

# THEORIES, MODELS AND COMPUTATION



Prof JF Botha

S

2016-03-19

T: 051 401 9111 [info@ufs.ac.za](mailto:info@ufs.ac.za) [www.ufs.ac.za](http://www.ufs.ac.za)

 Copyright reserved  
Kopiereg voorbehou

UNIVERSITY OF THE  
FREE STATE  
UNIVERSITEIT VAN DIE  
VRYSTAAT  
YUNIVESITHI YA  
FREISTATA



**UFS·UV**  
NATURAL AND  
AGRICULTURAL SCIENCES  
NATUUR- EN  
LANDBOUWETENSKAPPE

INSTITUTE FOR GROUNDWATER STUDIES (IGS)  
INSTITUUT VIR GRONDWATERSTUDIES (IGS)



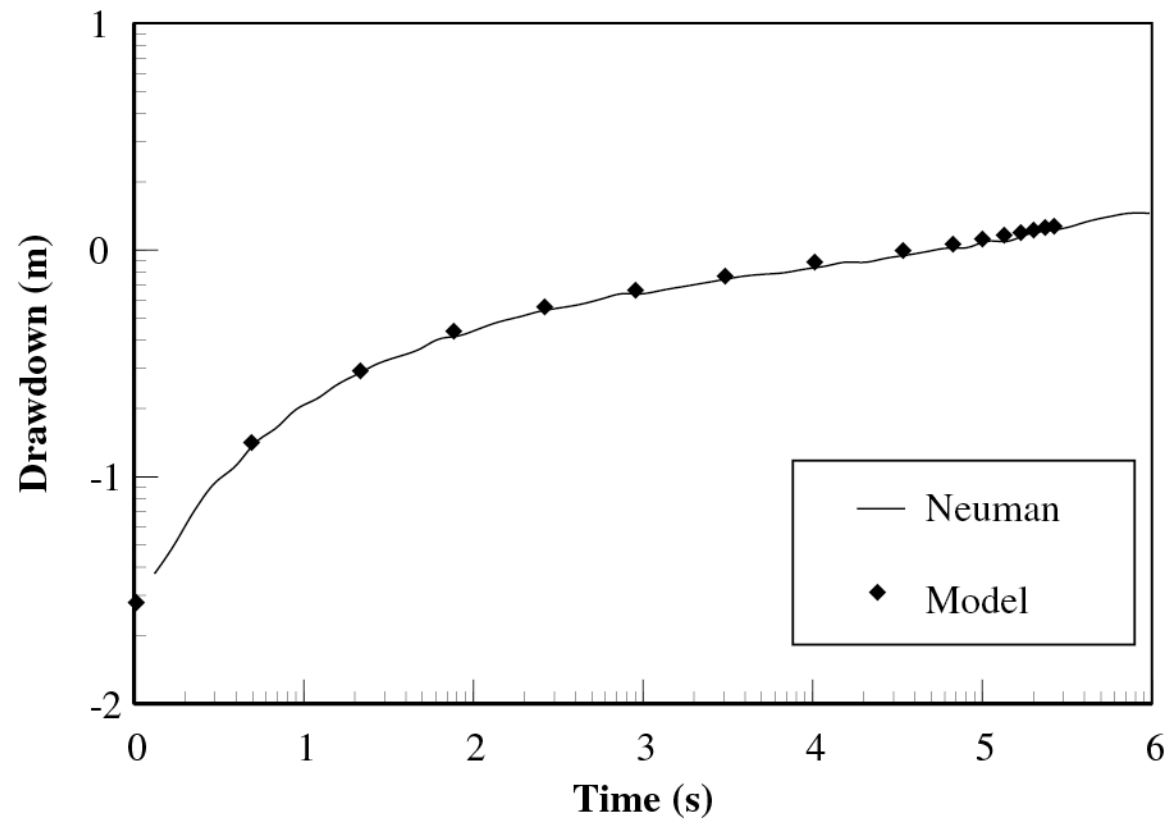
# Outline of presentation

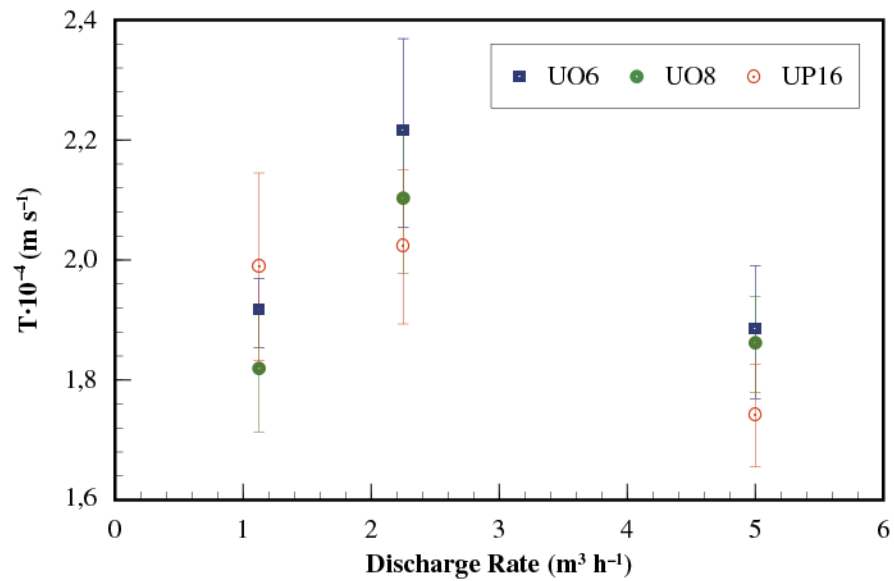
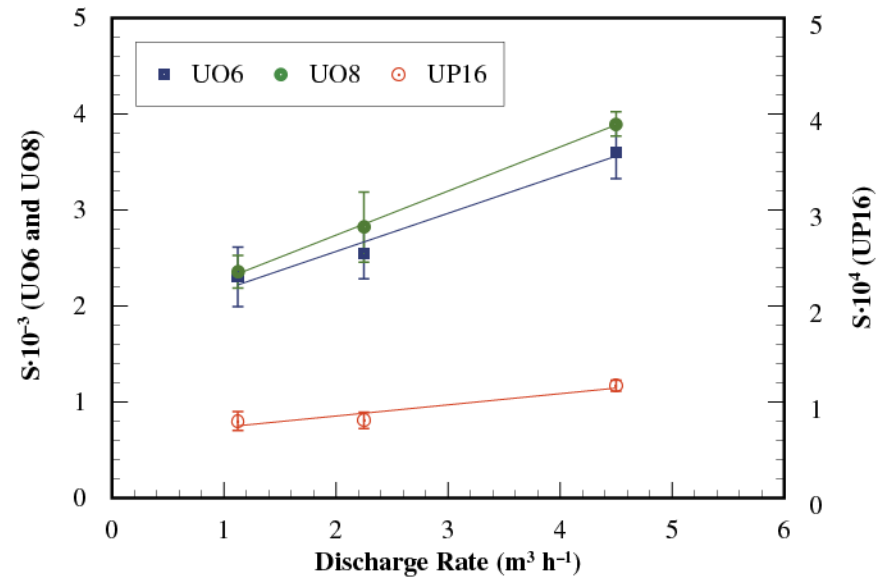
- Introduction
- The Scientific Approach
- Difficulties Associated With Groundwater Models
- Conclusion

