



THE GROUND WATER DIVISION
SPECIALIST DIVISION OF THE
GEOLOGICAL SOCIETY OF SOUTH AFRICA



QUALITY | SUPPLY | MANAGEMENT | SUSTAINABILITY

Professionals for the responsible management and development of groundwater

The Ground Water Division aims to serve the groundwater community in southern Africa, for the advancement of the science and technology of groundwater, and to promote the efficient use of groundwater and professionalism throughout the groundwater industry.

Annual Report to the GSSA 2017/18

from Period May 2017 to May 2018

Message from the 2018/19 GWD Executive Committee

Groundwater has been placed under the spotlight recently with the drought causing many to become interested in groundwater as possible alternative. This has not always been positive for the profession, given that individuals are increasingly falling victim to unscientific methods and fear mongering in the social and mass media domains. Nonetheless, this is an excellent time to accentuate hydrogeology as a profession and to inform about the special skill set of the scientific profession.

With 2018 already well under way, the GWD has been very active throughout its regions. We are happy with the decision to host the 2019 biennial Conference and Exhibition in the Eastern Cape, especially following a very successful 2017 event in Cape Town. We are building stronger relationships with other associations and societies, and we are putting in more effort to be visible in the branches.

We thank you for your continued support and look forward to the next year.

GWD CHAIR 2018/19

EXECUTIVE COMMITTEE

In 2017, the Ground Water Division Constitution was updated to reflect the new composition of the Executive Committee. National Office will comprise an elected National Chairperson and three additional members that received the highest votes nationally. These elected individuals will divide responsibilities of vice chair, treasurer and secretary internally.

The Executive Committee will, in addition, incorporate the six elected branch chairs.

The duties of the Executive Committee are to manage the affairs of the Division in the interest of the Members of the Division and in accordance with its own Constitution and Rules and the Constitution and Bylaws of the Geological Society of South Africa. The Executive Committee serve for one term (2 years) and can be re-elected limited to one consecutive term only.

Elected Executive Committee Members 2018/2019:

At the 2017 Annual General Meeting in September, the elected Executive Committee for term 2018/19 was announced:

Dr. Matthys Dippenaar (University of Pretoria) - *National Chairperson. Dr. Dippenaar was re-elected as National Chairperson for a second term.*

Mrs. Nicolette Vermaak (Department Water and Sanitation, Belville) – *National Vice-Chair*

Mr. Yazeed van Wyk (Water Research Commission) - *National Treasurer*

Mr. Sakhile Mndaweni (Department Water and Sanitation, Pretoria – *National Secretariat*

Mrs. Elanda Schaffner – *Appointed Service Provider, National Coordinator*

Branch Representatives on the Executive Committee:

Central Branch Chair: *Mr. Gawie van Dyk (Department Water and Sanitation)*

Eastern Cape Branch Chair: *Mr. Gert Nel (AGES)*

Gauteng Branch Chair (est. 2017): *Ms. Nelda Breedt (Aquatico)*

KwaZulu-Natal Branch Chair (est. 2016):

Mr Mark Schapers (JG Afrika) - Mr Schapers was re-elected as KwaZulu-Natal Chairperson for a second term.

Limpopo Branch Chair:

Mr. Duncan Munyai (Private Consultant) - Mr Munyai was re-elected as Limpopo Chairperson for a second term.

Western Cape Branch Chair:

Dr. Jaco Nel (University of the Western Cape)

The International Association of Hydrogeologists (IAH) South Africa National Chapter Chair is as from 2017 a permanent co-opted member to the GWD Executive Committee as minuted and accepted at the 2017 GWD AGM: Mr Julian Conrad (GEOSS)

The IAH is the 'International link' not only to worldwide events but also to international working groups.

As one of the international legs of the IAH, the ECHN (Early Career Hydrogeologists' Network) aims to support hydrogeologists at the start of their professional careers and to promote their involvement in all IAH affairs. Jared van Rooyen from Stellenbosch University will champion this with early-career GWD members. Membership will be optional.

MEMBERSHIP

The Division strategically focuses on **individual** membership. The current GWD membership Categories are Honorary -, Professional -, Ordinary -and Student membership:

HONORARY MEMBERS are individuals whom the Division, through the Executive Committee, desires to honour for outstanding service in the field of ground water. The Division also confer Honorary Life Membership on these members for their meritorious and outstanding service and dedication to furthering the science and technology of ground water.

