

ABS

& SPARKS

VOL. 7 No. 2
JULY 1961

Published For The Advancement Of Spectroscopy



CHICAGO SKY LINE



THE PRESIDENT'S CORNER

On the back page of this Arcs & Sparks issue, we take pleasure in announcing a further refinement in our unexcelled service to you. In the past, we offered our spectroscopic products either through dealers or direct. However, in view of the trend toward increasing sophistication in the science of spectroscopy, we were forced to the decision that only our technical service and sales force was adequate enough to efficiently and economically serve all the needs of our nation's spectrographic laboratories. This will allow us, the manufacturer, to work as closely as possible

with you, the user, on all your electrode problems. This "hand-in-glove" relationship will permit us to achieve even greater standards of service to the spectroscopic profession in general . . . and to you specifically. I personally invite you to place your orders with us *direct*, and to use our highly qualified technical representatives as members of your team in achieving the optimum in specific electrode applications.

George T. Sermon
President

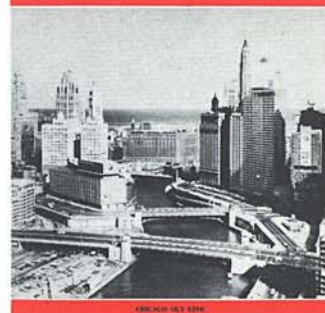
Cover Story...

Many a spectrographer at the Mid-America Symposium in Chicago thrilled to a view of the skyscraper-lined Chicago River . . . world famous as the river which flows backwards. In the far background can be seen the blue waters of Lake Michigan—the beautiful "front yard" of this wild, windy, wonderful city of Chicago. We wish to say "Thank's Chicago" for the grand hospitality shown to all of us during the Mid-America Symposium . . . we're already anticipating 1962!

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"THE BOULEVARD" of Chicago—Michigan Avenue—shown here a few blocks north of the Conrad Hilton hotel where the symposium was held. The Art Institute is in the right foreground with the new Prudential building just behind and other famous landmarks in the background . . . we all agree "what a town!"

CHICAGO GOES MID-AMERICA

Spectroscopy history was made in Chicago, May 15-18, 1961 at the 12th Annual Symposium on Spectroscopy. As stated in the program notes, "The 12th Annual Symposium on Spectroscopy represents not only a growth in scope but a growth in participation as well. This meeting is sponsored by the Society for Applied Spectroscopy, Chicago Section, in cooperation with Cleveland, Detroit, Indianapolis, and St. Louis Sections and is on its way to becoming the Mid-America Spectroscopy Symposium". And, let it be said, every cooperating section of the SAS had good reason to be proud of this new vision for an enlarged symposium.

New enthusiasm and a lively spirit of growth was apparent in exhibitor's booths, during the program, and most important, in the informal conversation after hours. Broadening participation into the spectroscopic centers of Cleveland, Detroit, Indianapolis and St. Louis not only has widened the personal

interest of many spectrographers in this symposium, but has given it a great deal more "depth" of program and exhibitor interest. As "proof of the pudding", the attendance scored an all time high record—some 28% above last year. The number of exhibitors, held to the same figure as last year undoubtedly because of a space problem, got themselves a real "buy" in enthusiastic attendance. Some 41 well prepared papers were given which covered a wide area of spectroscopic interest . . . all of which were received with a high degree of attention indicated by good discussion.

Retaining the lavish facilities of the magnificent Conrad Hilton hotel, the symposium was again enhanced by the plush splendor of the surroundings. The tasteful, spacious Waldorf and Beverly rooms provided ideal meetings for the papers. The crystal chandeliered Normandy Lounge became a jewel-box setting for the exhibitor's booths. One of the most looked-

(Continued on next page)



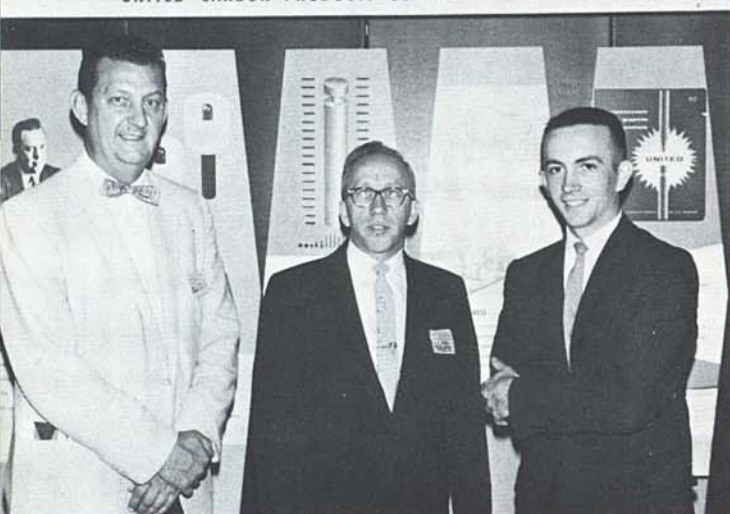
"LADIES FIRST" is the motto of United's Joe Sermon and Nick Grondin as they happily pose with Blanche Parseghian, Ford Motor Co., Detroit, Mich. at our booth. Doggone lucky fellows!