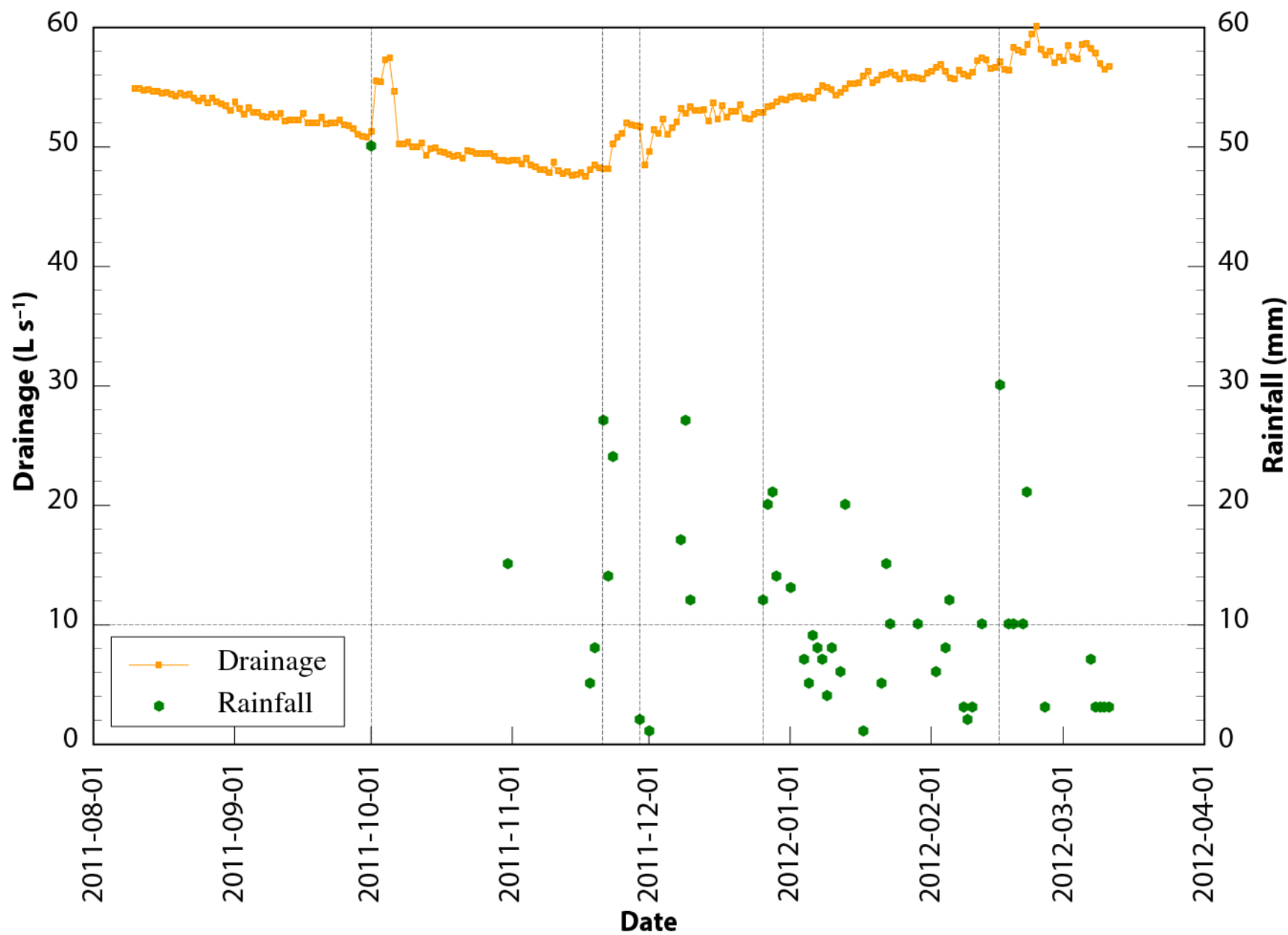


$$SD_t \varphi(x, y, t) = T \nabla^2 \varphi(x, y, t) + Q(x, y, t)$$

where  $S$  = the storativity of the aquifer [1]  
 $\varphi(x, y, t)$  = the piezometric head in the aquifer [L]  
 $T$  = the transmissivity of the aquifer [ $L^2 T^{-1}$ ]  
 $Q(x, y, t)$  = the source term (discharge rate) [ $L T^{-1}$ ]







This was my story.  
Thank you!

