

**THE
SOCIETY
OF
TOXICOLOGY**



NINTH ANNUAL MEETING

PROGRAM

Marriott Motor Hotel

Atlanta, Ga.

March 15-19, 1970

INFORMATION

REGISTRATION

Pre-registration Forms Obtainable from Secretary:

Dr. Joseph F. Borzelleca
Department of Pharmacology
Medical College of Virginia
Richmond, Virginia 23219 (AC 703/770-4676)

Registration Desk—Marriott Motor Hotel

Sunday, 15 March 1970 2:00 P.M.- 5:00 P.M.
7:30 P.M.-10:00 P.M.
Monday, 16 March 1970 8:30 A.M.- 5:00 P.M.
Tuesday, 17 March 1970 8:30 A.M.- 5:00 P.M.
Wednesday, 18 March 1970 8:30 A.M.- 5:00 P.M.

Fees—

Society of Toxicology members\$10.00
Non-members 15.00
Pre-doctoral full-time students 2.00

Abstracts—

Distributed without charge to all members of the Society of Toxicology and to all who register for the Meeting. Additional copies: \$2.00—on sale at the Registration Desk.

MEETINGS

Scientific Sessions—

Locations

Center Ballroom
Grand Ballroom
North Ballroom
South Ballroom

Times

Monday, Tuesday, Wednesday, Thursday
8:50 A.M. - 12:00 Noon
Monday, Tuesday, Wednesday
1:30 P.M. - 4:00 P.M.

Annual Business Meeting—

Grand Ballroom
Monday, 16 March 1970—4:00 P.M.

SOCIAL EVENTS

Monday, 16 March 1970

Cocktail Party—6:30 P.M.—Tara Ballroom

Tuesday, 17 March 1970

Banquet—7:00 P.M.—Grand Ballroom
Tickets available at Registration Desk

Ladies Hospitality Room

Plantation Room
8:00 A.M. - Noon
Monday, Tuesday, Wednesday, 16, 17, 18 March
1970

OFFICERS

TED A. LOOMIS *President*
ROBERT L. ROUDABUSH *President-Elect*
JOSEPH F. BORZELLECA *Secretary*
DONALD D. MCCOLLISTER *Treasurer*
CARROL S. WEIL *Past President*

COUNCIL

(Consists of officers and four elected members)

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JOSEPH C. CALANDRA (1969-71)
FRED H. SNYDER (1969-71)

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Panel on Toxicology Terminology

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ANTHONY M. AMBROSE

Epoxy Resins, K68 Committee

W. E. RINEHART RICHARD L. HOLLINGSWORTH

Z-37

H. N. MACFARLAND

(3)

March 16, 1970

MONDAY MORNING—NORTH BALLROOM

Chairman: CHARLES R. LINEGAR
Squibb Institute for Medical Research
New Brunswick, New Jersey

- 8:50 1. **Effects of Amantadine Hydrochloride on Cleavage and Embryonic Development in the Rat and Rabbit.** J. K. Lamar, F. J. Calhoun and A. G. Darr, Bureau of Medicine Laboratory, Food and Drug Administration, Washington, D.C.
- 9:10 2. **Effect of Antineoplastic Agents on Fertility of Male Mice as Determined by Serial Mating.** R. L. Dixon and I. P. Lee, Laboratory of Toxicology, National Cancer Institute, Bethesda, Maryland.
- 9:30 3. **The Effects of Carbaryl (Sevin) on Reproduction of the Rat and of the Gerbil.** T. F. X. Collins, W. H. Hansen and H. V. Keeler, Division of Pesticides, Bureau of Science, Food and Drug Administration, Washington, D.C.
- 9:50 4. **The Failure of Caffeine to Induce Mutations or to Synergize the Mutagenic Effects of X-rays or of Alkylating Agents in Mice.** S. S. Epstein, Laboratories of Environmental Toxicology and Carcinogenesis, Children's Cancer Research Foundation, Inc., and Department of Pathology, Harvard Medical School, Boston, Massachusetts.

10 MINUTE BREAK

- 10:20 5. **Studies on the Mechanism of Diphenylhydantoin Teratogenicity.** R. D. Harbison and B. A. Becker, Oakdale Toxicology Center, Dept. of Pharmacology, College of Medicine, University of Iowa, Iowa City, Iowa.
- 10:40 6. **Chronic Toxicity and Teratology Studies of L-Monosodium Glutamate and Related Compounds.** A. G. Ebert, Growth Sciences Center, International Minerals and Chemicals Corporation, Libertyville, Ill. (Sponsor: R. J. Weir.)
- 11:00 7. **The Teratogenic Effect of Lithium Carbonate Upon the Palate of Rando-bred Mice.** K. T. Szabo, A. M. Hawk and M. Henry, Pathology and Toxicology Department, Smith Kline & French Laboratories, Philadelphia, Pennsylvania. (Sponsor: Joseph F. Borzelleca.)
- 11:20 8. **Embryotoxicity and Fetal Malformations of Rats and Mice Due to Maternally Administered Ether.** B. A. Schwetz and B. A. Becker, Oakdale Toxicology Center, Department of Pharmacology, University of Iowa College of Medicine, Iowa City, Iowa.
- 11:40 9. **Teratological Evaluation of Alupent (Meproterenol) in the Rhesus Monkey (Macaca Mulatta).** B. N. Banerjee and G. Woodard, Woodard Research Corporation, 12310 Pinecrest Road, Herndon, Virginia.

