

**SUBCOMMISSION ON PERMIAN STRATIGRAPHY
ANNUAL REPORT 2024**

1. TITLE OF CONSTITUENT BODY

International Subcommittee on Permian Stratigraphy (SPS)

Submitted by: Liz Weldon, 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 an 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 2024-2028 period:

Dr Liz Weldon (SPS Chair)

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

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Prof. Yichun Zhang (SPS Secretary)

State Key laboratory of Palaeobiology and Stratigraphy. Nanjing Institute of Geology and
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4. EXTENT OF NATIONAL/REGIONAL/GLOBAL SUPPORT FROM SOURCES OTHER THAN IUGS

N/A

5. CHIEF ACCOMPLISHMENTS AND PRODUCTS IN 2024 (bullet point each significant achievement; 3-6 bullets)

- A new SPS Chair was elected and the composition of voting members was revised in order to follow the rules of the Statutes (see the appendices below). Three of the new voting members Neil Griffis, Hana Jurikova, Lorenzo Marchetti and Michael Read presented their Permian research at a webinar (<https://permian.stratigraphy.org/interest>). In addition, three honorary members were invited and joined the SPS: Lucia Angiolini, Charles Henderson and Shuzhong Shen.
- The paper “Redefinition of the Global Stratotype Section and Point (GSSP) and new Standard Auxiliary Boundary Stratotype (SABS) for the base of Wuchiapingian Stage (Lopingian Series, Permian) in South China” by Shen S, Yuan D, Zhang Y, Henderson CM, Zheng Q, Zhang H, Zhang M, Dai Y, Xu H, Wang W, Li Q, Wang Y, Wang X, Mu L, Ramezani J, Erwin DH, Angiolini L, Zhang F, Hou Z, Chen J, Zhang X, Zhang S, Wu Q, Pan Y, Stephenson M, Mei S. was published in *Episodes* 2024, 47:147-177.
- A field trip to the Rockland section (Nevada), the Kungurian-base GSSP candidate, was organized May 17 to May 25, 2024 (see report in *Permophiles* 77, p. 18).
- Two issues of *Permophiles* were published (SPS Newsletters *Permophiles* 76 and 77) and a compilation of selected papers published on Permian topics in 2023 was published online on the SPS website: <https://permian.stratigraphy.org/Interests/2023>. The Permian Time Scale <https://permian.stratigraphy.org/gssps>, and the SPS website were kept updated.

6. SUMMARY OF EXPENDITURE IN 2024

The financial assistance received from ICS was spent on literature compilation, for the Standard Pro Annual ZOOM license for SPS, and to partially support the field-trip expenses to the Rockland section (Nevada), Kungurian-base GSSP candidate. Part of the field expenses were also covered by the research funds of L. Angiolini and C. Henderson.

7. SUMMARY OF INCOME IN 2024

An amount of Euros 4111,65 euros was allocated from ICS in July 2024.

8. BUDGET REQUESTED FROM ICS FOR 2025

We request 6500 US\$ from ICS for SPS activities in 2025. \$2000 will be used to partially support the SPS Exec. to attend and chair a business meeting at the ICCP in Toulouse, France, and 2x \$2000 will be made available to subsidise field costs for the base Roadian and base Wordian working groups. \$500 to purchase a ZOOM license for hosting meetings and support an assistant to compile a literature list from selected Permian papers published in 2024.

9. WORK PLAN, CRITICAL MILESTONES, ANTICIPATED RESULTS AND COMMUNICATIONS TO BE ACHIEVED IN 2025 (bullet point each anticipated achievement anticipated; 3-6 bullets)

- We plan to have the proposal of the Rockland section, Nevada, USA, for the Kungurian-base GSSP published in *Permophiles* and voted on by SPS voting members.
- We plan to perform the revision of the Guadalupian base Roadian and base Wordian GSSPs. The revisions include: ascertaining if the boundary for the base Roadian in the Guadalupe Mountains, Texas, USA, needs to be moved higher in the section, and if so how high; preparing a proposal for a

base Roadian SABS at Maweishan, China; restudying the original base Wordian GSSP at Getaway Ledge, Guadalupe Mountains, Texas, USA, for auxiliary markers to aid correlation; and searching for new candidates if this is not successful.

- We plan to support the activity of the working groups on correlation of marine and continental Carboniferous-Permian transition and correlation of Gondwana to Euramerican sections.
- We plan to organize several webinars and hold a face-to-face meeting at the ICCP in Toulouse, France.
- We plan to publish two issues of *Permophiles*.

9a. Potential funding sources external to IUGS:

N/A

10. OBJECTIVES AND WORK PLAN FOR THE PERIOD 2024-2028

- Ratify the Kungurian-base GSSP.
- Revise the Permian timescale where it needs to be improved (Guadalupian stages) and ratify any changes that are necessary.
- Establish a robust palaeogeographic framework for the Permian and focus on N-S correlations.
- Seek Deep-time Digital Earth (DDE) Big Science Program of IUGS -sponsored informatics support for biostratigraphic data management and palaeogeographic reconstructions.
- Create 3D model outcrops of Permian GSSPs through the DDE outcrop group (<https://outcrop3d.deep-time.org/>), similar to the Silurian-Devonian example here: <https://outcrop3d.deep-time.org/?model=26b3af24-ff8b-1f56-88b6-529727950904>
- Organize webinars to increase the size, diversity and international coverage of the Permian Community.
- Publish at least two *Permophiles* issues each year.

APPENDICES

Names and Addresses of Current Officers for 2024-2028:

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Prof. Yichun Zhang (SPS Secretary)

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Names and Addresses of Current Voting Members:

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Working groups and leaders

Base-Kungurian Working Group

Leader: Prof. Charles Henderson

Base-Roadian Working Group

Leader: Prof. Charles Henderson

Base-Wordian Working Group

Leader: Prof. Shuzhong Shen

Correlation Between Marine and Continental Carboniferous-Permian Transition Working Group

Leader: Prof. Joerg Schneider

Gondwana to Euramerica Correlations Working Group

Leader: Prof. Mercedes di Pasquo

Corresponding members (simple list of names as known)