Sedimentologika

Opinion piece

Sedimentologika: a community-driven Diamond Open Access journal in sedimentology

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Abstract | *Sedimentologika* is a community-driven Diamond Open Access scientific journal for the publication of work in the broad area of sedimentology and stratigraphy. The journal aims to provide a platform to the academic community and broader society, offering and guaranteeing permanent free publication and free access to peer-reviewed scientific studies focusing on all types of sedimentary processes, deposits, and environments across all spatial and temporal scales, on Earth or any other planetary body. It will publish high-quality research that will advance the field of sedimentary science, and will encourage multidisciplinarity, new teaching practices, tools and methods, and progress in accessibility to science. *Sedimentologika* is part of an ongoing broader Diamond Open Access movement in geosciences aspiring freedom from the financial barriers and pressures of private publishing houses, to provide direct and equal access to science for all citizens, scientists, and institutions worldwide. The published material will include research, review, methodology and opinion articles, which will be free to share, as the authors will retain the copyright of all the submitted material. Manuscripts will be published in English. Authors can attach a second abstract in a language of their choice, further allowing local communities, students, or decisional bodies to access, at least, a summary of the latest research, thus reducing potential language barriers. *Sedimentologika* follows Open Science principles to promote ethical dissemination and accessibility of science and knowledge, following high equity, diversity and inclusion standards. *Sedimentologika* emerged as a solution for the scientific community to sidestep structural inequality of the academic publishing system that is becoming financially unsustainable to its payers (authors, funding agencies), and to commit to bibliodiversity. The objective is to ensure that scientific findings remain accessible to all in order to keep advancing research and informing society on how we understand sedimentology and stratigraphy in the world around us. *Sedimentologika* is driven by the academic and scientific community for the community and society, promoting self-governance and adapting to the needs expressed by the community.

Keywords: equity, publishing, reviewing, article, open science, sedimentary science

Résumé | *Sedimentologika* est une revue scientifique en libre accès au format Diamond Open Access pour la publication de travaux dans le domaine de la sédimentologie et de la stratigraphie. La revue vise à fournir une plateforme à la communauté universitaire et à la société dans son ensemble, en offrant et en garantissant une publication permanente gratuite et un accès libre à des études scientifiques évaluées par des pairs et portant sur tous les types de processus sédimentaires, de dépôts et d'environnements, à toutes les échelles spatiales et temporelles, sur la Terre ou sur tout autre corps planétaire. *Sedimentologika* publiera des recherches de haute qualité qui feront progresser le domaine de la science sédimentaire (grâce à la multidisciplinarité, à de nouvelles pratiques d'enseignement, à de nouveaux outils et méthodes, et à des progrès en matière d'accessibilité à la science). *Sedimentologika* s'inscrit dans le cadre d'un

mouvement plus large de libre accès aux géosciences (Diamond Open Access) qui aspire à s'affranchir des barrières financières et des pressions exercées par les maisons d'édition privées, afin d'offrir un accès direct et égal à la science à tous les citoyens, scientifiques et institutions dans le monde entier. Le matériel publié comprendra des articles de recherche, de synthèse, de méthodologie et d'opinion, qui pourront être partagés librement, les auteurs conservant les droits d'auteur sur tout le matériel soumis. Les manuscrits seront publiés en anglais. Les auteurs peuvent joindre un second résumé dans la langue de leur choix, ce qui permet aux communautés locales, aux étudiants ou aux organes décisionnels d'avoir accès, au moins, à un résumé des dernières recherches, réduisant ainsi les barrières linguistiques potentielles. *Sedimentologika* suit les principes de l'Open Science pour promouvoir la diffusion éthique et l'accessibilité de la science et de la connaissance, en respectant des normes élevées en matière d'équité, de diversité et d'inclusion. *Sedimentologika* est apparu comme une solution pour la communauté scientifique afin de contourner l'inégalité structurelle du système d'édition universitaire qui devient financièrement insoutenable pour ses payeurs (auteurs, agences de financement), et de s'engager en faveur de la bibliodiversité. L'objectif est de s'assurer que les résultats scientifiques restent accessibles à tous afin de continuer à faire progresser la recherche et d'informer la société sur la manière dont nous comprenons la sédimentologie et la stratigraphie dans le monde qui nous entoure. *Sedimentologika* est dirigé par la communauté académique et scientifique pour la communauté et la société, encourageant l'autogestion et s'adaptant aux besoins exprimés par la communauté.

摘要 | *Sedimentologika*期刊，是一本由社群驅動、「鑽石開放取用」的科學期刊，致力於發表沉積學和地層學相關領域知識。本期刊致力於為學術界及大眾提供一個平台，能擁有永久無償出版、免費同儕審閱的科學刊物。期刊目標為所有類型的沉積過程、沉積物及沉積環境，於地球或任何行星體上，任何時空尺度皆可。它將提供高品質的研究，進而推動沉積學領域的發展（透過多學科、新的教學實驗、工具和方法，以及科學可及性方面的進展）。*Sedimentologika*是地球科學領域正在進行中、更廣泛的「鑽石開放取用」運動之一部分，為世界公民、科學家和機構擺脫財務阻礙、私人出版社的壓力，提供直接且平等的科學知識獲取途徑。發表的資料包括研究、評論、方法論和觀點文章，皆為免費分享，同時作者將保留他的資料版權。原稿以英文出版，但作者可以自由選擇習慣的語言附上備份摘要，這將減少語言障礙，讓當地社群、學生或決策機構即時了解最新研究。*Sedimentologika*遵循開放科學原則，以高價值、多樣性和包容性的標準，提升公平傳佈和科學知識的可及性。*Sedimentologika*的創建是為了讓科學界避開學術出版系統的結構性不平等，這種不平等在財務上對其付款人（作者、補助機構）造成阻力，並致力於文獻多樣性。本期刊的目標是確保所有人都能獲得科學新知，以便繼續推進研究並向社會傳達我們對於沉積學和地層學的了解，由學術和科學社群推動，促進自治並回應社群所傳遞的需求。

سيديمانتولوجيكا هي مجلّة علمية تنشر ابحاثًا مرتبطة بعلم الرّواسب والطّبقات الأرضية. تهدف المجلّة إلى توفير منصّة، للمجتمع الأكاديمي والمجتمع الأوسع، تقدّم وتضمن النّشر والوصول المجانيين إلى الدّراسات العلمية. تهتم المجلّة بنشر أبحاث ومواضيع متعلقة بمختلف أنواع الرّواسب والبيئات الحاليّة والسّابقة على الأرض أو أي كوكب آخر، بعد تقييمها من قبل اختصاصيين. على هذه الأبحاث أن تشكّل نقلة نوعيّة في علم الرّواسب عبر تقديم على سبيل المثال نتائج جديدة مرتكزة على عدة تخصّصات أو أدوات حديثة للتّعليم. سيديمانتولوجيكا هي جزء من حركة أوسع في علوم الأرض. تطمح هذه الحركة للتّحرر من الحواجز الماليّة وضغوط دور النّشر الخاصّة، لتوفير الوصول المباشر والمتساوي للعلوم لجميع المواطنين والعلماء والمؤسّسات في جميع أنحاء العالم. ستشمل المواد المنشورة الأبحاث والمراجعات ومقالات الرّأي. وسيحتفظ المؤلّفون بحقوق النّشر. سيتم نشر المخطوطات باللّغة الإنجليزية. ويمكن أيضًا للمؤلّفين إرفاق ملخص ثانٍ باللّغة التي يختارونها، مما يسمح للمجتمعات المحلية أو الطّلاب أو هيئات اتخاذ القرار بالوصول، على الأقل، إلى ملخّص لأحدث الأبحاث، وبالتّالي تقليل الحواجز اللّغوية. تتبع المجلّة مبادئ العلوم المفتوحة لتعزيز النّشر وإمكانية الوصول إلى العلم والمعرفة بإنصاف ومساواة بين جميع ركائز المجتمع، خاصّةً الفئات المهمّشة. تشكّل سيديمانتولوجيكا حلًّا لتفادي عدم المساواة الهيكلية في نظام النّشر الأكاديمي الذي أصبح غير مستدام ماليًّا للمؤلّفين ووكالات التّمويل. الهدف من المجلة هو ضمان أن تظلّ النّتائج العلمية في متناول الجميع من أجل مواصلة تقدم البحث وإعلام المجتمع بكيفية فهمنا لعلم الرواسب والطّبقات. سيديمانتولوجيكا هي من المجتمع الأكاديمي وللمجتمع بأكمله وبالتّالي ستظل المجلة تتطوّر وتتكيّف مع الاحتياجات التي يعبّر عنها المجتمع.

