

**SOCIETY**  
**of**  
**TOXICOLOGY**

**PROGRAM**

**THIRD ANNUAL MEETING**

.....

**Williamsburg, Virginia**

**MARCH 9-11, 1964**

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**of**  
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## OFFICERS

Paul S. Larson \_\_\_\_\_ *President*  
Harry W. Hays \_\_\_\_\_ *President-Elect*  
Carrol S. Weil \_\_\_\_\_ *Secretary*  
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## COUNCIL

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Harold C. Hodge (1963 - 65)  
Verald K. Rowe (1963 - 65)

## ELECTED COMMITTEES

(Year Elected in Brackets)

### MEMBERSHIP COMMITTEE

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Leon Golberg (1963)  
Geoffrey Woodard (1963)

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Edward Eagle (1962)  
Fred H. Snyder (1962)  
Joseph F. Treon (1963)  
John A. Zapp (1963)

## INFORMATION

### REGISTRATION

**Pre-registration forms obtainable from Secretary:**

Mr. Carrol S. Weil  
Mellon Institute  
4400 Fifth Avenue  
Pittsburgh, Pa. 15213

**Registration Desk—Williamsburg Lodge**

Sunday, March 8—2:00 P.M. - 5:00 P.M.

Monday, March 9—8:30 A.M. - 5:00 P.M.

Tuesday, March 10—8:30 A.M. - 12:00 Noon

**Fees—Society of Toxicology members: \$6.00**

Non-members: \$10.00

**Abstracts—On sale at meeting \$1.00**

One copy mailed to each S. O. T. member or distributed without charge to non-member registrants at Registration Desk.

**Scientific Sessions—Location:**

North Ballroom—Williamsburg Lodge

South Ballroom—Williamsburg Lodge

**Annual Business Meeting:**

South Ballroom, Monday, March 9—4:00 P.M.

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## SOCIAL EVENTS

**Women's Tea: Monday, March 9—3:30 P.M.**

The Society of Toxicology will be the host.  
Room B, Conference Center.

**Social Hour: Monday, March 9—6:00 P.M.**

North Gallery, Williamsburg Lodge.  
The Hazelton Laboratories will be the host.

**Banquet: Tuesday, March, 10—7:00 P.M.**

Williamsburg Lodge, Virginia Room.  
Tickets available at Registration Desk. Wine for the banquet provided by Dr. Oser, Food and Drug Research Laboratories.

Speaker: Dr. Horace Gerarde,  
"Toxicology in the Soviet Union."

**MONDAY, MARCH 9**

**MONDAY MORNING**

***South Ballroom***

*Chairman:* Seymour L. Friess  
Naval Medical Research Institute  
Bethesda, Md.

- 9:00** **Altered Enzyme Activities in Livers of Rats Treated with Chemical Irritants.** Sheldon D. Murphy, Harvard School of Public Health, Boston, Mass.
- 9:20** **Metabolism of 3-Acetylpyridine to an Analog of Mandelic Acid.** Lennox B. Turnbull, C. N. Lukhard and Herbert McKennis, Jr., Medical College of Virginia, Richmond, Va.
- 9:40** **Studies of Biotransformation of 2-Nitronaphthalene.** M. L. Dewey, E. W. Wahrenbrock, J. H. Prince and C. H. Hine, The Hine Laboratories, San Francisco, Calif.
- 10:00** **Mechanism of Hemolysis: I. In Vitro Effect of Primaquine and Menadione on TPNH Methemoglobin Reductase: Comparative Studies on Blood from Man, Dog and Swine.** Andrew S. Tegeris, Food and Drug Administration, Washington, D. C.
- 10:20** **Stimulation of Alcohol Dehydrogenase by Doxapram HCl.** John P. DaVanzo and Lillian Kang, A. H. Robins Company, Richmond, Va.
- 10:40** **Protection of Rats from Octamethylpyrophosphoramide (OMPA) Poisoning by Chlorcyclizine.** J. J. McPhillips, The Medical College of Virginia, Richmond, Va.
- 11:00** **Permeability Effects of Ozone (O<sub>3</sub>) on the Isolated Bladder of the Toad, *Bufo marinus*.** E. J. Fairchild, II and H. E. Stokinger, U. S. Public Health Service, Cincinnati, Ohio.
- 11:20** **The Mobilization of Nickel and Copper by Sodium Diethyldithiocarbamate.** F. William Sunderman and F. William Sunderman, Jr., Jefferson Medical College, Philadelphia, Pa.
- 11:40** **The Role of the Absorptive State in Relation to the Absorption and Metabolic Fate of Certain Polyols.** Joseph F. Treon, Louis E. Gongwer, Manno F. Nelson and John C. Kirschman, Atlas Chemical Industries, Inc., Wilmington, Del.

