emulsion produced by the EK Research Labs. The year 1949 was pivotal for Dr. Hodge, for it was then that he made his decision to join Mellon Institute, Pittsburgh, Pa. where he has been contributing significantly for the past thirteen years. Presently, he is Senior Fellow and Head, Physicochemical Section, Research Services, at the Institute. His principal concern has been with emission and flame photometric analaysis problems for research work in the Institute. For the past four years, he has been responsible, additionally, for the Physicochemical Section . . . giving a scope, variety and importance to his work enjoyed by only a few in our profession.

Intensified activity has been the credo for "Ed" at Mellon Institute. Included in his technical and scientific activity have been several programs of development and analysis by emission spectroscopy for Institute Fellowships and associated programs. One such extensive study covered the careful determination of trace elements in high purity and doped crystalline quartz. Much of this study involved reading lines at the minimum detection limit (paper No. 18 in "Publications of Edwin S. Hodge.") Another program involved the determination of trace elements in muscle tissue resulting from the in situ corrosion of implanted metals and alloys (covered in papers No. 19, 20, 24 and 25). These investigations, and other similar ones, prompted Dr. Hodge to delve more deeply in trace analysis and suitable spectral lines pertaining. Some lines of certain elements seem to be inconsistent as having the best sensitivity but do not involve the ground state energy level. Other researches have included semi-quantitative analysis and photographic emulsion calibration. Some sixteen papers of Dr. Hodge's are the result of his association with the Mellon Institute's Spectroscopy Division.

In 1961, "Ed" Hodge was co-recipient (with W. K. Baer) of the Society for Applied Spectroscopy's Journal Award for the best paper published in the Society's Journal in 1960. This particular paper dealt with a study of the sensitivity and reproducibility of three types of excitation discharges with five different techniques for introducing solutions into a spark or arc. In addition to his writings, "Ed" is extremely active in many professional areas. His memberships include the American Chemical Society; Optical Society of America; Society of Sigma Xi; Society for Applied Spectroscopy; American Society for Testing Materials; and the Spectroscopy Society of Pittsburgh. His work for these organizations includes ten years of association with the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy — having served as General Chairman in 1959. He has served as Treasurer, Vice-Chairman, and Chairman of the Spectroscopy Society of Pittsburgh. During 1959-61, he served the newly-formed national SAS as Treasurer. He has also been active in the Society for Analytical Chemists of Pittsburgh and made local arrangements for two recent meetings in Pittsburgh of the Optical Society of America. Truly, "Ed" Hodge's many-faceted talents have been used for the continuing betterment of the professional population.

With all this activity tucked under his belt, you would think "Ed" Hodge had not a single minute left for his personal life. But — believe it or not — his non-professional activities are nearly as intensive as those connected with spectroscopy. Center of his life is his family . . . wife Ruth, daughter Jessica, and sons William and Kellen. He's mighty proud to have started on Round Two in the "Y" Indian Guides with his younger son Kellen . . . (sure hope you make it "Ed.") The church occupies a key position in Dr. Hodge's life; he has served as church school teacher, superintendent of church school, conference lay delegate, and commission chairman. And, his church would be in a tough spot if "Ed" weren't around to use his electro-mechanical skills in keeping the audio-visual equipment in top shape. As if this weren't enough . . . he delves into philately, photography, and tape recording!

About this time most of us have come to one inescapable conclusion: Dr. Edwin S. Hodge is not only one of America's top spectrographers . . . fine family man . . . but also one of the busiest fellows in 50 states. Arcs & Sparks gives a real 21-gun salute to Spectroscopist-of-the-Month, DR. EDWIN S. HODGE.

CAN YOU TOP THIS? Just for fun, "Ed" Hodge has been saving used electrodes for about 12 years. Here he is shown fondly fingering his "solid black gold." We sure hope he doesn't go into competition against us! Do you have a bigger accumulation? If so, send in a picture . . . if not, the prize (100 slightly used electrodes) will be awarded Dr. Hodge . . . if he accepts!

