

KR10

South Africa

24-28 March 2025



University of Cape Town
South Africa

PROGRAM

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Monday 24 March

08:00-08:45	Registration
08:50 - 09:00	A/Prof Robyn Pickering: Welcome by the KR10 Local organising committee chair
09:00 - 09:20	Prof Mosa Moshabela (Vice-Chancellor, University of Cape Town): official opening of KR10 and welcome to UCT
9:20 - 9:30	A/Prof Robyn Pickering: introduction to the program, housekeeping, code of conduct
Session 1: Geochronology: analytical improvements, novel approaches, and innovative age modelling Convenor: Kathleen Wendt, Haiwei Zhang	
09:30 - 09:40	Denis Scholz: Linking the Greenland ice core and speleothem timescales during the last glacial using an annual layer-counting model
09:40 - 09:50	Georgina Luti, Edwards, T., Weij, R. and Pickering, R.: Petrographic classification of speleothems: a case study from the Cradle of Humankind, South Africa
09:50 - 10:00	Christopher Kinsley, Carter, J., Oster, J., Lodge, B., Bolden, I., Niespolo, E. and Sharp, W.: Application of IBIS [Integrated Bayesian approach for unique Initial thorium corrections and age-depth models in U-Th dating of Speleothems] to Hato Cave, Curaçao stalagmites
10:00 - 10:30	KEYNOTE John Hellstrom: Dating difficult speleothems
10:30-11:00	Tea and coffee break
Session 2: Innovation and developments in the lab, field, geochemical modeling and data processing Convenors: Laura Endes	
11:00 - 11:10	Silvia Frisia, Borsato, A., Kovacs-Kis, V. and Sinclair, D.: Cook Islands Late Glacial flowstone: the influence of nanopores in speleothems on the capture of proxy data
11:10 - 11:20	Adam Hartland, Höpker, S., Hu, C., Park, J., Fox, B., Breitenbach, S. and Goswami, B.: Trace metals encode paleoclimatic drip rates in stalagmites
11:20 - 11:30	Gang Xue, Lechleitner, F., Cai, Y., Cheng, P., Zhang, H., Rowan, S. and Guidobaldi, G.: The potential of speleothem organic carbon ^{14}C as an ecological proxy
11:30 - 11:40	Andrea Borsato, Frisia, S., Faraji, M., Hellstrom, J. and Drysdale, R.: Integrating high-resolution imaging, optical and fluorescence microscopy: a new multiproxy approach to speleothem petrography
11:40 - 11:50	Michael Hren, Wang, Z., Smolen, J., Burstyn, Y., Montañez, I., Luffman, D., Oster, J., De Wet, C., Bowen, G., Griffith, E., Reichgelt, T., Atekwana, E., Pederzani, S., Letshele, K., Zyba, A. and Scarpitti, E.: Organic Molecular Records of Fire and Climate in a California speleothem: Production and Alteration of Molecular Signatures from Source to Sink

11:50 - 12:20	KEYNOTE Nele Meckler: Nucleation-assisted fluid inclusion microthermometry in speleothems – advances and limitations
12:20 - 12:30	<i>Discussion and additional questions for previous speakers</i>
12:30 - 14:00	Lunch and poster session
14:00 - 14:10	Micheline Campbell, Treble, P., McDonough, L., Markowska, M., Vonhof, H. and Baker, A.: Speleothem inorganic elements as high-resolution proxies of past fire
14:10 - 14:20	Jens Fiebig, Spötl, C., Moreno-Caballud, A., Zhang, H., Gabriella, K., Moseley, G., Bernecker, M., Staudigel, P., Peral, M., Markowska, M. and Vonhof, H.: Dual clumped isotope thermometry of speleothems
14:20 - 14:30	Jessica Oster, Scarpitti, E., deWet, C. and Griffith, E.: Calcium isotope ratios ($\delta^{44}\text{Ca}$) in coeval California stalagmites record hydroclimate shifts and reveal soil-to-cave carbon transformations during the last glacial period
14:30 - 14:40	Sam Hollowood, Kaushal, N., Lecheitner, F., Stoll, H. and Day, C.: Presenting CaveCalc2.0, with 'DataAnalyser' functionality for facilitating speleothem paleoclimate interpretations
14:40 - 14:50	Sameera Musa, Hare, V.J., Linol, B., Ghoshmaulik, S. and Tripathi, A.E.: Triple oxygen isotopes and carbonate clumped isotopes of a Late Quaternary Congo Caves speleothem in southernmost South Africa
14:50 - 15:00	Dorina Murgulet, Meehan, S., Narimani, R., Douglas, A., Murgulet, V. and Felix, J.: Seasonal Hydrogeochemical Dynamics and Contamination Risks in the Yucatán Peninsula's Karst Aquifer System
15:00 - 15:10	<i>Discussion, additional questions for previous speakers, switch over to session 3</i>
Session 3: Cave monitoring and implications for palaeoarchives Convenors: Dana Riechelmann & Virgil Drăgușin	
15:10 - 15:20	Sebastian N. Höpker, Lang, J., King, D., NiaNia, R., Hellstrom, J. and Hartland, A.: Climate extremes in Aotearoa New Zealand: Insights from hydrological monitoring and speleothem analysis
15:20 - 15:30	Patricia Piacsek, Raphaelli, J.T.A., Azevedo, V., Santos, M.S., Novello, V.F., Bernal, J.P., daCruz, F.W., Karmann, I., Sales, H. dosR. and Stríkis, N.M.: Long-term cave monitoring in central Brazil for accurate paleoclimate insights from stalagmites
15:30 - 16:00	Tea and coffee break
16:00 - 16:10	Jin Liao, Hu, C., Wa, X. and Hartland, A.: Response of karst soil organic carbon mineralization to climate change and human activities: insights from cave monitoring and speleothem records
16:10 - 16:20	Virgil Drăgușin, Burgehele, B.-D., Caminschi, M., Ersek, V., Fernandez, A., Grigore, G., Ionete, Iordache, A. M., Marin, C., Meckler, A. N., Mirea, I. C., Mørkved, P. T., Șandru, C., Tudorache, A., Vlaicu, M. and Zgavarogea, R.: Isotopic and elemental variability of water and calcite at Ascunsă Cave, Romania, under unusually warm conditions

