

SUBCOMMISSION ON PERMIAN STRATIGRAPHY ANNUAL REPORT 2022

1. TITLE OF CONSTITUENT BODY and NAME OF REPORTER

International Subcommittee on Permian Stratigraphy (SPS)

Submitted by: Lucia Angiolini, SPS Chair

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2. OVERALL OBJECTIVES, AND FIT WITHIN IUGS SCIENCE POLICY

Subcommission Objectives: The Subcommittee’s primary objective is to define the series and stages of the Permian by means of internationally agreed GSSPs and establish a high-resolution temporal framework based on multidisciplinary (biostratigraphical, geochronologic, chemostratigraphical, magnetostratigraphical etc.) approaches, and to provide the international forum for scientific discussion and interchange on all aspects of the Permian, but specifically on refined intercontinental and regional correlations.

Fit within IUGS Science Policy: The objectives of the Subcommittee involve two main aspects of IUGS policy: 1) The development of an internationally agreed chronostratigraphic scale with units defined by GSSPs where appropriate and related to a hierarchy of units to maximize relative time resolution within the Permian System; and 2) the establishment of framework and systems to encourage international collaboration in understanding the evolution of the Earth and life during the Permian Period.

3. ORGANISATION - interface with other international projects / groups

3a. Officers for 2020-2024 period:

Prof. Lucia Angiolini (SPS Chair)

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Prof. Michael H. Stephenson (SPS Vice-chair)

British Geological Survey. Keyworth, Nottingham NG12 5GG, and Stephenson Geoscience Consulting, Keyworth, Nottingham, NG12 5HU, United Kingdom, E-mail: mikepalyno@me.com

Prof. Yichun Zhang (SPS Secretary)

State Key laboratory of Palaeobiology and Stratigraphy. Nanjing Institute of Geology and Palaeontology, 39 East Beijing Road, Nanjing, Jiangsu 210008, P.R. China, E-mail: yczhang@nigpas.ac.cn

4. EXTENT OF NATIONAL/REGIONAL/GLOBAL SUPPORT FROM SOURCES OTHER THAN IUGS

Shuzhong Shen and Michael Stephenson are investigating the possibility of support for SPS through the Deep-time Digital Earth (DDE) Big Science Program of IUGS focused on informatics support for biostratigraphic data management and palaeogeographic reconstructions. Lucia Angiolini was funded by an Italian national project to perform field activity in the Kungurian base GSSP candidate at Rockland, Nevada (Fund: MURST-PRIN 2017RX9XXXY, project ‘Biota resilience to global change: biomineralization of planktic and benthic calcifiers in the past, present and future’)

5. CHIEF ACCOMPLISHMENTS IN 2022 (including any relevant publications arising from ICS

working groups)

- The proposal for the Global Stratotype Section and Point (GSSP) for the base-Artinskian Stage (Lower Permian) was ratified by the IUGS Executive Committee on 2 February 2022.
- The manuscript "Proposal for the Global Stratotype Section and Point (GSSP) for the base-Artinskian Stage (Lower Permian)" was sent to *Episodes* on 22 February 2022 (EPISODES-D-22-00018) and received a positive review.
- Five new voting members were selected based on their extensive experience in Permian stratigraphy (Annette Goetz, Germany; Sam Lee, School of Earth, Australia; Ana Karina Scomazzon, Brazil; Elisabeth Weldon, Australia; Dongxun Yuan, China).
- A new Working Group was organized "Gondwana to Euramerica correlations" with the aim of solving the difficulty of correlating between Gondwana and Euramerica.
- The Permian Time Scale was kept updated <https://permian.stratigraphy.org/gssps> and two issues of *Permophiles* were published (SPS Newsletters *Permophiles* 72 and 73).
- Two webinars have been organized (<https://permian.stratigraphy.org/interest>)

6. SUMMARY OF EXPENDITURE IN 2022

The amount received from ICS was spent for literature compilation, Dal'ny Tulkas GSSP manuscript for *Episodes* preparation, Standard Pro Annual ZOOM license for SPS, geochemical analyses on samples (Sr analyses) from Rockland section (Nevada), and support to the new Working Group "Gondwana to Euramerica correlations" to produce a photo-gallery of most important taxa for correlation.

Due to the Ukraine-Russian war, it was not possible to do field work in Dal'ny Tulkas and Mechetlino as scheduled. A field-trip to the Rockland section (Nevada), base Kungurian GSSP candidate, was performed by Lucia Angiolini and Charles Henderson from 14 to 23 October 2022. The expenses of Lucia Angiolini were mostly supported by an Italian National Research Fund and only subordinately by ICS funds.

7. SUMMARY OF INCOME IN 2022

An amount of Euros 4287,89 euros was allocated from ICS on July 2022.

8. BUDGET REQUESTED FROM ICS IN 2022***

We apply for 4800 US\$ from ICS for SPS activities in 2023. This will be mainly for the activities to establish the base-Kungurian GSSP at Rockland, Nevada and to organize a field trip in the area, and to support the participation to the STRATI 2023 Congress in Lille.

9. WORK PLAN, CRITICAL MILESTONES, ANTICIPATED RESULTS AND COMMUNICATIONS TO BE ACHIEVED NEXT YEAR:

- We plan to have the proposal of the base Kungurian GSSP proposal published in *Permophiles* and voted by SPS voting members.
- We plan to organize several webinars.
- We plan to support the activity of the new working group on Gondwana Correlation.

10. KEY OBJECTIVES AND WORK PLAN FOR THE PERIOD 2020-2024

- Establish the Artinskian and Kungurian GSSPs.

- Revise the Permian timescale where it needs to be improved (Guadalupian stages, replacement GSSP section of the base-Lopingian).
- Establish a robust palaeogeographic frameworks for the Permian and focus on N-S correlations.
- Propose DDE-sponsored informatics support for biostratigraphic data management and palaeogeographic reconstructions.
- Organize webinars to increase the size, diversity and international coverage of the Permian Community
- Publish at least two *Permophiles* issues each year.

APPENDIX [Names and Addresses of Current Officers and Voting Members)

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Working group leaders

- 1) Artinskian-base and Kungurian-base GSSP Working Group; Chair - Valery Chernykh.
- 2) Correlation between marine and continental Guadalupian Working Group; Chair - Charles Henderson.
- 3) Correlation between marine and continental Carboniferous-Permian Transition Working Group; Chair - Joerg Schneider.
- 4) Gondwana to Euramerica correlations; Chair - Mike Stephenson.