With the devastating loss of six of the Division's honorary members in the last decade, with the most recent passing early in 2018 of both Mr. Ernst Bertram and Mr. Philip Hobbs, the Division not only realises what a wealth of knowledge these individuals contributed to the sector, but also that our members are valued colleagues and loved friends and forms deep connections where each plays a part in the strength of the Sector.

It is with great sadness that we take a moment to remember our late but certainly not forgotten Honorary Members:

- Dr Thomas Steyn Kok (1919 – 2013)
- Prof Gerrit van Tonder (1953 -2014)
- Mr Johannes Roelf Vegter (1925 – 2016)
- Mr Siep Talma (1944 - 2016)
- Dr Johan van der Merwe (2017)

IN MEMORY OF ERNST BERTRAM

Mr Wilhelm Ernst Bertram (1951 – 2018)



Ernst had many interests, but the love for his Creator, his family, and everything groundwater took precedence in his life. He shared his love and compassion for people (an avid Gidion) as eagerly, continuously and selflessly as he did his geohydrological knowledge.

His passion for groundwater was unwavering and he had been promoting the importance of groundwater and the development of groundwater and its wise use as a science

within the Department Water Affairs (now Department Water and Sanitation) and also within the broader groundwater community, since 1973. He had been key in ensuring that groundwater is considered a reliable resource through his involvement in not only developing the National Groundwater Information System (NGIS) (a portfolio of projects designed to meet increasing demands for groundwater information in a rapidly changing water business environment) but also developing the concept of groundwater master plans that was embraced and rolled-out nationally. Always willing to share his knowledge, Ernst was well known and highly respected as mentor to young geohydrologists. He conceptualized many training initiatives through the DWS Training Academy and was always prepared to facilitate and assist in sector courses at the GWD or IGS. Condolences to his family (Mariane, children and grandchildren) was overwhelming and it was clear that Ernst touched so many people's lives, even on his last day in hospital. He is greatly missed by all.

IN MEMORY OF PHIL HOBBS

Mr Philip Hobbs (1954 – 2018)

At his Memorial Service held at Pheasant Hill in Pretoria on 2 May,



it was as if Phil was smiling down from the surrounding trees where a number of birds gathered. There was a light breeze and the sun made its appearance after an unexpected shower on the way over. Very apt. Phil was a man of nature. He had a deep connection with the earth and as a born scientist, he understood

and appreciated the complexity and perfection to be found in his natural surroundings, in rocks, in groundwater systems.

Not a man of many words but when Phil spoke, people listened, and when and what he 'did', people strived to learn from and

emulate. He was a professional perfectionist in that he accepted no compromise in quality or on delivery.

Phil's career at the Council for Scientific and Industrial Research (CSIR), Natural Resources and the Environment Research Area has many highlights. Dr Harrison Pienaar, his Group manager, offered deep insights into this exceptional man that researched and became a published expert, keeping his finger on the pulse of topical groundwater issues such as Acid Mine Drainage (AMD), Shale Gas development, Surface –and-groundwater interaction, mining impacts on the environment, transboundary aquifers, to name but a few of the 19 research items posted on his profile together with 176 citations by his professional peer group. And that is only recorded statistics! His family shared his enjoyment of new environments to explore, his free spirit and the special twinkle in his eye for the past year or two, his granddaughter.

Phil left such deep impressions in the sector that cannot possibly be given its due in a short paragraph.

He is greatly missed by all.

The Division also wish to make a special mention of its current 8 honorary members:

Prof Jopie Botha (Central), Prof Eberhard Braune (GAU), Prof Frank Hodgson (Central), Dr Kym L Morton (GAU), Dr Gideon Tredoux (CTN), Prof Balt Verhagen (GAU)

In 2017, at the immediate past GWD Conference in Stellenbosch, *Dr Shafick Adams* and *Mrs Isa Thompson* were both meritoriously awarded with the GWD Achievement Medal.



PROFESSIONAL MEMBERS are members who specialize and practice in groundwater specific fields, have a recognised qualification and are professionally registered with SACNASP. They may be officials of various state departments, academics, consultants or any other individual, but are required to be (a) registered with SACNASP and (b) subscribe to both the SACNASP and GSSA Code of Conduct.

By law, SACNASP membership is required to practice in a particular field of natural science. As from 2017, all registered

SACNASP members in Earth Science, Geological Science and Water Resources Science (the fields groundwater practitioners can currently register under), will require Continuing Professional Development credits to enable renewal of SACNASP membership. Professionals need to accumulate 25 credits per five-year cycle (3 credits annually where 1 credit is 10 hours = 30 hours p/annum). These CPD's can be issued by **educational institutes**, training providers and/ or **voluntary natural scientific associations**.

