

## **Kim A.A. Hein, BSc.(Hons), PhD, FGSSA**

Kim has greater than 35 years of experience in the fields of minerals exploration and mining, research and development, management, and geoscience education in Africa & Australia. She has specialised in applied structural geology as relevant to mineral exploration and mining in Africa.

**Kim Hein** is a graduate of the University of Adelaide (Australia) with a Bachelor of Science (Hons) in Economic Geology and was the 1989 recipient of the Ralph Tate Medal for Geology, the 1989 Homestake Prize for Economic Geology. She gained a PhD from the University of Tasmania (Australia) in 1995.

Kim has held field, project, research and senior mine and exploration geology positions with WMC Resources Ltd, Zapopan NL and North Ltd in Australia and West Africa. In 2004 she accepted the *Chamber of Mines Chair and Professorship of Mining Geology* at the University of the Witwatersrand Johannesburg (WITS), and was appointed *Professional Professor* at WITS in 2012, and *Professor Emeritus* in 2018. She is the recipient of the WITS 2014 Vice-Chancellor's Transformation Individual Award.

In 2019, Kim was appointed *Adjunct Professor* at the University of Western Australia, and in 2020, *Visiting Scientist* at ESA-ITC at the University of Twente (Netherlands). Since 2018, she has been the *Owner and Director* of the geoscience consulting company *KA AH Geoservices* with a solid client-base across Africa.

Kim served on the Senior Executive Team in the prestigious AMIRA WAXI P934 project (West Africa Exploration Initiative) from 2006-2018. She was actively involved as the structural geology consultant for the Word Bank *Projet d'Appui au Développement du Secteur Minier (PADSEM)* for the *Ministère des Mines, des Carrières et de l'Énergie (MMCE)* du Burkina Faso in 2015-2018. She is a Fellow of the Geological Society of South Africa.



Kim Andrea Annafrida HEIN

# Resume

**Name:** HEIN, Kim Andrea Annafrida



**Profession:** **Director & Owner – KAAH Geoservices (Netherlands)**  
**Exploration & Mining Structural Geology Consultant**  
**Professor Emeritus**, University of the Witwatersrand Johannesburg  
**Adjunct Professor**, University of Western Australia (2019-current)  
**Visiting Scientist**, ITC Faculty Geo-Information Science and Earth Observation,  
University of Twente, Netherlands (2020-2022).

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**Nationalities:** Dutch (European) – passport number BGP711236  
South Africa ID – 5506280337180

**Vaccinations:** Yellow fever & fully Covid vaccinated

## Education:

1990-94 Doctor of Philosophy in Applied Structure and Economic Geology.  
CODES Key Centre, University of Tasmania, GPO Box 252-79, Hobart, Tasmania,

1989 Bachelor of Science (Honours) in Applied Economic Geology.  
University of Adelaide, South Australia, Australia.

1984-1988: Bachelor of Science, University of Adelaide, South Australia

## Key Qualifications:

- Applied Mining and Exploration Geosciences
- Structural geology and tectonics of Proterozoic and Archaean terrains.
- Field mapping techniques (geological, geomorphologic, bio-geographic)
- Ore deposit mapping and orebody modelling.
- Structural logging techniques for diamond drillcore
- West African tectonics
- Nubian Shield Tectonics
- Pilbara craton, Australia