UNITED CARBON PRODUCTS COMPANY BAY CITY, MICHIGAN



LOOKS LIKE "ALL BUSINESS" with this group, but we wouldn't bet on it. That's (l. to r.) R. C. Stafford, R. C. A., Marion, Indiana; the inimitable Nick Grondin of United; and James F. Miller, Continental Can Co., Chicago, Ill.

UNITED CARBON PRODUCTS COMPANY BAY CITY, MICHIGAN



THIS SMILING TRIO looks mighty pleased at the "going's on" . . . (l. to r.) it's Joseph Weber, Reynolds Metals, Richmond, Va.; ubiquitous Joe Sermon of United; and E. C. Schuster, Nuclear Materials & Equipment Corp., Appollo, Pa.

Chicago Goes Mid-America

(Continued from page 3)

forward-to features of this Mid-America Symposium has become the annual Dinner. The Tuesday evening program starts out in usual fashion with a Social Hour from 6-7 PM—but here the similarity with other meetings ends. The dinner, which broke the will of every calorie-counter in attendance, is sans speeches . . . a feature which won unanimous acclaim. But the most unusual, fascinating, and enjoyable feature is that the dinner takes place in the Hilton's magnificent Boulevard Room which presents their famous Ice Show for its diners. Almost "taken over" by Spectrographers, the Boulevard Room sets a pattern hard to beat in forging fellowships and esprit de corps in our ranks.

The registrants, their guests, and visitors all owe a debt of gratitude to the Symposium Coordinator, the Promotion Chairmen, Program Chairmen, Advisory Board, and Officers of the cooperating and sponsoring sections of the SAS for the regeneration of a good symposium into a truly inspirational one. As the momentum mounts, we can look forward to the Mid-America Symposium to become ever more meaningful in the pattern of American Spectroscopy.

Chicago Confidential...

LITTLE KNOWN WEAKNESS of one of Spectroscopy's finest "first ladies" is red hot jazz . . . played as only a genuine Dixieland Band can play it. Where did we see her—why Rush Street of course!

CALLING ALL SKATING SPECTROSCOPISTS—remembering the "special skating number" put on extemporaneously by a fellow member at last year's Ice Show in the Boulevard Room . . . we were disappointed this year by our lack of brashness. What the SAS needs are some good ice skaters . . . completely uninhibited . . . to "assist" various floor shows.

SECRETS FROM A CHICAGO KEY CLUB—what well-known spectroscopist whose initials are Rob Roy went table hopping with a picture of a waitress (?) at a local key club. Not only was this gal a stunning fugitive from some Italian movie, but R. R. claims her décolletage was only average! Help! ! !

WHAT CASANOVA from our own team, we must admit, scored a great big zero when trying to help a lady get into a dry martini at the Hilton bar. He claims he had been on the job 48 hours without sleep. That's an excuse at a symposium?

WHO WAS THAT FELLOW at the Boulevard Room Ice Show who was whooping it up with a huge party including some mighty beautiful ladies—boy, was he loud! Couldn't have been a spectroscopist . . . maybe a president of one of the companies!



OUR BOARD OF DIRECTORS—Like all soundly managed corporations, our shareholders delegate to a team of specialists, the Board of Directors, the responsibility of assisting our Chief Executive manage the corporation. Here are the Board Members intent upon the business at hand.