The GWD, within the ambit of the Geological Society of South Africa voluntary organisation status, is now formally recognised and registered by SACNASP to evaluate and award CPD accreditation in all groundwater related applications. To date a number of activities had been CPD accredited and the process are now streamlined.

The Division has a total of 205 Professional Members registered of which **106 are paid-up active 2018 members**.

The following SACNASP Field of Practices (FoPs) are represented with the majority of members registered for one FoP, with some up to 3 FoPs.

Earth Science	59
Environmental Science	2
Geological Sciences	18
Water Resources Sciences	20
Other: Aquatic Sciences, Chemical	2

The GWD also envisions that with the launch of its new website also a GWD professional yellow pages, listing its professionals available to consult in the areas of:

Geographical Information Systems, Geochemical Modelling, Numerical Groundwater Flow and Transport Modelling, Ground Geophysics, Unsaturated Flow Hydraulics, Oil and Gas (hydrocarbon assessment), Remediation, management and monitoring of contaminated sites / land, Groundwater Quality Monitoring and Assessment, Surface- and Groundwater Interaction/modelling, Groundwater Impact/Resource Assessment, Groundwater Reserve Determination, Groundwater Resource Quality Objectives, Seepage Modelling, Groundwater exploration and development, Aquifer recharge, Tailing Dam Hydrogeology and Geochemistry, Groundwater Governance and Management

To some sublevel, also available: Drilling, Pumping (and falling/rising head) Tests, Water reticulation and piping, Down the hole geophysics, Camera logging, Scaling and corrosivity assessment of water.

ORDINARY MEMBERS are members of the Division who are not SACNASP registered professionals in the groundwater field but have an interest, directly or indirectly, in all matters groundwater. This category includes hydrogeologists not (yet) registered with SACNASP. Ordinary members subscribe to the GSSA Code of Conduct.

The Division has a total of 361 Ordinary Members registered of which **53 are paid-up active 2018 members**. Ordinary membership peaks in a Conference year. The GWD strives to offer continuous benefits for Ordinary membership in non-Conference years by exposure to regular sector event and sector related communications.

STUDENT MEMBERS shall be bona fide students who are registered at a recognised institution for higher education, are studying groundwater and who are under the age of 26. These members may be required to assist in the running of national and regional GWD conferences, seminars or courses. Student members subscribe to the GSSA Code of Conduct.

The Division has a total of 284 Student Members registered. Currently the Division is in the process of auditing its student membership as a number of individuals graduated and therefore not eligible for student membership. New information for these students are obtained and upgrades to Ordinary membership is pending. Students that are confirmed are sent a membership invoice.

BRANCHES

Membership /Branches	Central	Ecape	Gauteng	KZN	Limpopo	WCape	Total GWD
Total GWD DB	97	85	451	31	25	175	864
Professional	10	8	52	11	3	22	106
Orinary	8	9	20	4	1	11	53
Student	0	0	0	0	0	2	2
Honorary	2	0	5	0	0	1	8
May-18	20	17	77	15	4	36	169

Update from the Branches

The Central Branch of Ground Water Division incorporates members from the Free State, Northern Cape and North West Provinces.

From the Branch members the following members volunteered to serve on the GWD Central Branch Committee: Danita Hohne, Ferdi Goussard (Communication); Jan Makhetha, Gawie van Dyk (Technology); Eelco Lukas, Amy Allwright (Events). Due to

distances and work commitments the branch would only plan one event for attendance in October 2017 in Bloemfontein in an attempt to get attendance from as many members as possible. The planned event would focus on a few presentations with local groundwater content followed with social interaction and mobilisation for the 2019 GWD conference in Port Elizabeth.

The Eastern Cape Branch of the Ground Water Division incorporates members from the Eastern Cape.

This branch will have its first branch meeting for 2018 on 31 May 2018 in East London. Currently the perception is still one of skepticism about the control over groundwater development and management in the Eastern Cape. Despite goodwill from everyone involved in groundwater projects, there is no allocation of funding for groundwater management and monitoring, or the allocations are not seen through. We are also facing challenges over water use license applications as these are also not properly coordinated, making the life of the Department of Water and Sanitation and us consultants difficult. *This branch was elected to host the 2019 Groundwater Conference and Exhibition in Port Elizabeth.*

The Gauteng Branch of the Ground Water Division incorporates members from Gauteng and Mpumalanga.

This branch, under leadership of Ms Nelda Breedt, was the host of the annual groundwater field schools of 2017 and 2018.