अमूर्त | सेडिमेंटोलॉजिका एक समुदाय-संचालित डायमंड ओपन एक्सेस वैज्ञानिक पत्रिका है, जो तलछट विज्ञान और स्तरिकी के व्यापक क्षेत्र में काम के प्रकाशन के लिए है। पत्रिका का उद्देश्य अकादमिक समुदाय और व्यापक समाज को एक मंच मे मिलाना है, जिससे सभी स्थानिक और लौकिक पैमानों की तलछटी प्रक्रियाओं, जमा और वातावरण पर ध्यान केंद्रित कर सके। यह पृथ्वी या कोई अन्य ग्रह पिंड का स्थायी मुक्त प्रकाशन और सहकर्मी-समीक्षित वैज्ञानिक अध्ययनों तक मुफ्त पहुंच की गारंटी देती है। यह उच्च गुणवत्ता वाले शोध को प्रकाशित करेगा जो तलछटी विज्ञान के क्षेत्र को आगे बढ़ाएगा (बहुविषयक, नई शिक्षण प्रथाओं, उपकरणों और विधियों, और विज्ञान की पहुंच में प्रगति के माध्यम से)। सेडिमेंटोलॉजिका दुनिया भर के सभी नागरिकों, वैज्ञानिकों और संस्थानों के लिए विज्ञान प्रदान करने के लिए वित्तीय बाधाओं और निजी प्रकाशन गृहों के दबावों से मुक्त होने की आकांक्षा रखने वाले जियोसाइंसेज में चल रहे व्यापक डायमंड ओपन एक्सेस आंदोलन का हिस्सा है। प्रकाशित सामग्री में अनुसंधान, समीक्षा, पद्धति और राय लेख शामिल होंगे, जो साझा करने के लिए स्वतंत्र होंगे, ताकि लेखक सभी सबमिट की गई सामग्री पर कॉपीराइट बनाए रख सके। पांडुलिपियां अंग्रेजी में प्रकाशित की जाएंगी। लेखक अपनी पसंद की भाषा में एक दूसरा सार संलग्न कर सकते हैं, जिससे स्थानीय समुदायों, छात्रों या निर्णायक निकायों को कम से कम नवीनतम शोध का सारांश प्राप्त करने की अनुमति मिले है, जिससे संभावित भाषा बाधाओं को कम किया जा सकता है। उच्च इक्विटी, विविधता और समावेशन मानकों का पालन करते हुए सेडिमेंटोलॉजिका विज्ञान और ज्ञान के नैतिक प्रसार और पहुंच को बढ़ावा देने के लिए ओपन साइंस सिद्धांतों का पालन करता है। सेडिमेंटोलॉजिका अकादमिक प्रकाशन प्रणाली की संरचनात्मक असमानता को दूर करने के लिए वैज्ञानिक समुदाय के लिए एक समाधान के रूप में उभरा, जो इसके भुगतानकर्ताओं (लेखकों, फंडिंग एजेंसियों) के लिए आर्थिक रूप से अस्थिर होता जा रहा है और ग्रंथ विविधता के लिए प्रतिबद्ध है। इसका उद्देश्य यह सुनिश्चित करना है कि वैज्ञानिक निष्कर्ष सभी के लिए सुलभ रहें ताकि अनुसंधान को आगे बढ़ाया जा सके और समाज को सूचित किया जा सके कि हम अपने आसपास की दुनिया में तलछट विज्ञान और स्तरिकी को कैसे समझते हैं। सेडिमेंटोलॉजिका समुदाय और समाज के लिए अकादमिक और वैज्ञानिक समुदाय द्वारा संचालित है और स्व-शासन को बढ़ावा देने और समुदाय द्वारा व्यक्त की गई जरूरतों को अपनाने के लिए भी है।

Resumen | *Sedimentologika* es una revista científica Diamond Open Access impulsada por la comunidad para la publicación de trabajos en el amplio campo de la sedimentología y la estratigrafía. La revista tiene como objetivo proporcionar una plataforma a la comunidad académica y a la sociedad en general, ofreciendo y garantizando la publicación gratuita permanente y el libre acceso a estudios científicos revisados por pares centrados en todo tipo de procesos sedimentarios, depósitos y ambientes a través de todas las escalas espaciales y temporales, en la Tierra o en cualquier otro cuerpo planetario. *Sedimentologika* publicará investigaciones de alta calidad que hagan avanzar el campo de la ciencia sedimentaria (a través de la multidisciplinariedad, nuevas prácticas docentes, herramientas y métodos, y avances en la accesibilidad a la ciencia). *Sedimentologika* forma parte de un movimiento más amplio de Diamond Open Access en las geociencias, que aspira a liberarse de las barreras financieras y las presiones de las editoriales privadas, para proporcionar un acceso directo e igualitario a la ciencia a todos los ciudadanos, científicos e instituciones del mundo. El material publicado incluirá artículos de investigación, revisión, metodología y opinión, que podrán compartirse libremente, ya que los autores conservarán los derechos de autor sobre todo el material enviado. Los manuscritos se publicarán en inglés. Los autores podrán adjuntar un segundo resumen en el idioma de su elección, lo que permitirá a las comunidades locales, estudiantes y órganos decisorios acceder, al menos, a un resumen de las últimas investigaciones, reduciendo así las posibles barreras lingüísticas. *Sedimentologika* sigue los principios de la Ciencia Abierta para promover la difusión ética y la accesibilidad de la ciencia y el conocimiento, siguiendo altos estándares de equidad, diversidad e inclusión. *Sedimentologika* surgió como una solución para que la comunidad científica eludiera la desigualdad estructural del sistema de publicación académica, que se está volviendo insostenible económicamente para sus pagadores (autores, agencias de financiación), y se comprometiera con la bibliodiversidad. El objetivo es garantizar que los hallazgos científicos sigan siendo accesibles para todos, con el fin de seguir avanzando en la investigación e informar a la sociedad sobre cómo entendemos la sedimentología y la estratigrafía en el mundo que nos rodea. *Sedimentologika* está impulsada por la comunidad académica y científica para la comunidad y la sociedad, promoviendo la autogestión y adaptándose a las necesidades expresadas por la comunidad.

Lay summary | *Sedimentologika* is a new scientific journal that publishes research on sedimentology and stratigraphy. Scientists can publish their research for free, and the published articles are free to read and share (i.e., Diamond Open Access). In addition, authors retain the rights to their work. The journal promotes fairness, diversity, and inclusion, and is run by the scientific community for the community. This initiative provides a solution to the problem of expensive academic publishing and makes science accessible to everyone.

