



## → MEASUREMENTS AND OBSERVATIONS IN THE 21<sup>st</sup> CENTURY CONFERENCE

# Measurements and Observations in Hydrology in the 21<sup>st</sup> Century

Flavia Tauro

21 November 2016 | ESA-ESRIN | Frascati (Rome) Italy



# Thanks to all of you for being here today!



# MOXXI: the beginning



## Scientists must leave their ivory computers

03 October 2013 by *Hydrologic ABC*



What science needs is pragmatic researchers who adopt a practical approach and a resourceful attitude like that shown by TV hero MacGyver. This often means more measurement and observation and less time spent modelling on the computer. So says Rolf Hut, awarded his PhD at TU Delft on Tuesday 1 October. During his PhD research, Hut perfectly exemplified this MacGyver attitude. He was partly responsible for the development of several new measurement instruments for his own specialism, hydrology. They include a rain gauge that measures the size of raindrops by listening to the sound the drops make on impact and an evaporation meter based on the Wilmo.

XXV IUGG General Assembly (Melbourne)

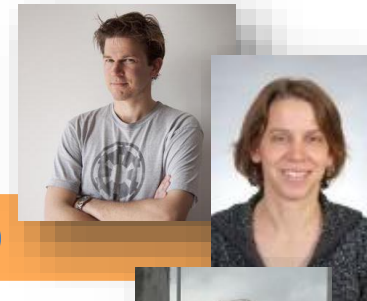
IAHS, IAPSO, IASPEI Joint Assembly (Gothenburg)

**MOXXI** Measurements & Observations in the 21<sup>st</sup> Century

2010

2012

2015



## Experimental Hydrology Wiki

### Why do we need an Experimental Hydrology Wiki?

It will help us to learn about, recommend, question and discuss new / established

- It will help us to avoid reinventing the wheel
- It will help us not to make the same mistakes
- It will help us to share new ideas and concepts
- It will help us to find the methodology and data

## Water Resources Research

### Hydrologic Measurement Methods

Water Resources Research, vol. 46, no. 4, 2010

We believe that this special section of Water Resources Research on Hydrologic Measurement Methods marks a turning point in appreciation of the essential and unfinished business of learning how to get the right data upon which our understanding of hydrology rests.

☐ Select All ☐ Save to profile ☐ Export citation

### Regular Article

☐ Improved extraction of hydrologic information from geophysical data through coupled hydrogeophysical inversion

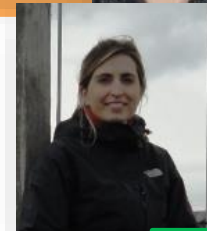
A. C. Hinnell, T. P. A. Ferré, J. A. Vrugt, J. A. Huisman, S. Moysey, J. Rings and M. B. Kowalsky

Version of Record online: 9 APR 2010 | DOI: 10.1029/2008WR007060

[Abstract](#) | [Article](#) | [PDF\(600K\)](#) | [References](#)

International Strategic Workshop on Future IAHS Science Initiative (Nanjing)

XXVI IUGG General Assembly (Prague)



# MOXXI: now

- Panta Rhei Science Questions 1 and 5:
  - *What are the key gaps in our understanding of hydrologic change?*
  - *How can we advance our **monitoring** and data analysis capabilities to predict and manage hydrologic change?*

Original Articles

**“Panta Rhei—Everything Flows”: Change in hydrology and society—The IAHS Scientific Decade 2013–2022**

**“Panta Rhei—Tout s’écoule”: Changement hydrologique et sociétal—La Décennie Scientifique 2013–2022 de l’AISH**

A. Montanari, G. Young, H.H.G. Savenije, D. Hughes, T. Wagener, L.L. Ren, ...[show all](#)  
Pages 1256–1275 | Received 18 Mar 2013, Accepted 21 May 2013, Accepted author version posted online: 30 May 2013, Published online: 05 Jul 2013

Original Articles

**A decade of Predictions in Ungauged Basins (PUB)—a review**

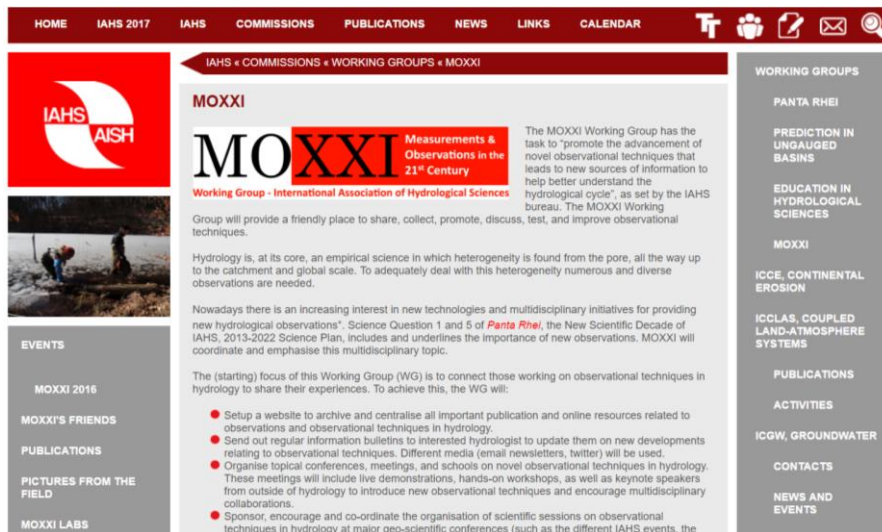
**Revue d’une décennie sur les prévisions en bassins non jaugés (PUB)—une revue**