The KwaZulu-Natal Branch of the Ground Water Division incorporates members from this region.

KwaZulu-Natal branch, under leadership of Mr Mark Schapers, had involvement in and supported a number of initiatives that received much press in local media:

Coverage of Vazi Wetland in KZN (supporting the KZN wetlands forum in devising solutions for endangered wetlands <http://bwa.co.za/the-borehole-water-journal/2018/3/12/jg-afrika-supports-kzn-wetlands-forum-in-devising-a-solution-for-endangered-wetlands>)

Mark also shared membership’s concerns as a ‘red light for declining groundwater levels in N Zululand’ where over-extraction of and drought impact on one of KZN’s most prolific aquifers has resulted in a more than 14m water-level drop!

The Limpopo Branch of the Ground Water Division, through continuous marketing efforts, endeavor to grow their membership in this Polokwane-based branch.

The Western Cape Branch incorporates members from this region.

So what is happening on the groundwater scene in the Western Cape?

By Marlese Nel



Abstracting groundwater in bigger volumes means that the City can deliver more water at a lower cost for the benefit of all residents of Cape Town. (Danita Hohne/M&G)

The current drought situation in the Cape Town and broader Western Cape areas leaves National- and Local Government no option but to invest in alternative water supply sources. Therefore, the City is planning to abstract 80 million m³ from the Cape Flats aquifer, 30 million m³ from the Atlantis aquifer and 40 million m³ from the TMG aquifer before the end of this year.

The Western Cape Government (through the Department of Transport and Public Works (DTPW)) has put plans in place to ensure that essential facilities continue to function in the event that municipal water becomes severely constrained. The first priority for the Western Cape Government is to make the hospitals water secure and a programme of drilling boreholes at the facilities has already started to augment municipal water supply. The drilling programme is followed by pumping tests to properly assess the performance of a borehole, the borehole yield, the zone of influence of the borehole and to determine the aquifer characteristics. The water supplied by the boreholes is seamlessly integrated into the existing water supply of the hospitals, including Grootte Schuur- and Tygerberg Hospital.

The Premier of the Western Cape, Me. Helen Zille, has also initiated a project to ensure that schools have access to alternative water resources and are not crippled by the likely arrival of Day Zero. Approximately one third of schools in the province already have an existing borehole.

Various private hydrogeological consultants, drillers and academics are involved in these (almost) orchestrated efforts. On the ground, experts and field personnel are collaborating and extending support to each other. Still, these groundwater resource development efforts are a reaction to the water crisis, and not an implementation of previously recommended plans to augment the city's water supply with groundwater.

In general, the need to become less reliant on National Government for water supply seems to be increasing exponentially. Current groundwater exploration indicates that large industries, factories, businesses, farmers as well as the individual house owner are actively investigating and developing groundwater resources to meet their water demand.

Nice surprises and discoveries along the groundwater flow paths...

The groundwater science continues to amaze and surprise even its practitioners. These are some of the encounters reported by local (some grey) hydrogeologists and also curious bystanders in the last few months:

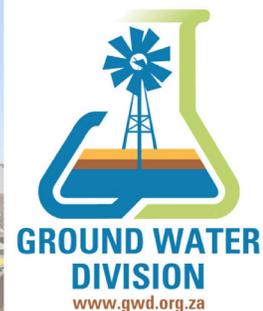
- The Malmesbury Group within the TMG is an excellent aquifer (once you drill it properly!) and even more surprising is the good water quality associated with it.
- It is possible for a local Municipality, Water User Association, business or factory to become solely dependent on groundwater for water supply.

Groundwater development is happening at an incredible (somewhat alarming) rate in the Western Cape. This is however an excellent opportunity to develop a good, well-referenced hydrogeological database for the province. With the cooperation of the different groundwater users, it can be a remarkable display of sound groundwater monitoring and – management that will lead us well into a water-secure future.

ACTIVITIES FOR THE YEAR

07-09 June 2017 – GWD Field School, Gauteng HPC

GWD CPD EVENT



The main objective of this 3-day short course, attended by 35 delegates with representation from across the sector, (including delegates from Botswana), was to teach participants the basic theory of groundwater in an easy and understandable way with emphasis on practical hands-on-experience.