PUBLICATIONS OF EDWIN S. HODGE

1. "An Oxidation-Reduction Scale", Edwin S. Hodge, *Jour. Chem. Ed., 11* (1934).
2. "The Influence of Extraneous Elements on Line Intensity. III. The Effect of Anions", Wallace R. Brode and Edwin S. Hodge, *Jour. Opt. Soc. Amer., 31,* 58-63 (1941).
3. "A Cutter for Spectroscopic Electrodes", Edwin S. Hodge, *Ind. Eng. Chem. Anal. Ed., 14,* 260 (1942).
4. "Production of Grey Specks of Oats in Purified Sand Cutters", R. H. Hageman, J. S. McHargue, G. Donald Sherman and Edwin S. Hodge, *Jour. Amer. Soc. Agron., 34,* 731-735 (1942).
5. "Effect of Potassium Iodide on the Ascorbic Acid Content and Growth of Tomato Plants", R. H. Hageman, Edwin S. Hodge, and J. S. McHargue, *Plant Physiol., 17,* 465-472 (1942).
6. "A Compendium of Line Pairs and Operating Conditions Used in Spectrographic Analysis", Edwin S. Hodge, *Jour. Opt. Soc. Amer., 35,* 656-659 (1943).
7. "Plastic Filters for the Visible and Near Infrared Region", John H. Shenk, Edwin S. Hodge, Robert J. Morris, Edward E. Pickett, and Wallace R. Brode, *Jour. Opt. Soc. Amer., 36,* 569-575 (1946).
8. "Collected Abstracts Published during 1945 on Spectrochemical Analysis", Compiled by Edwin S. Hodge. Published privately in 1946. Distributed by Ohio Valley Spectrographic Society, Dayton, Ohio.
9. "Photographing Spectra in the Vacuum Ultraviolet", A. L. Schoen and Edwin S. Hodge, *Jour. Opt. Soc. Amer., 40,* 23-28 (1950).
10. "Selected Iron Lines on Commercial Spectrographs for Emulsion Calibration", Edwin S. Hodge, *Society of Applied Spectroscopy Bulletin* (New York), *5,* No. 4, 4-5 (1951).
11. "A Gamma Nomograph", Edwin S. Hodge, *Jour. Opt. Soc. Amer., 41,* 731-732 (1951).
12. "Techniques for Photographic Emulsion Calibration. I. Intensity Factor Tables", Edwin S. Hodge and Helen R. Golob, *Bulletin of the Society for Applied Spectroscopy, 6,* No. 2, 32 (1952).
13. "Spectrographic Examination of the Occurrence of Certain Alkali Elements in Calcite Marbles", Edwin S. Hodge and M. P. Lelong, *American Mineralogist, 39,* 647-653 (1954).
14. "Recording the Visible Spectrum on Color Film", Edwin S. Hodge, *J.O.S.A., 45,* 64 (1955).
15. "Determination of Small Amounts of An Element in a Powder Without the Aid of Standard Samples", J. Gillis, J. Eeckhout, (trans. by E. S. Hodge), *Applied Spect., 8,* (1954).
16. "Extraneous Element Effects as Shown by Data from Harvey's Semi-Quantitative Spectrographic Analysis," Helen R. Golob and Edwin S. Hodge, *Applied Spectroscopy, 9,* No. 4, 170 (1955).
17. "A Rapid Matching Technique for Semi-Quantitative Spectrochemical Analysis", Edwin S. Hodge and William K. Baer, *Applied Spectroscopy, 10,* 150-154 (1956).
18. "Zonal Specificity and Nonspecificity of Certain Impurities During Growth of Synthetic O-Quartz", Alvin J. Cohen and Edwin S. Hodge, *J. Phys. Chem. Solids, 7,* No. 4, 361-362 (1958).
19. "Spectrochemical Determination of Trace Metals in Normal Striated Muscle in the Rabbit", Patrick G. Laing, Albert B. Ferguson, Jr., and E. S. Hodge, *The Journal of Bone and Joint Surgery,* 41-A, No. 4, 737-744 (1959).
20. "The Ionization of Metal Implants in Living Tissues", Albert B. Ferguson, Jr., Patrick G. Laing, and Edwin S. Hodge, *The Journal of Bone and Joint Surgery,* 42-A, No. 1, 77-90 (1960).
21. "The Spectrochemical Analysis of Solutions. A Comparison of Five Techniques", William K. Baer and Edwin S. Hodge, *Applied Spectroscopy, 14,* 141 (1960).
22. "A Disk Calculator", Edwin S. Hodge, *Applied Spectroscopy, 15,* 23 (1961).
23. "Working Curve Shifter", Edwin S. Hodge, *Applied Spectroscopy, 15,* 23 (1961).
24. "Trace Metal Ion Concentration in the Liver, Kidney, Spleen, and Lung of Normal Rabbits", Albert B. Ferguson, Jr., Yoshihiko Akohoshi, Patrick G. Laing, and Edwin S. Hodge, *The Journal of Bone and Joint Surgery, 44-A,* No. 2, (1962).
25. "Characteristics of Tract Ions Released from Embedded Metal Implants in the Rabbit", Albert B. Ferguson, Jr., Yoshihiko Akahoshi, Patrick G. Laing, and Edwin S. Hodge, *The Journal of Bone and Joint Surgery, 44-A,* No. 2, (1962).

