

MASTERS' DEGREES AWARDED, 1950

June

AVERY, ELROY COLEMAN, B.S., Massachusetts Institute of Technology.

Master of Science, Chemistry. Thesis: The Effect of Alkoxy Groups on the Ionization Constants of Aliphatic Acids and Bases.

BELLACK, ALVIN O., B.A., University of Delaware.

Master of Arts, Psychology. Thesis: The Comparative Behavior of Bright and Dull Children in a Barrier Situation.

BOMZER, HERBERT W., B.A., Brooklyn College.

Master of Arts, Mathematics. Thesis: Mathematical Aspects of Incremental Rates.

BROWN, GEORGE ALBERT, B.S., University of Rochester.

Master of Chemical Engineering. Thesis: Heat Transfer During Viscous Flow across Unbaffled Vertical Banks of Tubes.

BULLOCK, EDNA LYNCH, B.S., West Chester State Teachers College.

Master of Science, Education. Thesis: The Need for More Emphasis on Personality Development in the Secondary Schools.

CLEMENTS, WILLIAM B., B. M. E., University of Delaware.

Master of Mechanical Engineering. Thesis: A Proposed Layout and Course of Study For a Time and Motion Laboratory at the University of Delaware.

COHEN, LESTER SAMUEL, B.S., Philadelphia College of Pharmacy and Science.

Master of Science, Chemistry. Thesis: The Rate of Reaction of Alcohols with Isocyanates: IV. Partially Hydrolyzed Polyvinyl Acetate with Hexamethylene Diisocyanate in the Film State.

DECH, CARL W., B.Ch.E., University of Minnesota.

Master of Chemical Engineering. Thesis: Natural Convection Heat Transfer to Boiling Hydrocarbons inside a Vertical Tube.

FLORENTINE, FRANK P., B.S., University of Pennsylvania.

Master of Science, Chemistry. Thesis: The Effect of Cyclohexane Rings on Reactivity.

FOTIS, PETER, JR., B.S., Franklin and Marshall College.

Master of Science, Chemistry. Thesis: Synthesis of Polyvinyl-formal in a Homogeneous Medium.

HALL, CARL, B.S., B.Ag.E., Ohio State University.

Master of Mechanical Engineering. Thesis: The Effect of the Intake Manifold Design on the Power Distribution of the Chrysler Industrial Internal Combustion Engine.

HAMMELL, CHARLES L., JR., B.S., University of Delaware.

Master of Science, Chemistry. Thesis: The Demjanow Rearrangement of Cyclobutylamine.

HEINAMAN, WILLIAM SCHRACK, B.S., Franklin and Marshall College.

Master of Science, Chemistry. Thesis: Factors Affecting the Rate of Decomposition of Potassium Persulfate in Aqueous Solution and Their Relation to the Absorption of Oxygen by Vinyl Compounds.

HELM, RICHARD M., B.S., Franklin and Marshall College.

Master of Science, Chemistry. Thesis: Condensation of 5-Beta-Bromoethylethylbarbituric Acid with Amines.

HERR, EARL B., JR., B.S., Franklin and Marshall College.

Master of Science, Chemistry. Thesis: The Effect of p-Dimethylaminoazobenzene on the Respiratory Rate of the Prepupal and Pupal Stages of *Habrobracon juglandis*. (Ashmead).

HOLMES, JOHN M., B.Ch.E., University of Minnesota.

Master of Chemical Engineering. Thesis: Extractive Distillation Plate Efficiencies at Low Solvent Concentrations: A Study of the System n-Butane — 1-Butene — Furfural.

HURWITZ, GEORGE JOSEPH, B.S., University of Illinois.

Master of Mechanical Engineering. Thesis: A Critical Study of Processes for the Production of Certain Fatty Acids.

JACK, WILLIAM M., B.S., University of Delaware.

Master of Science, Chemistry. Thesis: The Systematic Qualitative Analysis of the Group III Cations.

KELLY, ELIZABETH M., B.A., University of Delaware.

Master of Arts, Biology. Thesis: Effects of X-rays on Eggs and Differential Susceptibility of Haploid and Diploid Prepupae and Pupae of *Habrobracon juglandis*. (Ashmead).

KISH, ALADAR F., B.S., Rutgers University.

Master of Science, Agriculture. Thesis: Growth Patterns of Banded Plymouth Rock Chickens from Hatch to Eight Weeks of Age.