16:20 - 16:40	Conference group photo
16:40 -17:00	Networking time and comfort break
17:00 - 18:00	Poster session
Session 1 posters	
Nick Scroxtton, Walczak, M., Burns, S., Markowska, M., Fallon, S., Lechleitner, F., Rowan, S., Zhao, J., McGee, D., Tiger, B., Godfrey, L., Ranivoharimanana, L., Faina, P., Baldini, J. and McDermott, F.: Creating robust 20th century chronologies with mixed methods dating: challenges and insights from stalagmites from Australia, Madagascar, and Ireland Ellen Corrick, Hellstrom, J. and Drysdale, R.: Key considerations in developing precisely dated uranium-thorium chronologies from speleothems Carolina Silveira de Moraes, Hansen, M., Scholz, D., and Trindade, R.: Remanent Magnetization on Synthetic Stalagmites	
Session 2 posters	
Zhao Wang, Hren, M., Smolen, J., Burstyn, Y., de Wet, C., Montañez, I., Atekwana, E., Bowen, G., Griffith, E., Letshele, K., Oster, J., Pederzani, S., Scarpitti, E. and Zyba, A.: Understanding of links between hydroclimate, wildfires, and ecosystem in the past using terrestrial-derived molecular fingerprints archived in stalagmites Sebastian N. Höpker, Benton, C., Breitenbach, S.F.M., Hartland, A.: More data, less work: The Syp automatic fluid sampler Maximilian Hansen, de Moraes, C.S., Vonhof, H. and Scholz, D.: Drip rate-dependent stable isotope fractionation during formation of (speleothem) CaCO₃ - Samanta, A., Silvia Frisia, Pekker, P., Pósfai, M. and Sinha, N.: Aragonite to calcite phase transformation in speleothems: A role for nanoporosity Chloe Snowling, Wolf, A., Breitenbach, S.F.M., Bendle, J., Martínez-García, A., Schäfer, J. J., McGee, D., Jost, A.B., Limbert, D. and Ersek, V.: A Multiproxy Approach to study Vegetation and Temperature Changes since the Last Glacial in Central Vietnam. Alfredo Martínez-García, Schmidtt, M., Ebner, P., Auderset, A., Breitenbach, S., Cruz, F., Lauritzen, S.E., Maccali, J., Meckler, N., Nehme, C., Novello, V., Scholz, D., Strikis, N. and Vonhof, H.: The TEX₈₆ paleothermometer in speleothems Bryce Belanger, Höpker, S.N., Ibarra, D., Hartland, A., Sharp, Z., Peshek, C. and Jessica L. Oster, J.,L.: Evaluation of stable ($\delta^{13}\text{C}$, $\delta^{18}\text{O}$), triple oxygen ($\Delta^{17}\text{O}$), and clumped (Δ^{47}, Δ^{48}) isotope compositions in speleothems grown under cave analog conditions	

11. **Tara Edwards**, Weij, R., Luti, G., and Pickering, R.: A new in-situ U-Pb dating facility: implications for research and capacity building
12. **Leonardo Pasqualetto**, Krüger, Y., Løland, M.H., Demurtas, M. and Nele Meckler, N.: How does cathodoluminescence help us understand speleothem fabric and growth history?
13. **Celine Kolb**, Frank, N., Warken, S. and Schorndorf, N.: AI-Driven Reverse Modeling of Paleoenvironmental Conditions from Geochemical Records in Speleothems
14. Carter, J. N., Kingsley, C. W. and **Warren D. Sharp**: Flexible, Comprehensive, Transparent U-Th Data Reduction and Calculation of U-Th Ages and Errors

Session 3 posters

15. **Mohammed Hssaisoune**, Bouchaou, L. and Brahim, Y. A.: Hydro-Climate Dynamics of the Wintimdouine Cave Karst System (Western High Atlas, Morocco): Monitoring Insights for Paleoclimate Research
16. **Nitesh Sinha** and Timmermann, A.: Cave monitoring and calcite farming to validate regional $\Delta 47$ -palaeothermometry
17. **Kristina Krklec** and Domínguez-Villar, D.: Cave ventilation dynamics in Eagle Cave (Spain) and controls affecting the cave air CO₂ concentration
18. **Haowen Fan**, Hu, C., Wang, Y. and Hu, Z.: Seasonal and interannual variations in the precipitation isotopic altitude effects in the East Asian monsoon region
19. **Jessica Oster**, Zyba, A., Belanger, B., Lechleitner, F., Rowan, S., McKenzie, B., de Wet, C., Belanger, K., Hren, M. and Wang, Z.: Examining fire fingerprints and impacts on carbon cycling in a semi-arid karst landscape through a controlled burn experiment
20. **Ana Entrena**, Auqué, L.F., Gimeno, M.J. and Fornós, J.J.: Selection of suitable oxygen isotope fractionation equations for paleotemperature reconstructions from present biminerale rafts in Mallorca (western Mediterranean)
21. **György Czuppon**, Palcsu, L., Braun, M., Horváth, A., Stieber, J., Liu, Y. and Leél-Össy, S.: Mg, Ca and Sr isotopes in cave environments: preliminary results from monitoring of three different caves in Hungary