EASTERN SYMPOSIUM
racks up healthy 30% increase

Like an avalanche gaining momentum, the 1962 Eastern Analytical Symposium and Instrument Exhibit, held November 14-15-16, 1962 at the Statler-Hilton Hotel, New York City just grew and grew until it established an all time attendance record with a 30% registrant increase over 1961.

With total official registration at 2,672, it is highly probable that some 3,000 persons, including guests, were in attendance. This vast throng was treated to some 54 papers covering a broad variety of areas and 93 exhibitors who brought out their latest and best instrumentation offerings. Truly, in every sense of the word, the 1962 Eastern Symposium was Big Time.

The three sponsoring organizations, having plenty of reason to be proud, were: American Chemical Society, Analytical Group, New York Section, Analytical Group, New Jersey Section; Society for Applied Spectroscopy, Baltimore-Washington Section, Delaware Valley Section, New York Section, New England Section; and the Metropolitan Microchemical Society. All committees deserve our congratulations and particularly the Conference Committee Chairmen:

Symposium Chairman
Arnold Mowitz ..... Interchemical Corporation

Program Chairman
A. R. Paterson ..... Allied Chemical & Dye Corp.

Exposition Chairman
Charles Jedlicka ..... Lucius Pitkin Company

Arrangements Chairman
Sidney Kodama ..... American Cyanamid Company

Employment Chairman
Andrew Rekus ..... Baltimore Gas & Electric Co.

Publicity Chairman
Paul Lublin ..... General Tel. & Electronic Labs

Exposition Manager
Norman Gardner ..... Consultant

Secretary of E.A.S.
William Davis ..... Raytheon Manufacturing Co.

Treasurer of E. A. S.
George Ashby ..... W. R. Grace Company

Emphasis at the Eastern Analytical Symposium has always been to achieve the most outstanding papers possible. For this reason, and to increase the value of the symposium to the entire registration, a series of three-hour symposia of only invited papers of extended length are given by experts in a number of fields of interest to analysts. The emphasis is concentrated on recent developments in these special areas. Adding to the increasing stature of the symposium is the schedule of annual awards: $500 to the International Conference on Spectroscopy 1962; $500 to the Speakers Bureau of the Analytical Division of the American Chemical Society; $500 to the Journal of the Metropolitan Microchemical Society. Another favorable activity has been the Student Awards Program with the express object of encouraging students to attend professional meetings, familiarize them with the quality of information to be acquired, and to meet and talk to other scientists working in their field . . . the symposium pays the expenses of three graduate students to attend the meeting.

The representatives from Ultra were mighty happy to meet many of their East Coast friends at the Ultra booth and in their hospitality headquarters and feel, along with our many friends, that we'll be looking ahead at what's going to happen in '63.

THEY'VE A RIGHT TO BE HAPPY at the increasing popularity of the Eastern Symposium. They are: (l. to r.) Paul Lublin, Symposium Publicity Chairman, General Telephone & Electronic Labs; in the middle distance, M. Salvin, Chairman, New York Section SAS; and Charles Jedlicka, Symposium Exposition Chairman, Lucius Pitkin Company . . . you've helped on a great job fellows!

MIGHTY GOOD FRIENDS, looking over the latest issue of Arcs & Sparks at the Eastern Symposium are (l. to r.): Don Diehl, Ultra Carbon Corp.; Ray Plunkett, Southern Railway Research Labs, Alexandria, Va.; Dr. William Levine, Socony Mobil Oil Company, Paulsboro, N. J.; and Dr. Leopold May, Editor, Journal of Applied Spectroscopy.

