

Curriculum Vitae

Or M. Bialik

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Short Bio:

I am a multi-disciplinary Earth's scientist studying oceanic and climatic changes in Earth's oceans present and geological past. My work integrates carbonate sedimentology, geochemistry, ocean sciences, and statistical analysis to reconstruct a complete picture of environmental change over time.

Education:

2007 - 2013: M.Sc. & Ph.D. Ben-Gurion University of the Negev, Israel (Combined program; conferred 12/06/2013).

2004 - 2007: B.Sc. Ben-Gurion University of the Negev, Geology and Environmental Sciences.

Employment history:

2022 – Present: Research Associate. Universität Münster, Institute of Geology and Paleontology.

2022 – Present: Researcher. University of Haifa, Dr. Moses Strauss Department of Marine Geosciences. **EMS-FORE** – Eastern Mediterranean Sea Future Ocean Research.

2020 - 2022: Marie Skłodowska Curie Research Fellow. University of Malta, Department of Geosciences. Host: Prof. Aaron Micallef. **RhodoMalta** – spatial pattern and evolution of temperate carbonate factories in the central Mediterranean (in collaboration with University of Hamburg and GEOMAR).

2019 - 2020: Postdoctoral Research Associate. University of Hamburg, Department of Earth Science, Institute of Geology, Working group Sedimentology and Stratigraphy. Mentor: Prof. Christian Betzler. Main projects: **MASCARA** – Spatial patterns and evolution of the Saya De Mala bank in the Western Indian Ocean. **MioEast** – German-Israeli Foundation for Scientific Research and Development (GIF) project to understand the timing and effect of the disconnection of the Mediterranean and the Indian Ocean.

2014 - 2019: Postdoctoral Research Associate. University of Haifa, Dr. Moses Strauss Department of Marine Geosciences. Mentors: Dr. Nicolas Waldmann & Dr. Yizhaq Makovsky. Main projects: **International Ocean discovery Project expedition 359** – reconstruction of the depositional of

the Maldives archipelago and its relation to the Miocene global oceanic reorganization.
MgSCALE – Joint Israel Science Foundation-China National Science Foundation research project to evaluate paleoceanographic Mg isotopic signals at both basin and global scales.

2013 - 2014: Postdoctoral Research Associate. Princeton University, Department of Geosciences. Mentor: Prof. John Higgins. Main project: **Spatial and temporal $\delta^{26}\text{Mg}$ patterns** in dolomites, observational and experimental studies, and developing applications of Mg isotopes for diagenetic evolution of carbonates.

2012 - 2013: Postdoctoral fellow. Weizmann Institute of Science, Department of Environmental Sciences and Energy Research. Mentor: Prof. Itay Halevy. Main project: **Characterization of limestone-dolostone transitions using mineralogy**, trace metals and stable isotopes. [Transitional post-doc awaiting approval of PhD thesis]

2009 - 2012: Graduate student internship. Geological Survey of Israel, Jerusalem.

2007 - 2008: Ben-Gurion University student association – internal auditor.

Teaching and instruction:

Graduate level classes

- 2024 - - *Universität Münster – How to write and publish a scientific paper*
- 2022 - - *Universität Münster – Carbonate Microfacies*
- 2016 - 2019 - *University of Haifa - The Mediterranean: Past, Present and Future International summer school course for Chinese students (Course administrator [joint] and course lecturer)*
- 2011 - 2012 - *Ben-Gurion University - Stratigraphic Micropaleontology (Teaching assistant)*

Undergraduate level classes

- 2015 - - *Ben-Gurion University - Stratigraphy (Field instructor)*
- 2007 to 2012 - - *Ben-Gurion University - Introduction to Sedimentology (lead TA, carbonate sed.)*
- 2007 to 2012 - - *Ben-Gurion University - Stratigraphy (lead TA)*
- 2011 to 2012 - - *Ben-Gurion University - Introduction to paleontology (lead TA)*
- 2009 to 2010 - - *Ben-Gurion University - Paleoecology (lead TA)*
- 2007 to 2011 - - *Ben-Gurion University - Fire, Ice and Rain of Iron: Changes in Earth History (lead TA)*

Other

- 2021 - - *University of Malta – Short course on Geology*
- 2015 - - *University of Haifa - Eocene mass transport sequences. Field trip (co-organizer)*

Students and mentees:

- 2023 - ongoing – M.Sc. Student, Nina J. Wolf (University of Münster, Germany). Joint supervisor with Prof. David De Vleeschouwer.
- 2023 - 2024 – M.Sc. Student, Jana Klisiewicz (University of Münster, Germany). Joint supervisor with Prof. David De Vleeschouwer.
- 2023 - ongoing – Post doc, Henriette Wilckens (University of Haifa, Israel). Co-mentor with Prof. Yizhaq Makovsky.
- 2023 - ongoing – Post doc (Marie Curie research fellow), Farkhondeh Kiani Harchegani (University of Malta, Malta). Co-mentor with Prof. Aaron Micallef and Prof. Dierk Hebbeln (MARUM).
- 2023 - ongoing – Ph.D. student, Winnie Bett (University of Haifa, Israel). Co-advisor with Prof. Yizhaq Makovsky. Dr. Aaron Meilijson and Dr. Zvi Steiner (GEOMAR).
- 2021 - 2024 – Ph.D. student, Jing Lyu (University of Münster, Germany). Supervising committee member, principal supervisor Prof. David De Vleeschouwer.
- 2019 - ongoing – Ph.D. student, Reinhard Weidlich (University of Fribourg, Swaziland). Supervising committee member, principal supervisor Prof. Anneleen Foubert.
- 2019 - 2020 – M.Sc. student, Carola Hincke (University of Hamburg, Germany). Supporting research consultant, principal supervisor Prof. Christian Betzler.
- 2017 - 2023 – Ph.D. student, Lawal Ajibola Muhedeen (University of Haifa, Israel). Supporting research consultant, principal supervisors Dr. Nicolas Waldmann and Dr. Yizhaq Makovsky.
- 2015 - 2018 – M.Sc. student, Mor Arnon (University of Haifa, Israel). Supporting research consultant, principal supervisors Dr. Nicolas Waldmann and Dr. Yizhaq Makovsky.
- 2014 - 2017 – M.Sc. student, Emily Finkelman (Ben-Gurion University of the Negev, Israel). Joint supervisor with Prof. Harold Vinegar and Prof. Chaim Benjamini.