March 16, 1970

MONDAY MORNING—CENTER BALLROOM

Chairman: HERMAN F. KRAYBILL
Food and Drug Administration
Washington, D.C.

- 8:50 10. **Dieldrin—DDT Interactions in Guinea Pigs.** D. J. Wagstaff and J. C. Street, Interdepartmental Program in Toxicology and Department of Animal Science, Utah State University, Logan, Utah. (Sponsor: J. L. Shupe.)
- 9:10 11. **Cytogenetic Effects of DDT and Derivatives of DDT in a Cultured Mammalian Cell Line.** K. A. Palmer, S. Green and M. S. Legator, Cell Biology Branch, Division of Pharmacology and Toxicology, Food and Drug Administration, Washington, D.C. (Sponsor: Leonard Friedman.)
- 9:30 12. **DDT Levels in Blood, Brain, and CSF of DDT Convulsed Rats.** G. Morrison, DHEW, PHS, CPE, FDA, SCI, Division of Pesticides, Perrine Primate Research Branch, Box 490, Perrine, Florida. (Sponsor: William F. Durham.)
- 9:50 13. **Dynamics of DDT Storage in the Squirrel Monkey.** M. Cranmer, F. Copeland and J. Carroll, Department of Health, Education, and Welfare, Public Health Service, Food and Drug Administration, Perrine Primate Research Branch, P.O. Box 490, Perrine, Florida. (Sponsor: William F. Durham.)

10 MINUTE BREAK

- 10:20 14. **Comparative Toxicologic Studies of Selected Organochlorine Pesticides in Native and Laboratory Mice.** M. M. Luckens, Institute of Environmental Toxicology, and Occupational Hygiene (Toxicology and Pharmacology), College of Pharmacy, University of Kentucky Medical Center, Lexington, Kentucky. (Sponsor: F. Rieders.)
- 10:40 15. **Organochlorine Insecticides in Normal and Carcinogenic Human Lung Tissues.** J. C. Dacre and R. W. Jennings, Toxicology Laboratory, Pesticides Program, Food and Drug Administration, Consumer Protection and Environmental Health Service, Public Health Service, U.S. Department of Health, Education, and Welfare, Atlanta, Georgia.
- 11:00 16. **Dieldrin Induced Hyperglycemia in Rats.** J. W. Hiddemen and H. H. Cornish, Department of Industrial Health, School of Public Health, The University of Michigan, Ann Arbor, Michigan.
- 11:20 17. **Some Observations on the Comparative Toxicity of Four Organochlorine Pesticides After Short and Prolonged Oral (Feeding) Administration in Rats.** L. R. Weiss, R. Brodie, J. F. Reilly and S. Krop, Division of Pharmacology and Toxicology, Bureau of Science, Food and Drug Administration, Washington, D.C.
- 11:40 18. **Subacute Toxicity of Photodieldrin 3, 4, 5, 6, 6, 7-hexachloro-12-oxahexacyclo- (6.5.0.0^{2,10}.0^{3,7}.0^{5,9}.0^{11,13}) Tridecane, A Photodecomposition Product of Dieldrin.** M. S. Walton, V. Beck and R. L. Baron, Division of Pesticides, Bureau of Science, Food and Drug Administration, Washington, D.C. (Sponsor: Clara H Williams.)

March 16, 1970

MONDAY AFTERNOON—GRAND BALLROOM

Symposium

**Ethics, Mores and Responsibility
of Toxicologists**

1:30 Introduction—Robert L. Roudabush

President 1969-70 Ted A. Loomis
University of Washington
School of Medicine
Seattle, Washington

Past President 1961-62 Harold C. Hodge
U. of Rochester Medical Center
Rochester, New York

1962-63 C. Boyd Shaffer
American Cyanamid Company
Wayne, New Jersey

1963-64 Paul S. Larson
Virginia Commonwealth Univ.
Richmond, Virginia

1964-65 Harry W. Hays
U.S. Department of Agriculture
Washington, D.C.

1965-66 Frederick Coulston
Albany Medical College
Albany, New York

1966-67 Verald K. Rowe
Dow Chemical Company
Midland, Michigan

1967-68 John A. Zapp
E. I. duPont de Nemours & Co.
Wilmington, Delaware

1968-69 Carrol S. Weil
Carnegie Mellon University
Pittsburgh, Pennsylvania

Open Discussion

4:00 Annual Business Meeting. Grand Ballroom

6:30 Cocktail Party. Tara Ballroom.

March 17, 1970

TUESDAY MORNING—NORTH BALLROOM

Chairman: CHARLES J. KENSLER

Arthur D. Little, Inc.
Cambridge, Massachusetts

8:50 19. **Oncogenic Bioassay of N-Nitrosodiethylamine in Newborn Rodents.** J. L. Gargus and L. D. Shott, Hazleton Laboratories, Inc., Falls Church, Virginia. (Sponsor: D. C. Jessup.)

