



Robert U. Ayres

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Management

The Novartis Chair in
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Professor Robert Ayres joined INSEAD in 1992, becoming the first Novartis (formerly Sandoz) Chair of Management and the Environment, a title he still holds as Emeritus. He was the founder of Center for the Management of Environmental Resources (CMER) which he directed from 1992 to 2000, when he retired. He remains an active member of INSEAD, producing numerous publications on topics ranging from Industrial Metabolisms and Industrial Ecology, through Environmental Policy and Technology Evaluation, Economic Growth and Environmental Regulation, Environmental Economics, to Eco-restructuring.

Bob Ayres holds a PhD in Mathematical Physics from Kings College, University of London, an MSc in Physics from the University of Maryland and a BA and BSc from the University of Chicago. He was an Adjunct Professor of Mineral Economics at Pennsylvania State University and a Visiting Professor at the Chalmers University of Technology in Gothenburg, Sweden. His former positions include, among others, Professor of Engineering and Public Policy at Carnegie-Mellon University, Pittsburgh, PA, and Deputy Leader of the Technology-Economy-Society Program, International Institute of Applied Systems Analysis (IIASA), Laxenburg, Austria. From 1994 to 1997 he was a member of the International Advisory Board of the Wuppertal Institute for Climate, Environment and Energy, Germany.

“Bob”, on his 90th birthday (29 June 2022), deserves recognition for his extensive studies on material and energy flows and his insightful and tireless efforts to align economic theory with the fundamental laws of physics. The father of material balance principles and life-cycle analysis, he is considered one of the academics at the origins of industrial ecology and sustainability. His work recognizes the fundamental and unique role energy plays in the economy. He has worked tirelessly at providing a more realistic material grounding of economic models. One of his most-read articles is his 1969 article with Allen V. Kneese proposing economic science to treat externalities. It was published in the American Economic Review and was entitled Production, Consumption, and Externalities. The current climate crisis is proof by itself that the warning was not sufficiently heard.

Some References on Robert Ayres

Ayres, Robert U 2022. “The Economy as an ‘Island of Order’ far from Equilibrium,” INSEAD Working Paper 2022/08/EPSTOM.

van den Bergh, Jeroen C.J.M. 2013. Robert Ayres, Ecological Economics, and Industrial Ecology. Environmental Innovation and Societal Transitions 9: 1-7.

Miller, Steven M. 2019. A tribute to Robert U. Ayres for a lifetime of work in technological forecasting and related areas. Editorial in: Research Collection School of Computing and Information Systems, Singapore Management University.

Research Areas

Environmental Economics, Technological Change and Economic Growth, Industrial Metabolism and Industrial Ecology, Eco-Restructuring

Teaching Areas

Industry Sectors

Information Technology