Grants and third-party funding

Awarded

- 2024 – 2027 – Joint CNSF-ISF Research Grant – Pulsed seep carbonate deposition in the southeastern Mediterranean seafloor: deciphering the interrelation with deoxygenation, warming, and brine rejection. CI. Project leaders Yizhaq Makovsky (University of Haifa – PI) and Tianyu Chen (University of Najnig – PI) – 1,956,999 RMB + 1,079,991 NIS
- 2024 – 2025 – UKRI – CARAPACE: Calcite-Aragonite transition Across Pacific Atolls from the Cretaceous to the Eocene. CPI with Cédric John (Imperial college London, UK - PI) and CARAPACE Team – 999,440.13 £.
- 2023 – 2024 – University of Münster – Seed grant for DFG proposal – Control on Eocene authigenic silicification in the Tethys – 5,000 €
- 2023 – 2024 – University of Münster – Seed grant for DFG proposal – Impact of recent climate change in the Eastern Mediterranean – 5,000 €
- 2022 – University of Malta – Eocene environmental dynamics on the eastern Arabian Platform. Seed grant to establish research collaboration, PI with Aaron Micallef – 2,000 €

2021 – 2026 – Helmholtz Association of German Research Center - Eastern Mediterranean Sea Future Ocean Research (EMS-FORE). ECR-CPI, project leaders Eric Achterberg (GEOMAR – PI) and Ilana Berman-Frank (University of Haifa – PI) – 4,700,200 €

2021 – 2024 – Ministry of Energy (Israel) - Cold seeps and brine discharge in the deep Southeastern Mediterranean Sea: evaluating the sphere of influence. CPI with project leader Maxim Ruben-Blum (IOLR, Israel – PI) 570,000 NIS.

2021 – NAWI Graz GeoCenter Startup Grant, CPI with Gerald Auer (University of Graz, Austria – PI) and Christoph Hauzenberger (University of Graz, Austria – CPI) – 15,000 €

2020 – 2022 – H2020 – RhodoMalta (Marie Skłodowska Curie fellowship project) – evolution of coralline algae carbonate factory in the Central Mediterranean – 160,000 €.

2019 – COST-ACTION short term scientific mission - The Messinian Erosional surface in the Eratosthenes Seamount and its relation to basinal salt – 2,000 €.

2018 – 2019 – Delek Drilling LP and Ratio Oil Exploration - Cretaceous carbonate buildup analogues – 150,000 NIS.

2018 – 2020 – Ministry of Energy (Israel) - Strategic mapping of seafloor methane seepage edifice across the EEZ of Israel. CPI with Yizhaq Makovsky (University of Haifa, Israel – PI) – 370,000 NIS.

2017 – COST-ACTION short-term scientific mission – Facies and geochemical change in the lead up to the Messinian Salinity Crisis of the Maltese carbonate platform – 2,500 €.

2015 – 2018 – Ministry of Energy (Israel) - Colonization and diagenesis of Anthozoa and Porifera of the pelagic Levant ramp in the Late Maastrichtian and Early Danian. CPI with Sarit Ashckenazi-Polivoda (Arava Science center - PI) and Aaron Meilijson (University of Colorado, Boulder - CPI) – 194,120 NIS.

Contributor to GIF grant 1-1336-301.8/2016 (MioEast project), ISF/NSFC grant 41561144002/44890 (MgSCALE project).

Under review

2024 – 2026 – DFG – SiEo: Variability of the silica cycle in the extreme warming of the Eocene and the origin on chert. CPI with David De Vleeschouwer (University of Münster, Germany – PI) - 313,882 Euro

In preparation

2024 – 2026 – FWF – MIOMET: Late Miocene Indian Ocean- Mediterranean teleconnection. PI with Gerald Auer (University of Graz, Austria – PI) and Christoph Hauzenberger (University of Graz, Austria – CPI)

2025 – 2030 – ERC Consolidator – Climate control on holistic benthic assemblages – reconstruing geological record from field observation with machine learning for future scenario evaluation

Awards, Honors and Fellowships:

2020 – Early-Career Scientist Award, International Association of Sedimentologists.

2020 – Marie Skłodowska Curie fellowship.

2012 – Travel award, International Association of Sedimentologists.

2009 – Masters award for academic merit, Department of Geological and Environmental Sciences, Ben-Gurion University of the Negev.

2005, 2006 – Undergraduate scholarship award for students in Natural Sciences, Israeli Ministry of Education.

Research Expeditions:

Drilling ships

September to November 2015 – International Ocean Discovery Program expedition 359 - Sea Level, Currents, and Monsoon Evolution in the Indian Ocean. Sedimentologist.

Research vessels

December 2023 to February 2024 – GEOMAR / University of Haifa – EMS FORE 1 (MO197), Hydroacoustic + Sedimentologist.

May to June 2022 – Universität Hamburg, Institute of Geology – ICECARB cruise (SO292), Sedimentologist.

September to October 2019 – Universität Hamburg, Institute of Geology - MASCARA Cruise (SO270), Sedimentologist.

February 2018 – February 2019 - University of Haifa / Texas A&M University THAMO monthly cruises – Dissolved gasses geochemistry.