**MONDAY, MARCH 9**

**MONDAY AFTERNOON**

**South Ballroom**

*Chairman:* Don D. Irish  
The Dow Chemical Co.  
Midland, Mich.

- 1:30 Dietary Lipogranuloma Production: Control by Saturated: Unsaturated Fatty Acid Ratios.** Harold C. Hodge, Elliott A. Maynard, William L. Downs, and Bernard Panner, University of Rochester School of Medicine and Dentistry, Rochester, N. Y.
- 1:50 Blood Levels of Drugs in Newborn and Adult Animals: Sulfadiazine.** R. E. Bagdon and H. Rudiger, Hoffmann-LaRoche Inc., Nutley, N. J.
- 2:10 Blood Concentrations of Tetracycline and Hydrocortisone in Newborn and Adult Dogs.** H. Eisner and Earl H. Dearborn, Lederle Laboratories Division, American Cyanamid Company, Pearl River, N. Y.
- 2:30 Effects of Alkyl Phosphates on Intact Denerated Striated Muscle.** T. A. Loomis, School of Medicine, University of Washington, Seattle, Wash.
- 2:50 Pressor Effects Produced in Man by Parenteral Administration of Oximes.** Benjamin Calesnick, Joseph R. DiPalma and Jens A. Christensen, Hahnemann Medical College and Hospital, Philadelphia, Pa.
- 3:10 Reduction of Crystallization of the Metabolite of N<sup>6</sup>-(2-Hydroxyethyl) Adenine in the Renal Tubules.** J. E. Gray, G. E. Underwood and K. M. Mann, The Upjohn Company, Kalamazoo, Mich.
- 3:30 Normal Blood Values of the Adult Female Macaca Mulatta Monkey.** Theodore O. King, Ortho Research Foundation, Raritan, N. J. and James L. Gargus, Hazleton Research Laboratories, Falls Church, Va.
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- 4:00 Annual Business Meeting of the Society of Toxicology.** Paul S. Larson, President, Presiding.
- 6:00 Social Hour**

**TUESDAY, MARCH 10**

**TUESDAY MORNING**

**South Ballroom**

*Chairman:* Karl H. Beyer, Jr.

Merck Sharp & Dohme Research Laboratories  
West Point, Pa.

- 9:00 Toxicology of Pyridinethiones.** Charles L. Winek, The Procter & Gamble Company, Miami Valley Laboratories, Cincinnati, Ohio.
- 9:20 Acute Toxicological Studies of Some Perhalogenated Ketones.** Joseph F. Borzelleca, Medical College of Virginia, Richmond, Va., and David Lester, Rutgers University, New Brunswick, N. J.
- 9:40 A Curious Anomaly in Acute Toxicities (Mouse) of Tropine and Pseudotropine Aryl Esters.** S. L. Friess and L. J. Reber, U. S. Naval Medical Research Institute, Bethesda, Md.
- 10:00 Narcotic and Toxic Potencies of Aliphatic Alcohols and Alkyl Esters to Rabbits.** James C. Munch, Hahnemann Medical College, Philadelphia, Pa.
- 10:20 Assessment of the Toxic Potential of 2-Methyl-3-(Orthotolyl)-4-(3H) Quinazolinone.** J. W. Keating, Strassenburgh Laboratories, Rochester, N. Y., and R. H. Buller, R. G. Geil, F. X. Wazeter and J. G. Keller, International Research and Development Corporation, Mat-tawan, Mich.
- 10:40 Toxicology of Zinc Soldering Compounds.** Robert M. Hehir, James R. Gaskins, William R. Byron and E. William Ligon, Jr., Food and Drug Administration, Washington, D. C.
- 11:00 Comparative Acute Effects of Some Chemicals on the Skin of Rabbits and Guinea Pigs.** Robert L. Roudabush, C. J. Terhaar, David W. Fassett and Stanley P. Dziuba, Eastman Kodak Co., Rochester, N. Y.
- 11:20 Early Mouse-Skin Responses to Irritants.** F. Homburger and J. R. Baker, Bio-Research Institute, Cambridge, Mass.
- 11:40 A New Method of Detecting Potential Sensitizers Using the Guinea Pig.** Edwin V. Buehler, The Procter & Gamble Company, Miami Valley Laboratories, Cincinnati, Ohio.