PROGRESS REPORT

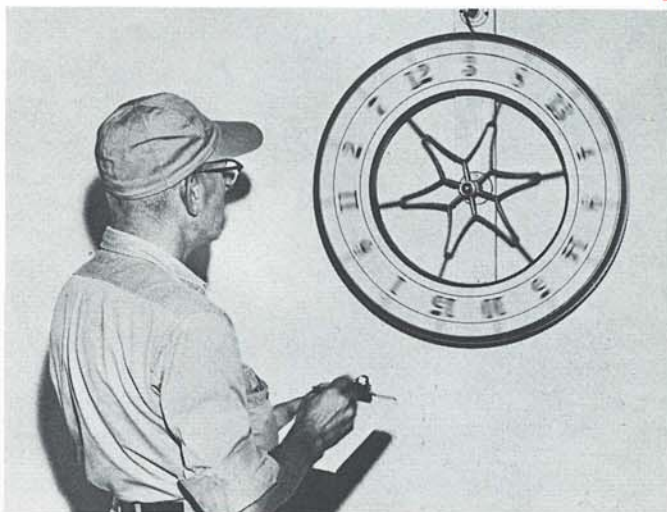
Literally thousands of businessmen throughout the United States are rocking with laughter at one of the cleverest "take-offs" ever devised on the slick, smooth, high-powered Progress Reports published today by most corporations. We thought America's Spectrographers would appreciate this good-natured humor. Shown on this page are just a few of the captioned photos from the original "spoof", termed "Progress Report". Copies of the complete Progress Report are available through the originator, Osborne-Kemper-Thomas, Inc., Cincinnati 6, Ohio.



OUR PACKING EXPERTS—To assure that our precision products will arrive at our customer's plant in perfect condition, our Packaging Engineers study each packaging problem with great care and deliberation. Here two of our Packaging Engineers try out one of their newly designed crates by loading into it one of our most expensive precision products.



OUR TREASURER—No little credit for the sterling financial success of our corporate empire goes to our Treasurer, a brilliant co-worker with our President, a man who rose from the ranks to trusted executive responsibility by the persistent application of frugality, uncanny foresight, and prudent reinvestment of our annual profits.



OUR PRODUCTION PLANNER—Faithful delivery of our products to our customers is assured by the use of elaborate electronic "brains" that process incoming orders with lightning speed and schedule their production without error, thus removing all element of chance. Here our Production Planner may well be scheduling your order.



OUR EMPLOYEE RETIREMENT PLAN—Two generations of our retired employees can attest to the beneficence of our retirement plan. Established over fifty years ago by our benignant founder to assure each member of his corporate family retirement with dignity and security, our retirement fund functions today to bring permanent peace and security to all those who have served us well.

—Labora-story—

OF THE MONTH



Republic Aviation Corporation's Materials

Farmingdale, Long Island, New York

Early in July, 1958, the board of directors of Republic Aviation Corporation unanimously approved a major expansion of the company's research and development activity. Although conceived as a long-term venture, initially it charted a multi-million-dollar four-year program including 14 million dollars for a new Research and Development Center to be erected on plant property at Farmingdale, Long Island, New York.

This new Research and Development Center reflected the best thinking not only of Republic Aviation but the combined suggestions of the nation's most knowledgeable men concerned with astronautics, including more than 100 experts in 51 firms engaged in advanced research.... 21 Government agencies and many authorities in more than a dozen colleges and universities. Each of the seven laboratories incorporated into the Center was designed as a complete, self-sustaining unit capable of solving a particular set of space age problems. The seven labs include:

- Space Environment and Life Sciences Laboratory
- Re-Entry Simulation Laboratory
- Materials Development Laboratory
- Nuclear Radiation Laboratory
- Guidance and Control System Laboratory
- Electronics Laboratory
- Fluid Systems Laboratory

Of particular interest to spectrographers is the Materials Development Laboratory whose primary function is to develop new alloys and to obtain metallurgical and other materials data on these and existing alloys, and metals.... also, to improve

materials handling and fabrication techniques, i.e. ultrasonic welding and powder rolling tungsten sheet.