June 2017 – University of Haifa, Charney School of Marine Sciences scientific cruise – Deepwater leg. Sedimentologist.

September 2016 – Eurofleet project: SEMSEEPS – deep-sea cold seeps and associated communities. Sedimentologist.

June 2015 – University of Haifa, Dr. Moses Strauss Department of Marine Geosciences scientific cruise – Shelf to slope processes in southern Israel. Sedimentologist.

Other

August – September 2023 – Repository Core Re-Discovery Program (ReCoRD) expedition 23-01 - Tracing Intermediate Water Current Changes and Sea Ice Expansion in the Indian Ocean. Sedimentologist.

Skills and expertise:

Microscopy: Carbonate petrography; Loose grain analysis; Smear slides; Cathodoluminescence; Scanning electron microscope.

Analytical lab: X-Ray diffraction (mineralogical); X-Ray fluorescence; ICP-MS/OES (elemental) and MC-ICP-MS (isotopic); IRMS (inorganic + organic); HPIC (inorganic); FTIR; Column chemistry; Spectrophotometry; Titration; High precision analytical scale.

Computing: Office suite (MS-Office; LibreOffice); GIS (ArcGIS; QGIS); Seismic interoperation (Petrel; Kingdom; Paradigm); Vector graphics (InkScape; Adobe Illustrator); CAD (TinkerCAD); photogrammetry (Agisoft, Mashroom, LIME, Cloudcompare).

Fabrication: Carpentry; 3D printing; Soldering; Basic electronics.

Programming: MatLab; Python; R software.

Languages: English (native speaker level), Hebrew (native speaker level), German (rudimentary level).

Driving license: class B

Scuba Diving Certifications: Open Water, Advanced Open Water, Enhanced Air.

Scientific community activities:

Associated editor in *Sedimentologia*.

Peer reviewer for *Geology; Sedimentology; Carbonates and Evaporites; Minerals; Interpretation, SN Applied Sciences; Geochemistry, Geophysics, Geosystems; Journal of the Geological Society; Journal of Sedimentary Research; Revue de micropaléontologie; Palaeogeography, Palaeoclimatology, Palaeoecology; Quaternary Research; The Depositional Record; Chemical Geology; Gondwana Research; ACS Earth and Space Chemistry; Geosciences and Geochimica et Cosmochimica Acta*; thesis review for Ben-Gurion University (Israel), University of Haifa (Israel) and Queensland University of Technology (Australia); proposal reviewer for the National Science Foundation (USA), Polish National Science Center, EUROFLEET PLUS and the Israeli Science Foundation (ISF).

Session chair in AAPG, EGU, IGS, IAS and none society organized conferences.

Member of the scientific easement team for natural preserves in the Israeli EEZ. Member of the Israeli forum for carbon sequestration. Member of the organizational committee of the 11th International Field Workshop Pan-European Correlation of the Triassic, the 14th Gas in Marine Sediments meeting and the 1st International Conference on Seafloor Landforms, Processes and Evolution.

Membership in professional organization:

Member of the International association of sedimentologists (IAS), European Geosciences Union (EGU), Israeli Geological Society (IGS), SedsOnline.

Member of the United Nation's Division for Ocean Affairs and the Law of the Sea Pool of Experts.

List of publications

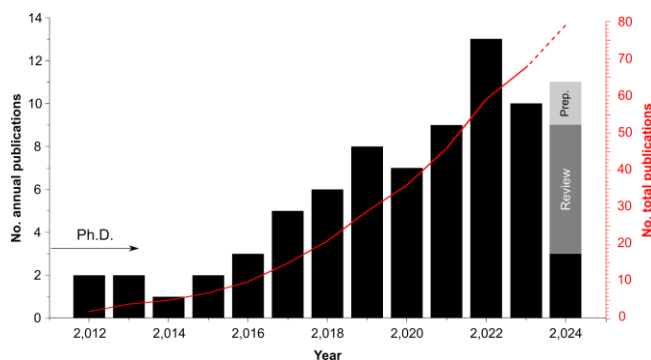
Dissertation

Bialik, O.M. (2013) Sedimentary configuration and cyclicity in the Late Triassic Mohilla Formation, Southern Israel. Ben-Gurion University of the Negev, 280 p.

Peer-Reviewed Papers

in chronological order, * indicates corresponding author/equal contributor when not the first author. Listed by year accepted. ‡ denotes student supervised or postdoc mentee.