1. Introduction

At present, a large proportion of published science is kept behind the paywalls of private publishing houses, rendering it inaccessible to most of society (McGuigan, 2004; Pinfield, 2013). The revolution and growth of Open Access has changed the dynamics of the academic publishing system (Hobert et al., 2021; Piwowar et al., 2018). Policy makers have contributed to the global acceptance of the Open Access model, providing positive academic, economic, and societal impact (e.g., Tennant et al., 2016). However, Open Access is hindered by ever-increasing article processing charges (APC; Khoo, 2019), as feared by Pinfield (2013, page 1): "In an open access world, will journal subscription inflation simply be replaced by APC inflation?". Indeed, in the digital era, this model has resulted in profit and revenue lift for the publishing industry giants, aggressively fighting for their market shares, while benefiting from the increasing competition for academic tenure, funding, and reputation (Larivière et al., 2015; Van Noorden, 2013). In just ten years, some publishing charges have increased from ca. $3000 for the highest Gold Open Access APCs to ca. $11,000 ("Nature Neuroscience offers open access publishing" 2022; Solomon and Björk, 2013). Initially conceived as a way to allow access to science for all, this model, when unregulated and implemented by large and influential commercial publishing houses, has shifted the financial burden from the reader to the author, maintaining a financially unsustainable and dysfunctional scholarly publishing market and a budget crisis for university libraries and publicly funded agencies. Although more articles become available to the public, structural inequalities remain, and poorly subsidized scientists and institutions face challenges to publish open access articles in journals with good reputations and worldwide dissemination, consequently hindering the visibility of their research (Pavan and Barbosa, 2018; Vrana, 2016) and the progress of their scientific careers and institutions (American Society for Cell Biology, 2013).

Policy makers, academic institutions, and funding agencies facilitated the Open Access transition by gradually redirecting funds to allow for generalization of Open Access publications (e.g., Regulations of the Swiss National Science Foundation on research grants Funding Regulations, SNSF, 2015; PLAN S initiative and European Research Council support; ERC, 2018; Breakthroughs for All: Delivering Equitable Access to America's Research, Office of Science and Technology Policy of the White House, 2022), with an increasing reluctance to pay excessive APCs (cOAlition S, 2022; UNESCO, 2021). Private publishing entities (including predatory ones) have thrived in this system by capitalizing and generating income from public institutions (Hanscheid et al., 2018; Racimo et al.,

2022). New actors emerged while old ones grew bigger without ever truly providing free access to science for all.

To guarantee more equity in science accessibility, scientists (including scholarly-driven societies) have come up with empowering initiatives. Building on the creativity of scholars from other disciplines, archiving/preprint platforms in geosciences were developed (e.g., EarthArxiv) providing a new way to overcome paywalls and guaranteeing unrestricted access to articles to all for an unlimited period of time (Dekeyser, 2004). Non-profit organizations and societies have made efforts towards financial sustainability, redirecting their funds to their own journals and members, to facilitate the dissemination of research in their domains. Overall, scientist/community-driven initiatives have appeared as an effective solution (Fuchs et al., 2013) to successfully trigger the profound changes in the academic publishing system expected by the scientific communities and society.

Diamond Open Access journals (DOA; i.e., journals publishing peer-reviewed articles without APC, free to read, publish, and share) in Earth Sciences have existed for many years (e.g., The Italian Journal of Stratigraphy and Paleontology, Geologica Acta, Scientific Drilling, Journal of the Geological Survey of Brazil, Latin American Journal of Sedimentology and Basin Analysis, Geologia Croatica, Earth Science Malaysia, Geologica Belgica, Bulletin of the Geological Society of Finland, Geological Survey of Denmark and Greenland Bulletin, The Norwegian Journal of Geology, Geology of the Intermountain West, The Sedimentary Record, Carnets Geol.). These DOA journals, supported by national geological societies or surveys, provide a necessary publishing avenue for manuscripts that do not necessarily fit the scopes of major international journals. More recently, the creation and success of Volcanica, a community-driven DOA journal with intended global distribution in geoscience (Farquharson and Wadsworth, 2018), has catalyzed the development of such a community-driven DOA journal group in Earth Science subdisciplines (e.g., Tektonika, Geomorphica, Seismica; Rowe et al., 2022), including *Sedimentologika*. Here, we, the co-founders of *Sedimentologika*, aim to present the *Sedimentologika* initiative by providing an overview of its goals, creation process, current structure and future challenges.

2. *Sedimentologika*'s vision and goals

The goal of *Sedimentologika* is to provide high-quality, regional to global scientific research in the broad fields of sedimentology and stratigraphy, accessible to all, at no cost. Other existing journals focusing on sedimentological and stratigraphic research (Table 1) have similar objectives but *Sedimentologika* differs from them, in particular through complete removal of APCs at any time, types of articles accepted, retention of the copyright by the authors, methods used to enhance access to all, and approach and design of editorial and peer-review process (Table 1). Furthermore, *Sedimentologika* aims to publish content that is not only centered on sedimentary geosciences, but uses the sedimentary record or sedimentary sciences to advance other disciplines, in an interdisciplinary to transdisciplinary manner. It also provides an avenue to showcase questions and progress in the areas of accessibility, inclusivity, and diversity (EDI) in geosciences.

2.1. Journal content

Sedimentologika is open to all research related to the fields of sedimentology and stratigraphy, including scientific studies of sediments, sedimentary processes and environments, to obtain globally-applicable interpretations. The *Sedimentologika* community has been polled and showed interest in receiving studies integrating sedimentology with other scientific disciplines. In this context, *Sedimentologika* will also accept interdisciplinary studies linking sedimentology to, e.g., geochemistry, paleontology, microbiology, archeology, geomorphology, meteorology, hydrology, paleoclimate, tectonics (amongst others), or transdisciplinary approaches encompassing aspects of sedimentology in society and technology. Sedimentary and stratigraphic sciences will be critical to better manage the energy transition, to understand the short to long term evolution of climate, and to provide solutions towards a fairer society. *Sedimentologika* will be a venue for research associated with these topics. Here is a non-exhaustive list of such topics: inclusivity, diversity and equity in sedimentary sciences, natural hazards assessment and management (e.g., coastal planning, tsunami and inundation risk, flooding management issues, landslide or hurricane forecasting), anthropogenic forcings and pollution, carbon transfer and storage.

Sedimentologika currently accepts four types of publications: Research Articles, Review Articles, Method Papers, and Opinion Pieces. Once established, the journal plans to add new types of publication types to its portfolio depending on the sedimentological communities demand(s).

In order to be considered for publication, manuscripts must fulfill a set of requirements tentatively listed here:

- Authors should define clear research questions and/or hypotheses, develop concise scientific aims and objectives, and define a rationale for the research presented. This means providing a comprehensive evaluation of the currently available body of knowledge, to place the research within the context of previous studies.

