

# 50th anniversary symposium



WAGENINGEN UNIVERSITY  
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## State of the art measurements of catchment-scale hydrological processes

### Anniversary

On the occasion of the 50th anniversary of the Hupsel Brook experimental catchment and the 50th anniversary of the Hydrology and Quantitative Water Management Group at Wageningen University, we organize a scientific symposium with the theme "State of the art measurements of catchment-scale hydrological processes" on Thursday 10 September. The symposium is organised within the framework of the Euromediterranean Network of Experimental and Representative Basins (ERB), the Netherlands Hydrological Association (NHV) and the Boussinesq Center for Hydrology.

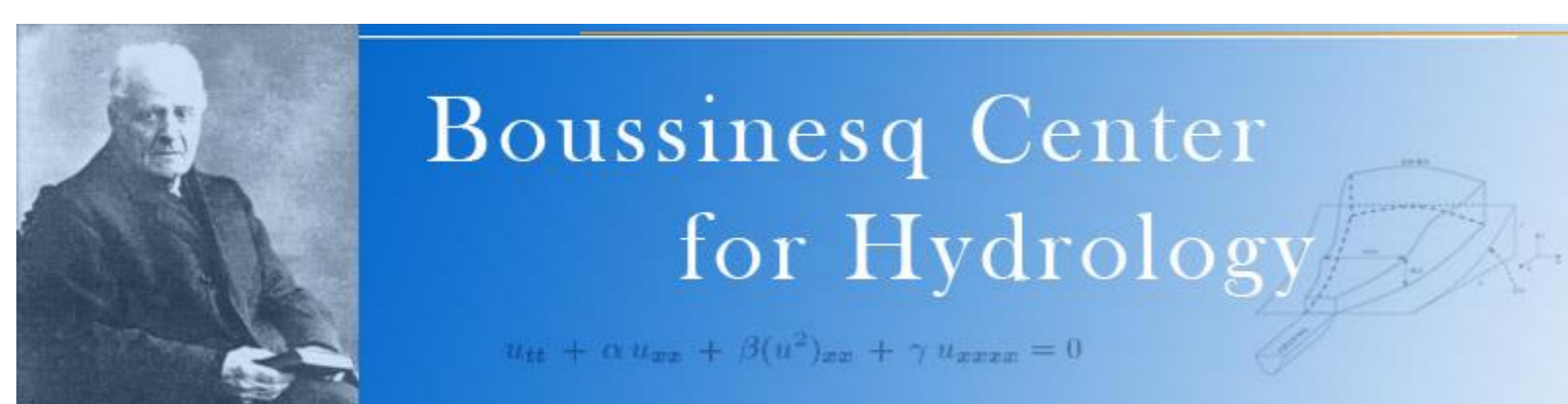
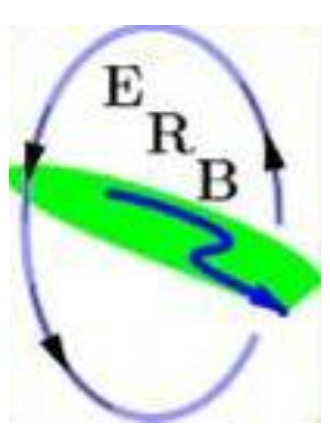
### Programme

The symposium will consist of five sessions, covering five main themes: precipitation, evaporation, soil moisture, groundwater and discharge, with special focus on closing water budgets. Each session will contain an international keynote and two invited speakers from (near) the Netherlands.

In addition, there will be a (Dutch) symposium and reunion on Friday 11 September, highlighting 50 years of research and education in the Hupsel Brook catchment and at the Hydrology and Quantitative Water Management Group (p.t.o.).

When	<b>Thursday 10 September 2015</b>
Where	Campus Wageningen University GAIA building, room 1+2
Cost	None
Register	Email a.s.a.p. to <a href="mailto:tamara.schalkx@wur.nl">tamara.schalkx@wur.nl</a>
Information	<a href="http://www.wageningenur.nl/hwm">www.wageningenur.nl/hwm</a>

	Programme	Keynote
9 <sup>00</sup>	Welcome	
9 <sup>30</sup>	Introduction	
9 <sup>45</sup>	Precipitation	Alexis Berne <i>EPFL</i>
11 <sup>00</sup>	Coffee	
11 <sup>15</sup>	Evaporation	Guido Salvucci <i>Boston Univ.</i>
12 <sup>30</sup>	Lunch	
13 <sup>30</sup>	Soil moisture	Luca Brocca <i>CNR Italy</i>
14 <sup>45</sup>	Groundwater	Jay Famiglietti <i>UC Irvine / JPL</i>
16 <sup>00</sup>	Coffee	
16 <sup>15</sup>	Discharge	Paul Bates <i>Univ. Bristol</i>
17 <sup>30</sup>	Synthesis	
18 <sup>00</sup>	Drinks + snacks	





# 50 jaar meten in Hupsel & 50 jaar leerstoelgroep Hydrologie

*Symposium en feestelijke middag met reünie*

## Verjaardag

Ter gelegenheid van de 50<sup>e</sup> verjaardag van het experimentele stroomgebied van de Hupselse Beek en de 50<sup>e</sup> verjaardag van de leerstoelgroep Hydrologie en Kwantitatief Waterbeheer van Wageningen Universiteit, organiseren wij een symposium en feestelijke middag.