Session 4 posters

22. **Sophie Warken**, Borsato, A., Campell, M., Azenoud, K., Baldini, J., Columbu, A., Hatvani, I., Kaushal, N., Kern, Z., Lechleitner, F., Markowska, M., Tadros, C. V., Treble, P. and Ünal-İmer, E.: Speleothem elemental composition: a global view on dominant drivers and environmental patterns
23. **Elisa Hofmeister**, Fleitmann, D., Kipfer, T., Häuselmann, A., Martinez-Garcia, A., Cheng, H., Cailhol, D. and Affolter, S.: Absolute paleotemperature estimates for Central Europe over the last 350,000 years using speleothem fluid inclusion water isotopes

24. **Benjamin Tiger**, Burns, S., Dawson, R., Scropton, N., Godfrey, L., Faina, P., Ranivoharimanana, L. and David McGee, D.: Hydroclimate in northern Madagascar over the past 27,000 years: A new composite record and model intercomparison
25. **Stephanie Gutmayer**, Frank, N. and Kleinen, T.: Modelling the global distribution pattern of speleothems and its link to soil carbon
26. **Hubert Vonhof**, Nicholson, S., van der, J.L. 2, Kinyanjui, R., Ndiema, E., Petraglia, M., Haug, G.1, Weber, M., Scholz, D., Markowska, M., and Martinez-Garcia, A.: Speleothem paleoclimate records from the Kenyan coastal forest zone
27. **Sarah Pederzani**, Bowen, G., Burstyn, Y., de Wet, C., Montañez, I., Oster, J.L., Atekwana, E., Griffith, E.M, Hren, M., Letshele, K., Scarpitti, E.A., Smolen, J., Wang, Z. and Zyba, A.: A Bayesian approach to stalagmite proxy system modeling – quantitative multiproxy integration in the StalFire consortium
28. **Monika Markowska**, Martin, A.N., Fohlmeister, J., Warken, S., Kaushal, N., Columbu, A., Novello, V.F. and Azevedo, V.: A global compilation of initial $^{234}\text{U}/^{238}\text{U}$ variability in speleothems using the SISAL database

Session 5 posters

29. **Kathleen Wendt**, Edwards, R.L. and Heimel, S.: Small-diameter coring of speleothems in Oregon Caves (USA)
30. **Valeriu Murgulet** and Murgulet, D.: Field Geology Study Abroad Program in the Yucatán Peninsula: Integrating Karst Hydrogeology, Geochemistry, Structural Geology and Cultural Perspectives
31. **Shantanise Phepheng**, Mataga, J., Chikumbirike, J., Masiteng, I., Verkerk, D., and Henderson, A.: The Effects of Climate Change on the ‡Khomani World Heritage Cultural Landscape in the Northern Cape Province, South Africa

Session 6 posters

32. **Phanindra Reddy Annapureddy**, Gandhi, N., Challa, S.K. , Jangari, N. and Shen, C.: A 3,200-Year Story of Hydroclimatic Variability, Resilience, and Adaptation in Deccan's Ancient Settlements to Modern Times through the Deccan's Water Management
33. **Ros Fatimah Muhammad**, Tshen, L.T. 1, Kumpitak, S. and Suraprasit, K.: Diverse Fossil-bearing Clastic Cave Sediments in Peninsular Malaysia
34. **Georgiana Alexandra Grigore**, Drăgușin, V., Vasile, S., Caminschi, M., Mirea, I. C., Chifiriuc, M.C. and Vernot, B.: Sedimentary ancient DNA from two Romanian caves
35. **Ainhua Val**, Mathes, N., Ivy-Ochs, S., Akçar, N. and Luetscher, M.: Characterizing sediment remobilization in caves

36. **Kgotlhelelo Seagiso**, Onyeogu, T., Jinnah, Z. and Masindi, K.: Hydrochemical analysis of an active tufa depositing stream in the Cradle of Humankind: understanding controls on tufa precipitation
37. **David Domínguez-Villar**, Zgorelec, Z., Matan, K. and Krklec, K.: Pedogenic carbonates are prior calcite precipitates that affect speleothem records differently than vadose prior calcite precipitates

Tuesday 25 March

08:00 -
08:30

Registration

Session 4: Understanding climate and environmental dynamics: insights from palaeo-data and models

Convenor: Nikita Kaushal

08:30 -
08:40

Calla Gould-Whaley, Drysdale, R., Treble, P., May, J., Hellstrom, J., Du, Y., Brown, J., Saini, H. and Menviel, L.: Subaqueous speleothems suggest Heinrich 5 triggered enhanced tropical moisture delivery to southern Australia when people first settled the region

08:40 -
08:50

Elizabeth Patterson, Griffiths, M., LeGrande, A., Tierney, J., Elsaesser, G., Colose, C. and Tessler, M.: Constraining equilibrium climate sensitivity with speleothem $\delta^{18}\text{O}$ and other paleorecords

08:50 -
09:00

Samuel Nicholson, Jacobson, M., Markowska, M., Schröder, J., Vonhof, H. and Haug, G.: Climatic predictors of speleothem deposition in SW Asia

09:00 -
09:10

Timon Kipfer, Affolter, S., Hofmeister, E., Häuselmann, A., Luetscher, M., Cheng, H. and Fleitmann, D.: Central European water isotope lapse rate for past interglacials revealed using speleothem fluid inclusions