- Data analysis should follow an investigative process with systematic description-to-interpretation path, following epistemic values in agreement with rules and policies for research ethic and scientific standards, guaranteeing full accuracy, consistency and reproducibility of communicated results and data used to develop arguments

Journal	*Basin Research*	*Facies*	*Frontiers in Earth Sciences**	*Journal of Sedimentary Research*	*Latin American Journal of Sedimentology and Basin Analysis*	*Sedimentary Geology*	*Sedimentology*	*The Depositional Record*	*The Sedimentary Record*	*Sedimentologika*
Publishing house	John Wiley & Sons, Inc.	Springer Nature	Frontiers	SEPM (Society of Sedimentary Geology)	Asociacion Argentina de Sedimentologia	Elsevier	John Wiley & Sons, Inc.	John Wiley & Sons, Inc.	SEPM (Society of Sedimentary Geology)	University of Geneva Library
Involved Society (if applicable)	International Association of Sedimentologists, European Association of Geoscientists & Engineers	NA	NA	SEPM (Society of Sedimentary Geology)	Asociacion Argentina de Sedimentologia	NA	International Association of Sedimentologists	International Association of Sedimentologists	SEPM (Society of Sedimentary Geology)	NA
Publishing model	TPM OA	TPM OA	OA	TPM OA	DOA	TPM OA	TPM OA	OA	DOA	DOA
Article Processing Charge (APC) for OA (if applicable)	$ 3900 £ 2600 € 3250 link	£ 2390 $ 3590 € 2790 link	$ 2500 € 2150 (average max) link	$ 2700 link	$ 0	$ 3300 link	$ 4050 £ 2700 € 3350 link	$ 2400 £ 1550 € 1800** link	$ 0	$ 0
Copyright owner	TPM: Publisher OA: Authors	TPM: Publisher OA: Authors	Authors	TPM: Publisher OA: Publisher	Authors	TPM: Publisher OA: Authors	TPM: Publisher OA: Authors	Authors	Authors	Authors
Type of papers	Original Papers, Comprehensive Reviews	Regular Articles, Short Communications	Brief Research Report, Correction, Data Report, Editorial, Hypothesis and Theory, Methods, Mini Review, Opinion, Original Research, Perspective, Review, Systematic Review and Technology and Code.	Research Articles, Research Methods, Current Ripples, Perspectives, Discussion & Reply, Turbulence!	Research papers, reviews and technical notes	Original Research Articles (No specification on their website)	Original Research Articles, State of the Science, Discussions	Original Articles, Reviews, Methods, Editorials, Commentaries	High quality, short format, research or review articles	Research articles, Review articles, Method articles, Opinion pieces.
Length of papers	The recommended word limit for manuscripts submitted to Basin Research is 8000 words not including references and figure captions, and no more than 12 figures.	- Regular Articles should be less than 7000 words of text excluding the abstract, the references and captions to figures. - Short Communications should present new and important scientific results that are timely and lend themselves to speedy editorial handling. Short communications are limited to 1500 words.	- Original Research, Systematic Review, Methods, Review, Hypothesis and Theory, and Technology and Code: Maximum 12000 words and maximum 15 Figures/Tables. - Mini Review, Perspectives, and Data Reports: Maximum 3000 words and maximum 2 Figures/Tables. - Opinion: Maximum 2000 words and maximum 1 Figures/Tables.	- Research Methods: Succinct descriptions of new field or laboratory devices, or field, laboratory, or data analysis techniques that will be of interest to a large number of sedimentary geologists. - Current Ripples: Short, high-impact, provocative papers on sedimentary geology. JSR's goal for these types of papers is to provide a speedy outlet for new, data-supported research results.	Not specified	Not specified	Original Research Articles: Unless by prior agreement with the Editors, manuscripts intended for submission should normally not exceed 8000 words in length (including the title, abstract and main text, but excluding the references and figure captions).	Not specified	- Up to (preferably) ~5000 words, excluding references and figure captions and up to 5 full-color figures and/or tables. - The Sedimentary Record encourage authors to utilize the minimum number of words needed to thoroughly report their scientific work. Research Articles, therefore, may range from a few thousand up to ~5000 words, but strict adherence to word count is not necessary.	- Research articles: A length under 10000 words (including the abstract and excluding title, figure captions, text in tables, and references) and 12 figures/tables are preferred. - Review articles: A length under 12000 words (including the abstract and excluding title, figure captions, texts in tables, and references) and 20-30 figures/tables. - Method articles: A length under 10000 words (excluding title, figure captions, texts in tables, and references) and 12 figures/tables are preferred. - Opinion pieces: A length under 4000 words (excluding title, figure captions, texts in tables, and references) and 3 figures/tables are preferred.
Languages	English	English	English	English	English, Spanish, Portugese	English	English	English	English	English with a second abstract in the language chosen by the authors.

Table 1 | Comparison of the different journals dedicated to sedimentological and stratigraphical studies with relatively similar scientific focus to Sedimentologika. Information is sourced from the respective mentioned journal websites. APC webpages were last consulted on March 29th 2023. *Sedimentology, Stratigraphy, and Diagenesis Section. **All publication charges are currently being paid for by the International Association of Sedimentologists. OA: Open Access – when an article is accepted for publication, the author/s or funder/s pay an Article Processing Charge (APC). The final version of the published article is then free to read for everyone. TPM: Traditional publishing model – published articles are made available to institutions and individuals who subscribe to the journal or who pay to read specific articles. DOA: Diamond Open Access – when an article is not subject to APC, and is free to download and to share.

(i.e., Findability, Accessibility, Interoperability, and Reuse; FAIR principles). This involves the systematic respect of Responsible Conduct of Research (National Research Council (US) and Institute of Medecine (US) Committee on Assessing Integrity in Research Environments, 2002): scientific integrity, objectivity, transparency, intellectual property and confidentiality, accountability, social responsibility and non-discrimination (i.e., the Singapore statement on Research Integrity; Resnik et al., 2011). Clear description of how, where, and when data were collected, processed and interpreted must be provided (i.e., details of experimental methods, material, workflows, codes, scripts, analysis parameters, standard references, seismic horizons, etc). This information should be available at least by the time of publication (and optimally, during review), either as appendices to the manuscript or through links to publicly-available platforms (e.g., GitHub, Zenodo, Pangaea®). Raw data should also be made available for reproducibility purposes unless unequivocal confidentiality agreement(s) preventing the authors to do so can be substantiated.

- The discussion requires critical writing and analysis. Original hypotheses should be tested and objectively challenged, highlighting implications of the main findings, but also the main strengths and weaknesses/limitations. Statements should always be accompanied by referencing multiple sources from peer-reviewed or publicly available material (e.g., research articles, preprints, MSc and PhD theses, abstracts, and material from other types of repositories) validating or discarding former and new scientific ideas, concepts and knowledge.

- The global and generic implications of the obtained results should be stated, showing the key novel findings and when possible, the potential areas for future research. Not all results, interpretations, and outcomes need to be ground-breaking or paradigm-shifting. Results can contribute to an established view, challenge pre-existing concepts, or help the progress of research such as for negative results (e.g., Mlinarić et al., 2017). Overall, they should contribute to the important incremental growth in knowledge and will be accepted in *Sedimentologika* if the authors can explain how they advance ongoing knowledge on the given topic and guide further research directions.

- The paper should be articulated with a clear and coherent structure and written with a level of English language (British or American) accessible to all readers (i.e., native and non-native), but reviewers shall not evaluate a manuscript on the language basis, as long as the scientific message is clear, concise, and research questions are properly addressed and results are supported by data.

- The work must be original (i.e., not submitted or published elsewhere). Any contributions where suspected research misconducts (falsification, fabrication or plagiarism, or other practices undermining the trustworthiness of research) detected will be discarded and reported to the appropriate authorities. Of note, manuscripts submitted to a preprint repository (e.g., EarthArXiv, ResearchSquare) or an institutional repository before initial submission to a journal will be considered as original work by *Sedimentologika*.

2.2. Review process

Corresponding authors will submit their manuscript with the agreement of all co-authors, whose individual role and contribution must be clearly defined (Figure 1). Authors will decide whether they want their manuscript to be anonymized or not. In the case of an anonymous submission, the authors will be responsible for providing anonymous documents that will prevent the reviewers from identifying them. Manuscripts will be assigned to an appropriate executive editor based on the topic it covers. The executive editor will assign the manuscript to an associate editor, who will be in charge of sending it to at least two appropriate reviewers, if the submitted manuscript fits the scope and requirements of the journal (Figure 1). Reviewers to consider or to avoid must be suggested in the cover letter or dedicated window during submission, and both must be accompanied respectively by a statement of impartiality or by a declaration of conflict of research interest. Reviewers will provide thorough reviews of the manuscript following standards of peer-review, allowing the associate editor to recommend the manuscript to the executive editor for acceptance, minor to major corrections, or rejection. Although they can choose to remain anonymous, the reviewers are strongly encouraged to sign their reviews. They are required to provide constructive comments, to avoid anonymous bullying, and to conduct a fair, responsible, non-discriminatory, transparent, and positive reviewing process. The editorial team will pay careful attention to the reviews, and disrespectful, unfair, and unconstructive ones will not be forwarded to the authors. Reviewers not complying with the research integrity, publishing ethics and scientific rules for transparency and best practices will be discarded from further participation in the review process or any other form of involvement with *Sedimentologika* (authors and reviewers guidelines can be found at https://sedimentologika.org).