1. Wichern, N.M.A. ‡, **Bialik, O.M.**, Nohl, T., Percival, L.M.E., Becker, R.T., Kaskes, P., Claeys P. & De Vleeschouwer, D. (2024) Astronomically-paced climate and carbon-cycle feedbacks in the lead-up to the Late Devonian Kellwasser Crisis. Climate of the Past. 20 (2), 415-448, 10.5194/cp-20-415-2024
2. Alonso-Garcia, M., Reolid, J., Jimenez-Espejo, F.J., **Bialik, O.M.**, Alvarez Zarikian, C. A., Laya, J.C., Carrasquiera, I., Jovane, L., Reijmer, J.J.G., Betzler, C. & Eberli, G.P. (2024) Sea-level and monsoonal control on the Maldives carbonate platform (Indian Ocean) over the last 1.3 million years. Climate of the Past. 20, 547–571, 10.5194/cp-20-547-2024
3. Xia, Z., Li, S., Hu, Z., **Bialik, O.M.**, Chen, T., Weldeghebriel, M.F., Fan, Q., Fan, J., Wang, X., An, S., Zhang, F., Xu, H., Chen, J., Ji, Z., Shen, S., Lowenstein, T.K., & Li, W. (2024) The evolution of Earth's surficial Mg cycle over the past 2 billion years. Science Advances. 10(9), 10.1126/sciadv.adj5474
4. **Bialik, O.M.**, Coletti, G., Mariani, L., Commissario, L., Desbiolles, F., & Meroni, N.M. (2023) Availability and type of energy regulate the global distribution of neritic carbonates. Scientific Reports. 13, 19687. 10.1038/s41598-023-47029-4
5. Auer, G., **Bialik, O.M.***, Antoulas, M.E., Vogt-Vincent, N. & Piller, W.E. (2023) Biotic Response of Plankton Communities to Middle to Late Miocene Monsoon Wind and Nutrient Flux Changes in the Oman Margin Upwelling Zone. Climate of the Past, 19(11), 2313–2340. 10.5194/cp-19-2313-2023
6. Lyu, G. ‡, Auer, G., **Bialik, O.M.**, Christensen, B., Yamaoka, R. & De Vleeschouwer, D. (2023) Astronomically-paced changes in paleoproductivity, winnowing, and mineral flux over Broken Ridge (Indian Ocean) since the Early Miocene. Paleoceanography and Paleoclimatology, 10.1029/2023PA004761.
7. Muhedeen, A.L. ‡, **Bialik, O.M.**, Lazar, M., Waldmann, N.D. & Makovsky, Y. (2023) Modes of Gas Migration and Seepage on the Salt-Rooted Palmahim Disturbance, Southeastern Mediterranean. Marine and Petroleum Geology, 153, 10.1016/j.marpetgeo.2023.106256
8. Weidlich, R. ‡, **Bialik, O.M.**, Rüggeberg, A., Grobéty, B., Vennemann, T., Neuman, A., Makovsky, Y. & Foubert, A. (2023) Occurrence and Genesis of Cold-Seep Authigenic Carbonates from the Southeastern Mediterranean Sea. The Depositional Record, 10.1002/dep2.239
9. Meilijson, A., **Bialik, O. M.**, Boudinot, F. G., Bown, P. R., Benjamini, C., Waldmann, N. D. & Sepúlveda, J. (2023). Long-term carbon sequestration in the Eocene of the Levant Basin through transport of organic carbon from nearshore to deep marine environments. Chemical Geology, 121800, 10.1016/j.chemgeo.2023.121800
10. Jacobson, Y., **Bialik, O.M.**, Silverman, J., Lazar, B., Burd-Villanova, D., Galilove, E., Rahav, E. & Sisma-Ventura, G. (2023) Desalination brines as a potential vector for CO₂ sequestration in the deep sea. Desalination. 10.1016/j.desal.2023.117234.
11. Nachum, O., **Bialik, O.**, Basson, U., Yasur-Landau, A. & Lazar, M. (2023) The Anthropogenic Affect—Humans and Geology: An Example from Tel Dor, Israel. Journal of Marine Science and Engineering, 11 (2), 283, 10.3390/jmse11020283



12. Coletti, G., Bosio, G., Collareta, A., **Bialik, O.M.**, Regattieri, E., Cornacchia, I., Insacco, G. & Buckeridge, J. (2023) Plio-Pleistocene barnacle-rich facies as a tool for high-resolution palaeoenvironmental reconstructions. Palaeogeography, Palaeoclimatology, Palaeoecology, 111914, 10.1016/j.palaeo.2023.111914
13. De Vleeschouwer, D., Nohl, T., Schulbert, C., **Bialik, O.M.** & Auer, G. (2023) Coring tools have an effect on lithification and physical properties of marine carbonate sediments. Scientific Drilling, 32. 10.5194/sd-32-43-2023.
14. **Bialik, O.M.**, Sisma-Ventura, G., Vogt-Vincent, N., Silverman, J. & Katz, T. (2022) Role of oceanic abiotic carbonate precipitation in future atmospheric CO₂ regulation. Scientific Reports, 12(1), 15970, 10.1038/s41598-022-20446-7. In 25 top paper in Earth, Environment and Ecology – 2022.
15. **Bialik, O.M.**, Bookman, R., Elyashiv, H., Marietou, A., Saar, R., Rivlin, T., Taha, N., Benaltabet, T., Lotem, N., Funaro, E. & Antler, G. (2022) Tropical storm-induced disturbance of deepwater porewater profiles, Gulf of Aqaba, Marine Geology, 453, 106926, 10.1016/j.margeo.2022.106926
16. **Bialik, O.M.**, Reolid, J., Kulhanek, D.K., Hincke, C., Waldmann, N.D. & Betzler, C. (2022) Sedimentary response to current and nutrient regime rearrangement in the Eastern Mediterranean during the early to middle Miocene (Southwestern Cyprus). Palaeogeography, Palaeoclimatology, Palaeoecology, 588, 110819, 10.1016/j.palaeo.2021.110819
17. **Bialik, O.M.**, Varzi, A.G., Duran Gallego, R., Le Bas, T., Gauci, A., Savini, A. & Micallef, A. (2022) Mesophotic depth biogenic accumulations (“biogenic mounds”) offshore the Maltese Islands, central Mediterranean Sea. Frontiers in Marine Sciences, 10.3389/fmars.2022.803687
18. Reolid, J., **Bialik, O.M.***, Puga-Bernabéu, Á., Zilberman, E., Cardenal, J. & Makowsky, Y. (2022) Evolution of a Miocene canyon and its carbonate infill in the pre-evaporitic Eastern Mediterranean. Facies, 68(6), 10.1007/s10347-022-00644-5
19. Sisma-Ventura, G., **Bialik, O.M.**, Makovsky, Y., Rahav, E., Ozer, T., Kanari, M., Marmen, S., Blekin, N., Guy-Haim, T., Antler, G., Herut, B. & Rubin-Blum, M. (2022) Cold seeps alter the near-bottom biogeochemistry in the ultraligotrophic Southeastern Mediterranean Sea. Deep-Sea Research Part I, 183, 103744, 10.1016/j.dsr.2022.103744 - *Selected Editors Choice*
20. Coletti, G., Commissario, L., Mariani, L., Bosio, G., Desbiolles, F., Soldi, M. & **Bialik, O.M.** (2022) Paleocene to Miocene southern Tethyan carbonate factories of the Southwestern and Western Central Asia. The Depositional Record, 10.1002/dep2.204
21. Zammit, R., Lear, C., Samankassou, E., Lourens, L., Pearson, P., Micallef, A. & **Bialik, O.M.** (2022) Early Miocene intensification of the North African hydrological cycle: multi-proxy evidence from the shelf carbonates of Malta. Paleoceanography and Paleoclimatology, 10.1029/2022PA004414
22. Herut, B., Rubin-Blum, M., Sisma-Ventura, G., Jacobson, Y., **Bialik, O.M.**, Lawal, M.A., Ozer, T., Kanari, M., Antler, G. & Makovsky, Y. (2022) Discovery and chemical composition of the eastmost deep-sea anoxic brine pools in the Eastern Mediterranean Sea. Frontiers in Marine Science, 10.3389/fmars.2022.1040681
23. Betzler, C., Lindhorst, S., Reijmer, J.J.G., Braga, J.C., Lüdmann, T., **Bialik, O.M.**, Reolid, J., Geßner, A.L., Hainbucher, D. & Bissessur, D. (2022) Carbonate platform drowning caught in the act: the sedimentology of Saya de Malha Bank (Indian Ocean). Sedimentology, 10.1111/sed.13032
24. Reich, T., Ben-Ezra, T., Belkin, N., Tsemel, A., Aharonovich, D., Roth-Rosenberg, D., Givati, S., **Bialik O.M.**, Herut, B., Berman-Frank, I., Frada, M., Krom, M.D., Lehahn, Y., Rahav, E. & Sher, D. (2022) A year in the life of the Eastern Mediterranean: Monthly dynamics of phytoplankton and bacterioplankton in an ultra-oligotrophic sea. Deep Sea Research Part I, 182, 103720, 10.1016/j.dsr.2022.103720
25. Muhedeen, L. A. ‡, Pecher, I., **Bialik, O.M.**, Waldmann, N.D., Bialas, J., Koren, Z., & Makovsky, Y. (2022) Multilevel Composition: A new method for revealing complex geological features in three-dimensional seismic reflection data. Marine and Petroleum Geology, 10.1016/j.marpetgeo.2022.105938