Dr Matthys Dippenaar (UP), Dr Roger Diamond (UP), Prof Kai Witthüser (Delta-h Consulting) and Dr Henk Coetzee (Council for Geoscience) led the presentations with the focus on:

- Linkage of the general geology of SA to groundwater occurrences (borehole yields, rainfall/recharge, aquifer parameters, fractures/faults, groundwater flow and other general characteristics)
- ABC of groundwater hydraulics including testing and interpreting testing results
- Practicals: Geophysics; slug test, pumping test and unsaturated testing
- Groundwater Supply (Urban, well-fields and remote water supplies, monitoring and management of water supply)
- Groundwater Data (QA/QC, Protocols and Reliability; Inferring change on the Groundwater model)
- Geochemistry (principles of, contaminant hydrology and transport)
- Miscible/ Immiscible contaminants (sources & transport; mitigation and remediation)

19 July 2017 – GWD Open Lecture, Western Cape

This lecture was hosted at the UWC and delegates enjoyed the opportunity to Network after the talks by:

Dr Jaco Nel – UWC – Modelling groundwater flow into tunnels; and new developments in the modelling world

Dr Chris Hartnady – Umvoto Africa – Management of the Cape Flats aquifer

07 September 2017 - GWD Seminar: Ah-ha moments of hydrogeologists, Western Cape

*Those magical groundwater “Aha! Moments”...
By Marlese Nel*

Every hydrogeologist has at least one of those. That moment when something just “clicks”, start to makes sense, or falls in place.

On 7 September 2017 the University of the Western Cape hosted a seminar by the Western Cape branch of the Groundwater Division. The seminar was structured different than usual; where 2 to 3 presenters would share some results of their research. We had no less than 9 speakers, but still would have loved to squeeze in some more. Each of the presentations lasted only 3-5 minutes each, but that was not because we were in a rush due to planned power failures, this was simply an extraordinary, super fun seminar.

The theme of the seminar was “My key groundwater lesson” or “My Aha! Moment” and delivered some truly entertaining presentations. No, not one presenter shared embarrassing moments or enough material to use as future blackmail, but we

did get quite a different insight into the lives and experiences of our fellow hydrogeologists. In the spirit of the theme, the presenters were mostly members of our more “esteemed” hydrogeologists; those names you repeatedly see in reference lists and on international conference speaker lists.

Julian Conrad: Drilling in a primary aquifer – easy . . . definitely not . . . Lamberts Bay water supply

Julian Conrad from GEOSS explained how a primary aquifer in the west Coast got the better of him. His key groundwater lesson: don’t assume that a primary aquifer is an “easy” target.

John Weaver: Low pH, copper and a winery

John Weaver explained why it is important to be vigilant and creative when trying to solve groundwater problems. A copper precipitation in the tanks of a winery proved to be linked simply to pH and the copper fittings in the infrastructure. This “Aha! Moment” was solved by a combination of creative thinking and sipping on tea in order to bring tannins, low pH and copper together.

Dr Ricky Murray – Groundwater and drought in Windhoek

Dr Murray had so much to share, he hijacked a second spot in the line-up to talk about the success and lessons of the groundwater supply scheme to Windhoek during their drought. And the bottom-line? It IS possible to provide emergency groundwater supply; and a LOT of it as well!

Dr Ricky Murray: Getting the yield right

Believe it or not, even the Groundwater Greats sometimes have their doubts. Dr Ricky Murray admitted to having trouble to interpret pumping test data properly and making the right decisions for aquifer yield recommendation. His key lesson: don’t just believe what the data interpretation software tells you; add some logic thinking to it!

Dr Gideon Tredoux – Honorary member - Natural denitrification in the Stampriet Artesian Basin

Is natural denitrification really possible? Yes indeed, Dr Gideon Tredoux explained, he even had the data to prove it. In the Stampriet artesian basin this phenomena baffled Dr Tredoux only for a short while, but his “Aha! Moment” again showed that common sense, creative thinking and good data will solve the problem.

Dr Roger Parsons – Communication – an essential ingredient of good science

While on the topic of talking and sharing, Dr Roger Parsons shared with us an essential ingredient of good science: communication. Even though that sounds easy enough, the way in which we particularly present data and results to non-hydrogeologists (public, politicians and students). For example,

when you consider a pumping test graph analysis, what goes up, actually goes down!

Prof. Frank Hodgson – Honorary member – New technologies and what they make possible – a perspective that started in 1973

A talk by the legendary Prof Frank Hodgson was definitely one of the highlights. His talk, “New technologies and what they make possible – a perspective from 1973 until now”, made the audience think about current technology and how we might take it for granted. It is hard to imagine that he was already a hydrogeologist when there was no such thing as a computer! He reflected on his journey and shared various “Aha! Moments” that only shows exactly why he is considered as a true Groundwater Great in South Africa.