09:10 -
09:20

David Domínguez-Villar, Krklec, K. Edwards, R.L., Cheng, H. and Sierro, F.J.,: Quantitative paleotemperature reconstruction based on well speleothems from a cave in central Spain

09:20 -
09:30

Artur Stachnik, Martín-Chivelet, J. and Morellón, M.: Machine Learning and AI approaches to address limitations in modelling rainfall oxygen stable isotopes for paleoclimate reconstructions

09:30 -
09:40

Julian Schröder, Vonhof, H., Scholz, D., Meckler, A. N., Markowska, M., L. Nicholson, S. L., Weber, M., Boivin, N., Groucutt, H. S., Petraglia, M. D., Martínez-García, M., Krüger, Y. and Fiebig, J.: Reconstructing mean annual air temperatures during central Arabian humid periods over the past 8 million years

09:40 -
09:50

Chaoyong Hu, Fan, H. and Liu, Y.: Annual mean tropical precipitation variation in Asian-Australian monsoon domain since last interglacial

09:50 -
10:00

Bryce Belanger, Sharp, W.D., Kinsley, C.W., deWet, C.B., Cai, Y., McKenzie, B. and Oster, J.L.: Coeval Holocene stalagmites record links between ENSO and western US hydroclimate on multi-centennial timescales

10:00 - 10:10	Monika Markowska , Vonhof, H.B., Groucutt, H., Petraglia, M.D., Nicholson, S.L., Tindall, J.C., Haywood, A.M., Scholz, D., Weber, M., Gerdes, A., Albert, R. and Haug, G.: Exploring the mechanisms driving humid episodes in central Arabia over the last 8 Ma
10:10 - 10:20	Kathleen Johnson , Patterson, E., Griffiths, M., Yang, H., Wood, C., McGee, D., Henderson, G., Akhtar, A., Sae-Lim, N., Keophanhya, S., Trần, M., Đỗ-Trọng, Q. and Dinh, T.: Speleothem Constraints on Mainland Southeast Asia Hydroclimate Dynamics
10:20-10:30	<i>Discussion and additional questions for previous speakers</i>
10:30 - 11:00	Tea and coffee break
Session 5: Science communication, public outreach, transformation/EDI, best practices for field work and cave preservation Convenor: Kathleen Johnson	
11:00 - 11:10	Juan Pablo Bernal , Avalos, P.G., García, I.H., Pérez-Arvizu, O., Rojas, H. and Santiago, A.R.C.: Citizen scientists are essential for successful cave and environmental monitoring in Latin America; examples from Mexico.
11:10 - 11:20	Sakonvan Chawchai , Jitmahantakul, S., Panityayon, W. and Bissen, R.: 3D mapping and virtual tour development of Klang Cave, Thailand
11:20 - 11:30	Robyn Pickering : What is scientific neo-colonialism and do we need to care about this in karst research?
11:30 - 12:00	KEYNOTE Nkosingiphile Mazibuko and Amy Sephton : Socially responsive practice in human evolution: a case study of the HUMANITY museum exhibition at the Iziko Museum, South Africa
12:00 - 12:30	<i>KR11 Pitch and voting</i>
12:30 - 14:00	Lunch and poster session
Session 6: Clastic Cave Deposits, and caves as repositories for fossils, archaeology and rock art, open air karst records Convenors: Tsilavo Razafimanantsoa & Georgina Luti	
14:00 - 14:10	Kristina Krklec , Domínguez-Villar, D., Cukrov, N., Cheng, H. and Edwards, L.R.: Geochronology of Pleistocene tufa deposits from Krka National Park, Croatia
14:10 - 14:20	Neal Mathes , Luetscher, M., Ivy-Ochs, S., Dieleman, C., Christl, M., Vockenhuber, C. and Akçar, N.: Unraveling the history of the Alps' largest glaciations: Burial dating allochthonous sediments in the Jura
14:20 - 14:30	Rafael Lopez , Valera, D., Sosa, E., Vazquez, M. and Vilchis, K.: Sediments of Kaua Cave, Mexico
14:30 - 14:40	Laurent Bruxelles and Stratford, D.: Clastic Sedimentation in Karsts: The Example of Fossiliferous Breccias in Southern Africa

14:40 - 14:50	Kantapon Suraprasit , Westaway, K., Duval, M., Tshen, L.M. and Bocherens, H.: First discovery of a late Middle Pleistocene Pongo-bearing fauna in the cave of Tham Khao Phak Kut, Krabi Province in Peninsular Thailand
14:50 - 15:20	KEYNOTE Megan Malherbe : Fossil fauna from the caves of South Africa's Cradle of Humankind: understanding ancient ecosystems through functional morphology
15:20 - 15:30	<i>Discussion and additional questions for previous speakers</i>
15:30 - 16:00	Tea and coffee break
Session 7: High resolution Karst Records of climate variability: millennial to seasonal scale resolution Convenor: Tara Edwards	
16:00 - 16:10	Yidong Li , Spötl, C., Cheng, H., Tokarev, S., Amelichev, G., Baker, J., Warken, S. and Dublyansky, Y.: Reconstructing Climate Variability in the Northern Black Sea Region over the Last 60,000 Years: Insights from Crimean Speleothems
16:10 - 16:20	Yao Wu , Warken, S., Li, J, Li, T. and Frank, N.: Variations in regional hydrological environment and human activities inferred from $\delta^{18}\text{O}$ and $\delta^2\text{H}$ of stalagmite fluid inclusions in southwest China
16:20 - 16:30	Francisco Cruz , Vuille, M., Tejedor, E., Zhang, H., Cheng, H., Stadler, N., Wang, X., Auler, A., Strikis, N., Novello, V., Apaèstegui, J. and Edwards, L.: Precipitation Dipole in South America During Heinrich Stadial 1 event from Speleothem Isotope Records and model simulations
16:30 - 16:40	Michael Weber , Blumrich, V., Vohnhof, H. and Scholz, D.: Reoccurring rapid warming events during the fourth glacial cycle in the Mediterranean
16:40 - 16:50	Nikita Kaushal , Goodkin, N., Treble, P.C., Borsato, A., Mudelsee, M., Unal-Imer, E. and Warken, S.F.: Potential for hydroclimate reconstruction using speleothem trace element proxies from the SISALv3 speleothem database
16:50 - 17:00	<i>Networking time and comfort break</i>
17:00 - 18:00	Poster session
Session 7 posters	
1. Mathilde Dubois, Pronovost, A.L., Drysdale, R., Fox, B., Lascu, I., Höpker, S.N. and Hartland, A.: Reconstructing hydroclimate and flood history in New Zealand's Waikato region through environmental magnetism and geochemical analysis of speleothems	