- KULP, JOHN F., JR., B.S., Juniata College.
Master of Science, Chemistry. Thesis: Pectin and the Physical Properties of Dehydrated Foods.
- LEE, KEITH CHUN, B.A., Nippon Theological Seminary.
Master of Arts, Education. Thesis: Historical Study of Korean Education from the Close of the Yi-dynasty to the Re-establishment of an Independent State (1883-1948).
- LERCH, FRANCIS JOHN, B.S., West Chester State Teachers College.
Master of Science, Chemistry. Thesis: Prediction of College General Scholarship.
- MALTENFORT, MARTIN S., B.Ch.E., University of Delaware.
Master of Chemical Engineering. Thesis: Methods for the Practical Utilization of Waste Chicken Feathers.
- MILLER, RALPH A., B.S., Moravian College.
Master of Science, Chemistry. Thesis: Enzymatic Deesterification of Pectins and Its Effects upon Rehydration.
- MITCHELL, EMORY JOSEPH, B.S., University of Delaware.
Master of Science, Chemistry. Thesis: Barbituric Acids from N, N'-Dialkylguanidines.
- MOODY, JOSEPH T., B.Ch.E., Agricultural and Mechanical College of Texas.
Master of Chemical Engineering. Thesis: Heat Transfer to Granular Materials—Settled Beds Moving Downward over Horizontal Tubes.
- MORRIS, ALBERT GREGORY, B.A., Haverford College.
Master of Science, Chemistry. Thesis: Quantitative Studies in Anhydrous Hydrogen Fluoride.
- MUHLBAUER, HERBERT G., B.Ch.E., The Cooper Union School of Engineering.
Master of Chemical Engineering. Thesis: Sampling of Non-Homogeneous Gas Streams.
- OGLE, WAYNE LEROY, B.S., University of Tennessee.
Master of Science, Agriculture. Thesis: Effect of Soil and Foliage Applications of Certain Minor and Major Elements on Tomato Plants.
- PACANOWSKY, EUGENE JOSEPH, B.S., Pennsylvania Military College.
Master of Science, Chemistry. Thesis: Alkaline Permanganate Oxidation of Pinacolyl and Benzopinacolyl Alcohols.
- PETTEBONE, RUSSELL H., B.S., University of Delaware.
Master of Science, Chemistry. Thesis: Synthesis of Spiro (Cyclopentane-1, 5'-Barbituric Acids).

ROSENBERG, ROBERT P., B.A., University of Delaware.

Master of Arts, Psychology. Thesis: The Effects of Learning Phenomena on the Accurate Reading of Different Instrument Dials.

SCHMIDT, H. MITCHELL, B.S., The Pennsylvania State College.

Master of Chemical Engineering. Thesis: Sampling Inhomogeneous Gas Streams.

SMITH, RICHARD NEILSON, B.S., Massachusetts State College.

Master of Science, Chemistry. Thesis: Activity Coefficients of HCl in Methanol-Water Solutions.

STUMP, CHARLES DANIEL, B.S., Albright College.

Master of Science, Chemistry. Thesis: The Determination of Molecular Weights by Osmotic Pressure Measurements.

THOROUGHGOOD, A. JEANNETTE, B.A., University of Delaware: B.S.L.S., Columbia University.

Master of Arts, Education. Thesis: The Contributions of Matthew Arnold to English Education.

WEILICKI, EDWARD ANDREW, B.S., Philadelphia College of Pharmacy and Science.

Master of Science, Chemistry. Thesis: Viscosity Stabilization and Properties of Polyhexamethyleneurea and Polyheptamethyleneurea.

WELTY, FREDERICK, B.Ch.E., Villanova College.

Master of Chemical Engineering. Thesis: Vapor-Liquid Equilibrium of n-Butane-cis-2-Butene-Water-Furfural Mixtures.

WEISGERBER, GEORGE AUSTIN, B.S., Philadelphia College of Pharmacy and Science.

Master of Science, Chemistry. Thesis: Preparation of the Linoleic Acid Ester of 1, 2-Dihydroxy-3-Butene.

WILEY, MORRIS A., B.S., The Pennsylvania State College.

Master of Science, Chemistry. Thesis: Some Reactions of Triphenylhydrozysilane and Triphenylchlorosilane.

WORRELL, HOWARD EDMUND, JR., B.S., Franklin and Marshall College.