Dr Jaco Nel – Getting groundwater models right

Getting groundwater models right is quite a challenge. Dr Jaco Nel shared some of the “Aha! Moments” he experienced with a specific model he had to construct. Aply, he refer to them as “Sweet Aha! Moments”, given that one complicated model can really add some grey hair to your attire!

Neville Paxton and Candice Lasher-Scheepers

Being wooed by the Groundwater Greats, we also threw some Young Greats to the brew. Neville Paxton from GEOSS already learned the key lesson of the value of conceptual models. He even included his hand-drawn picture of a conceptual model that secured some of his first “Aha! Moments” in his career. Another Young Great, Candice Lasher-Scheepers, explained how she was thrown into the deep end at DWS in the Eastern Cape and had to think on her feet. Her biggest “Aha! Moment” came when she realised the reason she could not make any sense of the groundwater quality data, as sampled by the DWS in the region. That reason? Sampling procedure!

Attendees agreed: this was probably the most fun session they attended this year. But not only did they have fun, they also learned some valuable key lessons from their fellow hydrogeologists. We are looking forward to not only share our research findings with each other, but also those “Aha! Moments” that acknowledges our quest for groundwater solutions.

15 October 2017, SACNASP Session with membership

On Sunday, 15 October, as a special session organised pre-Conference, Mr Ed Swindell (Current President, VP Professional Affairs) presented on “Professionalism in SA, The Role of the GSSA” and had Ms Desire Fischer from SACNAP on hand to also contribute and field some questions from the members in

attendance. This session was attended by approximately 50 professionals that found much value in the points of discussion:

- Breakdown of the GSSA structure and portfolios
- SACNASP registration requirements
- An International View
- Basic Duties of a Professional
- Code of Ethics (GSSA) and Code of Conduct (SACNASP): Its similar concepts where a Code of Ethics is a guide to Conduct
- Code of Practice: Specific to a practice or competence
- Complaints and Disciplinary Procedure
 - o Complaints Committee
 - o Ethics Committee
- Continuous Professional Development
- Risk Management / Roles of Codes and Standards
- Risk Mitigation

14-18 October 2017, Groundwater Conference

GWD CPD EVENT



The 15th Groundwater Division of the Geological Society of South Africa Conference and Exhibition took place in at the Spier Hotel and Conference Centre in Stellenbosch, South Africa, in October 2017. This event was organised by the GWD Western Cape branch under the Chairmanship of Dr Roger Parsons. This CPD accredited Conference was attended by 264 delegates of which 112 was GWD members, 48 non-members and 60 students. There were also a number of day delegates that joined in specific days.



A sure highlight was the welcome address by the Premier of the Western Cape, Ms Helen Zille.

The GWD 2017 was very fortunate that Prof John Cherry Distinguished Professor Emeritus at the University of Waterloo in Ontario Canada accepted the invitation to address the conference. He was joined by Prof Misstear, An Associate Professor and a Fellow of Trinity College, Dublin; Prof Stotler an Assistant Professor in the Geology Department, University of Kansas and Prof Keith Fifield, Emeritus Professor at the Research School of Physics and Engineering, Australian National University.



162 Full paper presentations supported the three day programme made up of plenary sessions at the start of each day followed by three parallel sessions. 42 Posters remained up for the duration of the conference and 11 in-door Exhibition booths, 1 outdoor exhibitor and 8 displays, was on offer.



Delegates thoroughly enjoyed the 3 Social Functions (Meet and Greet, Conference Dinner and Burger and Blending evening) that entertained and 3 midweek excursions were on offer: Atlantis

Artificial Recharge Scheme, Franschoek Bottled Water Plant, Berg River and Wemmershoek Dams Tour as well as a tour of the Newlands brewery.



Photos by N Vernack & B Dyonson

A special acknowledgement to the Conference Sponsors:
WRC - Gold Sponsor and supplier of the Conference Memory Sticks
SADC-GMI - Gold Sponsor and financial support for students to attend the conference
Jones and Wagener – Silver Sponsor of the Abstract Book
UIS – Bronze Sponsor of the Name Badges
JMA – Silver Sponsor of the Poster Venue
WTPI – Silver Sponsor of the Burger and Blending Function
Other Gold: NRF
Other Silver: EDRS, IAH2000, JMA, UMVOTO
Other Bronze: Delta-H, GEOSS, Kimopax, UIS, GSSA Western Cape

16 October 2017, Ground Water Division AGM

The GWD AGM was attended by approximately 100 members and prospective members where the proceedings started by calling for a minute of silence in honour of the memory of Mr Siep Talma, an Honorary member of the Division, that passed away in November 2016.