26. Wang, M., Chen, T., Feng, D., Zhang, X., Li, T., Robinson, L.F., Liang, Q., **Bialik, O.M.**, Liu, L. & Makovsky, Y. (2022) Uranium-thorium isotope systematics of cold-seep carbonate and their constraints on geological methane leakage activities. *Geochimica et Cosmochimica Acta*, 320, p. 105-121, 10.1016/j.gca.2021.12.016
27. **Bialik, O.M.**, Jarochowska, E. & Grossowicz, M. (2021) Ordination analysis in sedimentology, geochemistry and paleoenvironment - background, current trends and recommendations. *The Depositional Record*, 7(3), p. 541-563, 10.1002/dep2.161
28. **Bialik, O.M.**, Zammit, R. & Micallef, A. (2021) Architecture and sequence stratigraphy of the Upper Coralline Limestone formation, Malta – implications for Eastern Mediterranean restriction prior to the Messinian Salinity Crisis. *The Depositional Record*, 7(2), p. 256-270, 10.1002/dep2.138
29. Hu, Z., **Bialik, O.M.***, Hohl, S.V., Xia, Z., Waldmann, N.D., Liu, C. & Li, W. (2021) The response of Mg isotopes to dolomitization during sea-level fluctuations: Constraints on the hydrological condition of massive dolomitization system. *Sedimentary Geology*, 420, 105922, 10.1016/j.sedgeo.2021.105922
30. Petrash, D., **Bialik, O.M.***, Staudigel, P.T., Konhauser, K.O. & Budd, D. (2021) Biogeochemical reappraisal of the freshwater-seawater mixing zone diagenetic model. *Sedimentology* (State of Science), 68(5), p. 1797-1830, 10.1111/sed.12849
31. Opuwari, M., **Bialik, O.M.**, Waldmann, N.D. (2021) The role of detrital components in the petrophysical parameters of Paleogene calcareous-dominated hemipelagic deposits. *Arabian Journal of Geosciences*, 14, 1027, 10.1007/s12517-021-07328-4
32. Betzler, C., Lindhorst, S., Lüdmann, T., Reijmer, J.J., Braga, J-C., **Bialik, O.M.**, Reolid, J., Schutter, I., Eisermann, J.O., Emeis, K., Rixen, T. & Bissessur, D. (2021) Current and sea-level control the demise of shallow carbonate production on a tropical bank (Saya de Malha Bank, Indian Ocean). *Geology*, 49 (12), p. 1431–1435, 10.1130/G49090.1
33. Coletti, G., Balmer, E.M., **Bialik, O.M.**, Cannings, T., Kroon, D., Robertson, A.H.F. & Basso, D. (2021) Microfacies evidence for the evolution of Miocene coral-reef environments in Cyprus. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 584, 110670, 10.1016/j.palaeo.2021.110670
34. Fokkema, C.D., Buijs, S., **Bialik, O.M.**, Meilijson, A., Waldmann, N.D., Makovsky, Y., Frieling, J., Dickens, G.R. & Sluijs, A. (2021) Late Paleocene to middle Eocene carbon isotope stratigraphy of the Northern Negev, Southern Israel: potential for paleoclimate. *Newsletters on Stratigraphy*, 55(3), p. 361 – 384, 10.1127/nos/2022/0684
35. Spiro, B., Ezra, O., Najorka, J., Delgado, A., **Bialik, O.**, Ben-Avraham, Z., Coleman, D. & Makovsky, Y. (2021) Mineralogical, chemical and stable C and O isotope characteristics of surficial carbonate structures from the Mediterranean offshore Israel indicate microbial and thermogenic methane origin. *Geo-Marine Letters*, 41, 17, 10.1007/s00367-021-00684-w
36. Micallef, A., Paull, C. K. Saadatkhah, N., & **Bialik, O.M.** (2021) The role of fluid seepage in the erosion of Mesozoic carbonate escarpments, *Journal of Geophysical Research: Earth Surface*, 10.1029/2021JF006387.
37. **Bialik, O.M.**, Samankassou, E., Meilijson, A., Waldmann, N.D., Steinberg, J., Karcz, K. & Makovsky, Y. (2020) Short lived Cenomanian volcanic atolls of Mt. Carmel, northern Israel. *Sedimentary Geology*, 411, 105805, 10.1016/j.sedgeo.2020.105805
38. **Bialik, O.M.**, Reolid, J., Waldmann, N.D., Betzler, C. & Eberli, G.P. (2020). Source shifts to periplatform deposits during the early to middle Miocene in response to climatic and oceanographic forcing, Maldives, western Indian Ocean. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 559, 109969, 10.1016/j.palaeo.2020.109969
39. **Bialik, O.M.**, Auer, G., Ogawa, N.O., Kroon, D., Waldmann, N.D. & Ohkouchi, N. (2020) Monsoons, upwelling and the deoxygenation of the northwestern Indian Ocean in response to Middle to Late Miocene global climatic shifts. *Paleoceanography and Paleoclimatology*, 35 (2), 10.1029/2019PA003762 – *Top downloaded AGU paper for 2020*
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- Bialik, O.M.**, Betzler, C., Braga, C.J., Reijmer, J.J.G., Reolid, J. & Lindhorst, S. (Submitted to *The Depositional Record*) Changes in mesophotic carbonate-platform export across the end of the last glacial cycle (Saya de Malha Bank, western Indian Ocean)
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Betzler, C.G., Eberli, G.P., Alvarez Zarikian, C.A., and the Expedition 359 Scientists (including **Bialik, O.M.**) (2016). Expedition 359 Preliminary Report: Maldives Monsoon and Sea Level. International Ocean Discovery Program. <http://dx.doi.org/10.14379/iodp.pr.359.2016>.

