



Conference program

Sunday, 17 June

15:00-21:00	Registration
16:00-18:00	Gdańsk Old Town tour
19:00-21:00	Ice breaking party

Monday, 18 June

08:00-	Registration
09:00-10:30	Conference opening Celebrating 50 years of SWIM - anniversary session
10:30-11:00	Coffee break

11:00-12:30	Monday, 18 June, Session 1 - Case studies (1) <i>Chair: Gualbert Oude Essink</i>
11:00-11:30	Featured presentation: <i>Andrzej Sadurski & Adam Szymkiewicz</i> Saltwater intrusion on the Polish Baltic coast
11:30-11:45	<i>Rena Meyer</i> Past and future evolution of saltwater intrusion in Southern Denmark
11:45-12:00	<i>Emilio Custodio</i> Salinity problems in Mediterranean and island coastal aquifers in Spain
12:00-12:15	<i>Luc Lebbe</i> Salt water intrusion in the breakthrough valley of the river Aa between the Flemish coastal plain and the Saint Omer basin (France)
12:15-12:30	<i>Kristine Walraevens</i> Groundwater salinization in arid and semi-arid zones
12:30-14:00	Lunch break



14:00-15:30	Monday, 18 June, Session 2 - Geophysics (1) Chair: Maurizio Polemio
14:00-14:30	Featured presentation: <i>Helga Wiederhold</i> Coastal investigations – a challenge for hydrogeophysics
14:30-14:45	<i>Joost Delsman</i> Large-scale, probabilistic airborne salinity mapping for groundwater management in Zeeland, The Netherlands
14:45-15:00	<i>Dieter Vandeveld</i> Groundwater salinity mapping of the Belgian coastal zone to improve local freshwater storage availability
15:00-15:15	<i>Marieke Paepen</i> Assessment of groundwater discharge and saltwater intrusion in the Belgian coastal area through geophysics
15:15-15:30	<i>Andrew Charles Knight</i> Potential for a vast offshore fresh groundwater body in the Gambier Embayment, Australia.
15:30-16:00	Coffee break

16:00-18:00	Monday, 18 June, Session 3 - Modeling (1) Chair: Jesus Carrera
16:00-16:30	Featured presentation: <i>Jean-Christophe Comte</i> Spatiotemporal patterns of saltwater intrusion associated to geological heterogeneities and complex tidal forcing: insights from field-scale, high-resolution investigations
16:30-16:45	<i>Waldemar Świdziński</i> Modeling of groundwater flow and salinity evolution near TSF Żelazny Most, Poland
16:45-17:00	<i>Anke Schneider</i> Modeling saltwater intrusion scenarios for a coastal aquifer at the German North Sea
17:00-17:15	<i>Mark Bakker</i> What goes up must come down
17:15-17:30	<i>Pieter J. Stuyfzand</i> Analytical modeling of freshwater lenses in different settings: from coastal embryo dunes in the Netherlands to inland mega dunes in Abu Dhabi
17:30-17:45	<i>Frans Schaars</i> Modeling and monitoring methods to prevent salt water intrusion caused by artificial dune construction
17:45-18:00	<i>Thuy T.M. Nguyen</i> Seawater intrusion in coastal aquifers: combined effect of salinity and temperature
18:00-20:00	Poster session & snack



Tuesday, 19 June

08:30-	Registration
09:00-10:30	Tuesday, 19 June, Session 4 - Coastal aquifer management (1) Chair: <i>Leanne Morgan</i>
09:00-09:30	Featured presentation: <i>Adrian Werner</i> Classes of seawater intrusion: An extension to consider the effects of offshore aquifers
09:30-09:45	<i>Mohammad Azizur Rahman</i> Characterization of a regional coastal zone aquifer using an interdisciplinary approach – an example from Weser-Elbe region, Lower Saxony, Germany
09:45-10:00	<i>Laura Martinez</i> Integrated methodology to characterize hydro-geochemical properties in an alluvial coastal aquifer affected by seawater intrusion (SWI) and submarine groundwater discharge (SGD)
10:00-10:15	<i>Perry de Louw</i> Land subsidence by peat oxidation leads to enhanced salinization through boils in Dutch polders
10:15-10:30	<i>Joseph Hughes</i> Aquifer compaction—a threat to coastal aquifers
10:30-11:00	Coffee break

11:00-12:30	Tuesday, 19 June, Session 5 - Coastal aquifer management (2) Chair: <i>Holly Michael</i>
11:00-11:15	<i>Gualbert Oude Essink</i> Building up 3D salinity models for estimating fresh groundwater resources in major deltas under global and climate stresses
11:15-11:30	<i>Daniel Zamrsky</i> Estimating characteristic times of regional groundwater systems along the global coastline with regard to past sea level fluctuations and sediment accumulation patterns
11:30-11:45	<i>Joeri van Engelen</i> 3D Paleohydrogeological modelling of the Nile Delta
11:45-12:00	<i>Geoffrey Cromwell</i> Three-dimensional lithologic model of the San Diego Coastal Aquifer, Southern California, USA
12:00-12:15	<i>Leanne Morgan</i> Untreated groundwater supply and the Christchurch coastal aquifer system
12:15-12:30	<i>Namsik Park</i> Optimal management of freshwater Lens for extreme droughts in Tongatapu Island
12:30-14:00	Lunch break