## **Employment record:**

- July 2016 – current**      **Exploration & Mining Structural Geology Consultant**  
KAAH Geoservices, Netherlands 
- 2018 – current**      **Emeritus Professor** Chamber of Mines Chair and Professor of Mining Geology, Faculty of Geosciences, University of Witwatersrand, Johannesburg, South Africa. 
- 2025 - current**      Special Editor for the Journal of African Earth Sciences VSI on the 'Geology of Burkina Faso'.
- 2020 - 2022**      Visiting Scientist, ITC Faculty Geo-Information Science and Earth Observation, University of Twente, Netherlands
- 2020**      Seasonal Lecturer, Faculty of Geosciences, University of Witwatersrand, Johannesburg, South Africa.
- 2019 - current**      Adjunct Professor (University of Western Australia)
- Sept 2004- June 2018:**      **Chamber of Mines Chair and Professor of Mining Geology,**  
Faculty of Geosciences, University of Witwatersrand, Johannesburg, South Africa. 
- 2012- current**      Professional Professor Faculty of Geosciences, University of Witwatersrand, Johannesburg, South Africa.
- 2006**      Contract Lecturer – BHP Billiton Southern African Development Program
- June 2000-2004:**      **Post-Doctoral Fellow/Lecturer**, Faculty of Geosciences, University of Utrecht, Netherlands.
- May 99 to Feb 2000:**      **Consultant/Project Manager - Business Development and Innovation,**  
Novogenesis Pty Ltd, Queensland Technology Park, Brisbane, Australia.
- March 97-Feb 99:**      **Structural Geologist**, North Ltd, based in Brisbane (Australia), Ouagadougou (Burkina Faso) and Abidjan (Ivory Coast).
- Oct 96-March 97:**      **Senior Project Geologist**, WMC Resources Ltd, Kambalda, Western Australia.
- Feb 93-Oct 96:**      **Research Geologist**, after 1 year promoted to **Project Geologist** (Research), after 3 months promoted to **Senior Geologist**. WMC Resources Ltd, Kambalda, Western Australia.
- Jan 90-Oct 94:**      **Doctor of Philosophy**, Special Research Centre (CODES), Department of Earth Sciences, University of Tasmania, Australia.
- Dec 87-Jan 90:**      **Stable Isotope technician, Laboratory demonstrator, Tutor, Field supervisor, Palaeo-botanical lapidary technician, Field assistant;** based in the Department of Geology and Geophysics, University of Adelaide (UA), South Australia.
- Jan 80-Jan 83:**      **Process Worker**, in Adelaide, Australia
- Jan 79-March 79:**      **Receptionist**, for a Minister of Religion in Adelaide, Australia.

**Oct 74-Oct 78:**                    **Nurse**, at the Royal Adelaide Hospital, Adelaide, Australia.

### Languages:

Language	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Dutch	Good	Good	Good
French	Good	Good	Okay

### Leisure Interests:

- Entertaining friends and gardening are good relaxation mediums for me. #
- Hiking and bush walking are daily activities for me
- Spinning and Weaving (I currently volunteer at Het Weverhuisje in Almelo which is a historic weaving and spinning)

### Community

- Geology of the Melville Koppies, Johannesburg, South Africa (**2005- current**)
- **Trustee** of the MADE in Alexandra Trust (Making a Difference, Education in Alexandra Township) (**2004-2009**)
  - Raised ZAR 18K sponsorship from BHP Billiton
- Women in Mining Initiative (WIMSA).
- **Board Member** of the Maryvale Catholic College (**2010-2012**).
- **Fundraising Committee** of the Maryvale Catholic College (**2013-2016**); Project to build 6 classrooms, toilet block, chapel, Remedial care centre, sports facility and Aftercare centre; total project value ZAR 8.3 mill.
  - Raised ZAR 1 Mill from Misesan Cara, Ireland (2014)
  - Raised ZAR 3.8 Mill from Anglo American Chairman Funds (2014-2015)

### Teaching

- *On-line* Orebody Modelling (3rd year Mining Engineering) - Wits Uni, Blocks 3 & 4, Semester 2, 2020.
- Exploration and Mining Geosciences (3<sup>rd</sup> year EMG – Wits Uni, Block 2, Semester 1, 2013-2017; 2020.
- Orebody Modelling (3rd year Mining Engineering) - Wits Uni, Blocks 3 & 4, Semester 2, 2004-2017.
- Spectral Geology in Information Systems for Earth Sciences (3rd year ISES) - Wits Uni, Block 4, Semester 2, 2008-2017.
- Mining Methodology (Honours Geology) - Wits Uni, Semester 2, 2005-2013.
- Exploration Methodology (3rd year AES) - Wits Uni, Block 2, Semester 1, 2007-2012.
- Mine Geology & Methodology (3rd year AES) - Wits Uni, Block 2, Semester 1, 2005-2016.
- Ore Resources (3rd year Geology) - University of Utrecht, 2002-2004.
- Back to Basics: field mapping training to exploration geosciences, July 2011, Mali at the Sadiola Mine site (2.5 week in-field training course).
- Back to Basics: field mapping training to exploration geosciences, January 2012, Burkina Faso (1 week in-field training course).

- Back to Basics: field mapping training to brownfields and greenfields geologists, January 2012, Siguiri mine site, Guinea (1 week in-field training course).