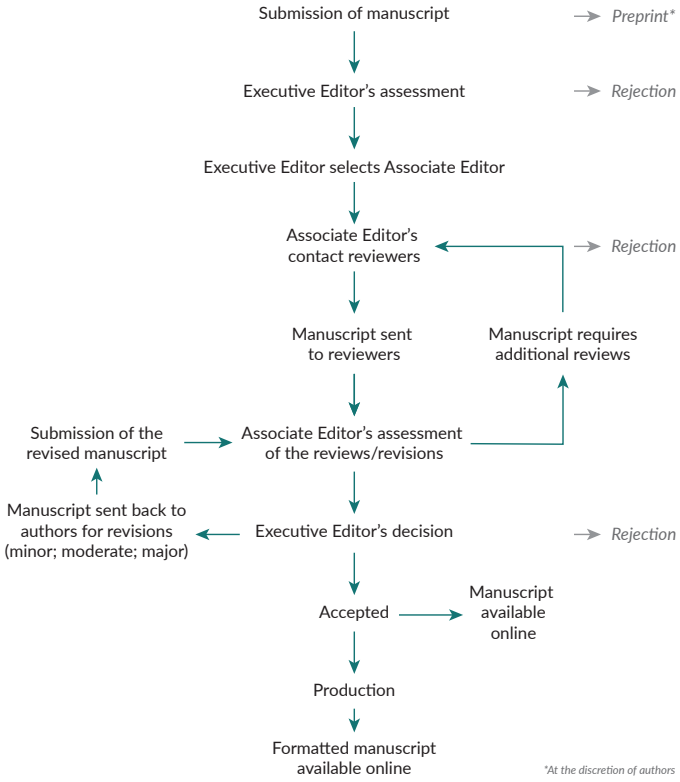

Figure 1 | Schematical route and key steps from manuscript submission to article publication.

Any suspected research misconduct, unethical, and/or illegal practices reported by reviewers and editorial board will be investigated by an inquiry committee composed of members of parent earth-science DOA journal's editorial boards and steering committees. *Sedimentologika* will reserve the right to not allow for the submitted material to be published, and the perpetrator(s) to be banned from the journal.

2.3. Equity, diversity and inclusion

Sedimentologika, as a DOA journal, will safeguard direct and equal access to scientific knowledge for all citizens, scientists in academia and industry, and institutions, worldwide. *Sedimentologika* will respect disciplinary, cultural, multilingualism, and linguistic diversity to support a better integration of all communities in the field of sedimentology, to the global research landscape (i.e., bibliodiversity). This means that all individual scientists and all sedimentology-related topics will be treated equally.

Diversity of all kinds matters in *Sedimentologika*. In order to avoid ethnic, gender, or social stratification and intersectionality, *Sedimentologika* will apply high standards of equality and inclusion in its practices and functioning. The *Sedimentologika* initiative promotes social equity and collaborative work, mutual respect, and fairness. The objective is to empower groups often targeted by different systems of oppression, bias, and discrimination, in order to safeguard access to the same opportunities at any hierarchical levels, to all volunteers who want to engage. In this respect, the steering committee in agreement with the executive editorial board and the community has set up some objectives, rules, and tools:

- The executive and associate editorial boards are and will, remain gender-diverse and gender-balanced. Our approach aims towards a fair representation of all groups (e.g., gender, sexual orientation, ethnicity and origins, (dis) ability, class, religion, and any other identified groups), as the goals is to reach a broad range of applicants across countries and provide open opportunities for all. A record of these data will be published regularly (see below), for transparency as a way to enable equity, diversity, and inclusion at all levels (Ali et al., 2021).

- Dedicated mentoring process through which experienced executive editors will deliver fast-track training to associate editors with less editorial experience. The goal of diversity mentoring is to ensure diversity and inclusion in access to editorial responsibilities, aiming at equal representation for all, at all levels of hierarchy roles, and hopefully empowering minoritized and marginalized groups (e.g., more diversity in the editorial team will lead to more diversity published authors and reviewers). Consequently, it should make a positive impact on equity and inclusion in the field of sedimentology in the longer term (Demeter, 2020).

- A short summary for non-specialist in non-technical words (i.e., plain language lay summary) is compulsory in English for all accepted articles, to allow for better dissemination of science to the general public outside of the academic domain.

- A translation of the title, abstract, and lay summary, in one language of the authors' choice (non peer-reviewed) is strongly encouraged and published along the article. It should allow for non-English speaking communities to easily access the essential content of the presented research. Additionally, authors are free to attach a graphical abstract to their submitted manuscript.

- Resources are provided for the author to ensure the accessibility of published content which should be Perceivable, Operable, Understandable and Robust (POUR Web Content Accessibility Guidelines), for instance using inclusive scientific color blindness-friendly themes in figures (e.g., Crameri et al., 2020).

3. Creation of *Sedimentologika*: Diamond Open Access and sustainable economic model

Sedimentologika is a DOA journal: "a form of non-profit academic publishing that makes academic knowledge a common good, reclaims the common character of the academic system, and entails the possibility of fostering job security by creating public service publishing jobs" (Fuchs et al., 2013). The academic publishing model relies on the 'voluntary' labor of academics and scientists across the world, from which commercial publishers make hefty

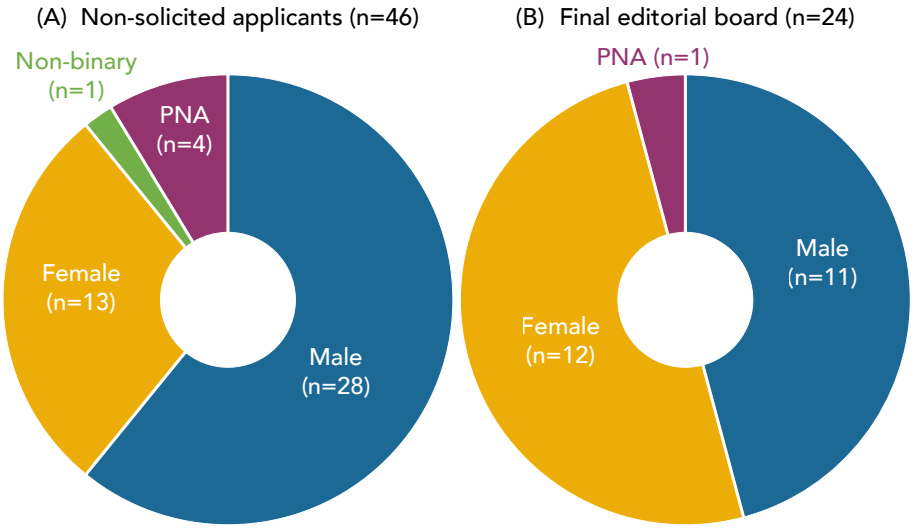

Figure 2 | (A) Gender representation of applicants (non-solicited) and (B) of the final editorial board (including executive and associate editors) after solicitation of female-identifying candidates (n=4). Labels correspond to answers of applicants to the box labeled "gender" in the editorial board application form (PNA: Prefer Not to Answer).

profits. Here, several adjustments have been made to fully authorize the independence of the journal from private publishing houses and guarantee the long-standing existence of the journal. *Sedimentologika* currently relies on:

- A steering committee willing to provide voluntary unpaid time (or dedicate a proportion of their working hours) in order to (cf. section 3.2): i) manage journal organization, functioning, strategy and future directions; ii) recruit editorial teams; iii) ensure the framing of, and adherence to, the guidelines, rules and journal policies, manage legislative requirements, finances and funding or partnerships; and iv) maintain a dialogue with the community, pushing forward the *Sedimentologika* project. The steering committee is also there to guarantee neutrality, preventing conflict of interests at all levels and ensure inclusivity, fairness and collaborative working environment for all.