9:10 20. **Influence of Dosage Scheduling on Toxicity and Effectiveness of Antitumor Chemotherapeutic Agents in Mice.** E. R. Homan, R. P. Zendzian and G. L. Neil, Laboratory of Toxicology, National Cancer Institute, Bethesda, Maryland, Hazleton Laboratories, Falls Church, Virginia, and the Upjohn Company, Kalamazoo, Michigan.

9:30 21. **The Variable Susceptibility to Subcutaneous Injection of 9,10-Dimethyl-1,2-benzanthracene (DMBA) of Inbred Strains of Syrian Hamsters.** F. Homburger and S. S. Hsueh, Bio-Research Institute, Cambridge, Massachusetts.

9:50 22. **Phenester (NSC -116 785): Convulsive Properties of an Alkylating Agent with Antitumor Activity.** U. Schaeppi, G. R. Thompson, S. Stadnicki, R. Phelan, D. A. Cooney and R. D. Davis, Mason Research Institute, Worcester, Massachusetts and National Cancer Institute, Bethesda, Maryland. (Sponsor: M. M. Mason.)

10 MINUTE BREAK

10:20 23. **The Chronic Effect of Dietary 8-Hydroxyquinoline Alone and with the Carcinogen N-2-Fluorenylacetylamide in Rats.** R. S. Yamamoto, H. H. Frankel and J. H. Weisburger, Biology Branch, National Cancer Institute, Bethesda, Maryland.

10:40 24. **Effect of Dipyridamole on the Toxicity of Various Antineoplastic Agents.** I. P. Lec and R. L. Dixon, Laboratory of Toxicology, National Cancer Institute, Bethesda, Maryland.

11:00 25. **Toxicology and Carcinogenesis of Various Chemicals Used in the Preparation of Vaccines.** M. M. Mason and C. C. Cate, Mason Research Institute, Worcester, Massachusetts.

11:20 26. **Fate of Sodium Cyclamate-¹⁴C in the Rhesus Monkey (*M. mulatta*).** C. Parekh, E. K. Goldberg and L. Golberg, Institute of Experimental Pathology and Toxicology, Albany Medical College, Albany, New York.

11:40 27. **Myocardial Lesions Induced by Calcium Cyclamate in Syrian Hamsters.** E. Bajusz, Bio-Research Institute, Cambridge, Massachusetts. (Sponsor: F. Homburger.)

March 17, 1970

TUESDAY MORNING—CENTER BALLROOM

Chairman: CLARA H. WILLIAMS

Food and Drug Administration
Washington, D.C.

- 8:50 28. **The Comparative Toxicity and Biotransformation of Phenol.** F. W. Oehme and L. E. Davis, Comparative Toxicology Laboratory, College of Veterinary Medicine, Kansas State University, Manhattan, Kansas and Department of Veterinary Physiology and Pharmacology, College of Veterinary Medicine, Ohio State University, Columbus, Ohio.
- 9:10 29. **Factors Modifying Excretion of Salicylate by the Dog: A Comparison of Urinary and Salivary Routes.** J. W. Putney, Jr. and J. F. Borzelleca, Department of Pharmacology, Medical College of Virginia, Richmond, Virginia.
- 9:30 30. **Preclinical Toxicology of NSC 68075 (Thalidomide) in Mice, Hamsters, and Dogs, Including Physiological Disposition Studies.** P. E. Palm, M. S. Nick, D. W. Yesair, M. M. Callahan and C. J. Kensler, Life Sciences Division, Arthur D. Little, Inc., Cambridge, Massachusetts.
- 9:50 31. **Metabolism of Labeled Dypnone Guanyldrazone Hydrochloride (WR-5677) in Monkeys and Rats.** C. C. Smith, Department of Environmental Health, University of Cincinnati College of Medicine, Cincinnati, Ohio.

10 MINUTE BREAK

- 10:20 32. **Metabolism of (¹⁴C)Metolazone, a New Diuretic, in Naive and Chronically Treated Dogs and Monkeys.** A. I. Cohen, O. N. Hinsvark, and D. J. Sullivan, Research Center, Pennwalt Corporation, Pharmaceutical Division, Rochester, New York. (Sponsor: Z. Hadidian.)
- 10:40 33. **Gas Chromatographic Determination of Ethanol, Acetaldehyde and Acetone in Microvolumes of Biofluids.** B. B. Goldwell, G. Solomonraj, H. L. Trenholm and G. S. Wiberg, Pathology and Toxicology Section, Research Laboratories, Food and Drug Directorate, Department of National Health and Welfare, Ottawa, Canada.
- 11:00 34. **Procedures for Evaluating the Non-Absorption of a Polymer from the Gastrointestinal Tract.** R. C. Reynolds, B. D. Astill and D. W. Fassett, Laboratory of Industrial Medicine, Eastman Kodak Company, Rochester, New York.
- 11:20 35. **In Vitro and In Vivo Concentrations of Thiopental, Hexobarbital and Pentobarbital in Rat Lungs.** W. L. Marcus and F. Sperling, Howard University Medical School, Washington, D.C.