2. **Kang Xie**, Lee, M., Persano, C., Faithfull, J., Cheng, H. and Lawson, T.: Storminess and flooding reconstructions from metamorphic cave-grown speleothems on the west coast of Scotland
3. **Lilian Pendergrass**, Rosenthal, Y., Mortlock, R., Breeden, J., Griffiths, M. and Patterson, E.: A Multiproxy Hydroclimate Record of East Java During the Late Pleistocene
4. **Yassine Ait Brahim**, Wassenburg, J. A., Lijuan, S., Cruz, F. W., Bouchaou, L. and Cheng, H.: Holocene Climate Dynamics in the Western Mediterranean, inferred from high-resolution speleothem records in Northern Morocco
5. **Masha Boekholt**, Spötl, C., Koltai, G., Dublyansky, Y., Zhang, H., Cheng, H.: Submerged speleothems provide insights into palaeohydrological and paleoenvironmental changes in northern Namibia
6. **Maddalena Passelergue**, Drysdale, R., Couchoud, I., Hellstrom, J., Treble, P., Greig, A., Eberhard, R. and Lang, J.: Age constraints on Antarctic ice-sheet meltwater pulses during the Last Interglacial Period
7. **Isabel Montanez**, Burstyn, Y., Letshele, K., de Wet, C., Atekwana, E., Bowen, G., Griffith, E., Hren, M., Oster, J., Pederzani, S., Wang, Z. and Zyba, A.: Multi-phased Response of Western U.S. Hydroclimate to HS 4 archived in a California Stalagmite
8. Ghoochaninejad, H.Z., **Andrea Borsato**, Verdon-Kidd, D., Frisia, S., Sinclair, D., Treble, P.C., Cheng, H. and Drysdale, R.: High-resolution hydroclimate reconstruction from Holocene stalagmites from the Kingdom of Tonga
9. **Juan Luis Bernal Wormull**, Moreno, A., Dublyansky, Y., Spötl, C., Giménez, R., Pérez-Mejías, C., Bartolomé, M., Arriolabengoa, M., Iriarte, E., Cacho, I., Edwards, R.L. and Cheng, H.: Quantitative temperature reconstruction during the last deglaciation and the Holocene in northern Iberia constrained by speleothem fluid inclusion water isotopes
10. **Lvfan Chen**, Wang, T., Sinha, A., Lin, F., Tang, H., Cheng, H., Edwards, R.L. and Tan, L.: A Seasonally Resolved Stalagmite $\delta^{18}\text{O}$ Record Indicates the Regional Activity of Tropical Cyclones in Southeast China
11. **Aaron Mielke**, Warken, S., Höpker, S.N., Garcia, N., Charles, C., Keppler, F., Collazo, I.R., Colon, A.A. and Winter, A.: Towards a comprehensive record of interglacial climate variability in the tropics during the last 330.000 years
12. Utida, G., **Francisco Cruz**, Vuille, M., Ampuero, A., Medina, N.M.M., Stadler, N., Zhang, H., Cheng, H. and Edwards, R.L.: Northeast Brazil Paleoprecipitation Variability Over The Last Millennia