Dr Dippenaar reiterated that issues around a Separate Field of Practice and Dispute resolution will be addressed and stressed again that compliance with SACNSP (Code of Conduct) and GSSA (Code of Ethics) is not optional. You will have to be a PrSciNat to be able to practice in any field. In order for the GWD to take ownership of the groundwater profession – and to be taken seriously – a Code of Practice defining groundwater competence must be presented. A Working Group was established and will now focus on formalising a document: It is envisioned as a 1-pager on CONDUCT and a 1-pager on BEST PRACTICE.

A quorum decision at this meeting, increased GWD membership to R350 per annum. (It was unchanged at R250 for the last 3 years and membership voted unanimously for the increase.)

The full Proceedings of this event is available on the GWD website.

07-10 November 2017 - Darcy Lecture Series

GWD CPD EVENT

07 November 2017, UP, Gauteng
09 November 2017, UFS, Free State
10 Nov 2017, UWC, Cape Town

Kamini Singha, Ph.D., the 2017 Darcy Lecturer and a professor in the Department of Geology and Geological Engineering and the associate director of the Hydrologic Science and Engineering Program at the Colorado School of Mines visited South Africa in November 2017. She worked at the U.S. Geological Survey Branch of Geophysics from 1997 to 2000, and was a member of the faculty at The Pennsylvania State University from 2005 to 2012. She earned her B.S. in geophysics from the University of Connecticut in 1999 and her Ph.D. in hydrogeology from Stanford University in 2005. Singha presented on:

“A Tale of Two Porosities: Exploring Why Contaminant Transport Doesn’t Always Behave the Way It Should” explores the long-term goals of work being conducted that aims to contribute toward improving the predictive capabilities of numerical models and enhancing the fidelity of long-term groundwater monitoring frameworks.

A total of 63 delegates across the different venues, attended this event.

07-09 March 2018, GWD Field School, Gauteng HPC

GWD CPD EVENT



Groundwater Field School
Pretoria March 2018
Wed 7 to Fri 9 March 2018

Day 1: Groundwater Hydrology, Exploration and Management
Day 2: Field Hydraulic Testing and Interpretation
Day 3: Geochemistry and Contaminant Transport

High Performance Center (hpc) Auditorium, University of Pretoria
Book through info@gwd.org.za (R 6 000.00 pp excl VAT)

QUALITY SUPPLY MANAGEMENT SUSTAINABILITY

This three day event was attended by 27 delegates with representation from companies across the sector: Philo Environmental Management, Anglo American Inyosi Coal: Zibulo Colliery, DWS (only one delegate from the 8 registered could attend due to process restrictions), Geo Pollution Technologies, Piteau Associates, Letsolo Water and Environmental Services Cc, Focus Project Management, SRK Consulting, University of Pretoria, Golder Associates Africa (Pty) Ltd, University of the Free State, Kimopax, ERM, USK Environmental & Waste Engineering and AGES.

The Programme focused on topical issues such as:
Groundwater Hydraulics, Competence, Legislation and Health & Safety; Groundwater Monitoring, Groundwater Sampling & Analysis; Groundwater Geophysics, Borehole Construction
Field Practical: Groundwater Sampling, Borehole Fluid Logging
Field Practical: Field mapping and hydraulic testing
Data upload to the NGA, Groundwater by-laws for Cemeteries
Field Practical: Forced gradient tracer test
Hydrochemistry, Geochemistry & Contaminant Transport
Environmental Isotope Hydrology; and Data

Presenters at this session were:
University of Pretoria: Dr Matthys Dippenaar; Dr Roger Diamond
Groundwater Consulting Services (GCS Pty Ltd): Mr Erick Dorfling; Mr Jacques Harris
Aquatico: Mr Paul Naudé; Mr Ryno Erdmann; Ms Nelda Breedt
Council for Geoscience: Mr Emmanuel Sakala
GPT Global: Mr Altus Huisamen



May 2018, Cemeteries Roadshow 'Environmental Risk Assessment, Monitoring and Management of Cemeteries Workshop
GWD CPD EVENT

09 May 2018, KZN in partnership with GAKZN
16 May 2018, GAU UP
29 May 2018, WCAPE UWC

Investigation for cemeteries has received very little attention. Risks are not negligible and may, in certain instances, be significant, affecting human and environmental health and safety. New findings were presented together with case studies to contribute to the risk assessment for new cemetery sites, and to the monitoring and management of existing cemeteries. The work forms part of a Water Research Commission project on the hydrological and geotechnical impacts of interments. This research outcome was presented by Dr Matthys Dippenaar (PhD PrSciNat) Engineering Geology & Hydrogeology, Geology Department, University of Pretoria

The talk covered topics such as: Risks posed by interment (burial) | Hydraulics, geotechnics and water quality considerations | Social considerations | New findings emanating from the completed project on risks posed by cemeteries | Contributions to the hydrogeological and engineering geological assessment for new sites | Additional and cross-disciplinary considerations for the investigation, monitoring and management of cemeteries | Case studies
This talk was well received and attended by approximately 96 delegates across the different venues. Dr Dippenaar also presented to Local Government at additional sessions in both Durban and Cape Town.