March 17, 1970

TUESDAY MORNING—SOUTH BALLROOM

Chairman: SHELDON D. MURPHY

Harvard School of Public Health

Boston, Massachusetts

- 8:50 36. **Increased Toxicity of Carbon Tetrachloride in Phenobarbital Treated Animals.** T. M. Farber, A. Heider, E. L. Peters, D. L. Ritter, M. Disraely and E. J. Van Loon, Special Pharmacological Animal Laboratory, Division of Pharmacology and Toxicology, Food and Drug Administration, Washington, D.C.
- 9:10 37. **Lindane Toxicity—Comparative Study in Dogs and Miniature Swine With and Without Phenobarbital.** F. L. Earl, E. J. Van Loon, B. S. Melveger, J. E. Reinwall, G. W. Bierbower, R. Kass and W. Miguez, Special Pharmacological Animal Laboratory, Division of Pharmacology and Toxicology, Food and Drug Administration, Washington, D.C.
- 9:30 38. **Inhibition of Hepatic Drug Metabolism by Amphetamine, Methamphetamine, Hydroxyamphetamine and Chloramphetamine.** R. L. Ferdinand, S. Puri, F. Kowal, G. Fuller and H. Lal, Department of Pharmacology and Toxicology, University of Rhode Island, Kingston, Rhode Island.
- 9:50 39. **Inhibition of Microsomal Enzyme Induction by Piperonyl Butoxide.** M. A. Friedman and S. S. Epstein, Children's Cancer Research Foundation, Inc. and Harvard Medical School, Boston, Massachusetts.

10 MINUTE BREAK

- 10:20 40. **Quantitative Measurement of Hepatic Microsomal Enzyme Induction After Dietary Intake of Chlorinated Hydrocarbon Insecticides.** F. K. Kinoshita and C. K. Kempf, Toxicity Laboratory, University of Chicago, Chicago, Illinois. (Sponsor: K. P. DuBois.)
- 10:40 41. **Influence of Metiapine on the Drug Metabolizing Systems of the Rat Liver.** G. A. Leeson, A. Kandel, W. L. Kuhn and G. J. Wright, Wm. S. Merrell Company, Cincinnati, Ohio.
- 11:00 42. **Comparative Stimulation of HCH Metabolism by Pretreatment of Rats with HCH, DDT and DDT + HCH.** R. W. Chadwick, M. F. Cranmer and A. J. Peoples, Department of Health, Education, and Welfare, Public Health Service, Food and Drug Administration, Perrine Primate Research Branch, P.O. Box 490, Perrine, Florida. (Sponsor: Joseph F. Borzelleca.)
- 11:20 43. **Effect of Methylchloroform Inhalation on the Hepatic Microsomal Electron Transport System Related to Drug Metabolism.** A. Olshan, G. C. Fuller and H. Lal, Department of Pharmacology and Toxicology, University of Rhode Island, Kingston, Rhode Island.

March 17, 1970

TUESDAY AFTERNOON—NORTH BALLROOM

Chairman: STEVEN CARSON

Food and Drug Research Labs., Inc.
Maspeth, New York

1:30 44. **Toxicosis in Mice Induced by Corn Cultures of *Penicillium Cyclopium* and *Penicillium Frequentans*.** W. W. Carlton and J. Tuite, Department of Veterinary Physiology and Pharmacology and Department of Botany and Plant Pathology, Purdue University, Lafayette, Indiana.

1:50 45. **Effects of Nutrition on Response to Liver Toxins.** P. M. Newberne and A. E. Rogers, Department of Nutrition and Food Science, Massachusetts Institute of Technology, Cambridge, Massachusetts.

2:10 46. **Induction of Delayed Hypersensitivity to Aflatoxins in Guinea Pigs and Their Cross-reactivity to Related Compounds.** C. W. Chung, T. R. Carson and A. L. Giles, Jr., Division of Pharmacology and Toxicology, Food and Drug Administration, Washington, D.C. (Sponsor: F. N. Marzulli)

2:30 47. **The Analysis of Feed Efficiency Data as Related to Various Degrees of Aflatoxicosis in Growing Swine.** B. H. Armbrrecht, H. G. Wiseman, W. T. Shalkop and J. N. Geleta, Division of Veterinary Research, Bureau of Veterinary Medicine, Food and Drug Administration, Agricultural Research Center, Beltsville, Maryland.

10 MINUTE BREAK

3:00 48. **The Development of a Systematic Method for Toxicological Research Using an Integrated Multidisciplinary Approach.** G. S. Wiberg, B. B. Coldwell and H. L. Trenholm, Pathology and Toxicology Section, Research Laboratories, Food and Drug Directorate, Ottawa, Canada.

3:20 49. **A Versatile Data Processing System Developed for Animal Reproduction and Teratology Data.** H. Hartman, R. Hrab and P. Carty, Sandoz Pharmaceuticals, Hanover, New Jersey. (Sponsor: R. E. Bagdon.)

3:40 50. **A Small Real-Time Data Logger to Analyze Spontaneous Animal Activity.** B. L. Myers and A. A. Thomas, Technology Incorporated, Dayton, Ohio and 6570th Aerospace Medical Research Laboratory (MRT). Wright-Patterson Air Force Base, Ohio.

7:00 **Society of Toxicology Banquet.** Grand Ballroom. Speaker: Harry L. Williams, M.D., Professor of Pharmacology, Emory University School of Medicine, Atlanta, Ga. "Love and the Drug Lovers."