HOW MANY CAN YOU RECOGNIZE of these wonderful GAMS registrants enjoying a stop for refreshments in the town of Dourdan, on the banks of the Orge river. We're downright envious of all who attend these grand GAMS conferences . . . here's hoping more of us can see you next year!

GAMS kaleidoscope

Through the courtesies of several of our very good European friends, Arcs & Sparks is able to bring you an all-too-brief look at the 24th Congress of GAMS, held in Paris, France, June 5, 6, 7, 8, 1962.

Attracting a good turnout of registrants, particularly in view of the imminency of the International Conference which was held less than two weeks later in the United States, the 24th GAMS presented an interesting and challenging program:

Tuesday, June 5th — Morning:

Chairman, Mr. Jacque, Prof., Paris Polytechnic School. Opening Lecture, Mr. Guiochon, Paris Polytechnic School. "Considerations in choosing an apparatus for chromotography in gaseous phase."

Tuesday, June 5th — Afternoon:

Chairman, Mr. Alexanian, Center, Study & Research, French Coal Mining Industries on related subjects.

Wednesday, June 6th — Morning:

Chairman, Mr. Rabillon, National Radiology Company; second session under Chairman, Dr. Cottenie, State Agricultural College, Ghent, Belgium.

Wednesday, June 6th — Afternoon:

Visit to the famous Chartres Cathedral at Chartres on the Eure River.

Thursday June 7th — Morning:

Chairman, Mr. Humbert, Esperance Langdoz, Liege, Belgium.

Thursday, June 7th — Afternoon:

Visit to the International Bureau of Weights and Measures, Breteuil Pavillion at Sevres with address by Mr. Terrien, "New Units of Measure." Cocktails at the Polytechnic Student's House.

Friday, June 8th — Morning:

Chairman, Mr. Pomey, Institute for Metallurgic Research.

Friday, June 8th — Afternoon:

Visit to the Sofica Laboratory, at Le Mesnil-Saint-Denis and the world premiere of new equipment manufactured simultaneously in Europe by the A.R.L. associated factories in Switzerland, Great Britain, and France.

The combination of hard work combined later in the day by a relaxing tour or visit is a most successful formula developed by GAMS. This year, like past years, satisfaction was exhibited by every last registrant over the program, the papers, and the consummate care taken in the most minute detail. Congratulations once again GAMS — let's keep hearing from you.

ALL ABOARD! It was a grand day for a tour to the famous Chartres Cathedral after the work of the day was completed. The city of Chartres is some 60 miles southwest of Paris with a population of almost 30,000. That smiling foursome includes our good GAMS friends: Miss Kunz, Miss Legrand, Mr. Loeuille, and Mrs. Loeuille. Making sure they don't miss the bus are the three gentlemen to the right (l. to r.): Mr. Van Kolenschate, T.N.O. Institute, Delft, the Netherlands; Mr. Alexanian, Engineer, Center for Study & Research of the French Coal Mining Industries; and Dr. Cottenie, State Agricultural College, Ghent, Belgium.

the grapevine

ANACHEM ENLARGES FOR 1963 in a bold forward step to make this popular conference even more attractive. To be held as usual at the spacious McGregor Memorial Conference Center, Wayne State University, Detroit, Michigan, the dates for 1963 are October 21-22-23. For the first time, the Detroit Sections of the American Chemical Society, Optical Society of America, and Society for Applied Spectroscopy will cooperate to make this conference outstanding for its membership. The program will include all phases of spectrography, including: Optical Emision, Absorption, EPR, NMR, X-Ray Spectroscopy, Atomic Absorption and others. The deadline for papers is April 2, 1963 and all interested are encouraged to write for further information to the General Chairman, 1963 Anachem Conference; Tom Morgan, General Motors Technical Center, Chemistry Department, Warren, Michigan.

