# MEMORANDUM

**To:** Board of Regents

**From:** Board Office

**Subject:** Posthumous Award of Honorary Doctorate Degree of Science – Iowa State University

**Date:** April 10, 2000

## Recommended Action:

Approve Iowa State University's request to award the Honorary Doctorate Degree of Science posthumously to John Vincent Atanasoff.

## Executive Summary:

The Regent universities from time to time wish to acknowledge outstanding, intellectual contributions to the institution, to a field of study, or to society by awarding an honorary degree. The use of this honor has been very selective over the years in order to maintain the value of the honorary degree.

Iowa State University requests approval to award an honorary doctorate of science degree posthumously to John Vincent Atanasoff. John Vincent Atanasoff, the inventor of the electronic digital computer, has taken his place as one of the giants of modern technological development. As a young professor of mathematics and physics at Iowa State College (now Iowa State University), in the mid-1930s, Atanasoff became increasingly frustrated over the time his graduate students took to complete lengthy numerical computations. He set about to find a better, faster way, using electronics.

Following years of study, Atanasoff devised the basic design principles for an electronic calculating machine. He hired graduate student Clifford Berry to assist with the project, which they successfully demonstrated as a prototype in October 1939 and received additional funds to build a full-scale machine.

Atanasoff's path-breaking invention included all of the basic elements of present day electronic digital computers, including the use of digital binary numbers, logic circuits to perform arithmetic operations, separated CPU-memory architecture, regenerative digital memory, and parallel processing units. Any one of these achievements would merit substantial acclaim. All of them together, beautifully engineered into the Atanasoff-Berry computer, constitute an immensely creative achievement.

In 1973, in a famous court case in which ISU was not a party, Judge Earl R. Larson stated that the developers of ENIAC (Electronic Numerical Integrator and Computer) "did not themselves first invent the automatic electronic digital computer, but instead derived that subject matter from one Dr. John Vincent Atanasoff." The ruling stands unchallenged today. In 1990, the Smithsonian Institute's Museum of American History opened its "Information Age" exhibit noting that, "between 1930 and 1942, Iowa State University Professor John V. Atanasoff and his graduate student Clifford Berry, built the first electronic computer . . . it was a digital binary machine that demonstrated many principles of electronic digital computers."

After the Second World War, Dr. Atanasoff received 32 patents for a variety of electrical and mechanical devices. His honors include the National Medal of Technology from the U.S. Department of Commerce in 1990, the U.S. Navy Distinguished Service Award, the Iowa Governor's Science Medal, and the honorary degrees from many institutions of higher education.

John Vincent Atanasoff remains an inspiration to generations of Iowa Staters; he left a rich legacy and tradition of inquiry and excellence in the physical sciences and engineering. ISU is celebrating science and technology this year, and awarding Dr. Atanasoff a well-deserved honorary doctorate will bring this year to a wonderful and extraordinary close.

The Departments of Mathematics and of Physics and Astronomy have nominated Dr. Atanasoff for the honorary degree. The Faculty Senate Honorary Degrees Committee unanimously supported the recommendation, as did the faculty Senate Executive Board. The Office of the Provost also supports the recommendation, which President Jischke is pleased to present to the Board of Regents, State of Iowa.

This request is appropriate and it is recommended that the Board of Regents approve the request.

Approved:

Robert J. Barak

Frank J. Stork

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