13. **Carlos Pérez-Mejías**, Stoll, H., Cacho, I., Moreno, A. and Cheng, H.:Reconstructing MIS3 climate during Neanderthal extinction in Iberia using speleothems from Spain
14. **Nicolò Ardenghi**, Columbu, A., Denniston, R., Zanchetta, G., Isola, I. and Argiriadis, E.: Paleofire, Vegetation, and Climate Records from Holocene Mediterranean Speleothems: A Multi-Proxy Approach
15. **Dildi**: Natural and Anthropogenic Influences on Stalagmite Geochemistry in Mawmluh Cave, Meghalaya, India
16. **Natasha Sekhon**, Kong-Johnson, C., Vega, M.G., Du, X., Geronia, M. , Belanger, B.K., David, C.P., McGee, D., Oster, J. L. and Ibarra, D.E.: Discerning hydroclimate conditions in the Indo-Pacific Warm Pool during Heinrich Events
17. **Anupam Samanta**, Sinha, N., Wassenburg, J. A., Borsato, A., Frisia, S., Franchi, F., Cheng, H., Yang, Y.S. and Timmermann, A.: Calcite – aragonite speleothems record inter-annual climate fluctuations in Botswana during the Late Holocene
18. **Kimberley Stevens**, Corrick, E., Drysdale, R., Hellstrom, J., Wong, H., Vardanega, C., Couchoud, I. and Tocino, S.: The timing and sequence of climate changes during the penultimate deglaciation in a French stalagmite record
19. **Alfred Skeidsvoll**, Maccali, J., Meckler, A.N., Armitage, S., Lauritzen, S. E. and Wassenburg, J.: Fluid Inclusion Water Isotope study of a stalagmite from the southern coast of South Africa over the 60 – 90 ka time interval
20. **Bethan Lodge**, Lima, C.R., Kinsley, C., Sharp, W., Bolden, I., Niespolo, E., Menicucci, A. and Oster, J.: Rapidly growing stalagmites from Curaçao provide insights into modern climate controls on tropical speleothem geochemistry
21. **Dimitra Skoulikari**, Ersek, V., Iliopoulos, G., Huang, C.Y., Shen, C. and Bendle, J.: A detailed climatic context for the growth and decay of Cretan civilizations
22. **Monica Geraldés Vega**, Sekhon, N., Kong-Johnson, C., Belanger, B., Jalandoni, S., David, C.P., Geronia, M.C.M., McGee, D., Oster, J. L., Cobb, K.M. and Ibarra, D.E.: Late pleistocene high resolution speleothem record from the philippines provides insight into south east asian monsoon dynamics at varying frequencies
23. **Jeffrey Lang**, Baker, J., Rowland, J., Williams, P., Hellstrom, J., Howarth, J., Ukstins, I., Cross, T., Wood, C. and Hartland, A.: Impacts of seismic shaking on speleothem chemistry: A case study from the Alpine Fault, Aotearoa New Zealand
24. **Nathalia Stadler**, Cruz, F. W., Stríkis, N., Wang, X., Zhang, H., Cheng, H., Lawrence Edwards, R. L. and Auler, A.: Monsoon precipitation reconstruction from the coast to central brazil since the last glacial period

25. **Julio Cauhy**, Stríkis, N. M., Libera, M.E.D., Vonhof, H. and Scholz, D.: Accessing changes in extreme rainfall events over the last 7 kyrs through stalagmite-based cave flood records from Malfazido cave in South-eastern Brazil
26. **Marcela Eduarda Della Libera**, Novello, V., Cauhy, J., Stumpf, C., Weber, M., Stríkis, N., Cruz, F., Vonhof, H. and Scholz, D.: Holocene climate dynamics in central-eastern Brazil reconstructed from speleothem multiproxy records
27. **Nikolai Tkach**, Chervyatsova, O., Tkach, A., Volkov, D., Taimanov, A., and Lukashov, A.: A speleothem record of precipitation and temperature history in the Russian Plain as evidence for changes in the Volga River discharge
28. **Aida Zyba**, Sharp, W., Kinsley, C., Burstyn, Y., Belanger, B. and Oster, J.: Reconstructing hydroclimate patterns in coastal central California using coeval speleothem records from White Moon Cave
29. **Nils Schorndorf**, Frank, N., Warken, S., Keppler, F., Hennhöfer, D., Olguín, J. A., Pool, F. T., Evia, C., Gómez, M. J. and Stinnesbeck, W.: A Composite $\delta^{18}\text{O}$ Stalagmite Record from Northeastern Yucatán Peninsula, Mexico, Covering the Last 1,400 Year
30. **Patrick Brett**, Ellen Corrick, E., Drysdale, R., Hellstrom, J., Couchoud, I., and Vardanega, C.: Insights into the timing and characteristics of regional climate change during 'extra' Termination IIIa inferred from a multiproxy stalagmite record from south-east France
31. **Huiru Tang**, Tan, L., Chang, B. and Huang, J.: A Clumped isotopes-based reconstruction of temperature changes through the Last Glacial Maximum to the early Holocene in central China
32. **Yanzhen Li**, and Tan, L.: Mercury deposition in central China from the Last Glacial Maximum to the early Holocene recorded in an accurately-dated stalagmite

Session 8 posters

33. **Lucas Vasconcelos** and Cruz, F.: Palaeoprecipitation record over the last glacial period in subtropical Brazil and its interaction with the South Atlantic
34. **Maria Magdalena Steck**, Dublyansky, Y., Filippov, A., Li, Y., Zhang, H. and Baker, J.: Cryogenic cave carbonates from discontinuous permafrost: Mirichun cave (Eastern Siberia, Russia)
35. **Madison Wittmer**, McGee, D., Shakun, J., Swart, P.K., Martinez-Garcia, A., Braun, R., Jost, A.B. and Woodhead, J.: A Northwestern Canadian speleothem calcite $\delta^{18}\text{O}$ and TEX86 record from interglacial Marine Isotope Stage 11

36. **Andrea Columbu**, Cheli, G., Zanchetta, G., Isola, I., Spötl, C., Cheng, H., Berna, F., Barzilai, O. and Benazzi, S.: Why did the Neanderthals go extinct? The role of speleothems in answering this hot question
37. **Haiwei Zhang**, Cheng, H., Spötl, C., Cai, Y., Sinha, A., Tan, L., Kathayat, G., Zhang, R., Dong, X., Ning, Y., Zong, B., Jia, X. and Edwards, R.L.: Orbital-scale variability of East Asian summer monsoon inferred from speleothems in southeastern China
38. **Rieneke Weij**, Edwards, T., Luti, G., Ubisi, N., Vonhof, H., Martínez-García, A. and Pickering, R.: Quantifying temperature and rainfall patterns in South Africa over the last 3 Ma to understand their impact on early human evolution
39. Piacsek, P., **Juan Pablo Bernal**, Beddows, P., Cruz Jr, F.W., Strikis, N., Corona-Martínez, L., Obregón, C.O., Ramírez, V., Vonhof, H., Chatters, J., Arroyo-Cabrales, J., Luna-Erreguerena, P. and Barba-Meinecke, H.: The Hoyo Negro-1 (HN-1) record, a dive into the Eemian and Termination 2 in southern Mexico
40. **Hao Ding**, Krüger, Y., Maccali, J., Martínez-García, A. and Meckler, N.: Late Pleistocene evolution of interglacial warmth in the Tropical West Pacific
41. **Jeff Munroe**, Wittmer, M., McGee, D., Spötl, C.: Orbital Pacing of Speleothem Growth In Caves of the Uinta Mountains, Utah, USA
42. Panitz, S., **Michael Rogerson**, Longman, J., Scroxton, N., Lawson, T.J., Atkinson, T.C., Ersek, V., Baldini, J., Baldini, L., Umbo, S., Lone, M.A., Henderson, G.M. and Sebastian F.M. Breitenbach, S.F.M.: Spatio-temporal dynamics of speleothem growth and glaciation in the British Isles