- Free and open-source system: the Open Journal Systems (OJS) from the Public Knowledge Project (PKP; https://pkp.sfu.ca) is used for managing submissions and editorial workflow, producing scientific articles online, and enrolling the journal through a long-term preservation digital scheme guaranteeing continuous access to published content. This includes preservation service via the PKP PN (Public Knowledge Program Preservation Network) plugin, using the LOCKSS Program (Lots of Copies Keeps Stuff Safe; https://www.lockss.org/), ensuring that multiple copies of content are securely stored on geographically distributed and decentralized network of servers maintained by libraries. A multiple digital preservation scheme is a requirement to comply with Plan S, to obtain the DOAJ Seal Status (https://keepers.issn.org/) but also to apply to national funding agencies grants, all being objectives *Sedimentologika* aims to achieve in the near future.

- The Open Access Publications (OAP) service of the University of Geneva Library. A partnership has been signed between OAP and *Sedimentologika* to secure administrative support. It is a service accessible to members of the University of Geneva, Switzerland, offering support and technical assistance to create, host, and manage Gold and Diamond Open Access journals. It also guarantees the long-term archiving of *Sedimentologika*, ensuring that all authors contributions to the scholarly record will remain permanently preserved and free to access in the future. It is funded by the University of Geneva and will cover the running cost of the OJS platform, the inherent costs of Digital Object Identifier (DOI) registration, and search engine and scientific database indexing.

- Participative external funding from non-profit organizations, national agencies, and societies, which can help and accelerate the development and promotion of *Sedimentologika*, although our model is running cost-free based on the engagement of volunteers, and independently from any external financial support. To-date, the Society for Sedimentary Geology (SEPM) has granted *Sedimentologika* the financial support to allow promotion of the journal. Other non-profit organizations, national agencies, or societies willing to have a partnership with *Sedimentologika* to promote Open Science are also welcome. Such external fundings will be allocated to the registration of the domain www.sedimentologika.org, the payment of abstract fees allowing the presentation of the *Sedimentologika* initiative in international congresses, the creation and distribution of marketing packages and advertising tools, the potential outsourcing of technical and audit services (e.g., webmaster, proof-reader, typesetter), and to implement a secondary digital preservation scheme.

- The *Sedimentologika* community, including the editorial teams, the reviewers, and all scientists and members are providing their time, energy, and support on many different aspects of the project to contribute to the progress and expansion of the *Sedimentologika* initiative, without any financial retribution but with the conviction that scientific communities shall participate in their own governance.

4. Structure

The journal's structure includes three components: i) the community, which consists of readers, authors, reviewers,

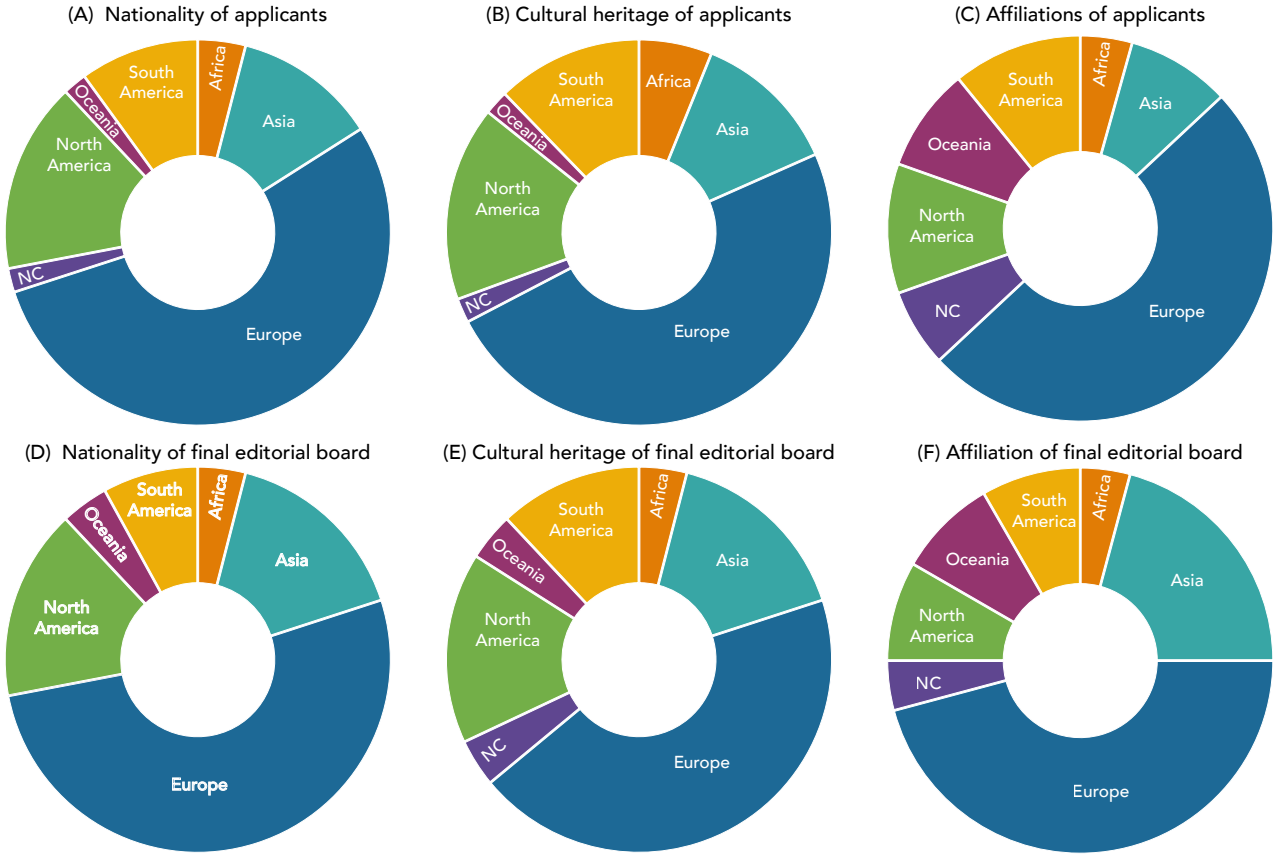

Figure 3 | (A) Nationality, (B) cultural heritage, and (C) affiliations of non-solicited applicants per continents. (D) Nationality, (E) cultural heritage, and (F) affiliations of final editorial board per continents. (NC: non-communicated).

supporters, and members of *Sedimentologika*; ii) the steering committee; and iii) the executive and associate editorial boards.

4.1. The community

The community is the primary user of the journal, through submission and readership and has a central part in *Sedimentologika*'s decision-making, as it feeds ideas, discusses them, and provides feedback. It also contributes members to the *Sedimentologika* steering committee, editorial boards, the reviewers pool, and other subgroups (i.e., commissions for advancing specific aspects of the initiative) on a regular basis. The community is consulted using several platforms that all have advantages and drawbacks: social media and in particular Twitter, via the @Sedimentologika account, emails through the contact@sedimentologika.org address and mailing list, and channels in the Slack® platform that can be joined at any time by anyone through email request.