March 17, 1970

TUESDAY AFTERNOON—CENTER BALLROOM

Chairman: ROBERT A. SCALA

Esso Research & Engineering Company

Linden, New Jersey

1:30 51. **Acute Cardiovascular Responses to Cadmium.** G. Y. Youkilis, R. J. Morrow and R. B. Forney, Departments of Toxicology and Pharmacology, Indiana University Medical Center, Indianapolis, Indiana.

1:50 52. **Lead and Lindane Interactions on Heme Synthesis in the Mouse.** C. R. Cress and R. E. Larson, Department of Pharmacology, Oregon State University, Corvallis, Oregon.

2:10 53. **Influence of Age, Sex, and Hormones on Trialkyl Phosphate-Induced Narcosis in Rats.** D. R. Brown and S. D. Murphy, Department of Physiology, Harvard School of Public Health, Boston Massachusetts.

2:30 54. **Fission Products: Uptake and Retention of Cesium-137, Rubidium-86, and Potassium-42 by Isolated Rat Organs.** B. V. Rama Sastry, R. H. Georg and A. D. Bass, Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, Tennessee.

10 MINUTE BREAK

3:00 55. **Comparison of Serum Lithium Levels after LiCl and Li₂CO₃ Administration by Different Routes in Rats.** J. M. Morrison, Jr., W. D'Aguanno, H. D. Pritchard and M. C. Braude, Bureau of Medicine, Food and Drug Administration, Washington, D.C. (Sponsor: Joseph F. Borzelleca.)

3:20 56. **Acute Effects of Chloroacetophenone and ortho-Chlorobenzylidenemalononitrile in Rats and Rabbits.** J. R. Gaskins, R. H. Hehir, D. F. McCaulley, Consumer Protection & Environmental Health Service, Food and Drug Administration, Office of Product Safety, USPHS, DHEW, Washington, D.C. (Sponsor: E. W. Ligon, Jr.)

3:40 57. **Comparison of Gastric Toxicity of Acetylsalicylic Acid with Route of Administration in the Rat.** C. J. Pfeiffer and L. Grogan, Institute of Gastroenterology, Presbyterian-University of Pennsylvania Medical Center, Philadelphia, Pennsylvania.

7:00 **Society of Toxicology Banquet.** Grand Ballroom. Speaker: Harry L. Williams, M.D., Professor of Pharmacology, Emory University School of Medicine, Atlanta, Ga. "Love and the Drug Lovers."

March 17, 1970

TUESDAY AFTERNOON—SOUTH BALLROOM

Chairman: SEYMOUR L. FRIESS

National Naval Medical Center

Bethesda, Maryland

1:30 58. **Biochemical and Morphological Parameters of Taurolithocholate-Induced Cholestasis.** B. G. Priestly, M. G. Cote and G. L. Plaa, Department of Pharmacology, Faculty of Medicine, University of Montreal, Montreal, Canada.

1:50 59. **Enzymatic Activity Patterns in the Rabbit After Caffeine-Ethanol Administration.** R. L. Alstott, D. J. Brown and R. B. Forney, Department of Toxicology, Indiana University Medical Center, Indianapolis, Indiana.

2:10 60. **Effects of NO₂ on Enzyme Activity in Rat Tissues.** R. L. Killens, F. Dombkoski, M. F. Henderson and K. I. Campbell, Chronic & Exploratory Toxicology Section, Biological Research Branch, Division of Health Effects Research, Dept. of Health, Education, and Welfare, Cincinnati, Ohio. (Sponsor: Joseph F. Borzelleca.)

2:30 61. **Liver and Retinal Alcohol Dehydrogenases.** W. D. Watkins and T. R. Tephly, Department of Pharmacology, University of Michigan, Ann Arbor, Michigan.

10 MINUTE BREAK

3:00 62. **Enzyme Correlations in Intramuscular Testing in the Dog, Miniature Pig, and Man.** J. E. Gray, R. Weaver, and M. Prestrud and R. Dehaan, Pathology and Toxicology Research Unit and Infectious Diseases Research Unit, The Upjohn Company, Kalamazoo, Michigan.

3:20 63. **Mitochondrial Effects of Ethylene Glycol in Vitro and in Vivo.** E. Bachman, L. Golberg and P. Digiacomo, Institute of Experimental Pathology and Toxicology, Albany Medical College, Albany, New York.

3:40 64. **Hematological and Serum Enzyme Determinations in Cynomolgus Monkeys.** Y. Maddox, A. Wolf, E. F. Davis, and Y. Alarie, Hazleton Laboratories, Inc., A Subsidiary of TRW Inc., Falls Church, Virginia.

7:00 **Society of Toxicology Banquet.** Grand Ballroom. Speaker: Harry L. Williams, M.D., Professor of Pharmacology, Emory University School of Medicine, Atlanta, Ga. "Love and the Drug Lovers."

March 17, 1970
TUESDAY EVENING

7:00 P.M.