Wednesday 26 March

Mid conference excursions

Constantia winelands: depart from the conference venue at **10 am**

Boulders Beach Penguin Colony and the Cape of Good Hope: depart from the conference venue at **9 am**

West Coast Fossil Park: depart from the conference venue at **9 am**

Delegates not signed up to any field trips can enjoy a day off in Cape Town!

We have provided many tips and ideas of things to do in and around Cape Town in the conference circular.

Thursday 27 March

08:00 -
08:30

Registration

Session 8: Karst Records of Climate Variability on Orbital Timescales

Convenor: Yassine Ait Brahim

08:30 -
09:00

KEYNOTE Nick Scroton: The Long Game: Unravelling Orbital Climate Variability Using Speleothems

09:00 -
09:10

Mahjoor Ahmad Lone, Rogerson, M., Hoffmann, D., Luetscher, M., Spötl, C., Mansoura, M., Kallel, N., Elmejdoub, N., Dublyanski, Y. and Hopley, P.: Tracing Past Rainfall Sources in Northern Sahara: Insights from Speleothem Fluid Inclusion Mapping and Chemistry

09:10 -
09:20

Yuri Dublyansky, Steck, M. M., Flippov, A., Li, Y., Zhang, H., Baker, J. and Spötl, C.: Formation of cryogenic cave carbonates during permafrost aggradation

09:20 -
09:30

Kathleen Wendt, Carolin, S., Buizert, C., Steidle, S., Edwards, R. L., Moseley, G., Dublyansky, Y., Cheng, H., He, C., Warner, M. and Spötl, C.: Orbital-scale climate change in the Great Basin over the last seven glacial-interglacial cycles: the new Devils Hole record

09:30 -
09:40

Daniel Sinclair, Holden, G., Al Hafid, S., Borsato, A., Frisia, S., Mortlock, R., Sherrell, R., Drysdale, R. and Hellstrom, J.: The Response of Tropical South Pacific Rainfall to Rapid Glacial Climate Perturbations: Speleothem Records and Palaeoclimate Models

09:40 -
09:50

Dana Riechelmann, Vonhof, H., Schöne, B.R., Jochum, K .P. and Scholz, D.: Dansgaard/Oeschger-like events detected in speleothem proxy records from late MIS 11c to mid 11a from Central Europe

09:50 -
10:00

Ngozi Ulasi, Drysdale, R., Woodhead, J., Pollard, T., Hodell, D., Isola, I., Regattieri, E. and Zanchetta, G.: Evaluating the drivers of Early Pleistocene Glacial-Interglacial Cycles by combining Speleothems and Ocean Sediment Records

10:00 -
10:10

Timothy Pollard, Drysdale, R., Woodhead, J., Edwards, R. L., Li, X., Hellstrom, J., Cheng, H., Couchoud, I., Isola, I., Regattieri, E. and Zanchetta, G.: A composite speleothem record of Glacial Termination V in central Italy and linkages to the North Atlantic

10:10 -
10:20

Christoph Spötl, Leitgeb, L., Boekholt, M., Dublyansky, Y., Koltai, G., Zhang, H. and Cheng, H.: Exploring the potential of speleothems as archives of long-term paleoenvironmental change in Namibia

10:20 -
10:30

Discussion and additional questions for previous speakers

10:30 -
11:00

Tea and coffee break

11:00 -
11:10

Daniel Cleary, Martínez-García, A., Wassenburg, J., A., Jo, K., Timmermann, A., Sinha, N., Fiebig, J., Krüger, Y., Verjans, V., Edwards, R. L., Schmitt, M. and Vonhof, H.B.: Late-Pleistocene glacial-interglacial cycles: an underestimated temperature regime

11:10 -
11:20

Hongbin Zhang, Griffiths, M., Xue, S., Huang, J., Cheng, H. and Xie, S.: Orbital and millennial East Asian hydroclimate variability during Marine Isotope Stage 11