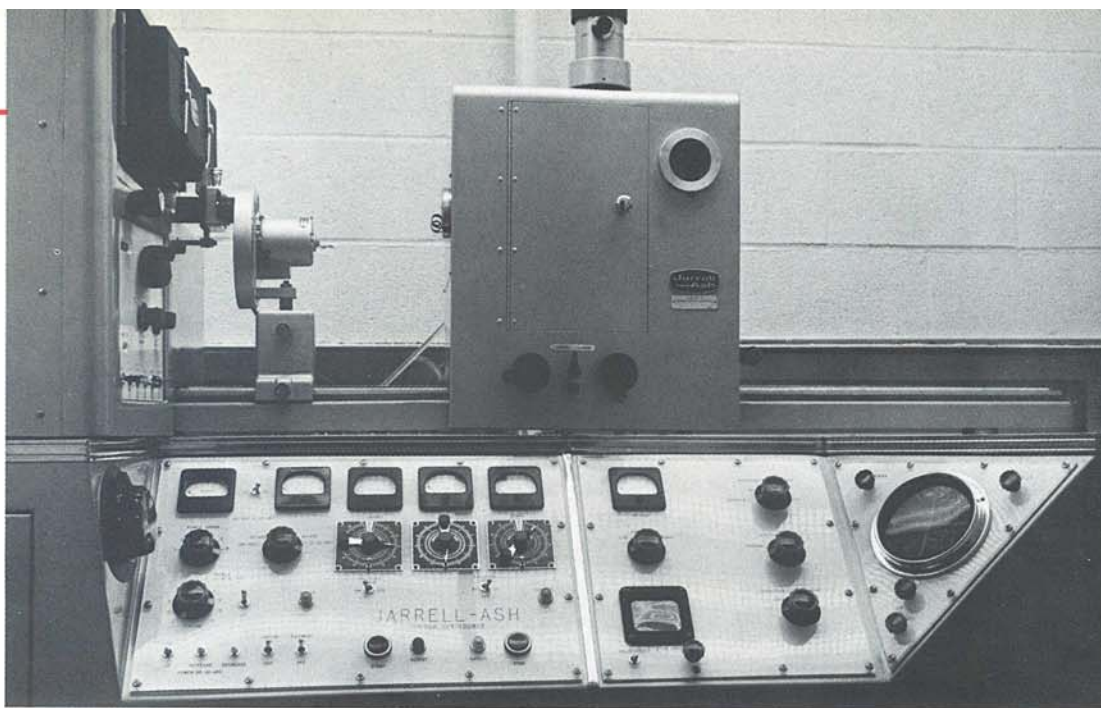
Typical of the materials problem of advanced aircraft and space vehicles expected to be solved by this facility are:

- ... development of a surface treatment of skin materials to withstand the rigors of rapid re-entry flight at high temperatures.
- ... a determination of a surface treatment of skin materials to erode in high velocity air streams.
- ... the effect of sudden, drastic changes of temperature on materials as might be experienced in a space flight.

.... these, plus other related problems give full scope to the talents of personnel and equipment.

The Materials Development Laboratory is an organization of specialists in various scientific disciplines and material technologies. Of paramount importance in the development of better materials is a scientific approach relating composition and basic unit structure to their other properties.

In accordance with this approach, the Chemistry Section, headed by Dr. Robert Bastian, places strong emphasis upon complete chemical and structural analysis. Precise quantitative techniques are being developed for the determination of ultra-trace, trace and major constituents of materials. In the analysis area of the Chemistry Section, Stanley Bogdan heads up the emission spectroscopy, x-ray fluorescence and diffraction group, while Aaron Eldridge is in charge of complex chemical, gasometric chromatographic, spectrophotometric and other instrumental analyses.



STANDARD SETUP for emission spectroscopy. Sufficient room is left to permit work on special discharges. A hole has been provided in the arc stand to permit shooting through it without removing it.

REPUBLIC AVIATION'S new \$14 million Paul Moore Research and Development Center. The facility, now operating, is scheduled to be formally dedicated in the spring of this year.

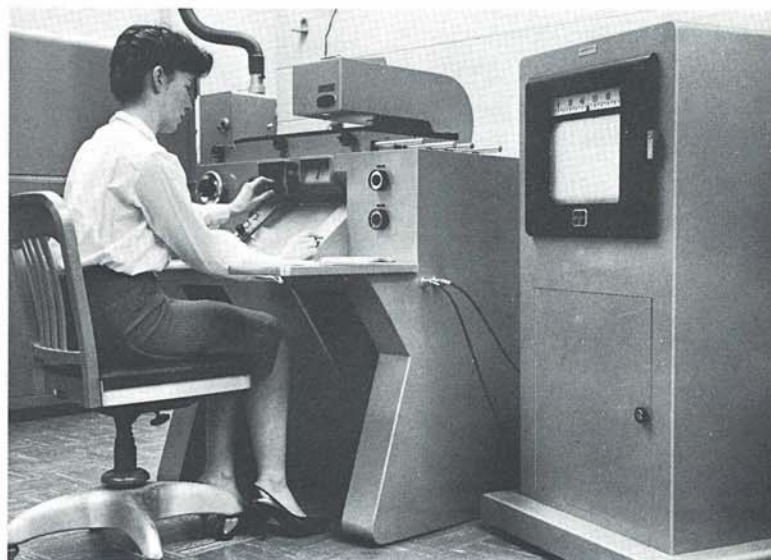
Development Laboratory

Current interests lie in materials used in STOL and supersonic aircraft, hypersonic orbital and interplanetary manned and unmanned vehicles. They range from refractory metals to 1000 degrees F. hydraulic fluids, including superalloys, brazes, ceramics and plastics. Interest also lies in the investigation of chemical species in very high temperature and magneto-hydrodynamic systems, including plasmas, shock tube experiments and magnetic pinch effects in special electrical discharges. The latter area is being studied by the use of emission and absorption spectroscopy.