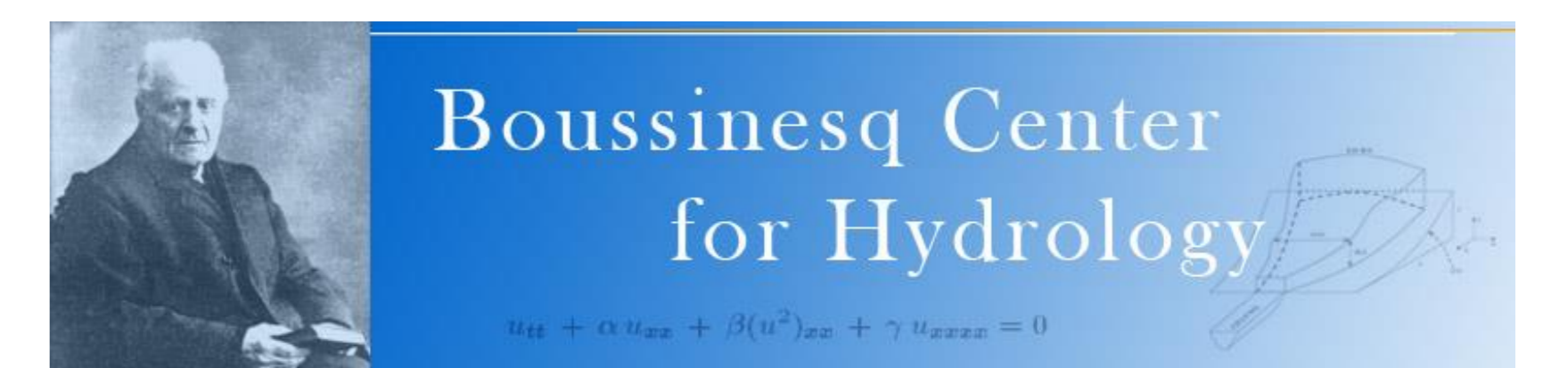
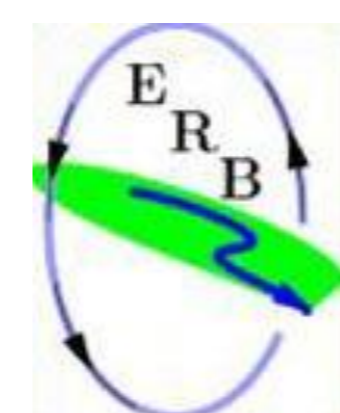
## Programma

's Ochtends zal in verschillende presentaties een overzicht worden gegeven van 50 jaar onderzoek en onderwijs in het stroomgebied van de Hupselse Beek en de betekenis ervan voor de hydrologische wetenschap en praktijk. Hierna volgt een feestelijke middag met presentaties, activiteiten, foto's en anekdotes over de leerstoelgroep.

Verder is er op donderdag 10 september een (Engelstalig) symposium over "State-of-the-art meetmethoden voor hydrologische processen op stroomgebiedsschaal" (z.o.z.).

Wanneer	<b>Vrijdag 11 september 2015</b>
Waar	Campus Wageningen Universiteit GAIA gebouw, zaal 1+2
Kosten	Geen
Registreren	E-mail z.s.m. tamara.schalkx@wur.nl
Informatie	www.wageningenur.nl/hwm

		Programma
	9 <sup>00</sup>	Inloop
Hupselse Beek	9 <sup>30</sup>	Aanleiding, opzet en overzicht
	10 <sup>30</sup>	Onderzoeksthema's <ul style="list-style-type: none"> <li>• Bodemkartering</li> <li>• Bodemfysica</li> <li>• Verdamping</li> <li>• Waterkwaliteit</li> <li>• Neerslag-afvoermodellering</li> </ul>
	12 <sup>20</sup>	Onderwijs en synthese
	13 <sup>00</sup>	Lunch met bezoek hydraulicalab
Leerstoelgroep	15 <sup>00</sup>	Geschiedenis van leerstoelgroep
	15 <sup>30</sup>	Onderzoeksthema's <ul style="list-style-type: none"> <li>• Hydraulica</li> <li>• Stroomgebiedshydrologie</li> <li>• Hydrogeologie</li> <li>• Hydrometeorologie</li> </ul>
	17 <sup>15</sup>	Borrel en buffet





## Some history on research basins

Long-term observations and research in experimental basins have greatly contributed to developments in hydrological science. Well-instrumented basins are often small, with well-defined boundary conditions to meet the requirements for complete and accurate data. Measurements from such outdoor laboratories provide accumulated knowledge that benefits research and education.

The small basin studies commenced in 1904 for a study on the hydrological impacts of deforestation in the Sperbelgraben basin in Switzerland. This was the first of many mainly comparative basin studies to link the flow response to land use changes. Stimulated by UNESCO'S International Hydrological Decade launched in 1965, numerous instrumented basins have been set up to enhance the understanding of hydrological processes.

Although initially only precipitation and runoff could be measured, the advent of new developments in instrumentation enabled essential advances in process research, particularly for soil moisture and evapotranspiration. Process understanding in small catchments provides insight into the hydrology of larger ones and ultimately contributes to improved water management.

## Hupsel Brook catchment

Successive periods of drought in the 1950s in the Netherlands motivated investigation of water requirements for agriculture. Observations in the sandy 50 km<sup>2</sup> Leerinkbeek catchment, including a 6.5 km<sup>2</sup> headwater called the Hupsel Brook (Hupselse Beek in Dutch), were initiated in the early 1960s to explore the water balance and its component processes.

Many field experiments followed, focussing on soil moisture, evapotranspiration, soil-physical parameters, nutrient flow, and many other variables. In addition, several hydrological models have been developed with data and experience from this catchment. The Hupsel Brook catchment has been an important stimulus and source of inspiration for hydrological research and education in the Netherlands and a spinoff for (inter)national collaboration.

Now, fifty years later, the Hupsel Brook catchment still provides an outdoor facility for research and education. Long-term operation of such small research catchments remain a critical resource for progress in hydrological science.

