

## state &amp; society

## Scientists in the House: Five seek election this year



GEORGE BROWN JR



MARTIN



MCCORMACK



SEIELSTAD



WOOD

While it is not likely that scientists will soon out-number lawyers in Congress, it is encouraging that several candidates for the House of Representatives in the upcoming election have worked as scientists for a substantial part of their careers and potentially bring their scientific training and experience to bear on problems facing the nation. In the last two years there have been increasing numbers of scientists working on the staffs of Congressmen including Congressional fellows sponsored by the American Physical Society, ASME, IEEE and AAAS. Why should not

Congressmen also have technical backgrounds, especially to help when they deal with problems such as energy and the oceans?

Five scientists in the running for Congressional seats that are known to us at this writing include three incumbents—Mike McCormack (D-Wash.), James Martin (R-N. C.) and George Brown Jr (D-Cal.) Two other scientist-candidates are Lloyd A. Wood, a Democrat from the sixth Congressional District in Ohio and George A. Seielstad, also a Democrat from the California 18th C. D. All have their parties' offi-

cial endorsements, except for McCormack who faced a primary on 17 September. Another scientist who ran for but did not receive the Democratic Party nomination for the seventh C. D. seat in Tennessee was G. Wayne Brown, a radio astronomer and vice-president for academic affairs at Union University in Jackson, Tenn.

**The incumbents.** McCormack is seeking his third term in Congress. He is chairman of the Subcommittee on Energy of the House Committee on Science and Astronautics and a member of the Joint Committee on Atomic En-

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## AEC approves Princeton Tokamak and compares designs

An AEC committee has recommended that a Tokamak Fusion Test Reactor be built at Princeton University, with funds for its construction to be included in the fiscal year 1976 budget. The TFTR would be the so-called "D-T burner" advocated by the AEC in hearings before the Joint Committee on Atomic Energy in July 1973 (PHYSICS TODAY, October 1973, page 77). Even if the TFTR is included in the Presidential budget for FY 1976, it would still need Congressional approval, of course. If approved for that year, the \$200-million facility could be completed in 1980.

Since last year's hearings, the AEC Division of Controlled Thermonuclear Research, headed by Robert L. Hirsch, has been studying the possibility of deuterium-tritium burning systems. Oak Ridge National Laboratory began working on a design for a test reactor with a

very large-diameter chamber that would be expected to reach the Lawson criterion,  $n\tau$  (where  $n$  is particle density and  $\tau$  is confinement time) of  $10^{14}$   $\text{cm}^{-3}$  sec at 6 keV. When the Lawson criterion is reached, one has obtained breakeven conditions, with the power produced by the fusion device being equal to the power applied.

Meanwhile most leading members of the plasma-physics community became concerned about the desirability of building the D-T burner as proposed and some wanted to consider alternative designs. Many were concerned that the machine was too large. Some thought the magnitude of the extrapolation from present experiments ( $n\tau$  of  $10^{12}$   $\text{cm}^{-3}$  sec at 2 keV) to the Lawson criterion was so great that one could not be certain that significant D-T burning conditions could in fact be reached. Skeptics included Marshall Rosenbluth

(Institute for Advanced Study), Bruno Coppi (MIT), Melvin Gottlieb and T. Kenneth Fowler (Livermore). At a meeting in Washington last December, much of this concern was aired. The following month Hirsch initiated two design efforts to study a different scheme for the TFTR, employing the two-component concept proposed by John Dawson, Harold Furth and F. H. Tenney of Princeton in 1971 (*Phys. Rev. Letters* 26, 1156, 1971). The studies were performed by Oak Ridge and a Princeton-Westinghouse team. These design teams submitted proposals to the AEC in June. In parallel with that, independent studies of problems connected with the TFTR were conducted by groups such as Gulf General Atomic, the Naval Research Laboratory, Lawrence Livermore Laboratory and the University of Wisconsin.

During 9-11 July a large meeting of

## Hinners

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and Orbiting Astronomical Observatories.

Before coming to NASA, Hinners served as head of the lunar science exploration department of Bellcom, Inc. He received his PhD in geology from Princeton University in 1963 and is editor of *Geological Research Letters*. Hinners received the NASA Exceptional Scientific Achievement Medal in 1971 and was chairman of the Apollo Site Committees for Apollo 12-17 missions.

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ergy. He has a master's degree in chemistry from Washington State University (1949) and served for 20 years as a research chemist at the AEC's Hanford project in Richland, Wash. He also has a political background—he was in the Washington State Legislature from 1956 to 1970. During his tenure in Congress, he has been closely involved with energy matters including chairmanship of a 1971 House task force on energy, and he wrote the \$60 million solar-heating and cooling demonstration act and a geothermal demonstration bill.