11:20 -
11:30

Faina, P., Burns, S.J., Godfrey, L.R., Dawson, R.R., McGee, D., Tiger, B.H., **Nick Scroton,** Crowley, B.E., Ranivoharimanana, L. and Douglass, K.D.: Explaining variation

	in hydroclimate from the Last Glacial Maximum through the Common Era in southern Madagascar's subarid bioclimatic zone
11:30 - 11:40	Plinio Francisco Jaqueto , Feinberg, J.M. , Novello, V.F., Strikis, N. M. and Cruz, F.W.: Iron oxides variations during millennial scale events in central South America
11:40 - 11:50	<i>Discussion and additional questions for previous speakers</i>
Session 7 cont: High resolution Karst Records of climate variability: millennial to seasonal scale resolution Convenor: Rieneke Weij & Robyn Pickering	
11:50 - 12:00	Liangcheng Tan , Wang, X., Zhang, J., Samanmali, M.A.D., Ma, L., Li Q., Xue, G., Zang, J., Cheng, H. and Sinha, A.: Hydroclimate changes in Sri Lanka over the past millennium
12:00 - 12:10	Sophie Warken , Schmitt, A. K., Scholz, D., Hertwig, A., Weber, M., Mertz-Kraus, R., Reinig, F., Esper, J. and Sigl, M.: Discovery of Speleothem sulfur spike from Laacher See Eruption c. 13ka BP synchronizes climate records from Central Europe and Greenland
12:10 - 12:20	Doctor R., Joshua Feinberg , Chutcharavan P. M., Jaqueto P. F., Edwards, R. L. and Richards, D.: Evidence of a Late Pleistocene Sea-level Highstand from an Iron-rich Layer in a Bahamian Flowstone
12:20 - 12:30	Andrea Columbu , Cheli, G., Isola, I., Dong, X., Pérez-Mejías, C., Cheng, H., Dallai, L., Waele, J. D. and Zanchetta, G.: Dryness at 4.7 ka is more intense than at 4.2 ka in Sardinia (Italy): what is the real structure of the so called "4.2 event"?
12:30 - 14:00	Lunch and poster session
14:00 - 14:10	Laura Endres , Pérez-Mejías, C., Ivanovic, R., Gregoire, L., Hughes, A., Cheng, H. and Stoll, H.: Tracking North Atlantic Climate and Freshening Events Over the Last Glacial Maximum and Termination 1 Using Northwest Iberian Speleothem
14:10 - 14:20	Angela Ampuero Grandez , da Cruz, F., Strikis, N., Meckler, A., Krüger, Y., Vonhof, H., Zhang, H., Cheng, H. and Travassos, L.: Tropical Land temperature Evolution over the Last Glacial Termination recorded in a stalagmite from central-eastern Brazil
14:20 - 14:30	Agathe Lise-Pronovost , Mallett, T., Jaqueto, P., Black, J., Carmo, J., Trindade, R., Drysdale, R., Sniderman, K., Matley, K. and Woodhead, J.: Environmental magnetism linked with pollen, charcoal and stable isotopes in stalagmites from semi-arid southern Australia
14:30 - 14:40	Jennifer Klose , Breitenbach, S. F. M., Weber, M., Vonhof, H., Schröder, B., Marwan, N., Katzschnmann, I. and Scholz, D.: Precisely dated flowstone growth phases as a proxy for particularly warm climate conditions during MIS 3 in Central Europe
14:40 - 14:50	Camille Marie Afonso , Løland, M., Carolin, S., Krüger, Y., Wichert, J., O'Loughlin, E. and Meckler, N.: Where do tropical land temperatures sit on the bipolar see-saw?
14:50 - 15:00	Nicolás Strikis , Buarque, P., Cruz, F.W., Bernal, J.P., Vuille, M., Santos, M., Tejedor, E., Ampuero, A., Oliveira, G., Sales, H., Campos, J. L., Apaestegui, J., Cheng, H. and Novello, V. F.: Anthropogenic drought captured in Southern American speleothem record
15:00 - 15:10	Melissa Medina , Cruz, F. W., Utida, G., Francus, P., Raza, A., Cury, L. F., Fonseca, K., Strikis, N. M., Zhang, H., Schirato, S. R., Coninck, A. D. and Cheng, H.: Last 20,000 years speleothem multiproxy paleoclimatic reconstruction from Central Brazil

15:10 - 15:20	Marc Luetscher , Hoffmann, D., Mansoura, M., Spötl, C. and Rogerson, M.: Holocene hydroclimatic changes deciphered in Tunisian speleothems, Grotte de la Mine (Djebel Serdj)
15:20 - 15:30	Burstyn, Y., Zyba, A., Cziko, J., Deigan, M., Tang, B., de Wet, C., Atekwana, E., Bowen, G., Griffith, E., Hren, M., Letshele, K., Pederzani, S., Smolen, J., Wang, Z., Jessica Oster, J. and Isabel Montañez . Volatile Climate in Early Holocene California: Hydroclimate Response to the 8.2 ka Event at Sub-Decadal to Sub-Annual Scales
15:30- 15:40	Ellen Corrick , Drysdale, R., Hellstrom, J., Couchoud, I., Wong, H., Nagle, L., Palermo, A., Cailhol, D., Cheng, H. and Tocino, S.: A multiproxy record of Dansgaard-Oeschger events from 120 to 72 ka based on cave stalagmites from south-eastern France
15:40 - 16:00	Tea and coffee break
17:00 - 22:00	Conference dinner & student award presentation

Friday 28 March

Workshops on campus at the University of Cape Town (UCT)

1. Breaking barriers and changing culture

Venue: Beattie Building, Level 3, Archaeology Tea Room

Start: 9am

Morning Tea: Beattie Building, Level 3, Archaeology Tea Room (11-11:30am)

2. Speleothem Petrography

Venue: Department of Geological Sciences, Level 2, Room 252 (Prac lab)

Start: 9am

Morning Tea: Beattie Building, Level 3, Archaeology Tea Room (11-11:30am)

3. Exploring Speleothem Magnetism

Venue: Department of Geological Sciences, Level 3 Honours Room

Start: 9am

Morning Tea: catered tea in the Geology Tea room (11-11:30am)

4. SISAL@KR10

Venue: Department of Geological Sciences, co-working space in the tea room

Start: 9am

Morning Tea: catered morning tea in the Geology Tea Room (11-11:30am)