For improving the sensitivity for refractory trace impurities in high temperature materials special energetic sources for emission spectroscopy are being considered. At the same time work is being conducted to optimize photographic microphotometry. For the precise estimation of major constituents, among other techniques, differential absorption spectrophotometry is being studied.

The spectrographic laboratory is equipped with a 3.4 meter Jarrell Ash Ebert spectrograph, a console microphotometer, Norelco X-ray fluorescence and X-ray diffraction equipment with accessory equipment for working at elevated temperatures.

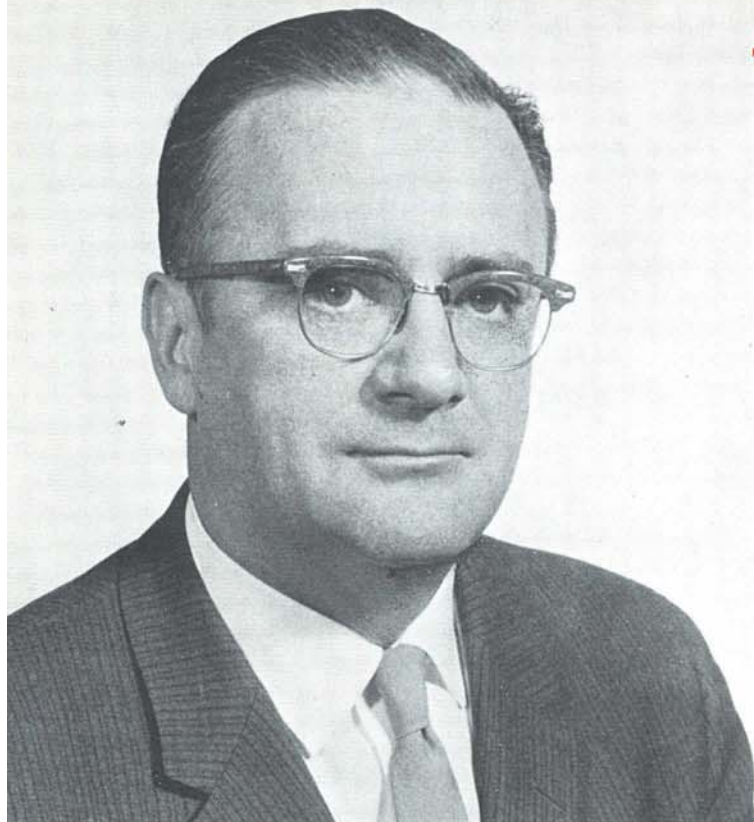
Other equipment in the Chemistry Section includes NRC vacuum fusion equipment, thermogravimetric balance, Cary Model 14 recording spectrophotometer, Leco carbon and sulfur equipment, Chromatog Model V gas chromatograph, and special equipment for determining spectral emittance and reflectance. Also available in the near-by Guidance Laboratory is a Perkin-Elmer model 221 infra-red spectrophotometer and a vacuum spectrograph.



MISS EILEEN WHELAN, Laboratory Assistant, conducts experiments directed at optimizing photographic microphotometry.

MR. S. BOGDAN, in charge of emission and X-ray facilities, adjusts angle on wide range goniometer for fluorescence measurement.





Spectroscopist of the Month

BOURDON F. SCRIBNER

It is with considerable pride and pleasure that Arcs & Sparks salutes Bourdon F. Scribner . . . Washington, D.C. bachelor bon-vivant; Atlantic and Caribbean yachtsman; but first and foremost, one of America's outstanding spectroscopists.

Born April 13, 1910 in Westernport, Maryland he found his field of interest fast and joined the National Bureau of Standards in 1927. Here he served for many years in the Spectroscopy Section. With customary vitality he accomplished his schooling during this period, receiving his B.S. degree in chemistry from George Washington University in 1933 and his M.S. degree in physical chemistry from the University of Maryland in 1939.

