



JEUDI 23 AVRIL 2009, 12.15 H. – SALLE GC A3 30

ONDES D'IMPULSION EN LABORATOIRE ET EN NATURE

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RÉSUMÉ

Le phénomène des ondes d'impulsion est expliqué et comparé aux ondes tsunamis. Des essais de laboratoires réalisés à l'EPFZ sont décrits par des surélévations d'eau et des champs de vitesses. L'instrumentation principale de laboratoire est aussi brièvement présentée.

Les types d'ondes rencontrés sont exposés, notamment les ondes solitaires, conoïdales et de type mascarets. De plus, le cas dramatique de Lituya Bay de 1958 en Alaska, qui est le cas d'ondes d'impulsion le plus sévère identifié à ce jour et qui a été testé en laboratoire, est considéré. Finalement, des indications sur les possibilités de réduire les effets de ces ondes sont présentées. Divers graphiques et films facilitent la compréhension de cette présentation.

Curriculum Vitae



<i>Name</i>	Willi H. Hager
<i>Born</i>	July 8, 1951 at Uznach, Switzerland
<i>Nationality</i>	Swiss
<i>Present position</i>	Head, Hydraulic Engineering Section VAW, ETH Zurich
<i>Higher education</i>	1976 graduation as Civil Engineer, Swiss Fed. Inst. Tech. Zurich (ETH) 1982 Dr.sc.techn., ETH Zurich 1994 PD (Privat Docent), ETH Zurich 1998 Professor, ETH Zurich

Professional 1977-1983 with consulting engineers in sewage treatment technologies.

1983-1988 Research engineer at EPFL *Lausanne*, Institute of Hydraulic Structures:
Lecturing, expertising and research, mainly in hydraulic structures.

1989-1998 Head scientific staff of VAW, ETH Zurich. State-of-the-art publications
in hydraulic structures, sewer hydraulics, shockwaves in chute flow, surface waves.
International lecturing in USA, Canada, UK, Algeria, India, Croatia, Italy, Taiwan.
International collaboration also with Portugal, Argentina and Japan.

1998- Prof. of hydraulics, ETH Zurich. Research in air-water high-speed flows,
impulse waves, scour of bridge elements and due to high-speed jets, levee erosion,
and history of hydraulics. International lecturing.

2008-2009 *ad interim* Director of VAW, ETH Zurich

<i>ETH-Lecturing</i>	Unsteady pipe and channel flows (1988-1990)
	Dam hydraulics (1990-1993)
	Wastewater hydraulics (1994-)
	Hydraulic modeling (2002-)

PhD students 18: 2 at EPFL and 16 at ETHZ in dam engineering, dambreak waves, scour, river
engineering, cascade spillways, impulse waves, optical flow visualisation and final sedimentation.

Additional Research Topics Bridge pier and abutment scour, biographies in history of hydraulics

Reviewer Many international journals, a total of 15
2000-2005 Associate Editor *Journal of Hydraulic Engineering*
2006- Editor *Journal of Hydraulic Research*

Hobbies Reading biographies and historical books
Collecting classic stamps, Aficionado of wines and food
Skiing and water sports, wandering

Publications more than 450 scientific papers.

Books:

with R.O. Sinniger (1989) *Constructions Hydrauliques*. Presses Polytechniques: Lausanne (450 p),
Energy dissipators and hydraulic jump (1992). Kluwer Academic Publishers: Dordrecht (290 p),
Spillways - Shockwaves and air entrainment (1992). Intl. Commission Large Dams: Paris (117 p),
with D. Vischer (1992) *Hochwasserrückhaltebecken* (Flood storage basins). Verlag der
Fachvereine: Zürich (211 p, in German),
Abwasserhydraulik (Sewer hydraulics) (1994). Springer: Heidelberg, Berlin (500 p), 2nd ed. in 1995
with D.L. Vischer *Energy dissipators* (1995). Balkema: Rotterdam (201 pages),
ed. with V.P. Singh *Environmental Hydraulics* (1996). Kluwer Academic, Dordrecht (415 p),
with D.L. Vischer *Dam Hydraulics* (1998). John Wiley & Sons, Chichester UK (316 p),
Wastewater Hydraulics (1999). Springer Verlag: Berlin (640 p),
eds., with H.-E. Minor (2000). *Hydraulics of stepped spillways*. Balkema: Rotterdam,
Hydraulicians in Europe (2003). IAHR: Madrid (774 p),
eds., with H.-E. Minor (2004). *Flussbau in der Schweiz*. Gesellschaft für Ingenieurbaukunst: Zürich
(140 p, in German, French, Italian and English)

Distinctions 1986 VSA-Preis, Swiss Association of Wastewater Engineers
1988 J.C. Stevens Award American Society of Civil Engineers
1990 with R. Sinniger, *Mention Spéciale* du Prix Roberval, Université de Compiègne
1995 Best Technical Note *Journal of Hydraulic Engineering* ASCE
1995 Best Practice Paper *Journal of Irrigation and Drainage Engineering* ASCE
1997 Ippen Award Intl. Association for Hydraulic Research IAHR, San Francisco
1999 Secretary, IAHR Hydraulic Structures Section
2000 *Journal of Hydraulic Engineering*, Associate Editor
2006 Borland Lecture Award Colorado State University, Fort Collins USA
2007 ASCE Hydraulic Structures Medal

Professional Associations IAHR Council member 2003-2007, co-opted CM 2007-
American Society of Civil Engineers ASCE, Fellow 1994-
Institution of Civil Engineers, London, Assoc. Member
Journal of Hydropower and Dams, Editorial Board Member
Swiss Association of Sewage Technology, Member
Swiss Society for History of Technology, Member

Languages German, English, French, Italian

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