Bialik, O.M., (2011). Depositional environments, diagenesis, and development of the subsurface Kurnub Basin, Mohilla Formation (Late Triassic) – comparative insights from the Ramon Basin, GSI report GSI/01/2011, 79 p. (In Hebrew).

Field Guidebooks

Bialik, O.M., Meilijson, A., Steinberg, J., Karcz, K., Waldmann, N.D., & Makovsky, Y. (2019) Albian to Turonian Carbonate facies of Mt. Carmel. AAPG Geosciences Technology Workshops, Tel Aviv

Bear, G., Weinberger, R., Anenburg, M., **Bialik, O.** and Teutsch, N. (2017). Dykes, their surroundings and volcanic collapse structures in east Makhtesh Ramon, summarizing 30 years of research. Israel Geological Society Annual Meeting, Mitzpe Ramon (In Hebrew).

Bialik, O.M., Korngreen, D. & Benjamini, C. (2014). The Ladinian-Carnian succession at Makhtesh Ramon. In: Korngreen, D. and Benjamini, C. (Eds). Triassic outcrops in the Negev – NW Gondwana margin of the Neo-Tethys. pp. 49-65.

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Korngreen, D., Weinbaum-Hefetz, M., **Bialik O.M.**, Benjamini, C. & Avny, Y. (2014). Western 'Arief Makhtesh excursion. In: Korngreen, D. and Benjamini, C. (Eds). Triassic outcrops in the Negev – NW Gondwana margin of the Neo-Tethys. pp. 66-86.

Bialik, O.M., Kantorovitch A., Meilijson A., Korngreen D. & Benjamini C. (2011). New investigations of the Triassic carbonate-evaporite system of Makhtesh Ramon: Subsidence, suppressed sedimentation and syndimentary tectonics in a stressed ecological environment. Israel Geological Society Annual Meeting, Mitzpe Ramon, 2011, p. 29-52. (In Hebrew).

Invited Talks, keynotes and Seminars

2024 - Miocene evolution of the Indian Ocean circulation and monsoon system, *University of Miami, Rosenstiel School of Marine, Atmospheric, and Earth Science*. April 8th.

2023 - Regulation on the southeastern Mediterranean inorganic carbon cycle, *GEOMAR (EMS FORE seminar)*, March 16th. Controls and variability of productivity in the northwest Indian Ocean, *Monsoon Geo Seminar series*, March 29th. Miocene evolution of the Mediterranean following decoupling from the Indian Ocean, *DGGV Sedimentology Lunch seminar series*. November 9th.

2022 - Mediterranean environmental rearrangements through the Miocene in light of variation in oceanic gateways connectivity. *Israeli Geological Survey*, March 13th. Miocene paleo productivity patterns in the Northern Indian Ocean, *MARUM*, November 21st. The Cretaceous evolution of the Levant Platform, *Khalifa University*, December 15th.

2021 - Insights from the southwestern Tethys - the Cretaceous evolution of the Levant Platform. Keynote talk, *35th IAS meeting, Prague*, June 23rd. *Università degli Studi di Napoli Federico II*, September 23rd.

2020 - The end of the Tethyan Seaway - oceanographic rearrangement and biogenic response. *University of Kiel*, January 27th.