SECOND NATIONAL SAS PRELIM has just been received by Arcs & Sparks and we are privileged to announce it will be held at the El Cortez Hotel, San Diego, California, October 14-18, 1963. The five-day program of the Second National Conference of the Society for Applied Spectroscopy will consist of both invited and submitted papers in all disciplines of spectroscopy. Special sessions will be devoted to the application of the newer separation techniques in the various fields of spectroscopy. Exhibits of the latest spectrographic and related equipment are planned to be better than ever. As occurred in the First National Conference near Washington, D. C., this year, a complete social and recreational program is being devised to take full advantage of the large variety of outdoor activities available in the San Diego area. Complete information right up-to-the-minute can be had by writing: Jack Stice, General Chairman, Second National SAS Conference, Solar, Inc., 2200 Pacific Highway, San Diego 12, California. Let's all make the Second a "must".

UNUSUAL INDIANAPOLIS MEETING, held September 10, 1962 at Indianapolis, Indiana featured J. D. (Don) MacCall, Red Jacket Manufacturing Company, Davenport, Iowa. Don presented a stimulating talk on a most unusual subject . . . the social and civic life of the spectroscopist, making a very fine point of the fact that the scientific background and discipline of the spectroscopist enables him to make significant contributions to most any avocational group he joins. The talk was exceedingly well given and received. Almost as important was the presence, at the meeting, of the youngest spectrographer in attendance on record — Theodore John Grondin, 5-weeks old — along with his important supply source, Mrs. Pat Grondin. Incidentally, there was a special significance to "Don" MacCall's visit and address at Indianapolis . . . some ten years ago, Don was largely instrumental in helping organize the Indianapolis Spectrographic Group . . . the meeting turned out to be a real fine reunion.

NEW BUILDING FOR RCI — We're mighty pleased to report the rather amazing growth of Research & Control Instruments, Inc., Woburn, Mass. Demand for their new line of instrumentation has necessitated the expansion into a new building of their own design to be located in Winchester, Massachusetts.

Ground breaking ceremonies for a new building for Research and Control Instruments, Inc., presently located at 10 Jefferson Avenue, Woburn, Mass. took place on Monday, September 24th. The new building will be located in the Parkview Electronics Park in Winchester, Massachusetts and is scheduled for completion on or before January 1, 1963, according to Nicholas H. Fitzgerald, President of the Industrial Park Corporation. It will be a brick building and provide 16,000 square feet of modern office, engineering and manufacturing space.

RCI was founded in January of 1961 and has grown from a group of 15 employees to the point where well over 50 people are now employed. Combining many years of experience in the field of instrumentation for chemical analysis,

THE FIRST EARTH WAS MOVED September 24th as construction of a new RCI building got under way in Parkview Electronics Park on Lowell Street, Winchester, Massachusetts. President Jason L. Saunderson of Research and Control Instruments, Inc. has the shovel under foot as other officers of his company, the Park, and the Town of Winchester look on. RCI, Inc., expects to move into a new building, contracted by the Park, in January, 1963. Left to right at the ground-breaking ceremonies are: Paul C. Hutchinson, a vice-president, RCI; John Finamore, manager of the Finamore Construction Co.; Willard B. Ferguson, treasurer, RCI; Nicholas Fitzgerald, president, Parkview Electronics Park; Paul C. Dunn, chairman of Board of Selectmen, Winchester, Mass.; Dr. Saunderson; William C. Cusack, chairman, Industrial Commission; Eliot DuBois, a vice-president, RCI; William B. MacDonald, building commissioner; and Robert Edgar, vice-president, Middlesex County National Bank.

ANNUAL NEW ENGLAND SAS MEETING took place November 13, 1962 at the Sperry Rand Research Center, Sudbury, Massachusetts. Several excellent papers, a wonderful dinner, and the solid satisfaction of meeting old friends made this an excellent program. Some of those responsible for this fine program were (l. to r.): Dr. H. C. Mattraw, Head, Chemistry Department, Sperry-Rand Research Labs, Sudbury, Mass.; Dr. Kenneth G. Carroll, Sperry-Rand Research Labs; Mr. Robert O'Connell, Program Chairman, New England Section SAS, Sperry-Rand Research Labs; Mr. Louis E. Owen, Goodyear Atomic Corporation, Portsmouth, Ohio; Dr. C. L. Grant, University of New Hampshire, Durham, N. H.; Rev. James J. Devlin, S.J., Boston College, Chestnut Hill, Mass.; and Dr. Raymond J. Tabeling, President, New England Section SAS, Jarrell-Ash Company, Newtonville, Massachusetts.

