

HISTORY OF THE INDIANA BRANCH OF THE AMERICAN SOCIETY FOR MICROBIOLOGY

by

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The Indiana Branch of the American Society for Microbiology (IBASM) has a rich history. Several excellent articles have been published on the history of microbiology in Indiana over the years and have primarily been divided into University-specific histories (1-6). Dr. Leland S. McClung from Indiana University at Bloomington has been particularly active as IBASM and ASM archivist and wrote many of these early histories. The Indiana Branch was renamed as such in 1935 from an earlier Indianapolis section that does not have a clear history. The first known President of the branch in 1936-38 was W.A. Jamieson from the Biological Research Laboratories at Eli Lilly & Co, the Vice President was L. Wade, the Secretary/Treasurer was M.S.A. Campbell and the Councilor was H.M. Powell. Dr. Powell, whom the IBASM Powell service award was named for, was extremely active in the branch for many years serving as Vice President, President and Councilor from 1936 to 1948. The IBASM Garner awards for students were named in honor of H.R. Garner who served as Secretary/Treasurer from 1960 to 1964. The 1936 annual meeting of the ASM was held in Indianapolis on December 28-30. The keynote address was given by the ASM President, Dr. Thomas M. Rivers from The Rockefeller Hospital, New York. Presented for the first time at this meeting was the Eli Lilly & Co. Award in Bacteriology and Immunology. The first awardee was Dr. Harry Eagle from Johns Hopkins University. The IBASM membership roster for 1948, the earliest that is available, included 81 active members, 131 associate members and 3 honorary members. Included on this 1948 membership list were such microbiology pioneers as C.G. Culbertson, S.E. Hartsell, S.E. Luria, L.S. McClung, H.M. Powell, R.Y. Stanier, P.A. Tetrault, P.C. Trexler and M. Wagner. Current IBASM membership includes approximately 93 active members that are also national ASM members and about 210 total branch members.

Notable Indiana microbiologists and their achievements included Salvador E. Luria being awarded the Nobel Prize in Physiology or Medicine in 1969 for his discovery concerning the replication mechanism and genetic structure of viruses. James D. Watson, of DNA structure fame, was a Ph.D. student of Lurias' in 1947-50 while both were at Indiana University at Bloomington and was awarded the Nobel Prize in Physiology or Medicine in 1962 for his discovery concerning the molecular structure of nucleic acids and its significance for information transfer in living material. Indiana may be the only place where a microbiology Ph.D. student (J.D. Watson) and his mentor (S.E. Luria) were both awarded separate Nobel Prizes for different activities. Several other Indiana microbiologists served as President of ASM including S.E. Luria in 1967-68 and W.A. Wood in 1980-81 and several more have been awarded membership in the prestigious National Academy of Sciences including I.C. Gunsalus, S.E. Luria, N.R. Pace, J.R. Preer, F.W. Putnam, R.Y. Stanier, E.H. Umbarger and J.D. Watson. Other well respected Indiana microbiologists include T.D. Brock, H. Gest, A.L. Koch and E.D. Weinberg.

Perhaps the best known microbiologist in Indiana was Louis Y. Mazzini. Dr. Mazzini was an internationally respected serologist, researcher and humanitarian and was born in Lima, Peru in 1894 and died in Ft. Lauderdale, FL in 1973. He was given the name "Indiana's Mazzini" by another early Indiana microbiologist and first chairman of the Department of Microbiology and Immunology at the Indiana University School of Medicine, Dr. Thurman B. Rice, Indiana State Board of Health Commissioner during World War II, for his development of an inexpensive, rapid, sensitive, and dependable slide test for the detection of early, latent, and congenital syphilis, and for the detection of false positive cases. The Mazzini test surpassed all others and won international honors. It was used by the armed forces, the United States Public Health Service, State Boards of Health and laboratories throughout the world; the Mazzini optical ground glass microscope slide, of secondary importance, was copied in plastic in 1972. Mazzini's cardiolipin microfloculation test, introduced in 1951, was widely used in the United States and abroad, it was later modified and adopted by the United States Public Health Service as their official test, the Venereal Disease Research Laboratory (V.D.R.L.) test. Dr. Mazzini joined Indiana University in 1924 and became a professor of Serology and Pathology and was appointed Chief Serologist and Bacteriologist for the Indiana State Board of Health.

Any history of microbiology has to include a description of its educational activities. Microbiology was taught very early in Indiana. Mason B. Thomas at Wabash College in Crawfordsville may have offered one of the first bacteriology courses in the United States in 1892. However, John Berteling may have taught an earlier bacteriology course in 1888 at the University of Notre Dame, although these records are sketchy.

In addition, the history of industrial microbiology in Indiana is significant and lengthy. This abbreviated industrial history is focused on the microbiology at Eli Lilly and Company (7). Lilly was among the first to mass produce and sell penicillin during World War II and in 1951, isolated erythromycin, one of the first successful macrolide antibiotics useful for penicillin-allergic patients. In 1953, Lilly isolated vancomycin, a broad-spectrum glycopeptide antibiotic still used today for treatment of serious hospital infections and antibiotic-resistant pathogens. Lilly was also active in the field of immunology with being instrumental in producing the injectable killed Salk polio vaccine, becoming the largest supplier in 1955 and in 1957 introduced a safer rabies vaccine. In 1957, Lilly discovered capreomycin and determined the molecular structure of erythromycin. The first cephalosporin was introduced in 1964 by Lilly following an extensive commitment by the company and the first oral cephalosporin was discovered in 1961. Scientists leading the cephalosporin development effort included Drs. E.H. Flynn, W.E. Wick, R.S. Griffith, C.W. Godzeski, R.B. Morin and W.G. Jackson. In 1962, Lilly discovered cephaloridine and tobramycin and in 1964, the cephamycin class of antibiotics was discovered. Cephalexin, cefamandole and cefaclor were isolated in 1965, 1969 and 1972, respectively. Using bacterial molecular biology, Lilly in 1982 introduced biosynthetic human insulin, the first recombinant DNA human product. Numerous Lilly scientists have served the IBASM as officers and active members. Lilly's tradition of excellence in microbiology research and development continues along with several other companies in Indiana, such as Boehringer Mannheim, Miles Laboratories, Pitman Moore and Seradyn.

In summary, the history of microbiology and immunology in Indiana is rich and continues to evolve and grow. The IBASM has been at the forefront of much of this tradition and will remain there.

Additional Readings

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5. Minton, S.A., W.A. Summers and D.C. Bauer. 1993. A historical outline of the Department of Microbiology and Immunology, Indiana University School of Medicine. Personal communication.
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