2019 - Late Miocene teleconnection between the Indian Ocean and the Mediterranean the manifestation of the Messinian Salinity Crisis in the Western Indian Ocean. *University of Bremen, German Israeli Foundation young scientists meeting (Going down into the abyss: Ocean-Floor Processes, Deep Life, and Climate Archives)*, October 30th.

2018 - Closure of the Tethyan seaway - Timing and effect on Mediterranean and Indian Ocean oceanography. *Inter-University Institute for Marine Sciences in Eilat*, November 1st. *Tel Aviv University*, November 5th. *Ben-Gurion University*, November 27th.

2017 - Early Cretaceous record of sea level rise, anoxia and marine restriction of the Levant shelf. *University of Haifa*, May 15th. Miocene depositional regimes of the Maldives carbonate peri-platform settings – role of platform geometry and sea level. *University of Malta*, Sep 15th. Late Triassic climatic forcing of the Levant region - Western Tethyan Gondwanan Margin. *Nanjing University*, Oct 18th.

2016 - Carbonate depositional paradigms, monsoons and the dawn of the modern oceans - New insights from the Maldives (IODP Exp. 359). *University of Haifa*, January 18th. *IOLR*, November 17th.

2014 - The fill and cap of the Mohilla evaporite basins: Tectonic and sea level control accumulation patterns. *11th international field workshop – Pan-European correlation on the Triassic*, Feb 13th. Mesozoic oscillations of major ions in seawater. *West Virginia University*, March 25th. A multi proxy approach to the study of dolomitization and the variability of magnesium isotopes in dolomites. *Geological survey of Israel*, October 25th.

2011 - *Triassic small evaporite basins on the Levant margin: sedimentological and structural perspectives*, *Università di Modena e Reggio Emilia*, Mar 31st.

Abstracts, Presentations and Proceedings (Last 5 years)

- Makovsky, Y., **Bialik, O.M.**, Lawal, M.A., Sørensen, O.J.R., van Rijn, I., Neuman, A., Einbinder, S., Nativ, H., Scheinin, A., Tchernov, D., Meilijson, A., Waldmann, N.D., Kanari, M., Giladi, A. & Rubin-Blum, M. (2024) Synthetic Aperture Sonar – a new tool for deep-sea environmental assessment and monitoring. 2st international conference on seafloor processes, Lipari, Italy
- Bialik, O.M.**, Gadol, O., Micallef, A., Betzler, C., Nativ, H., Barkan, R. & Makovsky, Y. (2024) Internal waves and bottom currents interactions around mesophotic reefs, southeastern Mediterranean. 2st international conference on seafloor processes, Lipari, Italy
- Wilckens, H., Lawal, M. A., **Bialik, O.M.** & Makovsky, Y., (2024) Quaternary climate fluctuation controls environmental signal transfer to the eastern Mediterranean Sea . 2st international conference on seafloor processes, Lipari, Italy
- Weidlich, R., **Bialik, O.M.**, Caldwell, J., Rüggeberg A., Makovsky, Y., Birgel, D., Peckmann, J. & Foubert, A. (2023) Novel in-situ Surface-enhanced Raman Spectroscopy reveals organic signatures in seep carbonates. Microbialites: Formation, Evolution and Diagenesis (M-Fed2023), Leysin.
- Bialik, O.M.**, Bookman, R., Elyashiv, H., Marietou, A., Saar, R., Rivlin, T., Taha, N., Benalabet, T., Lotem, N., Funaro, E. & Antler, G. (2023) Impact of storm-induced disturbance on slope diagenetic processes - caught in the act. 36th IAS meeting, Dubrovnik.
- Bialik, O.M.**, Coletti, G., Mariani, L., Commissario, L., Desbiolles, F. & Meroni, A. (2023) Global shelfal carbonate factory, processes and patterns. 36th IAS meeting, Dubrovnik.
- Reolid, J., Betzler, C., **Bialik, O.M.**, Eisermann, J.O., Lindhorst, S. & Petrovic, A. (2023) Anatomy of a new type of mesophotic Halimeda bioherm (Queensland Plateau, NE Australia). 36th IAS meeting, Dubrovnik.
- Bialik, O.M.**, Reolid, J., Kulhanek, D.K., Hincke, C., Waldmann, N.D. & Betzler, C. (2023) The impact of Indian Ocean - Mediterranean gateway closure on the current and nutrient regime in the Eastern Mediterranean during the early to middle Miocen, EGU 2023, Vienna, Austria.
- Auer, G., **Bialik, O.M.**, Antoulas, M.E., & Piller, W.E., (2023) Middle to Late Miocene responses of primary producers to monsoonal upwelling in the western Arabian Sea, EGU 2023, Vienna, Austria.
- Wichern, N.M.A. ‡, **Bialik, O.M.**, Percival, L.M.E., Kaskes, P., Nohl, T., Beckerl, R.T. & De Vleeschouwer, D. (2023) Decoding the role of terrestrial/atmospheric interactions in Late Devonian Kellwasser black shale deposition: a high resolution cyclostratigraphic study of the Winsenberg section (Rhenish Massif, Germany), EGU 2023, Vienna, Austria.
- Mannucci, A., Fokkema, C., Kelly, L., **Bialik, O.M.**, Dickens, G.R., Sluijs, A. & Galeotti, S. (2023) Orbital chronology of Early Eocene hyperthermals from Site RH-323, Northern Negev (Israel) , EGU 2023, Vienna, Austria.
- Fokkema, C., Agterhuis, T., Kelly, L., Mannucci, A., Theijse, B., **Bialik, O.M.**, Bijl, P., Brinkhuis, H., Peterse, F., Galeotti, S., Dickens, G.R., & Sluijs, A (2023) Environmental consequences of early Paleogene hyperthermal events at Site RH-323, Northern Negev, EGU 2023, Vienna, Austria.
- Bialik, O.M.** & Micallef, A. (2022) Sediment distribution control by internal waves and bottom currents in Mediterranean mesophotic peri-reefal environments, July 2022, 1st international conference on seafloor processes, Malta.
- Durán, R., Guillén, J., **Bialik O. M.**, Lo Iacono C., Marco C., Muñoz A., Le Bas T. & Micallef A. (2022) Sorted bedforms dominated by coarse-grained sediment in the Mediterranean Sea, July 2022, 1st international conference on seafloor processes, Malta.
- Muhedeen L. A. ‡, **Bialik O.M.**, Waldmann N., Lazar M. & Makovsky Y. (2022) Seabed hydrocarbon seepage linked to overlapping subsurface fluid flow systems, July 2022, 1st international conference on seafloor processes, Malta.
- Makovsky, Y., Rubin-Blum, M., **Bialik, O. M.**, Lawal, M. A., Antler, G., Zvi-Kedem, T., Meilijson, A., Herut, B., Resnik, I., Kanari, M., Gilad, A., Sisma-Ventura, G., Guy-Haim, T., Treibitz T. & Berman-Frank I. (2022) A new discovery of pronounced methane and brine seepage, and an associated biodiversity hotspot, on Palmahim disturbance offshore Israel, July 2022, 1st international conference on seafloor processes, Malta.
- Omri G., Katz O., Kanari M., **Bialik O.M.** & Makovsky Y. (2022) Mass transport complexes reactivation revealed through multiscale geophysical observation, July 2022, 1st international conference on seafloor processes, Malta.
- Weidlich, R. ‡, **Bialik, O.M.**, Pettke, T., Rüggeberg, A., Grobety, B., Vennemann, T., Makovsky, Y. & Foubert, A. (2022) Insights into the REE Characteristics and Formation Conditions of Southeastern Mediterranean Seep Carbonates. July 2022, Goldschmidt Conference, Hawaii
- Meilijson, A., Reznik, I. J., Rosenberg, Y.O., **Bialik, M.O.**, Kanari, M., Giladi, A., Ozer, T., Bronstein, O., Sisma-Ventura, G., Berman-Frank, I., Herut, B., Rubin-Blum, M. & Makovsky, Y. (2022) Characterization of seafloor gas emanations and their potential linkage with sub-sea reservoirs in the Levant Basin. April 2022. Israeli Geological Society meeting, Nir Etzyon.
- Bialik, O.M.**, Lüdmann, T., Coletti, G., Meilijson, A., Makovsky, Y., Waldmann, N.D., Erhardt, A., Hübscher, C. & Betzler, C. (2021) Shifting shallow-water carbonate factories in the Eastern Mediterranean's Miocene, 35th IAS meeting, Prague.

