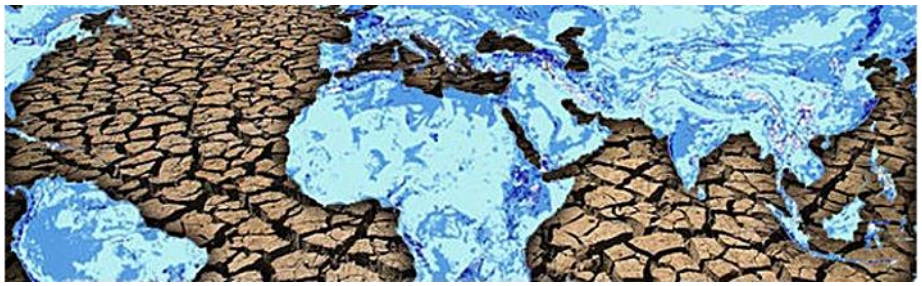
Commission for Water Sustainability



MEMBER PROFILE

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Study areas

Countries / Regions	Germany, South Africa, Australia, Namibia / Halle (Saale), Wismut region (East-Thuringia), Witwatersrand Basin (Far West Rand, Central Rand), Rössing U-mine (Swakopmund), Alligator Rivers Region (Ranger U-mine), Saal eRiver (Germany), Culmitzschaue (Seelingenstaedt), Wonderfonteinspruit (Far West Rand)

Topics of last three projects

1	Underground Pumped Hydro Energy Storage in abandoned deep level mine shafts in South Africa.
2	Assessing disease burden in residents living near uraniferous tailings dams in gold mining areas of the Witwatersrand's goldfields.
3	Link between naturally U-polluted groundwater and leukaemia in an arid farming area in South Africa.

Topics of last 10 publications		**Publication links**
1	Storing energy in disused mines: comparing technical and economic feasibility of water- and compressed air-based mechanical storage technologies.	
2	Uranium from Africa – an overview on past and current mining activities: re-appraising associated risks and chances in a global context. Journal for African Earth Sciences.	DOI: 10.1016/j.jafrearsci.2016.12.004
3	Uranium contaminated drinking water linked to leukaemia – revisiting a case study from an arid sheep farming area in South Africa. Science of the Total Environment, 574, 400-421, September.	DOI: 10.1016/j.scitotenv.2016.09.035
4	Exploring the use of deep level gold mines in South Africa for underground pumped storage schemes. Renewable and Sustainable Energy Reviews.	
5	Uranium pollution in South Africa: past research and future needs. Croation Geographical Bulletin (Hrvatski Geografski Glasnik), 77/2, 33–53.	
6	Unearthing a hidden treasure: 60 years of karst research in the Far West Rand. South African Journal of Science, 111 (5/6), pp. 7.	http://dx.doi.org/1017159/saja.2015/20140144
7	Assessing risks associated with the flooding of mine voids on underground infrastructure and water resources in and around Johannesburg (South Africa). In: Merkel BJ, Arab A (eds.): Uranium – past and future challenges.	
8	Virtual Geographical Environments (VGE) as A tool to map hu-man exposure to mining-related radionuclides. In: Merkel BJ, Arab A (eds.): Uranium – past and future challenges. Proceedings of the 7th International Conference on Uranium Mining and Hydrogeology.	
9	Health effects in populations living around the uraniferous gold mine tailings in South Africa: gaps and opportunities for research. Cancer Epidemiology, 38, 628-632.	
10	Determining hydraulic parameters of a karst aquifer using unique historical data from large-scale dewatering by deep level mining – a case study from South Africa. Water SA, 40 (3), 1-15.	

Research interests in water

Climate & Water	Water in arid areas	Arctic water	Water cycle	Atmospheric water	Glaciers & Cryosphere					
Hydrological extreme events	Floods	Droughts	Ice phenomena							
Water flow	Catchment processes	Run-off generation	Groundwater-Surface water interactions	Hyporheic processes	Interstitial water	Porewater	Alluvial water			
Surface water	Limnology	Fluvial dynamics	Continental scale processes	Dams / Reservoirs	Sediments	Rivers	Floodplains			
Ground water	Soil water	Karst water	Hydrogeology	Recharge						
Marine Environment	Coastal waters	Estuarian waters								
Aquatic habitats/ Ecosystems	Wetlands	Lakes	Peatlands	Rivers						
Water availability	Water utility	Water storage	Dams / Reservoirs	Water scarcity	Supply & Distribution	Water allocation	Water restrictions			
Modelling and GIS	Hydro GIS	Groundwater modelling	Surface water modelling	Remote sensing						
Water quality	Pollution	Purification	Hydrochemistry	Treatment	Desalination	Waste water	Sewage			
Water & Health	Water & Sanitation	Water & Food	Waterborne diseases	Drinking water	Water purification					
Water & Energy	Water-Energy nexus	Water for energy	Energy for water	Water, Food & Energy						
Water management/ policy	Integrated Catchment management	Integrated water resource management	Water loss	Reticulation & Supply	Transboundary water					
Water use	Urban	Agricultural	Mine water	Industrial	Grey water	Green water	Blue water	Return water	Water sustainability	Competing water use
Water Law & Economics	Water trade	Virtual water	Privatisation	Water as public good	Right to water	Bills & Laws	Affordability			
Socio-political aspects	Water history	Water wars	Water & Poverty	Access to water						