**TUESDAY, MARCH 10**

**TUESDAY MORNING**

**North Ballroom**

*Chairman:* C. Boyd Shaffer  
American Cyanamid Company  
Wayne, New Jersey

- 9:00 The Chronic Oral Toxicity of a Series of Rosin Products.** John P. Frawley, Hercules Powder Co., Wilmington, Del., and Joseph C. Calandra, Industrial Bio-Test Laboratories, Inc., Northbrook, Ill.
- 9:20 Toxicological Studies of Acrylamide-Acrylic Acid Resins.** D. D. McCollister, S. E. Sadek and V. K. Rowe, The Dow Chemical Co., Midland, Mich.
- 9:40 Safety Evaluation of the Respiratory Stimulant Doxapram Hydrochloride by Oral and Parenteral Administration to Laboratory Animals.** Geoffrey Woodard, Woodard Research Corporation, Herndon, Va., John W. Ward, A. H. Robins Co., Inc. and Geoffrey T. Mann, Medical College of Virginia, Richmond, Va.
- 10:00 Safety Evaluation Studies on 1,3-Butylene Glycol.** R. A. Scala and O. E. Paynter, Hazleton Laboratories, Inc., Falls Church, Va.
- 10:20 Acute and Chronic Toxicity of Pimaricin.** G. J. Levinskas, W. E. Ribelin and C. B. Shaffer, American Cyanamid Company, Wayne, N. J.
- 10:40 Chronic Toxicity of Potassium Iodate in Dogs.** Stewart H. Webster, Edward F. Stohlman and Benjamin Highman, National Institutes of Health, Bethesda, Md.
- 11:00 Comparative Toxicity Studies on Glucose, Fructose and Sucrose.** Kenneth H. Harper and Alastair N. Worden, Huntingdon Research Center, Huntingdon, England.
- 11:20 Effects of Chronic Dietary Administration of *Crotalaria Spectabilis* to Rats.** William D'Aguzzo, Walter H. Hansen and Kent J. Davis, Food and Drug Administration, Washington, D. C.
- 11:40 Toxicological Studies with the Antioxidant, POLYGARD®.** Steven Carson, Bernard L. Oser and Mona Oser, Food and Drug Research Laboratories, Inc., Maspeth, N. Y.



**TUESDAY, MARCH 10**

**TUESDAY AFTERNOON**

**South Ballroom**

*Chairman:* Harold N. MacFarland  
Hazleton Laboratories, Inc.  
Falls Church, Va.

- 1:30 Long Term Continuous Inhalation Toxicity Studies. I. Triaryl Phosphate Safety Type Hydraulic Fluid.** Capt. J. Siegel, LCDR H. S. Rudolph, Lt. A. J. Getzkin and HMC R. A. Jones, U. S. Navy Toxicology Unit, National Naval Medical Center, Bethesda, Md.
- 1:50 Toxicity Studies on 1, 2-Difluorotetrachloroethane ("Freon-112") and 1, 1-Difluorotetrachloroethane ("Freon-112A").** J. Wesley Clayton, Jr., Henry Sherman, Seoras D. Morrison, John R. Barnes and Dorothy B. Hood, Haskell Laboratories, E. I. du Pont de Nemours and Co., Wilmington, Del.
- 2:10 Oral and Inhalation Toxicity Studies on Pentacerythritol.** M. L. Keplinger, Hercules Powder Co., Wilmington, Del., and J. H. Kay, Industrial Bio-Test Laboratories, Inc., Northbrook, Ill.
- 2:30 Inhalation and Intravenous Toxicity of Turpentine in Mice.** Frederick Sperling and Calvin Collins, Howard University Medical School, Washington, D. C.
- 2:50 A Simple Method for Evaluating Effect of Pulmonary Irritants on the Uptake of Solvent Vapors.** M. E. Gardner, R. N. Wells, E. T. Evans and C. H. Hine, The Hine Laboratories, Inc., San Francisco, Calif.
- 3:10 Persistent Psychiatric Symptoms from Exposure to Organophosphate Insecticides.** Paul W. Smith and J. Robert Dille, Civil Aeromedical Research Institute, Oklahoma City, Okla.
- 3:30 Myocardial Necrosis and Differential Non-Esterified Fatty Acid (NEFA) Mobilization by Sympathomimetic Amines.** Arnold J. Wohl and Ira Rosenblum, The Albany Medical College of Union University, Albany, N. Y.
- 3:50 Some Cardiotoxic Effects in Dogs Associated with the Oral and Intravenous Administration of 1-(0-Bromobenzyl)-1, 1-Diethyl Hydrazonium Chloride.** C. S. Delahunt, R. A. Yeary, B. Korol and N. Rieser, Chas. Pfizer and Co., Inc., Groton, Conn.
- 4:10 Effects of Varying Depths of Anesthesia on Cardiac Output and Related Hemodynamics.** H. Page Mauck, Jack Freund and Reno R. Porter, Medical College of Virginia, Richmond, Va.