(Continued from Page 21)

the founding group includes Dr. J. L. Saunderson, Eliot DuBois, Paul C. Hutchinson and Henry J. Levesque. During this short period RCI has designed, developed and manufactured an Air Spectrometer, a combination Air and Vacuum Spectrometer and an Industrial Gas Chromatograph. All RCI instruments are designed primarily for the metal industries where analysis of metallic elements is important for product quality control.

Sales total well over a million dollars annually and a backlog of approximately $400,000 is being maintained. In line with a coordinated sales plan, an advertising program is in force and brochures have been prepared on all instruments. Our congratulations to this expanding new business and to the founders for their foresight and enterprise.

VERY, VERY SAD NOTE . . . it is with heaviness of heart and the bereavement of scores of international spectroscopists that we are forced to announce that Molle. Legrand of GAMS is making plans to be married in Spring. Through the pages of Arcs & Sparks, she has won a sort of unofficial title of Miss European Spectroscopist, and has captured the admiration of hundreds of our readers. Most seriously, we all wish her and her lucky guy a world of happiness.

STANDARDS AVAILABLE . . . The Non-Ferrous Standards Commitee of the Canadian Association for Applied Spectroscopy has completed testing of its first series of spectrographic standards samples. This series consists of three standards sample of Phosphor Bronze of nominal tin contents 5, 7 and 10%. The standards are in the form of chill cast discs 2¼" diameter by ¼" thick.

Standards are available singly or in sets and cost $15.00 per disc in Canadian Funds, payable in advance. Cheques should be made payable to the Non-Ferrous Standards Committee. They are shipped via Parcel Post FOB destination. Special shipping instructions are at the expense of the customer. Requests for standards should be addressed to: Non-Ferrous Standards Committee, c/o Department of Mines and Technical Surveys, Mineral Sciences Division, 555 Booth Street, Ottawa, Ontario.

1963 MID AMERICA SYMPOSIUM will be held May 20-21-22-23, 1963 at the Sheraton-Chicago Hotel . . . a brand new location. Bigger and better plans are being created to carry the Mid American Symposium to even greater heights than last year. There will be sessions on Infrared, Raman, Optical Emission, X-Ray, Ultraviolet, NMR, EPR, and Atomic Absorption. The popular introductory and problem clinics . . . and the gas chromatography seminar will be continued. Papers on the aforementioned topics are invited — submit title and abstracts to: E. J. Forrette Borg-Warner Research Center, Des Plaines, Illinois. We'll never forget the way this Symposium "took off" last year . . . and we're really looking forward to 1963.

To A Great and Noble Pioneer

Dr. William Weber Coblentz

Who Passed Away September 15, 1962

President's Corner

As we approach the end of 1962 — one of the most dynamic years in the history of spectroscopy — I wish to thank you personally for your loyalty to our company. It is deeply appreciated by me . . . and every member in our organization.

But this is not the only reason I want to express my gratitude to you. You have unanimously accepted and made most successful our change of name from United Carbon Products Company to Ultra Carbon Corporation. I pledge our organization to serve you in the true spirit of the full meaning of the word "ultra".