BANQUET

Grand Ballroom

Invocation

Menu

Fresh Pineapple and Mandarin Orange Cocktail

Boneless Breast of Capon, Eugenie

Parslied New Potatoes

French Cut Beans Almondine

Tossed Chef's Salad

Rolls and Butter

Marriott Apple Pie

Coffee

Welcome Ted A. Loomis, President,
Society of Toxicology

Guest Speaker: Dr. Harry L. Williams
Department of Pharmacology
Emory University School of Medicine
Atlanta, Georgia

"Love and the Drug Lovers"

March 18, 1970

WEDNESDAY MORNING—NORTH BALLROOM

Chairman: WALLACE L. GUESS
University of Texas at Austin
Austin, Texas

- 8:50 65. **Retinal Lysosomal Changes in Pigmented and Albino Rats Treated with Chloroquine.** R. Abraham and R. J. Hendy, British Industrial Biological Research Association, Carshalton, Surrey, England and Institute of Experimental Pathology and Toxicology, Albany Medical College, Albany New York. (Sponsor: L. Golberg.)
- 9:10 66. **The Role of Electron Microscopy in the Study of Hepatocarcinogens.** J. A. Mauro and A. A. Stein, Microscopy for Biological Research, Ltd., Albany, New York.
- 9:30 67. **Ultrastructural and Histochemical Changes in Purebred Canine Hepatic Cells Following Acute Feedings with DDD.** J. M. Powers, G. R. Hennigar, Jr., W. J. Dougherty and J. Nichols, Departments of Pathology and Anatomy of the Medical University of South Carolina, Charleston, South Carolina and Department of Pathology of the University of Kansas Medical Center, Kansas City, Kansas.
- 9:50 68. **Light and Electron Microscopic Studies of Beryllium Hydroxide—Induced Rat Pulmonary Tumors.** G. R. Mackay, D. H. Groth and M. L. Mead, U.S. Dept. of Health, Education, and Welfare, Public Health Service, Consumer Protection and Environmental Health Service, Bureau of Occupational Safety and Health, Cincinnati, Ohio. (Sponsor: Joseph F. Borzelleca.)

10 MINUTE BREAK

- 10:20 69. **Two-Year Chronic Toxicity Studies with Moieties of Nicarbazin.** E. E. Vogin, S. Carson, K. Morgareidge, Food and Drug Research Labs., Inc., Mespeth, New York.
- 10:40 70. **100-Day LD₅₀ Index of Chronic Toxicity.** E. M. Boyd, Department of Pharmacology, Queen's University, Kingston, Ontario, Canada.
- 11:00 71. **Chronic Oral Toxicity of Erythrosine (FD&C Red No. 3) in Rats and Gerbils.** W. H. Hansen, T. F. X. Collins, S. L. Graham, Division of Pesticides, Bureau of Science, Food and Drug Administration, Washington, D.C. and K. H. Jacobson, Laboratory of Environmental Medicine, Tulane University School of Medicine, New Orleans, Louisiana.
- 11:20 72. **Some Comparative Aspects of Methemoglobinemia, Heinz Body Formation and Anemia.** J. P. Gibson, W. J. Hudak, J. W. Newberne, Scientific Laboratories, The William S. Merrell Company, Division of Richardson Merrell Inc., Cincinnati, Ohio.
- 11:40 73. **Residual Lesions of Spontaneous Disease Observed in Rats Utilized in Drug Safety Evaluation.** G. H. Hottendorf, and R. S. Hirth, Research Division, Bristol Laboratories, Division of Bristol-Myers Company, Syracuse, New York. (Sponsor H. Madisoo)

March 18, 1970

WEDNESDAY MORNING—CENTER BALLROOM

Chairman: JOHN G. KELLER

Geigy Pharmaceuticals
Ardsley, New York

- 8:50 74. **Toxicology of ABATE® Mosquito Larvicide and Its Sulfoxide.** G. J. Levinskas, and C. B. Shaffer, Environmental Health Laboratory, Central Medical Department, American Cyanamid Company, Princeton, New Jersey.
- 9:10 75. **Neuromuscular Block by a New Organophosphorus Pesticide.** J. H. Wills, J. Cholakis and F. Coulston, New York State Department of Health and Institute of Pathology and Toxicology of Albany Medical College, Albany, New York.
- 9:30 76. **In Vivo Rabbit Blood Cholinesterase Inhibition and Reactivation Following Organophosphate Infusion.** B. J. Gough and T. S. Shellenberger, Gulf South Research Institute, New Iberia, Louisiana.
- 9:50 77. **In Vivo Effects of Oxime Reactivators on Organophosphate Inhibited Blood Cholinesterase.** B. J. Gough and T. E. Shellenberger, Gulf South Research Institute, New Iberia, Louisiana.

10 MINUTE BREAK

- 10:20 78. **Some Aspects of the Blockade of Neuro-muscular Transmission by Iodo-, Bromo-, Chloro- and Fluoro-acetates and Their Choline Esters in the Rat Phrenic Nerve-Diaphragm Preparation.** B. V. Rama Sastry and C. Y. Chiou, Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, Tennessee.
- 10:40 79. **Dose and Time Relationships for Carboxyl-esterase Inhibition and Malathion Potentiation by EPN, Abate, and Parathion.** S. D. Cohen and S. D. Murphy, Dept. of Physiology, Harvard School of Public Health, Boston, Massachusetts.
- 11:00 80. **Metabolism of Carbamate Insecticides Utilizing Cell Culture Techniques.** R. K. Locke, V. Beck and R. L. Baron, Division of Pesticides, Bureau of Science, Food and Drug Administration, Washington, D.C. (Sponsor: Clara H. Williams.)
- 11:20 81. **Human Toxicity Studies on Polyvinyl Chloride Formulation of Dichlorvos.** C. H. Hine and M. B. Slomka, The Hine Laboratories, Inc., San Francisco, California and Shell Chemical Company, Princeton, New Jersey.
- 11:40 82. **Comparative Toxicity of the Herbicide Paraquat in Laboratory and Farm Animals.** H. E. Smalley and R. D. Radeleff, Veterinary Toxicology and Entomology Research Laboratory, USDA, ARS, ADP, College Station, Texas.