- Weidlich, R. †, **Bialik, O.M.**, Rüggeberg, A., Vennemann, T., Makovsky, Y., & Foubert, A., (2021) Geochemical characterization of seep carbonates from the Palmachim Disturbance in the Eastern Mediterranean Sea, 35th IAS meeting, Prague.
- Bialik, O.M.**, Bookman, R., Saar, R., Taha, N. & Antler, G. (2021) Tropical storm induced disturbance of deep water porewater profiles, Gulf of Aqaba, March 2020. Israeli Geological Society meeting, Yeruham.
- Bialik, O.M.**, Samankassou, E., Meilijson, A., Waldmann, N.D., Steinberg, J., Karcz, K. & Makovsky, Y. (2021) Short lived Cenomanian volcanic atolls of Mt. Carmel, northern Israel. Israeli Geological Society meeting, Yeruham.
- Bialik, O.M.**, Jarochowska, E. & Grossowicz, M. (2021) Ordination analyses in sedimentology, geochemistry and paleoenvironment - current trends and recommendations. vEGU21: Gather Online.
- Zammit, R., Lear, C., **Bialik, O.M.**, Samankassou, E., Lourens, L., Micallef, A. & Pearson, P. (2020) Tectonically driven climate instability during the Early Miocene, evidence from the shelf carbonates of Malta. 59th BSRG meeting.
- Bialik, O.M.**, Lüdmann, T., Coletti, G., Meilijson, A., Makovsky, Y., Waldmann, N.D., Erhardt, A., Hübscher, C. & Betzler, C. (2020) Geometric changes of carbonate platforms through the Miocene and implication to changes in modes of production; Eratosthenes Seamount, Eastern Mediterranean. The Carbonate Forum 1st meeting.
- Auer, G., Christensen, B.A., **Bialik, O.M.**, Ogawa, N.O., Yamaoka, R., Antoulas, M.E., De Vleeschouwer, D., Kroon, D., Ohkouchi, N. & Piller, W. (2020) Timing and pacing of middle to late Miocene intensification of the Indian Ocean-Atmospheric circulation system. EGU2020: Sharing Geoscience Online.
- Bialik, O.M.**, Meilijson, A., Betzler, C., Makovsky, Y. & Waldmann, N.D. (2020) The manifestation of the Messinian Salinity Crisis in the Indian Ocean. MedSalt consortium meeting, Piran, Slovenia.
- Auer, G., **Bialik, O.M.**, Ogawa, N.O., Yamaoka, R., Antoulas, M.E., De Vleeschouwer, D., Christensen, B.A., Kroon, D., Piller, W. & Ohkouchi, N. (2020) Pacing the Miocene Monsoon System – Are there links to Indian Ocean circulation and migrating southern hemisphere climate belts? Chapman meeting (AGU) Evolution of the Monsoon in Cenozoic Asia, Washington, D.C., USA.
- Dedrick, J., Yvon-Lewis, S. A., Makovsky, Y., **Bialik, O.M.**, Sher, D. (2020) Distributions and Air-Sea Exchange of Methane and Nitrous Oxide in the Levantine Basin. AGU Ocean Sciences Meeting 2020, San Diego, USA.