## TUESDAY, MARCH 10

### TUESDAY AFTERNOON

#### North Ballroom

*Chairman:* Harold C. Hodge  
University of Rochester  
School of Medicine and Dentistry  
Rochester, N. Y.

- 1:30 A Comparison of Approaches to Radiation and General Toxicology.** H. A. Kornberg, Hanford Laboratories, General Electric Co., Richland, Wash.
- 1:50 Distribution and Excretion of Inhaled and Intravenously Administered Pm<sup>147</sup>.** B. O. Stuart, Hanford Laboratories, General Electric Co., Richland, Wash.
- 2:10 Acute Toxicity of Sr<sup>90</sup> in Miniature Swine.** R. O. McClellan, W. J. Clarke and G. S. Vogt, Hanford Laboratories, General Electric Co., Richland, Wash.
- 2:30 Safety Evaluation Studies on 2, 5-Dichloro-3-Amino-Benzoic Acid (AMIBEN).** L. W. Hazleton, O. E. Paynter and R. J. Weir, Hazleton Laboratories, Inc., Falls Church, Va.
- 2:50 Concentration of DDT in Brain and Other Tissues in Relation to Symptomatology.** Wayland J. Hayes, Jr. and William E. Dale, Communicable Disease Center, U. S. Public Health Service, Atlanta, Ga.
- 3:10 Blood Sugar Levels Following Acute Poisoning with Parathion and 1-Naphthyl N-Methyl Carbamate (SEVIN® in Three Species).** L. R. Weiss, J. Bryant and O. G. Fitzhugh, Food and Drug Administration, Washington, D. C.
- 3:30 Psychopharmacological Effects of 1-Naphthyl N-Methyl Carbamate (SEVIN® Insecticide) Alone and in Combination with Various Therapeutic Agents.** M. E. Goldberg and H. E. Johnson, Mellon Institute, Pittsburgh, Pa.
- 3:50 The Comparative Toxicity of Some Benzodiazepines with CNS Activity.** T. H. F. Smith, Gareth Owen and H. P. K. Agersborg, Jr., Wyeth Laboratories, Inc., Radnor, Pa.
- 4:10 Comparison of the Subcutaneous and Intramuscular Routes of Administration of Iron Hydrogenated Dextran for the Treatment of Anemia in Piglets.** Marie W. Woodward, Kermit O. Cockrell and Geoffrey Woodard, Woodard Research Corp., Herndon, Va.
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- 7:00 Society of Toxicology Banquet — Virginia Room.**  
Speaker—Dr. Horace Gerarde, Esso Research and Engineering Co., Linden, New Jersey.  
"Toxicology in the Soviet Union."

**WEDNESDAY, MARCH 11**

**WEDNESDAY MORNING**

**South Ballroom**

*Chairman:* Horace W. Gerarde  
Esso Research and Engineering Co.  
Linden, N. J.