Working in various key positions, during the 1942-47 period, he supervised a group under the Manhattan Project, developing and applying spectrochemical methods to the analysis of uranium and related materials. In 1947, he was appointed Chief of the Bureau's newly-formed Spectrochemistry Section which has the responsibility for research in spectro-chemical analysis and for the preparation of standard samples for calibration in this field. During this period, he developed the now famous Scribner series of electrodes which have found wide usage. Also, during this period, he authored his outstanding A.S.T.M. volume, "Methods for Emission Spectro-chemical Analysis".

Giving his background a truly international flavor is his membership on the Commission on Spectral Analysis and Other Optical Methods of Analysis of the International Union of Pure and Applied Chemistry. We must add to this his membership on the Advisory Board of the Ninth Colloquium Spectroscopicum Internationale to be held in Lyons, France, June 5-10, 1961. Recently, he was appointed General Chairman of the International Conference on Spectroscopy, to be held in Washington, D.C., June 17-22, 1962.

Always completely capable and willing to make his contribution outside his regular tasks, Bourdon has held many important offices; Chairman in the Washington Section of the American Chemical Society, Editor of the Capital Chemist for several years, Councilor representing the Washington Section

in the national society, a member of the Council Publications Committee, service on the Editorial Advisory Boards to Analytical Chemistry and Spectrochimica Acta publications. Additionally, he served for several years as Secretary and Chairman of the Emission Spectroscopy Committee of the American Society for Testing Materials and received the Society's Award of Merit in 1958. The following year, 1959, he was given the annual award of the Spectroscopy Society of Pittsburgh for "outstanding contributions to the science of spectroscopy". In a previous year, Scribner had received the U. S. Department of Commerce Meritorious Service Award.

Holding of these offices and recipient of many awards did not keep B. F. Scribner from participating and supporting, as a regular member, the American Association for the Advancement of Science, the Washington Academy of Sciences, Alpha Chi Sigma, the Society for Applied Spectroscopy, and a Fellow of the Optical Society of America. In spite of this whirl of activity, he has vigorously pursued scientific writing and is the author of more than 40 publications in basic and applied spectroscopy.

Seemingly, Bourdon F. Scribner, is completely immersed in the "scientific pursuit", but almost unbelievably, he finds opportunity to pursue several hobbies such as color photography, boating, fishing, swimming, and even a small bit of "just resting". It is perhaps not inappropriate to reveal that he is known as "Scribby" to his boating buddies and has earned their respect for his competitive navigational prowess. His holiday periods have been spent in yachting and he has logged some 4,000 miles in a friend's 38-foot ketch through the Bahamas and the Caribbean. Presently, he skips a fine seaworthy 40-foot cabin cruiser "Omega" which he berths in Annapolis, Md. It is only natural that he would lend his support by becoming a member of the United States Power Squadrons and the Marine Historical Association of Mystic, Conn.

We are happy to salute Bourdon F. Scribner and the full and fruitful life he is living. May we all look forward to his even greater contributions to the spectroscopic profession in the future.

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the grapevine



LET'S HURRY TO CHESTNUT HILL, MASS., for on July 17-28, 1961, Boston College is going to hold their special intensive course in Modern Industrial Spectrography. Under the studious guidance of the Rev. James J. Devlin, S.J., Department of Physics, Boston College, this course has earned a reputation for its quality and thoroughness.

Officially described as a spectrography course designed to provide training of chemists and physicists from industries in the process of installing spectrographic equipment in their laboratories, graduate students and upper level undergraduates will also find the course to their advantage in gaining industrial employment. In presenting analytical methods, all in actual industrial use, the course attempts to give each student experience in his own field of application.

Admission is limited to forty students, granted in order of receipt of qualified applications. A single fee of \$200 covers cost of lectures, laboratories and supplies. A complete array of equipment is available for the use of students. Lectures are held daily from 9:00 to 11:00 A.M. Laboratory covers a total of five hours daily and gives each student concentrated, practical experience. For information, rush a note to Rev. James J. Devlin, S. J., Dept. of Physics, Boston College, Chestnut Hill 67, Mass., or phone DEcatur 2-3200, Ext 241.

CLASSIFYING THE CLASSIFIEDS

Opportunity: Stick with us, son, and you'll get a gold watch in 25 years—or, the man who had this job previously married the boss's daughter . . . there's one unmarried, unattractive daughter left.

Unlimited Opportunity: The man who last had this job successfully embezzled company funds.

Opportunity for Advancement: The fellow just ahead of you retires in 10 years.

