

Biomass-derived graphene-like catalyst material for oxygen reduction reaction

Kaare, Kätlin; Yu, Eric; Käämbre, Tanel; Volperts, Aleksandrs; Dobeles, Galina; Zhurinsh, Aivars; Niaura, Gediminas; Tamasauskaitė-Tamasiunaite, Loreta; Norkus, Eugenijus; Kruusenberg, Ivar ChemNanoMat 2021 <https://doi.org/10.1002/cnma.202000615>

Boron and Fluorine Co-Doped Graphene/Few-Walled Carbon Nanotube Composite as Highly Active Electrocatalyst for Oxygen Reduction Reaction

Raudsepp, Ragle; Türk, Karl-Kalev; **Zarmehri, Ehsan;** Joost, Urmas; Rauwel, Protima; Saar, Rando; Mäeorg, Uno; Dyck, Alexaner; Bron, Michael; Chen, Zhongming; Noda, Suguru; Kruusenberg, Ivar; Tammeveski, Kaido ChemNanoMat 2024 / art. e202300546, 11 p. : ill <https://doi.org/10.1002/cnma.202300546>

CO₂ transformed into highly active catalysts for the oxygen reduction reaction via low-temperature molten salt electrolysis

Rommel, Anna-Liis; Ratso, Sander; Liivand, Kerli; **Danilson, Mati;** Kaare, Kätlin; **Mikli, Valdek;** Kruusenberg, Ivar Electrochemistry Communications 2024 / art. 107781 <https://doi.org/10.1016/j.elecom.2024.107781> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

CO₂ turned into a nitrogen doped carbon catalyst for fuel cells and metal-air battery applications

Ratso, Sander; **Walke, Peter;** **Mikli, Valdek;** Locs, Janis; Šmits, Krišjānis; Vitola, Virginija; Šutka, Andris; Kruusenberg, Ivar Green chemistry 2021 / p. 4435–4445 <https://doi.org/10.1039/D1GC00659B> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Development of catalysts for oxygen electroreduction: a doping approach = Katalüsaatomaterjalide arendamine hapniku redutseerimise tarvis: dopeerimis põhine lähenemine

Zarmehri, Ehsan 2025 https://www.ester.ee/record=b5762653*est <https://digikogu.taltech.ee/et/Item/e858a3f4-f230-4c7e-ba9e-deeabf721463> <https://doi.org/10.23658/taltech.69/2025>

Electrocatalysis of oxygen reduction on multi-walled carbon nanotube supported copper and manganese phthalocyanines in alkaline media

Kaare, Kätlin; Kruusenberg, Ivar; Merisalu, Maido; Matisen, Leonard; Sammelselg, Väino; Tammeveski, Kaido Journal of solid state electrochemistry 2016 / p. 921–929 : ill <https://doi.org/10.1007/s10008-015-2990-9>

The electrochemical reduction of oxygen on noble metal free and biomass-based carbon nanomaterials = Hapniku elektrokeemiline redutseerumine väärismetalli-vabadel ja biomassil põhinevatel süsiniku nanomaterjalidel

Kaare, Kätlin 2022 <https://doi.org/10.23658/taltech.48/2022> <https://digikogu.taltech.ee/et/Item/0e17c0ff-8910-49a1-a7f3-8525b28b4b77> https://www.ester.ee/record=b5511685*est

Electrochemical Reduction of Oxygen on Platinum-Modified Carbon Materials = Elektrokeemiline hapniku redutseerumine platinaga modifitseeritud süsinikmaterjalidel

Najafli, Erkin 2025 <https://digikogu.taltech.ee/et/Item/2da3885d-1ab1-4847-8647-ab7629641de8> https://www.ester.ee/record=b5746298*est <https://doi.org/10.23658/taltech.33/2025>

Functionalization of CO₂-Derived Carbon Support as a Pathway to Enhancing the Oxygen Reduction Reaction Performance of Pt Electrocatalysts

Najafli, Erkin; Ratso, Sander; Foroozan, Amir; Noor, Navid; Higgins, Drew C.; Kruusenberg, Ivar Energy & fuels 2024 / p. 15601–15610 : ill <https://doi.org/10.1021/acs.energyfuels.4c02407>

Heteroatom-doped nanocarbons derived from black liquor as the oxygen reduction reaction catalysts

Kaare, Kätlin; Kruusenberg, Ivar; Volperts, Aleksandrs; Zhurinsh, Aivars; Dobeles, Galina; **Walke, Peter;** **Mikli, Valdek** GSFMT Scientific Conference 2021 : Tartu, June 14-15, 2021 : abstracts 2021 / P 53 https://fntdk.ut.ee/wp-content/uploads/2021/06/GSFMT_abstractbook_2021.pdf

Highly active wood-derived nitrogen-doped carbon catalyst for the oxygen reduction reaction

Kaare, Kätlin; Yu, Eric; Volperts, Aleksandrs; Dobeles, Galina; Zhurinsh, Aivars; Dyck, Alexaner; Niaura, Gediminas; Tamasauskaitė-Tamasiunaite, Loreta; Norkus, Eugenijus; Andrulevičius, Mindaugas; **Danilson, Mati;** Kruusenberg, Ivar ACS omega 2020 / p. 23578-23587 : ill <https://doi.org/10.1021/acsomega.0c01974> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Identification of active sites for oxygen reduction reaction on nitrogen- and sulfur-codoped carbon catalysts