14:00-15:30	Tuesday, 19 June, Session 6 - Submarine Groundwater Discharge (1) Chair: Jimmy Jiao
14:00-14:30	Featured presentation: <i>Carlos Duque</i> Hydrogeological flow paths in coastal areas; a dismissed factor for the delivery of nutrients?
14:30-14:45	<i>Michael Böttcher</i> Ferruginous groundwaters as a source of P, Fe, and DIC for coastal waters of the southern Baltic Sea: (Isotope) hydrobiogeochemistry and the role of an iron curtain
14:45-15:00	<i>Beata Szymczycha</i> Deep submarine groundwater discharge indicated by pore water chloride anomalies in the Gulf of Gdańsk, southern Baltic Sea
15:00-15:15	<i>Emilia Bubliewska</i> A new method of testing groundwater inflow to the seabed, Puck Bay, South Baltic
15:15-15:30	<i>Ulf Mallast</i> Spatiotemporal variability of SGD as indicated by UAV based thermal infrared measurements
15:30-16:00	Coffee break

16:00-18:00	Tuesday, 19 June, Session 7 - Modeling (2) Chair: Torben Sonnenborg
16:00-16:15	<i>Christian Langevin</i> Variable-density flow and transport in MODFLOW 6
16:15-16:30	<i>Vincent Post</i> It's hydrogeology but not as we know it: Sub-seafloor groundwater flow driven by thermal gradients
16:30-16:45	<i>Su Yean Teh</i> MANTRA-O18: An extended version of SUTRA modified to simulate salt and d18O transport amid water uptake by plants
16:45-17:00	<i>Husam Baalousha</i> Modelling saline groundwater pumping at the beach for reverse osmosis desalination in Qatar
17:00-17:15	<i>Shaked Stein</i> Modeling the impact of saline groundwater pumping from coastal aquifers beneath the fresh-saline water interface for desalination purposes
17:15-17:30	<i>Abdelrahman Abdelgawad</i> Transient investigation of the critical pumping rate in laboratory-scale coastal aquifer
17:30-17:45	<i>Barret Kurylyk</i> Short- and long-term salt water intrusion in response to water stress and modified geology at the Palmyra Atoll National Wildlife Refuge
17:45-18:00	<i>Hongfan Cao</i> Impact of the air injection well position on the performance of preventing seawater intrusion

18:30-19:30	Soccer match
20:00-22:00	Barbecue party



Wednesday, 20 June

08:00-17:00	Optional field trips
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Thursday, 21 June

09:00-10:30	Thursday, 21 June, Session 8 - Geochemistry Chair: <i>Pieter Stuyfzand</i>
09:00-09:30	Featured presentation: <i>Yoseph Yechieli</i> Rate of seawater intrusion into a deep aquifer determined with radioactive noble gas isotopes of 81Kr and 39Ar
09:30-09:45	<i>Vincent Post</i> Can bomb-peak tritium persist in the transition zone? A case study from the German island of Langeoog
09:45-10:00	<i>Janek Greskowiak</i> Modelling reactive transport of Si and 222Rn to constrain tide-induced seawater infiltration rates at a meso-tidal beach
10:00-10:15	<i>Dongmei Han</i> Migration of shallow saline groundwater across a regional aquitard inferred from Cl and stable isotope in the North China Plain
10:15-10:30	<i>Xiaoying Zhang</i> Composition and function shift of microbial communities in mangrove seedlings inhabited mudflat during tidal cycles
10:30-11:00	Coffee break

11:00-12:30	Thursday, 21 June, Session 9 - Geophysics (2) Chair: <i>Alexander Vandenbohede</i>
11:00-11:15	<i>Matthieu Baisset</i> High frequency saltwater intrusion monitoring using borehole geophysical tools (SMD)
11:15-11:30	<i>Andrea Palacios</i> Time-lapse cross hole electrical resistivity tomography (CHERT) for monitoring seawater intrusion dynamics in a Mediterranean aquifer
11:30-11:45	<i>Laura del Val</i> Heat dissipation test with fiber-optic distributed temperature sensing to estimate groundwater fluxes in an unconsolidated coastal aquifer
11:45-12:00	<i>Jude King</i> A quantitative review of 1D airborne electromagnetic inversion methods: A focus on fresh-saline groundwater mapping
12:00-12:15	<i>Ian Gottschalk</i> Using geophysical data to build more realistic saltwater intrusion models
12:15-12:30	<i>Albert Folch</i> Seawater intrusion dynamics monitoring with geophysical techniques combination
12:30-14:00	Lunch break



