



**De Innovatie
versneller**

HWBP voor sterke dijken

Homepage DIV

Macrostabiliteit

Piping

Bekleding/Dijkerosie

NWO



Expert meeting on levee erosion

DIV Bekleding en Dijkerosie

Delft, 14 September 2023

Introduction: who's who

fys	onl			
0		Jasper	van de Hoef	
1		Diederik	Bijvoet	
1		Myron	van Damme	Session 3
1		Roy	Mom	
1		André	Koelewijn	Session 3
1		Vera	van Bergeijk	
1		Martin	van der Meer	
1		Bas	Hofland	Session 1
1		Gijs	Hoffmans	Session 1
1		Marc	Hijma	Session 2
1		Bernadette	Wichman	
1		Mark	Klein-Breteler	
1		Martine	van der Ploeg	Session 2
1		Werner	Halter	Session 4
1		Jord	Warmink	
	1	Jean-Louis	Briaud	Session 4
0		Kees	de Jong	
0		Jan Willem	Nieuwenhuis	
0		Henk	van Norel	
1		Marco	Veendorp	
1		Jentsje	van der Meer	
1		André	van Hoven	
	1	Bryant	Robbins	t.b.d.
1		Inge	de Wolf	
1		Maurice	Evers	
1		Suzanna	Zwanenburg	
1		Juan	Aguilar-Lopez	
1		Kim	van den Hoven	
	1	Chrissy	Mitchell	
	1	Jean-Robert	Courivaud	
1		Martijn	Huis in 't veld	
	1	Tim	Pullen	
1		Tanja	Voogd	

30 experts on levee erosion and aging

8 pitchers

4 sessions

discussions

shared view

wish list

action list

Program

- 08:30 Doors open
- 09:00 **Opening and introduction**
Program, who's who, fields of expertise
Goal, focus: knowledge integration and implementation
- 09:30 **Session 1 - Impact drought and animal burrowing, insights Hedwige erosion tests**
Results Hedwige tests, impact on erodability top layers
Levee safety framework animal burrowing
- 10:15 **Short break**
- 10:30 **Session 2 - Soil structuring and aging, monitor and predict clay layer condition**
Top layer profiling in test pits, first results seadikes, application all dikes
Soil aging mechanisms, relation with climate proof design, sea or river conditions
- 11:15 **Break-out sessions 1+2**
- 12:15 **Lunch**
- 13:00 **Session 3 - Wave and current induced erosion: physics, models, parameters, tests**
Coastal/waves - typical seadike, transient overtopping flows
Rivers/current - typical riverdike, critical and occurring shear stress
- 13:45 **Break-out session 3**
- 14:30 **Integration sessions 1/2/3 and knowledge integration issues**
Wish list (ambitions) and action list (recommendations)
Follow up (short and long term)
- 15:15 **Short break / set-up online meeting**
- 15:30 **Session 4 - Introduction Borehole Erosion Test in the Netherlands, US experiences**
US experiences, applications as a profiling tool, improvements
NL first results (sneak preview), relation with other lab and field tests
- 16:15 **Plenary discussion 1/2/3 + 4**
- 17:00 **Overall impressions**
Short recap wish list and action list
Recommendations DIV, e.g. front-runner projects
- 17:15 **Closure**

speakers

Tanja Voogd
Martin van der Meer

Myron van Damme
André Koelewijn

Marc Hijma
Martine van der Ploeg

Bas Hofland
Gijs Hoffmans

Tanja Voogd
Martin van der Meer

Jean-Louis Briaud
Werner Halter

Martin van der Meer

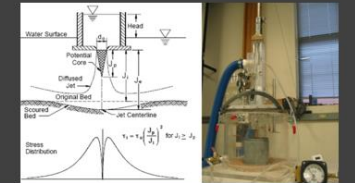
Impact drought and animal burrowing, insights Hedwige erosion tests
André Koelewijn & Myron van Damme



Soil structuring and aging, monitor and predict clay layer condition
Marc Hijma & Martine van der Ploeg



Wave and current induced erosion: physics, models, parameters, tests
Gijs Hoffmans & Bas Hofland



Introduction Borehole Erosion Test in the Netherlands, US experiences
Jean-Louis Briaud & Werner Halter



Introduction: goal

Topic	Erosion/aging for sea/river dikes in changing conditions (drought, animal burrowing, policy changes)	
Goal	Shared view, what can we (almost) resolve, where is already alignment and where are still gaps	
Focus	Knowledge integration, opportunities in existing programs (projects and research)	
Issues	Uncertainties, impact on maintenance, observational method to accelerate implementation	
Program	<p>4 sessions, each prepared by 2 experts</p> <p>Live sessions 1, 2, 3 and Integration session, online session 4</p> <ol style="list-style-type: none"> 1 Changed conditions drought and animal burrowing 2 Impact of climate conditions on loss of dike strength 3 Fundamentals erosion capacity sea and river dikes 4 Measurements and monitoring for reliable implementation 	<p>input from all participants</p> <p>wish list and action list</p> <p>resilience</p> <p>aging</p> <p>shear strength</p> <p>validation</p>
Result	Shared issues, ambitions and recommendations	
		short and long term