March 18, 1970

WEDNESDAY AFTERNOON—NORTH BALLROOM

Chairman: ANDREW S. TEGERIS

Pharmacopathics Research Labs., Inc.
Laurel, Maryland

- 1:30 83. **Experimental Human Exposure to Carbon Monoxide.** R. D. Stewart, J. E. Peterson and E. D. Baretta, Department of Environmental Medicine, Marquette School of Medicine, Milwaukee, Wisconsin.
- 1:50 84. **Effects of Hypoxia or Sodium Nitrite Injection on Operant Behavior.** R. Schatz, I. Baumel, A. Pitterman, J. DeFeo and H. Lal, Department of Pharmacology and Toxicology, University of Rhode Island, Kingston, Rhode Island.
- 2:10 85. **Human Motor and Mental Performance Under the Influence of Alcohol and/or Marijuana.** J. E. Manno, G. R. Kiplinger, I. Bennett and R. B. Forney, Dept. of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, Indiana.
- 2:30 86. **The Effects of Various Psychotropic Agents on Behavioral Multiple Schedule Experimentation in Monkeys.** S. Fielding, A. Cuti, M. L. Miller, C. Kosch and G. Varadi, Research Department, CIBA Pharmaceutical Company, Summit, New Jersey. (Sponsor: H. Lal)
- 10 MINUTE BREAK
- 3:00 87. **The Effect of Bromotrifluoromethane on Operant Behavior in Monkeys.** V. L. Carter, Jr., D. N. Farrer and K. C. Back, Toxicology Branch (MRTT), 6570th Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio and 6571st Aeromedical Research Laboratory, Holloman Air Force Base, New Mexico.
- 3:20 88. **Central Nervous System Supersensitivity to Chlorinated Pesticides and Pentylene-tetrazole after Chronic Barbiturate Administration,** E. Miller, T. C. Michel, V. L. Olivito and E. J. Van Loon, Special Pharmacological Animal Lab., Division of Pharmacology and Toxicology, Food and Drug Administration, Washington, D.C.
- 3:40 89. **Effect of Atropine on Pesticide, Carbaryl (1-naphthyl N-methyl carbamate) Induced Behavioral Changes in Rats.** J. M. Singh and Sister Lee Frazold, Dept. of Pharmacology, Xavier University, College of Pharmacy, New Orleans, Louisiana.

March 18, 1970

WEDNESDAY AFTERNOON—CENTER BALLROOM

Chairman: ELDON M. BOYD

Queens University

Kingston, Ontario, Canada

1:30 90. Acute and Chronic Toxicity of Diethanolamine. R. Hartung, L. K. Rigas, H. H. Cornish, The University of Michigan, Department of Industrial Health, School of Public Health, Ann Arbor, Michigan.

1:50 91. Acute Toxicology and Proposed Emergency Exposure Limits of Nitrogen Trifluoride. C. C. Haun, J. D. MacEwen, E. H. Vernet, G. F. Egan, Systemed Corporation, Wright-Patterson Air Force Base, Ohio.

2:10 92. Lung Clearance of TiO_2 Particles in Rats. J. Ferin, Dept. of Radiation Biology and Biophysics, School of Medicine and Dentistry, University of Rochester, Rochester, New York. (Sponsor: Joseph F. Borzelleca.)

2:30 93. Measurements of Respiratory System Flow Resistance in Cynomolgus Monkeys. C. E. Ulrich, R. H. Haddock, H. J. Jennings, and Y. Alarie, Hazleton Laboratories, Inc., A Subsidiary of TRW Inc., Falls Church, Virginia.

10 MINUTE BREAK

3:00 94. Effects of Long-Term Continuous Exposure to Sulphur Dioxide in Cynomolgus Monkeys. Y. Alarie, C. E. Ulrich, A. Krumm, E. F. Davis and H. N. MacFarland, Hazleton Laboratories, Inc., A Subsidiary of TRW Inc., Falls Church, Virginia.

3:20 95. Effects of Long-Term Continuous Exposure to Sulphur Dioxide in Guinea Pigs. H. E. Swann, Jr., C. E. Ulrich, H. N. MacFarland and Y. Alarie, Hazleton Labs, Inc., A Subsidiary of TRW, Inc., Falls Church, Virginia.

3:40 96. Histopathological Effects of Long-Term Continuous Exposure to Sulphur Dioxide in Guinea Pigs and Cynomolgus Monkeys. W. M. Busey, H. E. Swann, Jr., and Y. Alarie, Hazleton Laboratories, Inc., A Subsidiary of TRW Inc., Falls Church, Virginia.

