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Since 1964 he has directed an instruments-and-aids project to develop materials for blind scientists and technicians. If any physics teacher has conceived a device that he thinks would benefit blind students and scientists, Benham would like to hear about it. Through the use of such materials, says Benham, "an intelligent blind youngster with a spark of ambition no longer needs to look to a future of making mops and caning chairs."

Summer programs

The Scottish universities summer school, Rensselaer Polytechnic Institute, Pennsylvania State University, the Latin-American school of physics and Fairleigh Dickinson University have recently announced summer courses.

The seventh annual Scottish Universities summer school in physics will take place 1-20 Aug. at Newbattle Abbey, near Edinburgh. Courses will treat electromagnetic interactions of hadrons (experimental and theoretical), semiphenomenological models of high-energy scattering, current algebras and symmetries of weak interactions. Thus far, L. van Hove, S. Drell, R. Wilson and P. Kabir have accepted invitations to participate. Applications (with a recommendation) should reach Dr. D. J. Candlin, Tait Institute, 1 Roxburgh St., Edinburgh 8, UK, by 21 May. The course fee, including accommodations, is £25.

The Rensselaer Polytechnic Institute Hartford graduate center is offering a graduate-level course on space-flight principles, 6-10 June. The course will cover solar-system physics, vector mechanics, orbital theory, transfer orbits and navigation, perturbations and propulsion. Fee for the course, including all materials and lunches, is \$165. Applications can be obtained from Special Programs Section, Rensselaer Hartford Graduate Center, East Windsor Hill, Conn. 06028.

The Pennsylvania State University materials research laboratory will again sponsor a two-week course from 31 May to 10 June on modern methods for preparing and characterizing ma-

terials. Emphasis will be on such high band-gap materials as oxides, sulfides and halides. The program will cover crystal growing, material characterization by x-ray, electron-microscope, microprobe, and spectroscopic technique, elemental analysis, and characterizing of point, line and surface defects. Further details are obtainable from Prof William B. White, Materials Research Laboratory, The Pennsylvania State University, University Park, Penn. 16802.

The Latin-American School of Physics will be held this year in Caracas, Venezuela, from 4 to 29 July. Lectures and seminars will deal mainly with statistical mechanics, elementary particles, nuclear and solid-state physics. For further details, one can write to M. Bemporad, Latin-American School of Physics, Venezuelan Section, Apartado 1827, Caracas, Venezuela.

Fairleigh Dickinson University in Madison, N. J. has announced one-week workshops in spectroscopy and molecular structure and fine-particle properties. The first, from 27 June to 1 July, will involve principles and application of ultraviolet, infrared, nuclear-magnetic-resonance spectroscopy and mass spectrometry in determining molecular structure. Total cost of \$190 includes tuition, room and board and all workshop materials. Further information is available from Dr. R. A. Baylouny of the chemistry department. The second program, from 11 to 15 July, concerns fine-particle size, shape, distribution, surface area and porosity. Tuition fee is \$125, and dormitory room and board are \$65. Details on this course are obtained from Dr Saul Gordon, director of Fairleigh Dickinson's thermoanalysis institute.

Computer users' group

The EAI Analog Computer Educational Users Group has recently announced formation to meet the needs of those desiring to use analog computers in physics teaching and research. This nonprofit organization issues a newsletter and application notes on a regular basis. Further information and copies of publications can be ob-



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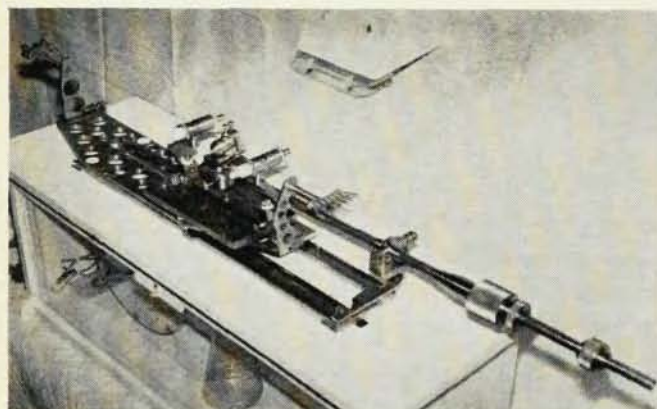


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tained from EAI Analog Computer Educational Users Group, PO Box 90626, Los Angeles, Calif. 90009.

Indians, Czechs revise courses

Both India and Czechoslovakia have announced efforts to revise and modernize their teaching of physics. India will teach a separate physics course in junior high schools and revise its high-school curriculum. The Czechoslovaks are organizing a center for modernization of physics teaching.

Breaking with the past, many junior high schools in India are going to offer physics, chemistry and biology as distinct subjects. During the last 15 years these sciences were taught as part of a general science curriculum, but this pattern is rapidly changing. For the new courses, the Indian National Council of Educational Research and Training is preparing textbooks, laboratory experiments, teacher guides and film strips, all of which are to be tried out for three years in 25 Delhi schools. At the same time, a panel of Indian physicists are preparing materials for the high school curriculum, which includes three years of physics. The new physics text will include mathematical and technological bases that are not provided by PSSC materials. Physicists working on the book hope to create a blend of Newtonian with modern physics that can be taught with a minimum of orientation. Similar developments are proceeding in other basic sciences, particularly in mathematics.

The Union of Czechoslovak Mathematicians and Physicists is organizing the center for the modernization of physics teaching. The center is developing a program with new content and teaching methods that it will try out in several primary and secondary schools. Another project will bring new curricula for introductory physics to universities. The center seeks an exchange of information with similar groups active in curricula reform in other countries. Correspondence can be addressed to Prof M. Valouch, director, Center for Modernization of Physics Teaching, Maltéžské nám, Praha 1, Czechoslovakia. □



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