4.2. The steering committee

The steering committee is a horizontal organizational structure with members of the *Sedimentologika* community forming an advisory group of currently eight volunteers willing to be in charge of the journal development and management on a regular basis. It is open to any pro-active member of the community willing to take responsibilities for a given period of time, using their skills, experience, and knowledge in different sectors. The steering committee members must be aware that derivation of personal benefits from actions or decisions made in their official capacity and any kind of conflict of interest are forbidden and they must respect the code of conduct of *Sedimentologika* at any time. The main goal of the steering committee is to take strategic decisions regarding the journal organization, functioning, and future directions and ensure capacity-building and guidance to the different pro-active commissions. The main tasks include: i) constitution of the editorial board by internal vote and discussion, constitution of the associate editorial board in agreement with the executive editorial board, and collaboration to define the types of articles, form of publications, and designs; ii) quality control of article production steps, guidance, and assistance for the functioning of the hosting platform and website; iii) constitute, coordinate, organize, and steer work undertaken, including the coordination of potential commissions (e.g., communication and networking, design and marketing, production and publication, IT, ethics, and EDI); iv) set up the guidelines, rules, and journal policies, the code of conduct of *Sedimentologika*, manage legislative requirements, finances, and funding or partnerships. The steering committee takes important decisions concerning the journal in agreement with the feedback of the community consulted via a dedicated free platform (Slack®) allowing theme-based communication, group work, discussions, exchanges, and votes. The steering committee is responsible for maintaining dialogue with the community, guaranteeing neutrality, ensuring inclusivity for all, and

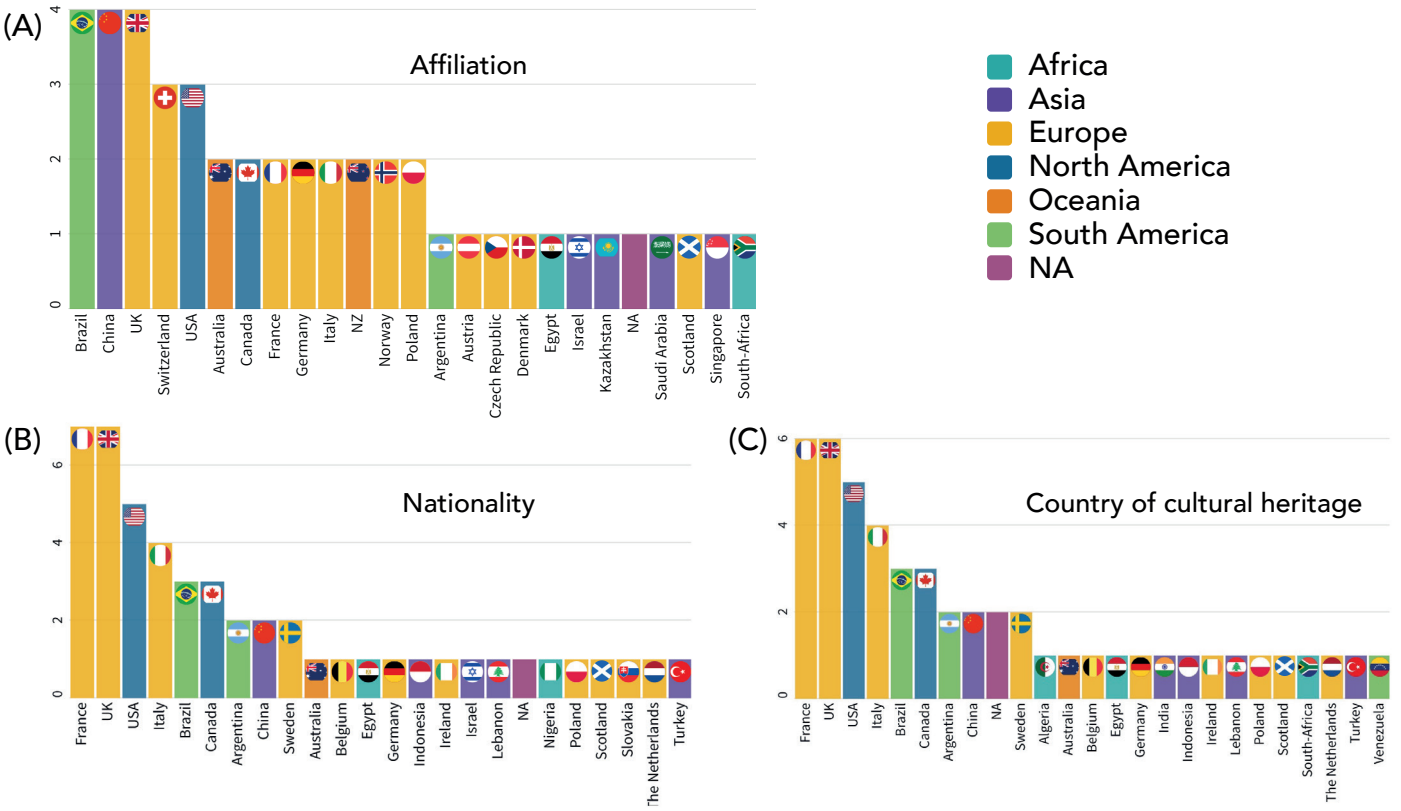

Figure 4 | (A) Affiliations, (B) nationalities, and (C) countries of cultural heritage of applicants (non-solicited) for the *Sedimentologika* Editorial Board. UK: United-Kingdom; USA: United States of America, NZ: New Zealand; NA: Non-affiliated.

must not influence editors and reviewers' decisions in any way.

The steering committee does not get involved in the scientific content of the journal per se; a task left to the executive and associate editorial boards. Except for this white paper, members of the steering committee are not allowed to publish in the journal as first author until the first issue is published, but can be co-authors on manuscripts submitted during this time.

4.3. The editorial board

The editorial board is responsible for the scientific content and quality of the journal. The editorial board is organized in two levels, which must both maintain a good communication and report any infringement of publication ethics (research misconduct, and unethical or illegal practices) and transgression of the code of conduct of *Sedimentologika*. The first level currently comprises eight executive editors (EE; this number may change in the future), with a combined scientific expertise that should cover as much sedimentology as possible. The second level comprises sixteen associate editors (AE; this number may change in the future), covering most of the aspects of sedimentological research.

- Executive editors are the first contact point with authors, and are in charge of providing the initial assessment of the manuscript, assigning manuscripts to an AE, based on expertise, and taking final decisions regarding review rounds, the degree of correction needed, acceptance or rejection, and publication. Additionally, the EE may mediate conflicts between authors and reviewers, to ensure fairness, respect, and constructivism are kept at all times during the review process. They were selected by the steering committee after individual application to the call by *Sedimentologika* or solicited applications. They constitute the EE board, which is generally composed of scientists who have gained previous editorial experience, being former executive editors or associate editors in other scientific journals. They are appointed for a duration of two to five years, potentially renewable once.

- Associate editors are responsible for handling the reviewer-manuscript relationship. They contact and assign reviewers (minimum two) to a manuscript, they handle the review, and provide an assessment of their content to the EE. They were selected by the EEs together with the steering committee, after individual or solicited applications. The AEs must have significant scientific research experience by the time they are appointed, and must have a track record of peer-reviewed published articles. AEs may or may not have experience in editorial work and will be trained by the executive editorial board (cf. section 1.3). They are appointed for a duration of two to five years, renewable once.