Rapid Advancement: He retires in 5 years.

Salary Open: Tell us what you think you're worth—we'll pay you half.

Salary+Commission+Bonus: It'll add up to \$7500 a year no matter what you do

Dignified Work: You canvass luxury home areas.

Qualified Leads: They've got a mailing list.

Pleasant Working Conditions: Collections for fellow workers limited to birthdays, anniversaries and people leaving.

Plush Office: Reception room is carpeted.

Modern Office: There's a coffee vending machine in the back hall.

Limited Travel: Limited only by the Atlantic and Pacific oceans.

Must be Willing to Relocate: And relocate, and relocate, and . . .

Position of Responsibility: You're blamed for everyone else's mistakes.

Good at Figures: The boss can't make his monthly bank statement balance.

Unusual Fringe Benefits: The usual plus a box of candy at Christmas.

B. Kommer

TITULOS SPECTROSCOPIC—The Society for Applied Spectroscopy, by action of its Governing Board at Pittsburgh, Pa. on February 28, 1961, initiated another service to spectroscopists. A long-felt need for the rapid collection and distribution of the literature of spectroscopy will henceforth be filled by the organization of the Central Library of Spectroscopy (Bibliotheca Central de Spectroscopia).

The Library has begun with the collection of papers and the publication of 'titulos spectroscopic', an Interlingua collection of the titles of papers, the names and addresses of their authors, Journal references and language of publication. This is considered to be the minimum of information needed initially. On the basis of this information, reprints can be requested more readily from authors. If the language of publication proves to be inaccessible to an individual, he may request, from the Library, an Interlingua translation of the summary and thus determine whether he would like the entire paper translated. Once translated, any paper (or summary) is immediately ac-


UNITED PLACES FIRST IN AD COMPETITION



The First Award given in recognition of fractional page advertising campaigns by the Industrial Marketers of Detroit was recently presented to United Carbon Products Company.

The competition is based on the documented effectiveness of an advertising campaign. United's winning entry was a series of thirteen one-third page ads handled in editorial style relating to the philosophy of purchasing ultra pure graphite.

The photo, to the left, shows James Ritter, Account Executive of Church & Guisewite Advertising Agency, Midland, Michigan presenting the First Award Plaque and Certificate to George T. Sermon, President; and William G. Harkey, Advertising Manager of United.



cessible to the vast majority of spectroscopists anywhere in the world. No additional translation should be required for any paper.

The time-lag involved in publishing the titles will rarely exceed one month. This speed is made possible primarily by the cooperation of many outstanding spectroscopists in many countries, who have agreed to scan the literature of their own country for the benefit of all spectroscopists. The information collected, will be cross-indexed in order to facilitate the preparation of bibliographies for special purposes and, on request, within specific fields. The Library is making an effort to obtain copies of all published papers in all fields of spectroscopy, as the time goes on, but will, at this time concentrate on recently published material. All spectroscopists throughout the world are invited to make use of the new facilities.

The domestic subscriptions to each part of 'titulos spectroscopic' the 'organic' and the 'inorganic' section, each published once a month, have been set at \$7.00 per year for *individual subscribers* and \$35.00 per year for *libraries*. Foreign subscriptions are, of course, accepted with the additional payment of postage, regular or airmail, as requested. Checks should be made payable to "Bibliotheca Central de Spectroscopia", 212 Chestnut Hill Drive, Ellicott City, Md.

"I'M MY OWN GRAMPA" . . . or almost, according to our rip-roaring representative, Nick Grondin. In a letter recently received, and even of this date not totally deciphered, Nick outlines a conversation with another of our employees, Phil Routly. Quoting briefly from the letter, "When I suggested the name of a Mt. Morris cousin I not only rang a bell, I clanged a clang—for the truth is—this cousin, mine that is—also happens to be Phil's. To be specific, the gentleman from Mt. Morris is Phil's dad's cousin, but his good wife, Gertrude, is mine." This is an amazing coincidence, and even more so in the eyes of the writer who cannot even name all his aunts and uncles.

THANK YOU SARAH DEGENKOLB for the wonderful letter sent us concerning the reaction to the last issue of *Arcs & Sparks*. The editorial office of *A & S* also received many, many fine comments on the "Degenkolb Story". May we have the pleasure of writing up the story of your future accomplishments in the years ahead.