SPONSORSHIPS AND ENDORSEMENTS

The GWD sponsored the 14 student delegates to attend its 15th Biennial Groundwater Conference to be hosted in the Western Cape in 2017.
For the Dolomite Conference 2018: The GWD endorsed this event with a profit-sharing agreement between three professional societies and three academic programmes.

PLANNED ACTIVITIES

Dolomite: (dis)solution 2018
4-6 June, Sanlam Auditorium, University of Pretoria
Geotechnical Division of SAICE | Ground Water Division of GSSA

South African Institute of Engineering and Environmental Geologists | University of Pretoria
GWD/ ECSA CPD EVENT

Resilience to geological and hydrological hazards in dolomitic terrains is increasingly affected by climate change, rapid urbanisation and unforeseen implications of development during and after construction. The influences of the bedrock properties, karst development, hydrology and proposed development all affect the potential risk posed by the development. Dolomite and karst research has a long history with the University of Pretoria. Now, with the partnership of the relevant societies for geotechnical engineering, hydrogeology and engineering geology, new advances, technologies and techniques can be showcased to a wide range of interdisciplinary professionals working in dolomitic terrains.

Focusing on urban environments and anthropogenic change, the interrelationship between proper understanding of subsurface water, geotechnical properties and resultant behaviour, and mitigation and engineering solutions are highlighted.

Following on the 2014 dolomite seminar, this seminar highlights developments in the past years, new directions of thought, and a new paradigm for our ability to safely and optimally utilise both the dolomite land and dolomite water resources, while being able to mitigate risk, monitor change, and effect remediation diligently. With presentations focusing on building on the status quo, the seminar programme covers:

- Context, status-quo, risks and remediation of dolomitic land (Day 1)
- Legislation, governance and management, including the update of SANS 1936 (Day 1)
- Hydrogeological, engineering geological and geotechnical advances (Day 2)
- Field visits and karst dialogue (facilitated panel) (Day 3)

Queries: Yolande van den Berg, info@selahproductions.co.za

Honours Fieldschool 2018, Potchefstroom June 2018

Organised by Dr Ingrid Dennis (NWU) on behalf of the GWD

The GWD, as supported by the GWD AGM, will sponsor a Field School (approx. R50k p/annum) for nominated Honours Students across all the Universities in South Africa. The Universities collectively offer one week a year (where all the relevant academics become involved) for students to come together over the June break (timetable bound). The main costs will be mobilisation, camping and food.

Drought dialogue – planning in progress

Central Branch Membership Event, Bloemfontein October 2018

GWD Conference 2019

This event will be hosted in the Eastern Cape around the current working Theme: Water Conservation & Demand Management, the Key Challenge in South Africa”. The GWD look forward to formally announce the Conference Call later this year.

FINANCIAL SUMMARY

In 2014, the GWD centralised all its accounts into one National Account. This aid in the overall reporting function as well as ensure better application of available funds. Branches can access funds by submitting their claim and budget to the National Treasurer.

Annual Report Financial reporting (Jan 2018 - May 2018)		
	Rec	Paym
Opening balance Current Account Jan 2018	512964.62	
Opening Balance Investment Account Jan 2018	923288.37	
All Totals Exclude VAT		
Website /Email and IT	0	0
Bank charges	0	846.40
SP Retainer and % Coordination Fee		46,241.75
Events 2017 (Conference)	72,200.00	19,122.81
Events 2018 (Courses)	103,483.00	55,727.73
Meetings/ Travel Exco/ Refunds		7,078.02
SACNA SP CPD Fees		20,970.00
VAT to GSSA		38,476.32
Membership	54,972.44	1,433.86
Membership refunds (overpayments)		779.84
Transfer to other accounts (Investment)	300,000.00	300,000.00
	530,655.44	490,676.73
	39,978.72	
Closing balance Current Account May 2018	273,543.82	
Closing Balance Investment Account May 2018	1,231,814.82	

END