- The editorial board has a diverse combined scientific expertise and make all best endeavours to be representative of the sedimentology community in its entirety, thematically, geographically-, and gender-wise. Data have been collected from editorial board applicants (winter 2022) on gender, post-PhD effective experience, affiliation,

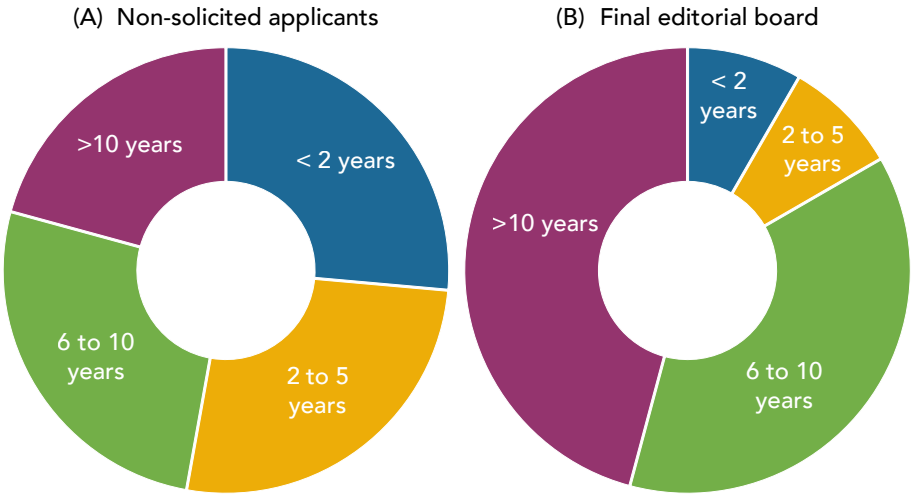

Figure 5 | Experience counted as post-PhD years of (A) non-solicited applicants and (B) members of the 2022 *Sedimentologika* Editorial Board.

nationality, and cultural origin (Figures 2 to 5). They are presented here as raw data to avoid adding systemic bias. Applicants (spontaneous applicants n=46; solicited applicants n=5) were 55% male, 35% female, 2% non-binary, and 8% "Prefers Not to Answer" (PNA, Figure 2a) for a final 2022 editorial board of 46% male – 50% female – 4% PNA composition (Figure 2b). The nationalities of non-solicited applicants (n=50) are from Europe (54%), North-America (16%), Asia (12%), South-America (10%), Africa (4%), Oceania (2%), and 2% did not provide it (Figure 3a). The 2022 Editorial board is composed of people from Europe (52%), North-America (16%), Asia (16%), South-America (8%), Africa (4%) and Oceania (4%) (Figure 3d). Applicants (n=49) reported a cultural heritage from Europe (48%), North-America (16%), South-America (12%), Asia (12%), Africa (6%), Oceania (2%), and "preferred not to answer" (4%) (Figure 3b). The 2022 *Sedimentologika* editors (n=24) have cultural heritage originating from Europe (44%), North-America (16%), Asia (16%), South-America (12%), Africa (4%) and Oceania (4%), and 4% PNA (Figure 3e). Affiliations (n=46, spontaneous applicants only) were from Europe (50%), North America (11 %), South America (11%), Oceania (9%), Asia (9%), Africa (4%), and non-affiliated (6%) (Figure 3c). The 2022 editorial board is composed of people employed in Europe (48%), Asia (21%), Oceania (9%), North America (9%), South America (9%), and Africa (4%) (Figure 3f). The list of nationalities, affiliations, and cultural heritage countries from applicants is provided in Figure 4. A strong effort has been made to balance origins and country of affiliations, in particular by providing non-experienced AEs an opportunity to access these positions. As a result, the editorial board includes 46% of editors with more than 10 years of experience post-PhD, 38% between 6 and 10 years, and 16% with less than 5 years, including 8% at 2 years or less after PhD (Figure 5).

Even if the scientific expertise of the executive and associate editorial boards of *Sedimentologika* in 2022 is diverse, a specific effort is put into improving the representation of historically-minoritized and marginalized groups which also depends on the diversification and broader reach of the currently used communication media. The steering committee and all editors are working towards it, by proposing a fast-track training to junior associate editors, diversifying their mode of communications, and specifically engaging with minoritized and marginalized groups in the field of geosciences.

5. Future

5.1. Success and validation

The future of *Sedimentologika* is dependent on the success and acceptance of the model by the community and will evolve appropriately to adapt and improve its service to open science practices for the scientific community and for the society. Some important steps can be taken to enhance equity, diversity, and inclusion, and will be pursued by the *Sedimentologika*'s board (Steering committee and editorial boards), community and reviewers. In particular, the current's article author list, being constituted mostly of European authors, is not diverse. It is the result of the first two-years of engagement of researchers within the project. The creation of *Sedimentologika* took time and energy and was carried essentially by the group of co-authors, although a diverse community showed great support for the initiative through the Slack® and Twitter® platforms. The lack of diversity here could be explained by the fact that the idea essentially took off after discussions during the British Sedimentology Research Group Annual Meeting 2019, the quasi-exclusive use of Twitter® to gather its first core community (before it expanded on Slack® via additional emailing campaign, and the privileged situation of current-co-authors given their situation in the Western European research landscape. This article sets the first stones of the *Sedimentologika* initiative but its author list is not and should not be taken as representative of the sedimentary science community. The decisional bodies of *Sedimentologika* are open and efforts are being made to balance their compositions.

After a few years of functioning, *Sedimentologika* will obtain an impact factor. It is the view of the authors and many others that the academic publishing and rewarding system currently places too much emphasis on flawed quantitative metrics such as impact factors (cf. 2013

San Francisco Declaration on Research Assessment, American Society for Cell Biology, 2013). In this context, *Sedimentologika* will make a specific effort to help the emergence and representation of more outward-facing alternative metrics (for instance on societal impact of sedimentology) to support transition towards a more sustainable open science. However, while one cannot prevent metrics from being calculated, *Sedimentologika*'s current position on metrics as flawed as impact factors (e.g., The PLoS Medicine Editors, 2006) will dictate the use (or non-use here) of them. Such metrics will not be promoted but will be available for scientists to use and refer to when, for example, applying for a position in an institution that has not signed the DORA agreement (https://sfdora.org/read/).

5.2. Potential limits and challenges of *Sedimentologika*

Sedimentologika's community is aligned with the global movement observed both in Earth Sciences, and Science, Technology, Engineering, and Mathematics (STEM) in general, to support community-rooted initiatives like transition towards or creation of a DOA ecosystem. A downside effect is the potential competition it generates against society-led journals, associated or not associated with private publishing houses. Some of these society-led journals rely on subscription fees and APCs to cover their maintenance cost. Such journals have largely contributed to the dissemination of sedimentary science-related research, and the construction of its associated community. *Sedimentologika* provides an alternative economic model.

The main challenges lie in the long-term technical management and capacity-building potential of the community and global visibility. In case of wide acceptance, *Sedimentologika* might also reach a threshold regarding proof-reading and typesetting accepted articles, which depends on the capacity-building potential and commitment from the community. These are time-consuming tasks that require sufficient expertise, research and critical analysis, which can only be demanded to a handful of committed volunteers during a limited amount of time. A challenge further hindered by the complexity of accessing and communicating with vast and diverse communities in the long term.

One option in the long-term is to consider a reliable financial support/funding strategy to outsource some of these tasks. The Steering Committee will continue to explore available and emerging opportunities for external funding supporting open science and self-sustainable academic-led publishing systems, to expand publication-rate capacity and break this alleged ceiling. The DOA scenario will surely evolve in the next few years, and *Sedimentologika* is committed to be part of this necessary change in the geosciences community, and science in general.

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Authors contribution

The authors are founding members of *Sedimentologika*. C.T. wrote the manuscript with inputs from all co-authors. All co-authors revised and approved the final version of the manuscript.

Data availability

All data used concerning the statistic related to the editorial board are in the manuscript.

Conflict of interest

The authors of the article are the founders of the journal *Sedimentologika*.

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