Master of Science, Chemistry. Thesis: The Effect of Oxygen on the Polymerization of Methacrylonitrile.

WRIGHT, SUSAN ISENHOWER, B.S., Russell Sage College.

Master of Science, Chemistry. Thesis: A Determination of the Energy of Activation of the Thermal Decomposition of Polyvinyl Formal.

September

- ABEL, GEORGE J., B.S., Franklin and Marshall College.
Master of Science, Chemistry. Thesis: Hydrides of Chromium, Molybdenum, and Tungsten.
- ADAMS, ALDEN R., B.A., Harvard University.
Master of Science, Chemistry. Thesis: Effects of Various Anticoagulants upon Whole Blood.
- ANSCHUTZ, HARRY EMIL, JR., B.S., Philadelphia College of Pharmacy and Science.
Master of Science, Chemistry. Thesis: Addition Reactions of Ethylenimine with Vinyl Compounds.
- ARNOLD, HARRY EDWARD, B.S., Albright College.
Master of Science, Chemistry. Thesis: The Determination of the Distribution of Substituents in Carboxymethyl Cellulose.
- BAGNOLI, ENO, B.Ch.E., University of Delaware.
Master of Chemical Engineering. Thesis: Aeration Factors in a Sieve Plate Column.
- BARNARD, D. P., V, B.Ch.E., University of Delaware.
Master of Chemical Engineering. Thesis: Dephlegmation of Complex Hydrocarbon Mixtures.
- BOGUCZ, EDWARD A., B.M.E., The Cooper Union School of Engineering.
Master of Mechanical Engineering. Thesis: Calibration of Segmental Orifices in a 2-inch Pipe Line.
- BONNEY, RUSSELL NORWOOD, B.A., Albright College.
Master of Arts, Education. Thesis: The School as a Social Institution.
- BRADLEY, DONALD R., B.A., Ohio Wesleyan University.
Master of Science, Chemistry. Thesis: The Synthesis of 1-Cyclobutyl-2-Propanol.
- BRISKIN, JOSEPH, B.Ch.E., The Catholic University of America.
Master of Chemical Engineering. Thesis: Leakage through Tube Hole Clearance in Tubular Heat Exchangers.
- CALIO, ARMAND E., B.S., Villanova College.
Master of Science, Chemistry. Thesis: Bromination of Alkyl- α -Alkoxy- β -Cyanocinnamates.
- CERATO, CHARLES C., B.S., Franklin and Marshall College.
Master of Science, Chemistry. Thesis: An Experimental Study

of Raman and Infrared Spectra of Trimethylphenalsilane, Hexamethyldisilylmethylene, Hexamethyldisiloxane, Hexamethyldisylazine.

CHASANOV, MARTIN GERSON, B.S., University of Delaware.

Master of Science, Chemistry. Thesis: Polarographic Thiourea Formaldehyde Kinetic Studies.

CHESLUK, RALPH P., B.S., Pennsylvania Military College.

Master of Science, Chemistry. Thesis: The Reaction of *Tert.*-butyl Hypochlorite with Mercuric Chloride.

COSGROVE, WILLIAM LEROY, B.S., Franklin and Marshall College.

Master of Science, Chemistry. Thesis: The Kinetics of the Interaction of *n*-Butyl Alcohol with Hexamethylene Dicyanate.

CUTLER, LEONARD HARRY, B. S., Philadelphia College of Pharmacy and Science.

Master of Science, Chemistry. Thesis: The Electrical Birefringence of Colloids.

DAY, EUGENE DAVIS, B.S., Union College.

Master of Science, Chemistry. Thesis: The Thymine Content of Hepatic Nuclei in Rats.

DIXON, SAMUEL, B.S., West Virginia Wesleyan College.

Master of Science, Education. Thesis: Some Implications of Group Dynamics for Secondary School Teaching.

DUPONT, HENRY J., B.S., Lawrence College.

Master of Science, Psychology. Thesis: An Experimental Study of the P N Av and the Self-Acceptance Rating Methods of Analyzing Self-Evaluation for Self-Acceptance.

EATON, ELIZABETH HAYDEN, B.S., University of Delaware.

Master of Science, Education. Thesis: A Study of Pupils in Transition from Elementary School to Junior High School.

ESHLEMAN, JOSEPH H., B.S., Millersville State Teachers College.

Master of Science, Education. Thesis: The Physically Handicapped Child in the Elementary School.