Martin received his PhD in chemistry from Princeton in 1960 and then joined the chemistry faculty at his undergraduate alma mater, Davidson College, where he became associate professor in 1964. Martin reported to us his feelings about his first term in Congress: "While there has been a great deal to learn and absorb in these two years, I feel I have been equipped for the challenge. My training and experience in science has been a great asset to me as a national lawmaker. Fortunately, in January 1973 I was appointed to two committees through which I have been able to utilize my scientific background—Interior & Insular Affairs, and Science & Astronautics. Since a large part of the work in Congress is done in committees, I was glad to have the opportunity to delve into specific areas that interest me and for which I have a certain amount of understanding." Martin reports that much of his time has been spent on researching the area of new energy resources and trying to balance the energy/environment trade-off.

George Brown has served in Congress the longest of this selected group of incumbents—he has been in the House from 1963 to 1971 and from 1973 to date. (He ran unsuccessfully for the Democratic nomination for a Senate seat in 1970 and therefore was not free to vie for a place in the House.) He received his bachelor's degree in physics from UCLA in 1946 and subsequently

did graduate work in physics and other areas. For approximately ten years he was an electrical engineer for Los Angeles County and was elected to the California State Assembly in 1958. As a member of the US House of Representatives, he is serving on three subcommittees of the House Science and Astronautics Committee: Science Research and Development, Energy, and Space Science and Applications. Also during his stay in the House, he was closely involved in the work to establish the Congressional Office of Technology Assessment.

**First-time scientist-candidates.** Wood is not being subtle about his scientific background in his campaign literature—his slogans include "More science for Congress" and "Send a scientist as your Representative." As far as his background is concerned, he shows a long record of teaching and federal service in technical areas. He received his PhD in physical chemistry from Stanford University in 1939 and taught at Harvard and Cornell during 1941-51. He then worked at Wright Field, Dayton, Ohio (1951-58), at NASA (1958-61) and at the Air Force Office of Scientific Research where he was director of physical sciences (1961-70) and director of electronic and solid-state sciences (1970-72). He wrote to us: "In 1972, stimulated partly by a wish for change and for new challenges, and partly because of distress at deteriorating government policies and lack of foresight, I took an early retirement from the federal service and have spent the time since in the study of national problems. I decided to seek the office of United States Representative in the hope that the people of the district may agree with me that my special technical background and experience in government will be valuable to them in the Congress."

Inflation is likely to be a major campaign issue in the coming election. Wood outlines two needs to help stabilize the economy—the need to stop the high interest rate and the necessity to gear pay increases to the productivity of our national industrial establishment.

Seielstad, a fifth scientist running for Congress, is a radioastronomer and has done nearly all his work at CalTech's Owens Valley Radio Observatory. He received his bachelor's degree from Dartmouth in 1959 and his PhD from CalTech in 1963. He decries the limited variety of interests and professions represented in Congress—his campaign literature cites figures of 221 lawyers and 155 businessmen and bankers in the House, and only a handful of scientists.

How does he consider that his scientific background equips him for public service? "First, my outlook toward the solution of problems, next, my understanding of both the potential and the

limits of science and technology in our society, and lastly, my appreciation of their importance to our national economy."

In the course of his campaign, Seielstad has received the endorsement of the Democratic Party (he won a two-man primary in June) and of other groups including the California Teachers Association, the National Education Association and several labor groups. He has spoken out on many issues—he favors a system of national health insurance and proposes that the most important means to reduce inflationary pressures is to use our resources more efficiently. He also favors a minimum income tax for all (so that the wealthy cannot totally avoid paying tax), elimination of the oil-depletion allowance and reduced foreign tax credits. —RAS

## Applications due now for White House Fellowships

Applications for twenty fellowships are now being accepted for 1975-76 with those appointed serving under top government officials in the executive branch. Young professionals, age 23 through 35 at the start of the program (1 September 1975) who are not employees of the executive branch of the Federal Government are eligible. Applications must be postmarked by 2 December. Further information and applications are available by phone (202-382-4661) or by mail from the President's Commission on White House Fellows, Washington, D. C. 20415.

## in brief

American scientists are invited to apply for expense-paid visits to the USSR and Eastern European countries during the 1975-76 academic year. Completed applications are due 21 November; information is available from NAS, Commission on International Relations, USSR/EE, Washington, D.C. 20418.

A Senate Special Committee on Science Policy report, *A Science Policy for Canada Vol. 3: A Government Organization for the Seventies* is available from Information Canada, Ottawa, for \$3.00.

OSA sponsored meetings on optical fabrication and testing will be held 8-9 November in Hartford, Conn. and 10-11 November in Rochester, N. Y. Write to OSA, 2100 Penn. Ave NW, Washington D. C. 20037 for details.

The Bartol Research Foundation of the Franklin Institute is celebrating its 50th anniversary. □