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14:00-15:30	Thursday, 21 June, Session 10 - Submarine Groundwater Discharge (2) Chair: Christian Siebert
14:00-14:15	<i>Jimmy Jiao</i> Submarine groundwater discharge derived nutrients and red tide outbreaks in Tolo Harbor, Hong Kong
14:15-14:30	<i>Till Oehler</i> Submarine fresh groundwater discharge from a volcanic island into a coral reef (Lombok, Indonesia)
14:30-14:45	<i>Christophe Monnin</i> Seasonal behavior of dissolved inorganic carbon, silica and barium along a salinity gradient in a shallow coastal lagoon (Etang de La Palme, Southern France)
14:45-15:00	<i>Marc Diego-Feliu</i> Ra end-member variability in a dynamic subterranean estuary of a microtidal Mediterranean coastal aquifer
15:00-15:15	<i>Janis Ahrens</i> Efficient nutrient recycling in the subterranean estuary of an exposed sandy beach
15:15-15:30	<i>Anner Paldor</i> Deep submarine groundwater discharge facilitated by seawater circulation in a confined aquifer
15:30-16:00	Coffee break

16:00-17:45	Thursday, 21 June, Session 11 - Modeling (3) Chair: Chunhui Lu
16:00-16:30	Featured presentation: <i>Maria Pool</i> Effects of periodic temporal fluctuations and fluid density effects on mixing and chemical reactions in coastal aquifers
16:30-16:45	<i>Georg Houben</i> Sandtank experiments and numerical modeling of coastal aquifer heterogeneity: fringing reefs, vertical flow barriers and structured conductivity fields
16:45-17:00	<i>Masahiro Takahashi</i> Laboratory scale investigation of dispersion effects on saltwater movement due to cutoff wall installation
17:00-17:15	<i>Behzad Mozafari</i> On the use of COMSOL Multiphysics for seawater intrusion in fractured coastal aquifers
17:15-17:30	<i>Holly Michael</i> Effects of offshore pumping on groundwater resources in coastal aquifers
17:30-17:45	<i>Marco Dentz</i> Mixing, dispersion and reaction under transient flow conditions
17:45-18:15	Presenting SWIM 2022 candidate(s)

20:00	Conference dinner
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Friday, 22 June

09:00-10:30	Friday, 22 June, Session 12 - Case studies (2) Chair: Emilio Custodio
09:00-09:15	<i>Levi Eldad</i> Delineating the fresh/ saline groundwater interface in a subsea aquifer using Ex-Bz marine time domain
09:15-09:30	<i>Md. Mizanur Rahman Sarker</i> Salinity distribution in different coastal aquifers of southwest Bangladesh
09:30-09:45	<i>Floris Naus</i> Contemporary groundwater salinity in Southwestern Bangladesh as steered by hydrogeological conditions under palaeohydrological and contemporary settings
09:45-10:00	<i>Ángela María Blanco Coronas</i> Influence of the sea level oscillations on groundwater temperature and salinity in the coastal Motril-Salobreña Aquifer
10:00-10:15	<i>Tybaud Goyetche</i> Effects of a heavy rain event on the hydrodynamical and hydrogeochemical parameters in an alluvial coastal aquifer
10:15-10:30	<i>Sebastian Huizer</i> Impact of coastal forcing and groundwater recharge on the growth of a fresh groundwater lens in a mega-scale beach nourishment
10:30-11:00	Coffee break

11:00-12:30	Friday, 22 June, Session 13 - Hydrogeology of islands and atolls Chair: Georg Houben
11:00-11:30	Featured presentation: <i>Clifford Voss</i> Seawater flooding is becoming more frequent on low-elevation islands: Strategies to mitigate impacts on groundwater supply
11:30-11:45	<i>Chunhui Lu</i> Enhancing the freshwater lens volume of an island by reducing the hydraulic conductivity of the exterior region
11:45-12:00	<i>Tobias Holt</i> Evolution of a young freshwater lens on a currently developing barrier island, 'Ostplate', Spiekeroog
12:00-12:15	<i>Ferdinand Oberle</i> Atoll groundwater movement from rainfall to overwash
12:15-12:30	<i>Katsushi Shirahata</i> Tidal response method with simple decomposition techniques to determine hydraulic parameters of freshwater-lens aquifer
12:30-14:00	Lunch break



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14:00-15:15	Friday, 22 June, Session 14 - Coastal aquifer management (3) Chair: Wesley Danskin
14:00-14:15	<i>Alexander Vandenbohede</i> Towards a MAR system for sustainable drinking water production in the Flemish polders (Belgium)
14:15-14:30	<i>Lucas Borst</i> MAR with salinization through the back door
14:30-14:45	<i>Marc Walther</i> Is sea water intrusion by groundwater over-abstraction even worse than what we expected? - Part 2: Understanding parameter sensitivity in field-scale
14:45-15:00	<i>Niels Hartog</i> Enabling the reuse of industrial wastewater to meet intense freshwater demands by greenhouse agriculture using Aquifer Storage and Recovery (ASR)
15:00-15:15	<i>Denis Neyens</i> Monitoring the groundwater quality/quantity from your desktop – application to salt water intrusion monitoring EMI: Environmental data Management Interface
15:15-15:30	<i>Bill Hu</i> Modeling seawater intrusion to coastal aquifers in south coast of Laizhou Bay, China
15:30-16:00	Announcing SWIM 2020 Conference closing
16:00-16:30	Farewell coffee