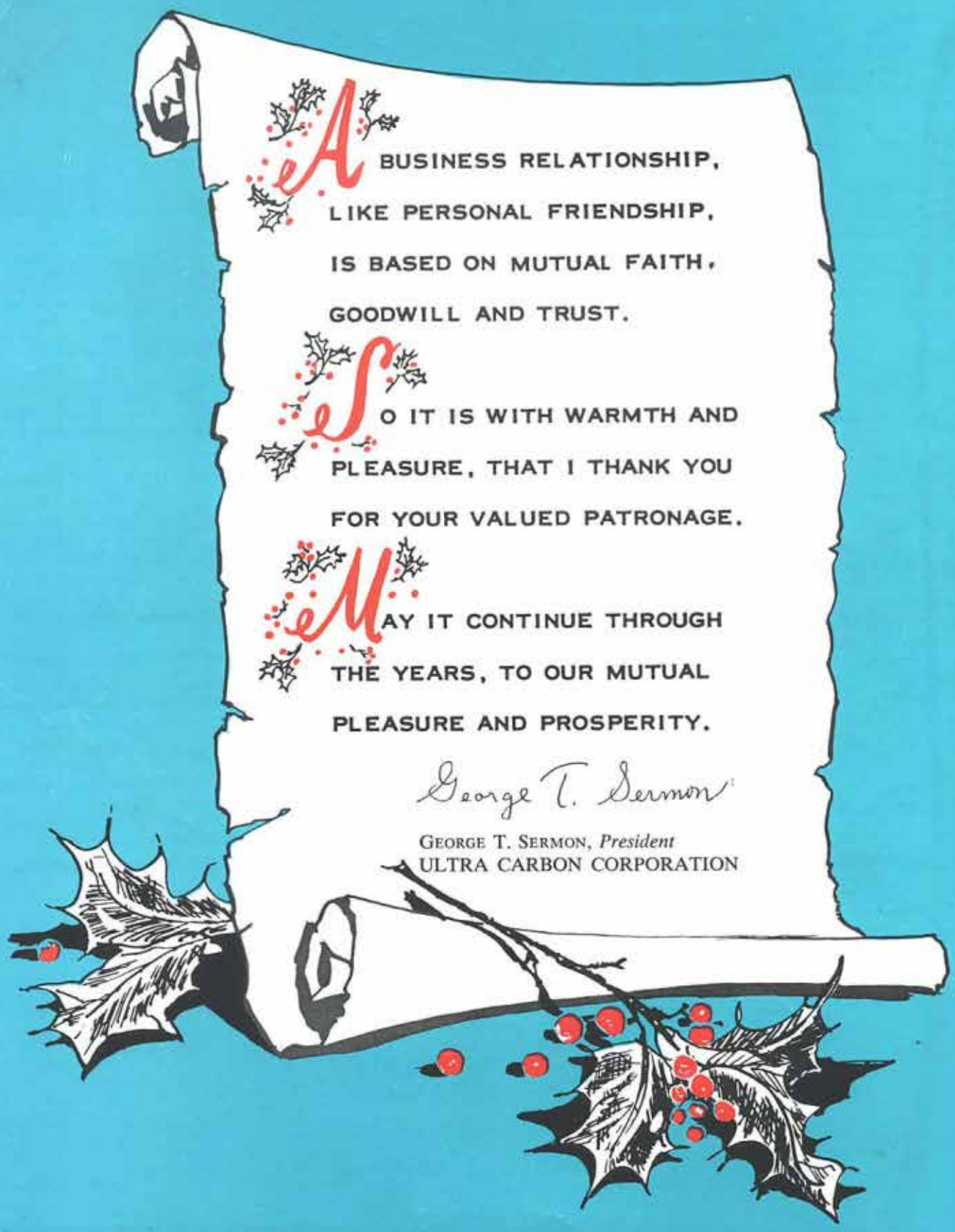
All of us can proudly look back on the progress of spectroscopy in 1962 . . . the magnificent International Conference . . . the First National SAS Conference . . . Pittsburgh, Chicago, the First Western Annual . . . plus the others. And, as our national interests grow more sophisticated, our contribution to world wide spectroscopy also advances.

As part of this dynamic growth in 1962 . . . each of us, as individual spectroscopists, grew individually. Our personal contributions, on a company level, must be linked solidly with our efforts to help our profession be of increasing significant international analytical service. In this larger professional sense, 1962 has meant definite individual progress on many fronts.

Along with my very best wishes that you, and yours, have the happiest of Holidays. . . . I am looking forward with you to the bright and progressive year of 1963.

George T. Sermon

GEORGE T. SERMON, *President*
ULTRA CARBON CORPORATION


A BUSINESS RELATIONSHIP,
LIKE PERSONAL FRIENDSHIP,
IS BASED ON MUTUAL FAITH,
GOODWILL AND TRUST.
SO IT IS WITH WARMTH AND
PLEASURE, THAT I THANK YOU
FOR YOUR VALUED PATRONAGE.
MAY IT CONTINUE THROUGH
THE YEARS, TO OUR MUTUAL
PLEASURE AND PROSPERITY.
George T. Sermon
GEORGE T. SERMON, President
ULTRA CARBON CORPORATION

Litho in U.S.A.