Villemson, Karl Markus; **Kaare, Kätlin;** Raudsepp, Ragle; Käämbre, Tanel; Šmits, Krišjānis; Wang, Pangpang; Kuzmin, Anton V.; Šutka, Andris; Shaiyana, Bagrat A.; Kruusenberg, Ivar Journal of physical chemistry C 2019 / p. 16065-16074 <https://doi.org/10.1021/acs.jpcc.9b00117>

Lead and nitrogen co-doped multi-walled carbon nanotube electrocatalyst for oxygen reduction reaction

Zarmehri, Ehsan; Raudsepp, Ragle; Šmits, Krišjānis; Käämbre, Tanel; Šutka, Andris; **Yörük, Can Rüstü;** Zacs, Dzintars; Kruusenberg, Ivar Journal of The Electrochemical Society 2023 / art. 114505, 10 p. : ill <https://doi.org/10.1149/1945-7111/ad0072> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

New carbon-based catalyst synthesis from spent li-ion batteries for electrochemical oxygen reduction

Kazemi, Maryam; Liivand, Kerli; Kruusenberg, Ivar; **Walke, Peter; Mikli, Valdek; Uibu, Mai**; Macdonald, Digby D. GSFMT Scientific Conference 2021 : Tartu, June 14-15, 2021 : abstracts 2021 / P 42 https://fmtdk.ut.ee/wp-content/uploads/2021/06/GSFMT_abstractbook_2021.pdf

Nickel and nitrogen-doped bifunctional ORR and HER electrocatalysts derived from CO₂

Rommel, Anna-Liis; Ratso, Sander; Divitini, Giorgio; **Danilson, Mati; Mikli, Valdek; Uibu, Mai**; Aruväli, Jaan; Kruusenberg, Ivar ACS Sustainable Chemistry and Engineering 2022 / p. 134-145 <https://doi.org/10.1021/acssuschemeng.1c05250> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optimizing Pt catalyst performance for oxygen reduction reaction via surface functionalization of Vulcan XC-72R carbon black support

Najafli, Erkin; Grossberg, Maarja; Mikli, Valdek; Walke, Peter R.; Ratso, Sander; Kruusenberg, Ivar Journal of Applied Electrochemistry 2025 / p. 1187–1200 <https://doi.org/10.1007/s10800-024-02238-1>

Oxygen electroreduction on Fe-containing nitrogen-doped carbon nanotubes

Ratso, Sander; Kruusenberg, Ivar; Sarapuu, Ave; **Rauwel, Protima** BEC 16 : the 6th Baltic Electrochemistry Conference : Electrochemistry of Functional Interfaces and Materials : 15th-17th June 2016, Helsinki, Finland 2016 / p. 18

Oxygen electroreduction on Zinc and Dilithium phthalocyanine modified multiwalled carbon nanotubes in alkaline media

Türk, Karl-Kalev; Kaare, Kätlin; Kruusenberg, Ivar; Merisalu, Mado; Joost, Urmas; Matisen, Leonard; Sammelselg, Väino; Zagal, José H.; Tammeveski, Kaido Journal of the Electrochemical Society 2017 / p. H338-H344 : ill <https://iopscience.iop.org/article/10.1149/2.0821706jes/pdf>

Spent Li-Ion battery graphite turned into valuable and active catalyst for electrochemical oxygen reduction

Liivand, Kerli; Kazemi, Maryam; **Walke, Peter; Mikli, Valdek**; Macdonald, Digby D.; Kruusenberg, Ivar ChemSusChem 2021 / p. 1103-1111 <https://doi.org/10.1002/cssc.202002742> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Sustainable CO₂-derived nanoscale carbon support to a platinum catalyst for oxygen reduction reaction

Najafli, Erkin; Ratso, Sander; Ivanov, Y.P.; Gatalo, M.; Pavko, L.; Yörük, Can Rüstü; Walke, Peter; Divitini, G.; Hodnik, N.; Kruusenberg, Ivar GSFMT Scientific Conference 2023 : Tartu, 23-24 May, 2023 : abstracts 2023 <https://fmtdk.ut.ee/programm-2023/>

Sustainable CO₂-derived nanoscale carbon support to a platinum catalyst for oxygen reduction reaction

Najafli, Erkin; Ratso, Sander; Ivanov, Yurii P.; Gatalo, Matija; Pavko, Luka; Yörük, Can Rüstü; Walke, Peter; Divitini, Giorgio; Hodnik, Nejc; Kruusenberg, Ivar ACS Applied Nano Materials 2023 / p. 5772-5780 : ill <https://doi.org/10.1021/acsanm.3c00208> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Upcycling Li-Ion Battery Waste into Sustainable Electrocatalysts for Zinc-Air Battery Application = Liitumioonakude jäätmete väärimine ressursitõhusateks katalüsaatormaterjalideks tsink-õhk akude tarvis

Praats, Reio 2025 https://www.ester.ee/record=b5759684*est <https://digikogu.taltech.ee/et/Item/d902a21f-04e5-4ea7-b4cd-fe03752a55dc> <https://doi.org/10.23658/taltech.66/2025>

Vanadium and carbon composite electrocatalyst for oxygen reduction reaction

Zarmehri, Ehsan; Raudsepp, Ragle; **Danilson, Mati**; Šutka, Andris; Kruusenberg, Ivar Materials chemistry and physics 2023 / art. 128162, 10 p. : ill <https://doi.org/10.1016/j.matchemphys.2023.128162> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)