FUNCK, DENNIS L., B. S., Lebanon Valley College.

Master of Science, Chemistry. Thesis: Studies on the Preparation and Oxidation of 3-Methyl-3-Phenylphthalide and the Oxidation of *t*-Amyl Alcohol.

GIBB, ELLA MAE, B.S., Mary Washington College.

Master of Science, Education. Thesis: A Survey of the Present Status of Selected Aspects of the Business Training Program in Delaware Public Secondary Schools.

- GRINNAN, EDWARD L., B.S., Pennsylvania Military College.
Master of Science, Chemistry. Thesis: A Highly Polymerized Ribosenucleic Acid from Calf Liver.
- HEITMILLER, RICHARD F., B.S., University of Delaware.
Master of Science, Chemistry. Thesis: The Reactions of Alkyl- β -Cyano- α -Hydroxycinnamates with Bromine.
- HESS, IRWIN H., B.Ch.E., Clarkson College of Technology.
Master of Chemical Engineering. Thesis: Performance Factors of a Large Diameter Bubble Tray.
- HILL, HILDA, B.S., Washington College.
Master of Science, Education. Thesis: Public Relations in the Elementary School.
- HOCKER, ROBERT GRANT, B.S., The Pennsylvania State College.
Master of Science, Chemistry. Thesis: A Polarographic Study of Multiple Dropping Mercury Electrodes in Conjunction with a Bridge Arrangement.
- HYAMS, HENRY C., B.A., Adelphi College.
Master of Science, Physics. Thesis: The Design and Construction of a Microwave Resonant Cavity for a Linear Electron Accelerator.
- JUSTER, ALLAN, B.M.E., Pratt Institute.
Master of Mechanical Engineering. Thesis: The Design of a Machine for the Investigation of the Oil Film Pressure Distribution around a Full Journal Bearing for Instructional Purposes.
- KEHR, CLIFTON LEROY, B.A., Gettysburg College.
Master of Science, Chemistry. Thesis: Organic Oxidation with Lead Tetraacetate.
- KLEINBERG, R. M., B.M.E., Cornell University.
Master of Mechanical Engineering. Thesis: Use of Thermoelectric Elements for Accurate Surface Temperature Measurement.
- LORD, JOHN WESLEY, B.S., Salisbury State Teachers College.
Master of Arts, History. Thesis: Cecil County, Maryland, in the Civil War.
- CHIEN-HONG LUH, B.S., University of Nanking.
Master of Science, Agronomy. Thesis: The Influence of Clay Content and Organic Matter Content on the Titration Curves of New Castle County Soils.
- LYNAM, B. MARJORIE, B.S., University of Delaware.
Master of Science, Education. Thesis: A First Grade Testing

Program in the William Penn School at New Castle in 1948-1949.

- MACLEAN, GEORGE R., B.M.E., Clarkson College of Technology.
Master of Mechanical Engineering. Thesis: Design of an Instructional Air-Conditioning Unit.
- MARDER, MILTON D., B.Ch.E., The Cooper Union School of Engineering.
Master of Chemical Engineering. Thesis: Pressure Drop across Tube Banks for Flow in the Transition Region.
- MASON, M. VIRGINIA, B.S., University of Delaware.
Master of Science, Education. Thesis: Implications of the Wishes of High School Freshmen and Seniors for Mental Hygiene in the Classroom.
- MATTISON, LOUIS E., B.S., Louisiana State University.
Master of Science, Chemistry. Thesis: Dehydration of Pinacolyl Alcohol over Activated Alumina.
- MCCLATCHY, GEORGE W., B.S., Boston University.
Master of Science, Education. Thesis: A Battery of Teaching Aids for a Latin American Unit.
- MCDOWELL, SAMUEL C. T., B.Ch.E., West Virginia University.
Master of Science, Chemistry. Thesis: Photometric Aniline-Benzaldehyde Kinetic Studies.
- MIASKOFF, LEONARD, B.M.E., The Cooper Union School of Engineering.
Master of Mechanical Engineering. Thesis: Metal Sensitivity of Steam Turbine Oils.
- MICHELINI, FRANCIS J., B. S., Seton Hall College.
Master of Science, Biology. Thesis: A Comparative Study of the Effects of X-radiation and Nitrogen Mustard on Dividing and Non-dividing Cells in Zea Mays Seedlings.
- MULL, IRVIN W., B. S., Albright College.
Master of Science, Chemistry. Thesis: The Ionization Constants of Phenylbutyric Acids and Phenylbutyl Amine.
- NEWMAN, DANIEL J., B.Ch.E., The College of the City of New York.
Master of Chemical Engineering. Thesis: Heat Transfer during Flow across Tube Banks.
- NIXON, JOSEPH R., JR., B.Ch.E., North Carolina State College.
Master of Chemical Engineering. Thesis: The Effect of Operating Variables on Packed-Column Distillation under Stripping Conditions.