"YOU'VE GOT A DATE" with one or more of the following events. Why not cut this out and paste it in your hat so you won't forget:

- July 17-28, Boston College Spectrography Course.
Boston College, Chestnut Hill, Mass.
- Aug. 10-11, Rocky Mountain Spectroscopic Conference.
Park Lane Hotel, Denver, Colo.
- Aug. 21-Sept. 1—Arizona State Spectroscopic Course.
Arizona State University, Tempe, Ariz.
- Sept. 18-20—Eighth Ottawa Symposium.
Chateau Laurier, Ottawa, Ont.
- Oct. 16-18, 1961—Ninth Detroit Anachem Conference.
Wayne State University, Detroit, Mich.
- Nov. 15-17—Eastern Analytical Symposium.
Statler-Hilton Hotel, New York, N.Y.

Want To Join The SAS?

The Society for Applied Spectroscopy was founded to advance and disseminate the knowledge of spectroscopy in the widest sense of the term, to advance the professional standing and growth of its members, to coordinate the efforts of its members individually and by Local Sections, and to promote a close bond among its members and interrelated societies.

To this end it publishes a journal—*Applied Spectroscopy*—promotes speaking tours of prominent men in the field to Local Sections, and assists these sections in conducting national or regional meetings at which technical papers are presented.

There are Regular, Associate, Sustaining, and Supporting members. The latter support the activities of either the national society or local sections. The Regular members are entitled to a subscription to *Applied Spectroscopy*, six issues per year, and to voting rights in the national society as well as in local sections. The Associate members have full voting rights in the local section to which they belong.

Membership in this society will bring to the members information on the current development in the field, news of the activities of the sections and the members, and the opportunity to contribute to the development of spectroscopy through the journal and papers read at national or local section meetings.

SOCIETY FOR APPLIED SPECTROSCOPY Boston College Chestnut Hill 67, Mass.

Date.....

Name.....
Last First Initial

Home address.....

Business address.....
Mailing address:

Home..... Business.....

Local Section Name..... No.....

My payment of \$5.00 for Regular Membership is enclosed.

Field of Interest: Absorption..... Emission..... Infrared.....

Raman..... Mass..... NMR..... X-ray..... Others.....

LOCAL SECTIONS: Baltimore-Washington. Chicago. Cincinnati. Cleveland. Delaware Valley. Detroit. Indiana (Indianapolis). Intermountain (Idaho Falls-Salt Lake City). Milwaukee. New England (Boston). New York. Niagara Frontier. Northern California. North Texas. Ohio Valley. Pittsburgh. Rocky Mountain (Denver). Saint Louis. San Diego. Southern California. Southeastern (Gainesville).

Statement of Policy

On June 1, 1961, United Carbon Products Company discontinued all domestic sales of its spectrographic products through dealer outlets. This action was taken in view of the increasing sophistication in the science of spectroscopy which forced us to the conclusion that only our own technical service and sales force was adequate enough to efficiently and economically serve all the needs of our nation's spectrographic laboratories.

Preceding this decision was a two year study of the functionality of marketing electrodes under presently changing conditions. This confidential survey covered many problems of dealer operation, including: selling costs, pricing policies, delivery factors, and servicing standards. Additionally, extensive deliberations took place, over the same period of time, to synthesize a solution that would be of greatest benefit to the spectroscopic laboratories of our country.

Our awareness of the nature and extent of the problem was sharpened by the many expressions we received from spectroscopists in widely separated sections of the country. Adding to the complexity of the problem was not only the dynamic growth of the profession, but the greatly increasing emphasis on sophistication of electrode design and newer, more complex analytical techniques which are evolving in the laboratories of industry. In order to compensate for these advances, demands are made not only for better chemical purity but also serious consideration is

asked concerning the various physical properties of the electrodes to provide the most effective analytical methods. It becomes apparent, under these conditions, that the closest cooperation between the user and the manufacturer is necessary in order to take advantage of these continuing advances.

Into this vortex of change we are determined to bring you true ultra-service. Consequently, our functionalized, streamlined direct-from-our-plant distribution and service pattern will bring you:

- ...service by company representatives nationally recognized for their competence in spectroscopy.
- ...increased coordination of your electrode developmental needs with our expanded R & D department.
- ...shipments of your orders usually within 24 hours after they're received.
- ...cooperation with recognized spectroscopic organizations in working toward the enhancement of the entire profession.

In initiating this policy of improved distribution and service for our products, we would like to re-emphasize our belief in the continuing growth of the science of spectroscopy. The years ahead will bring change and challenge . . . and also far greater opportunities for technical successes and personal achievements. May we always have the privilege of working hand in hand with you toward your individual success.

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