M. Hrachowitz, H.H.G. Savenije, G. Blöschl, J.J. McDonnell, M. Sivapalan, J.W. Pomeroy, ...[show all](#)  
Pages 1198–1255 | Received 14 Mar 2013, Accepted 02 May 2013, Accepted author version posted online: 16 May 2013, Published online: 14 Jun 2013



# MOXXI: initiatives

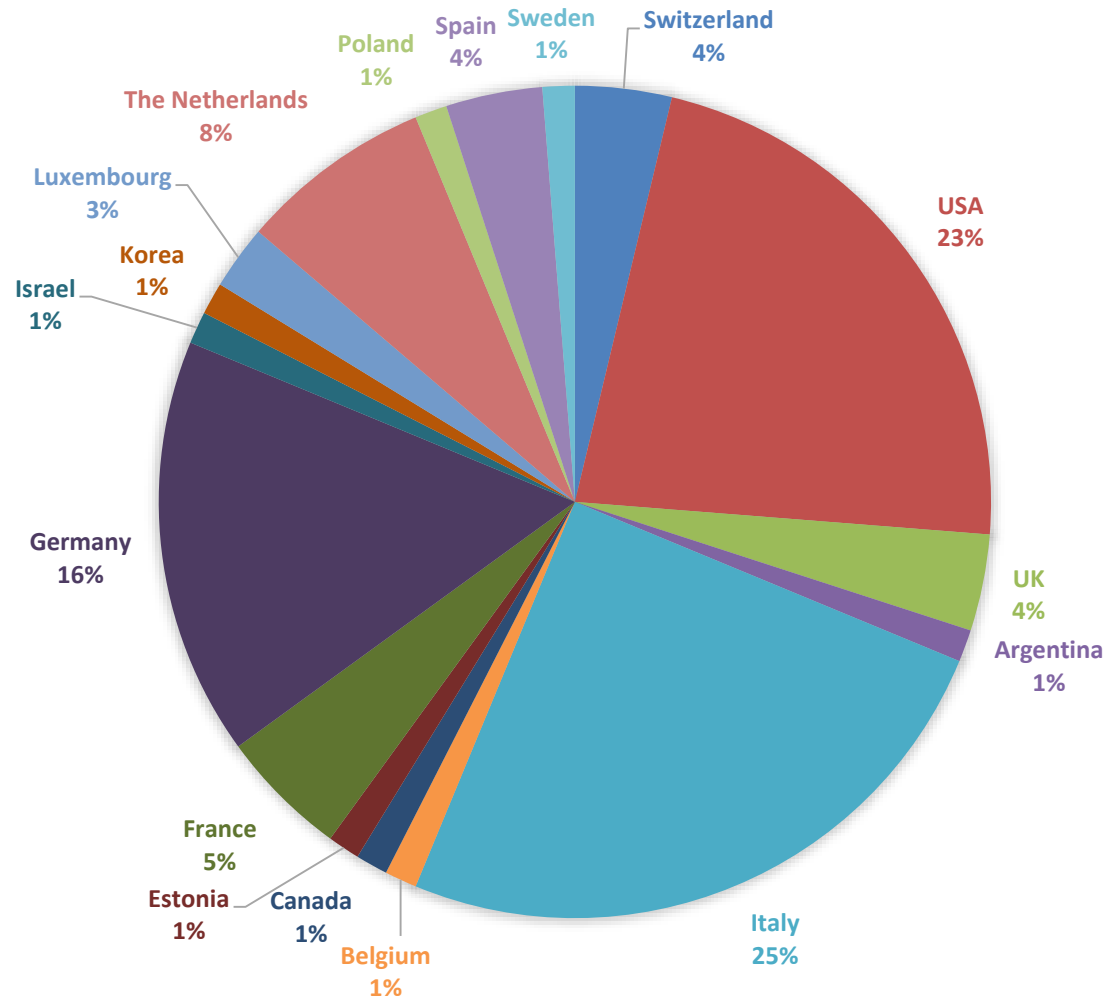
- EGU and AGU annual poster sessions
- Topical workshops and conferences
- Website and newsletter



- Events
- Publications
- Pictures from the field
- Laboratories

# MOXXI: friends

- 80 friends
- 17 countries
- ~50 universities
- ~5 research centers
- ~5 private companies
- 2 international organizations



# MOXXI: hints for the future

- Events:
  - AGU Fall Meeting 2016 (San Francisco, USA):  
H105: Transformative Measurements to Understand the Geosphere: Zip-Ties, Arduinos, Novel Sensors, and Twitter
  - **IAHS 2017** (Port Elizabeth, South Africa): MOXXI workshop
  - Summer schools
- Community paper





# Enjoy the meeting!