- NOONE, THOMAS JOSEPH, B.A., LaSalle College.
Master of Science, Chemistry. Thesis: A Corrosion Study of Cadmium in Acetic Acid.
- PREISS, DONALD M., B.S., Willamette University.
Master of Science, Chemistry. Thesis: Studies in the Oxidation of the Triphenyl Carbonium Ion.
- QUATTRONE, PHILLIP D., B.A., Hiram College.
Master of Science, Chemistry. Thesis: The Ternary System of Zinc-Cadmium-Tin by Thermal Analysis.
- REINERT, DAVID H., B.S., Pennsylvania Military College.
Master of Science, Chemistry. Thesis: The Guareschi Reaction.
- RIES, JOHN F. X., B.A., The King's College.
Master of Arts, Mathematics. Thesis: On the Converse of Fermat's Theorem.
- ROBINSON, LEIPER MOORE, B.A., Rutgers University.
Master of Arts, Sociology. Thesis: A Comparison of Personality Traits and Social Backgrounds of Moderate Drinkers and Alcoholics.
- ROSEN, MARTIN, B.A., Temple University.
Master of Science, Chemistry. Thesis: A Corrosion Study of Lead in Acetic Acid.
- RUBINSKY, STANLEY, B.M.E., Polytechnic Institute of Brooklyn, N. Y.
Master of Mechanical Engineering. Thesis: A Study of the Operation of the Mississippi State College Laundry.
- SCHLIEM, RICHARD H., B.Ch.E., University of Minnesota.
Master of Chemical Engineering. Thesis: High Temperature Corrosion Investigations of Some Nitric Acid Resistant Metals.
- SIMONS, DONALD M., B.S., West Virginia Wesleyan College.
Master of Science, Chemistry. Thesis: The 1, 3-rearrangement and Related Studies.
- SOUTHWELL, CHARLES EDWARD, B.A., University of Delaware.
Master of Arts, Mathematics. Thesis: Frequency of the Sum of N Independent Variables when $n^{-3/2}$ is Negligible with Respect to 1, and an Estimate of the Reliability of Sample Estimates of Population Parameters.
- TARKENTON, ETHEL LOU BRADY, B.A., University of Delaware.
Master of Arts, Education. Thesis: A Guidance Handbook for the Primary Grades.

TAYLOR, GEORGE M., B.S., University of Delaware.

Master of Science, Chemistry. Thesis: A Study of the Electrolytic Separation of the Lanthanides.

THARP, CLINTON B., B.S.Ch.E., Purdue University.

Master of Science, Chemistry. Thesis: A Study of the Metal Ketyls of Camphor.

TODD, JAMES SHELLEY, B.Ed., Western Illinois State College.

Master of Science, Chemistry. Thesis: The Catalytic Cracking of 2, 2, 5-Trimethylhexane.

VOSBIGIAN, JOHN, B.S., Pennsylvania Military College.

Master of Science, Chemistry. Thesis: Dialkylguanidines.

WAITZ, WILLIAM H., JR., B.S., University of Delaware.

Master of Science, Chemistry. Thesis: β -Mercaptoethylbarbituric Acid Derivatives.

WALLACE, DAISY P., B.S., University of Delaware.

Master of Science, Education. Thesis: Application of the Core Curriculum in the Mount Pleasant Junior High School.

WASIK, STANLEY, B.S., University of Delaware.

Master of Science, Chemistry. Thesis: Vapor-Liquid Equilibrium Study.

WHITE, RICHARD S., B.S., Albright College.

Master of Science, Chemistry. Thesis: The Reactions of Grignard Reagents with Trihalomethanes.

ZANNONI, PETER JOHN, B.M.E., B.Ch.E., University of Delaware.

Master of Mechanical Engineering. Thesis: The Effect of Bearing Metals on Turbine Oils.