- 9:00 Preliminary Observations on the Carcinogenic Activity of 4,4'-Dinitrobiphenyl.** Souheil Laham, Harold C. Grice and John W. Sinclair, Food and Drug Directorate, Ottawa, Canada.
- 9:20 Ethanol and the Carcinogenicity of N-Hydroxy-N-2-Fluorenylacetamide In Male and Female Rats.** J. H. Weisburger, R. S. Yamamoto and S. R. Pai, National Cancer Institute, Bethesda, Md.
- 9:40 Synergism Among Oral Carcinogens and Tumorigens. Report of Preliminary Experiments.** William B. Deichmann and J. L. Radomski, University of Miami School of Medicine, Coral Gables, Fla.
- 10:00 Biochemical Studies on the Toxicity of Pentaborane-9.** D. J. Reed, F. N. Dost and C. H. Wang, Oregon State University, Corvallis, Ore.
- 10:20 Studies on the Toxicity of Hydrazine.** Abel M. Dominguez, Joseph S. Amenta, J. Palmer Saunders and Thaddeus J. Domanski, Armed Forces Institute of Pathology, Washington, D. C.
- 10:40 Pathologic Alterations of Heart and Other Tissues with Hydrazines In Monkeys.** Capt. Roman L. Patrick and Kenneth C. Back, Aerospace Medical Research Laboratories, Wright-Patterson Air Force Base, Ohio.
- 11:00 Localization of the Site of Convulsant Action of Selected Hydrazines.** F. W. Weir, J. H. Nemenzo, W. F. Ganong, B. L. Wise and C. H. Hine, The Hine Laboratories, Inc., San Francisco, Calif.
- 11:20 Biochemical Studies on the Toxicity of 1,1-Dimethylhydrazine.** F. N. Dost, D. J. Reed and C. H. Wang, Oregon State University, Corvallis, Ore.
- 11:40 Role of Histamine and Related Substances In Tolerance to Edemagenic Agents.** Joseph R. Dixon, John T. Mountain, Richard M. Mendenhall and Herbert E. Stokinger, U. S. Public Health Service, Cincinnati, Ohio.

**WEDNESDAY, MARCH 11**

**WEDNESDAY MORNING**

**North Ballroom**

*Chairman:* Victor A. Drill

G. D. Searle & Co.

Chicago, Ill.

- 9:00 Reticuloendothelid Phagocytic Response in Acute CCl<sub>4</sub> or Allyl Formate Poisonings.** O. M. Meredith, Lockheed Missiles & Space Co., Palo Alto, Calif., and Jane Post and John Holmes, University of California School of Medicine, Los Angeles, Calif.
- 9:20 The Effect of Temperature and Spinal Cord Transection on CCl<sub>4</sub> Hepatotoxicity.** Gabriel L. Plaa and Robert E. Larson, State University of Iowa College of Medicine, Iowa City, Iowa.
- 9:40 Effect of Np<sup>237</sup> on Lipid Metabolism.** D. Dennis Mahlum, Hanford Laboratories, General Electric Co., Richland, Wash.
- 10:00 Functional and Histopathological Evaluation of Pericholangitis Induced by Aryl Isothiocyanates.** Bernard A. Becker and Gabriel L. Plaa, State University of Iowa College of Medicine, Iowa City, Iowa.
- 10:20 Kidney Clearance Studies on Cows Receiving Added Dietary Fluorine Compounds.** F. L. Mangelson, D. A. Greenwood, and L. E. Harris, Utah State University, and J. L. Shupe, Agricultural Research Service, U. S. Department of Agriculture, Logan, Utah.
- 10:40 The Measurement of Kidney Function in Animals by Means of Osmometry.** Gareth Owen, T. H. F. Smith and H. P. K. Agersborg, Jr., Wyeth Laboratories, Inc., Radnor, Pa.
- 11:00 Anorexigenic Activity of N-Ethyl- $\alpha$ -Methyl-3-Trifluoromethylphenethylamine Hydrochloride (AHR-965), a Non-CNS Stimulant.** R. S. Alphin, W. H. Funderburk and J. W. Ward, A. H. Robins Co., Inc., Richmond, Va.
- 11:20 Screening Against the Teratogenic Effects of Drugs.** Robert M. Diener and Bebe Y. D. Hsu, Ciba Pharmaceutical Co., Summit, N. J.
- 11:40 Effects of Drugs on Blastocyst Development and Nidation.** R. F. Davies and H. Reinert, Pfizer Limited, Sandwich, England.

## APPOINTED COMMITTEES

### NOMINATING COMMITTEE

John P. Frawley, *Chairman*

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Keith H. Jacobson                  Francis X. Wazeter

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Harold N. MacFarland                  C. Boyd Shaffer  
Sheldon D. Murphy                      Capt. Jacob Siegel  
Carrol S. Weil

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Robert E. Bagdon                        Charles J. Kensler  
John P. Frawley                            Joseph F. Treon  
Horace W. Gerarde                        Geoffrey Woodard

### CONSTITUTIONAL CHANGE COMMITTEE

(Ad Hoc)

Victor A. Drill, *Chairman*

Horace W. Gerarde                      Don D. Irish  
Lloyd W. Hazelton                        Herbert E. Stokinger