### **Professional Accreditations or Memberships:**

- Fellow of the Geological Society of South Africa (2013-**current**).
- Member of the Geological Society of South Africa (2005-**current**).
- Associate Member of the South African Institute of Mining and Metallurgy (2006-2009).
- Member of Senate (2004-2018), University of the Witwatersrand Johannesburg, South Africa.
- Member of Transformation Forum (2007; 2014-2016), University of the Witwatersrand Johannesburg, South Africa.
- Member of Faculty of Science Appointments Committee (2006/7), University of the Witwatersrand Johannesburg, South Africa.
- Committee Member of TecTask (2014-2017), The International Union of Geological Sciences (IUGS) Task Group on Tectonics and Structural Geology.
- Member of Council Readmission Committee, University of Witwatersrand Johannesburg (2014).
- Member of the Science Faculty Promotion and Appointment Committee (2014).

### **Project Leadership:**

**2006-2008:** Developing a 3D model of the Witwatersrand Basin, **NRF THRIP**, ZAR 281,919 (~US\$ 38,600).

**2006:** South Deep core description, **Placer Dome Asia Pacific**, ZAR100K (~US\$ 13.6 K)

**2006-2008:** 1<sup>st</sup>-order scale structures and their temporal and spatial relationship with metallogenesis, Module 1.3, **Industry sponsors, AMIRA P934 West African Exploration Initiative**, Phase I (USD 70K).

**2009-2013:** Tectonics of 1<sup>st</sup>-order scale structures and their temporal and spatial relationship with metallogenesis, Module 1.3, **Industry Sponsors, AMIRA P934 West African Exploration Initiative** Phase 2, (USD 178,560).

**2010-2013:** Application of 3D seismic analysis techniques to evaluate ore resources on Kloof, South Deeps and Driefontein gold mines, Witwatersrand Basin, South Africa. Sponsors: **Gold Fields Mining and in-kind sponsorship by Schlumberger**, USD 40K.

**2011-2013:** Volcanology and metallogenic potential of the Bouroum, Yalgo, Goren and northern Boromo greenstone belts in Burkina Faso; **NRF, WITS University** (~12K AUD) – co-proposer.

**2011-2014:** 3D geophysical modelling used for structural interpretation in the southern Mali and northeast of Guinea, West Africa; **SAGAX AFRIQUE**; co-researcher (279.7K ZAR)

**2013- 2017:** Artisanal and small scale mining in sub-Saharan Africa; funded by **Canon Collins, WIZER, NRF; Tanzanian government**; (AUD ~29.5K) – I was the proposer, and am manager and co-researcher.

**2014-2016:** Integrated geological, structural and seismic studies of the Vredefort Dome; **NRF** (18.1K AUD) – I was the proposer, and am manager and supervisor.

**2014-2017:** Regional mapping and petrophysical data collection in the Sadiola-Yatela permits; **Anglogold Ashanti SEMOS** (~15K AUD) – Project management and supervision.

**2014, Vice Chancellor Transformation Award** (20K ZAR)

**2014 RINC** (10629.58 ZAR)

**2015-2018:** Tectonics of 1<sup>st</sup>-order scale structures and their temporal and spatial relationship with metallogenesis, Module 1.1, **Industry Sponsors, AMIRA P934 West African Exploration Initiative** Phase 3 (USD 220,000).

**2015 RINC** (16266 ZAR)

2016 RINC (13933 ZAR)

2017 RINC (33600 ZAR)

### **Awards and Honours Received:**

- 1989 recipient of the Ralph Tate Medal for Geology
- 1989 recipient of the Homestake Prize for Economic Geology
- 2012 SEG's Best Paper in *GEOPHYSICS* Award, Society of Exploration Geophysics
- 2014 Vice-Chancellor's Transformation - Individual Award

### **Activities Related To Journals (Reviewer/Editor/Editorial Board)**

- Special Editor: Journal of African Earth Sciences (2025 - current)
- Associate Editor: Ore Geology Reviews (2013-2018)
- Reviewer: Ore Geology Reviews (2004-2018)
- Reviewer: Journal of African Earth Sciences (2005-2018)

### **Supervision of Graduate Students and Post-Doctoral Researchers:**

1. 9 PhD
2. 16 MSc
3. 34 Honours

### **Publications:**

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*(Publication List provided on demand)*

Theses:	2
Chapter in Books (peer reviewed)	1
Articles (peer reviewed; in progress; in review)	6
Articles (peer reviewed)	43
Conference Abstracts (peer reviewed)	25
Maps and Explanatory Notices	28
Other Significant Conference Outputs	77
Other Recognised Research Outputs	6
DVD/Movie/Films (peer reviewed)	1
Webinars	1
Company Reports	105
Essays	3
Field Guides	1



KAAH GEOSERVICES is registered in the Netherlands under **KVK number 73930466** (Chamber of Commerce)

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