March 19, 1970

THURSDAY MORNING—NORTH BALLROOM

Chairman: H. F. DIERMEIER

Lederle Laboratories
Pearl River, New York

8:50 97. Preparation and Preservation of Δ^9 -THC. R. F. Turk, R. N. Phillips, J. E. Manno, N. C. Jain and R. B. Forney, Department of Toxicology, Indiana University School of Medicine, Indianapolis, Indiana.

9:10 98. Response of the Isolated, Perfused Rat Heart to Δ^9 -Tetrahydrocannabinol (THC). B. R. Manno, J. E. Manno, G. S. Kilsheimer and R. B. Forney, Department of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, Indiana

9:30 99. Toxicity of Δ^9 -Tetrahydrocannabinol in Rats and Mice. R. N. Phillips, R. F. Turk and R. B. Forney, Indiana University Medical Center, Department of Toxicology, Indianapolis, Indiana.

9:50 100. Antidoting of Dimethyl-d-Tubocurarine in the Mouse. W. M. Williams, C. S. Williams and L. A. Meeks, Laboratory of Toxicology, Veterans Administration Hospital, Tucson, Arizona.

10 MINUTE BREAK

10:20 101. Some Toxicological Aspects of the Chronic Administration of Phenothiazine Tranquilizers. R. P. Maickel, M. McGlynn and W. R. Snodgrass, Laboratory of Psychopharmacology, Departments of Pharmacology and Psychology, Indiana University, Bloomington, Indiana.

10:40 102. Repeated Administration of Thiopental on the Development of Tolerance and Mortality in Female Rats. J. M. Singh, Department of Pharmacology, Xavier University College of Pharmacy, New Orleans, Louisiana.

11:00 103. Dialysis of Drugs Against Activated Charcoal. W. J. Decker, H. F. Combs, and J. J. Treuting, Departments of Medical Research and Development and Pathology, William Beaumont General Hospital, El Paso, Texas. (Sponsor: J. F. Borzelleca.)

11:20 104. Separation of Marihuana Components by Gas-Liquid Chromatography. R. F. Turk, R. N. Phillips, J. E. Manno, N. C. Jain and R. B. Forney, Department of Toxicology, Indiana University School of Medicine, Indianapolis, Indiana.

March 19, 1970

THURSDAY MORNING—CENTER BALLROOM

Chairman: DOROTHY B. HOOD

E. I. duPont de Nemours & Company
Newark, Delaware

- 8:50 105. Effects of Alcohol, Atropine and PAM on the LD₅₀ Values of Ibogaine in Rats. H. I. Dhahir, N. C. Jain, A. B. Richards and R. B. Forney, Department of Toxicology, School of Medicine, Indiana University Medical Center, Indianapolis, Indiana.
- 9:10 106. A Toxicological Comparison of 1,3-Bis(2-Chloroethyl)-1-nitrosourea (BCNU) and 1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (CCNU) in Rats and Mice. G. R. Thompson and R. E. Larson, Department of Pharmacology, School of Pharmacy, Oregon State University, Corvallis, Oregon.
- 9:30 107. An Evaluation of the Effects of Monosodium Glutamate in Man and Animals. I. Rosenblum, D. M. Serrone, J. C. Killeen, Jr., J. Bradley, J. H. Wills and F. Coulston, Institute of Experimental Pathology and Toxicology, Department of Pharmacology of Albany Medical College, New York State Department of Health, Albany, New York and Medical Department of Clinton Prison, Dannemora, New York.
- 9:50 108. Comparative Acute Ulcerogenicity of Non-steroid Anti-inflammatory Agents in Rats. J. E. Walter, R. M. Diener, A. E. Earl, Division of Toxicology and Pathology, GIBA Pharmaceutical Company, Summit, New Jersey.

10 MINUTE BREAK

- 10:20 109. Some Factors Affecting Intracutaneous Irritation Tests in Rabbits. W. L. Guess and D. J. Calley, Drug-Plastic Research and Toxicology Laboratory, College of Pharmacy, The University of Texas at Austin, Austin, Texas.
- 10:40 110. Effect of Dilantin (Diphenylhydantoin) on Storage of DDT in the Rat. M. F. Cranmer, Department of Health, Education, and Welfare, Public Health Service, Food and Drug Administration, Perrine Primate Research Branch, P.O. Box 490, Perrine, Florida. (Sponsor: Joseph F. Borzelleca.)
- 11:00 111. Comparative Studies of the Hepatic Effects of the Hypolipidemic Agents SaH 42-348(1-Methyl-4-piperidyl bis(p-chlorophenoxy)acetate) and Clofibrate (ethyl chlorophenoxyisobutyrate) in Rats. H. A. Hartman, R. E. Bagdon, R. J. Van Ryzin, and A. J. Tousimis, Sandoz Pharmaceuticals, Hanover, New Jersey and Biodynamics Research Corporation, Rockville, Maryland.
- 11:20 112. The Effects of Short Term Administration of Ethylenethiourea upon Thyroid Function in the Rat. S. L. Graham and W. H. Hansen, Division of Pesticides, Bureau of Science, Food and Drug Administration, Washington, D.C.

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