

The World Digital Mathematical Library : an infrastructure need of the mathematical sciences

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Philippe Tondeur served as Director of the Division of Mathematical Sciences at the National Science Foundation from 1999-2002. Before being appointed to that position, he chaired the Department of Mathematics at the University of Illinois in Urbana-Champaign (UIUC) from 1996-1999. His current interests include mathematics and science education, science policy and governance, and leadership development.

Dr. Tondeur joined the UIUC faculty in 1968, where he became a Full Professor in 1970, and an Emeritus Professor in 2002. He earned his Ph.D. degree in Mathematics from the Univer-

sity of Zurich in 1961, and subsequently was a Research Fellow and Lecturer at the University of Paris, Harvard University, the University of California at Berkeley and Wesleyan University, before joining the UIUC faculty.

Dr. Tondeur's research interests are in differential geometry, in particular the geometry of foliations and applications of partial differential equations in geometry. His 100 mathematical publications include nine books, some of which are by now standard reference books on foliations. During the past 40 years, he has presented approximately 200 invited lectures or seminars at various institutions around the world.

This talk discusses a critical infrastructure need of the mathematical sciences, namely the access to the legacy of scholarly research published in the journals devoted to the mathematical sciences over the last three and a half centuries.

We put this in the context of a strategy for global science, in particular for the role of the mathematical sciences in the science enterprise. This role is to enrich an already deep and broad fundamental science and engineering knowledge base,

to develop a globally engaged workforce of scientists, engineers, and well-prepared citizens, as well as to provide a widely accessible science and engineering infrastructure.

We describe current efforts to capture the world's scholarly mathematical literature. A major undertaking is the coordination under the umbrella of the International Mathematical Union of the many digitization efforts proceeding across the world.