

1971

## Secondary Science Training Programs - Enrichment for the High School Student (1971)

Edward L. Pizzini  
*University of Iowa*

Follow this and additional works at: <https://scholarworks.uni.edu/istj>



Part of the [Science and Mathematics Education Commons](#)

*Let us know how access to this document benefits you*

Copyright © Copyright 1971 by the Iowa Academy of Science

---

### Recommended Citation

Pizzini, Edward L. (1971) "Secondary Science Training Programs - Enrichment for the High School Student (1971)," *Iowa Science Teachers Journal*: Vol. 8 : No. 3 , Article 8.

Available at: <https://scholarworks.uni.edu/istj/vol8/iss3/8>

This Article is brought to you for free and open access by the Iowa Academy of Science at UNI ScholarWorks. It has been accepted for inclusion in Iowa Science Teachers Journal by an authorized editor of UNI ScholarWorks. For more information, please contact [scholarworks@uni.edu](mailto:scholarworks@uni.edu).

## Secondary Science Training Programs—Enrichment For the High School Student (1971)

EDWARD L. PIZZINI  
*Science Education*  
*The University of Iowa*  
*Iowa City, Iowa*

*"I will transmit my fatherland not only less, but greater and better, than it was transmitted to me."* The Environmental Science Program, a six-week field-oriented program dedicated to this philosophy, is one of four Secondary Science Training Programs (SSTP) which will be offered during the summer of 1971 at The University of Iowa for high school students. Throughout the Environmental Science Program (July 12-August 20), crucial problems in the various areas of the environmental sciences will be studied with emphasis on laboratory work and field trips. Topics to be considered will include water pollution, water treatment and waste disposal, water resources and flood control, air pollution, environmental management, economic geology, and the geology of the Black Hills, Yellowstone, and the Grand Teton National Parks. The final two weeks of the program will consist of field study in the Black Hills, Yellowstone, and the Grand Teton National Parks. Operating concurrently from June 14 to July 23, the other three programs include Molecular Biology, Research Participation, and Computer Science.

The Molecular Biology Program

will provide high-ability students with selected laboratory experiences involving the nature of chemical reactions within living organisms. Two courses will be offered in the program. One course will provide specific background in organic chemistry with emphasis on biochemical materials. The other course will be centered around biochemical reactions at the cellular level. Together the two courses will provide students with the tools and insights necessary for studying biological processes.

The Research Participation Program has been designed to demonstrate the nature of scientific research by providing firsthand experience in research laboratories under the guidance of research scientists, stimulate superior students by familiarizing them with the daily activities of the scientist, supplement usual high school activities with some real experience in scientific research, and verify or alter supposed interests in scientific careers in research. Each student will work directly with a professor and will become involved in a research project. The student will carry his project to its natural conclusion in the preparation of a paper that will be printed as a part of a col-

lection of the project reports completed during the summer. Weekly seminars will be held during the late afternoons and evenings where other research scientists will be available for discussions. Since most of the professors and many of the advanced graduate students devote full time to research during the summer, projects will be available in all areas of science.

The Computer Science Program will make available techniques and applications of computers. Participants will work with the theory of computer computation, processing and programming, as well as the utilization of the large digital computer. Computer programming will be based upon each student's previous science and mathematics background. A climactic phase of the program will be individual computer-application projects. These projects will encompass all of the basic processes of computer science.

For many years the Secondary Science Training Programs, supported by the National Science Foundation, have continued successfully at The University of Iowa, providing enriching experiences in the sciences which could not be attained through normal high school courses. High-ability high school students are given the opportunity for interaction with fellow students, science instructors, science educators, and research scientists. The experience of working and studying within a college environment is utilized in motivating students to pursue scientific careers. In addition, the opportunity for an individual to pursue a special interest

through the use of the University's excellent facilities, as well as the experienced instructional staff, is an integral part of the SSTP.

In response to decreasing federal support for high school summer institute programs, it was decided to continue the SSTP by making them self-supporting. The increasing problems in various areas of the environmental sciences cannot be overlooked. The enrichment programs, having been successful in the past, in Molecular Biology, Research Participation, and Computer Science will continue to fulfill the important needs of the students.

---

### It's What We Tried to Tell Them Half a Century Ago

Transportation Secretary Volpe made headlines last month when he urged an international agreement for tighter controls to curb oil pollution by tankers that dump oily "ballast water" at sea. (After a tanker has delivered its cargo, the tanks are filled with water as ballast for the return trip; it takes costly equipment, on board and at port, to separate the remnants of the oil from the ballast water, so many tankers just dump the whole mess in the sea shortly before reaching port.)

The Secretary's action is welcome, but it also shows how incredibly slow such reform comes. It was *almost 50 years ago* that Dr. T. Gilbert Pearson, then president of the National Audubon Society, took a trip to Europe to speak at conferences and talk to government officials, in support of just such an agreement!