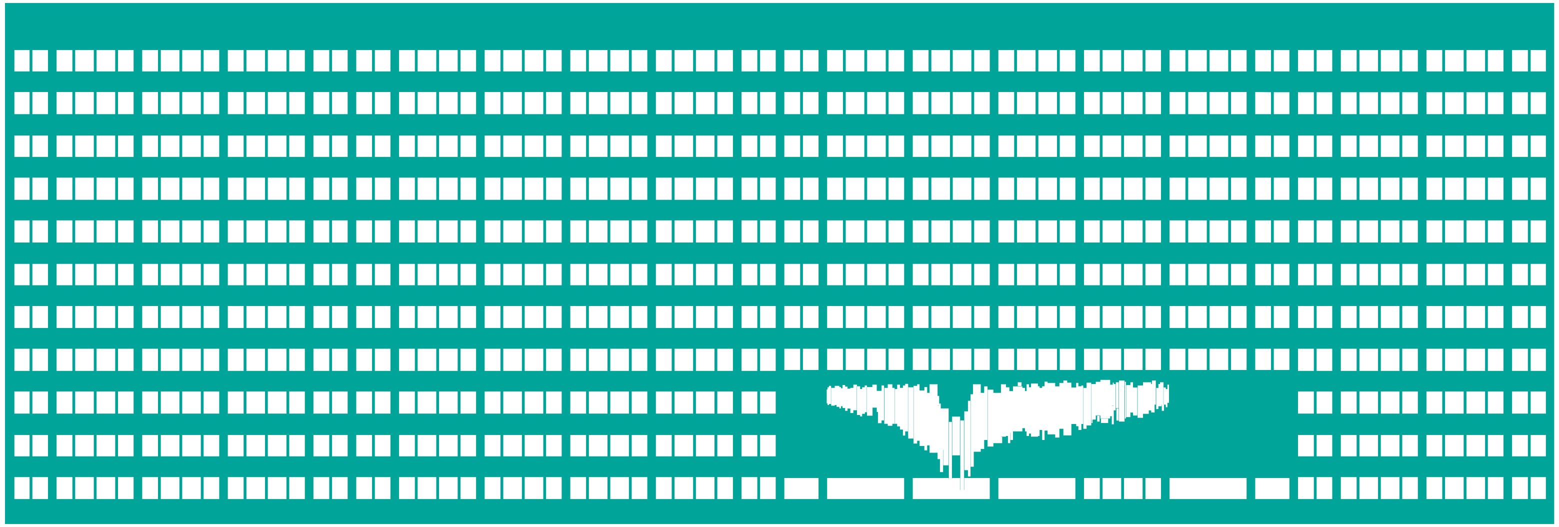
VŠB TECHNICKÁ UNIVERZITA OSTRAVA

VSB TECHNICAL UNIVERSITY OF OSTRAVA



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VSB TECHNICAL
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OF OSTRAVA

University Journal Club

MAX group activities

Vlastimil Matějka

Our Team:

MAX group

<u>Senior researchers</u>

Vlastimil Matějka
Kryštof Foniok

<u>PostDoc researcher</u>

Facundo Barraque

<u>PhD student</u>

Ondřej Mušálek

<u>Students</u>

Bohdan Polishuchuk
Kristina Schmidtová
Adam Rath
Tomáš Rafael
Tomáš Králíček
Aleyna Yildrim

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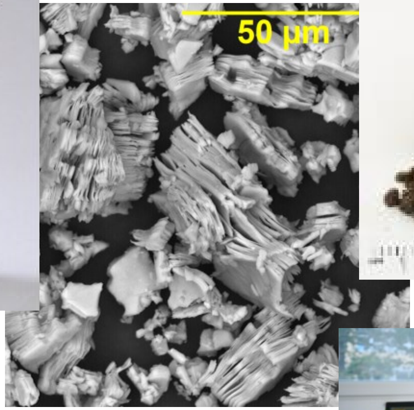
Research Focus

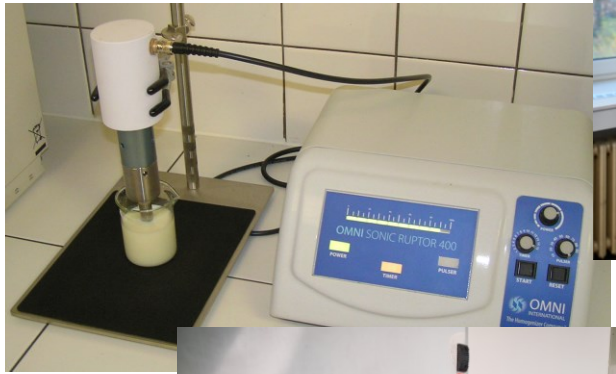
Photocatalytic materials

MAX phases and MXenes

Valorisation of industrial waste material

Searching for the waste as a source of CRM





Outputs

Articles

ARTICLE IN PRESS

Journal of the Taiwan Institute of Chemical Engineers xxx (xxxx) xxx

Contents lists available at ScienceDirect

Journal of the Taiwan Institute of Chemical Engineers

ELSEVIER journal homepage: www.journals.elsevier.com/journal-of-the-taiwan-institute-of-chemical-engineers

Enhanced self-cleaning of porous sandstone surfaces via light-activated exfoliated g-C_3N_4

Contents lists available at ScienceDirect

Wear

ELSEVIER journal homepage: www.elsevier.com/locate/wear

The influence of the addition of different kinds of slags on the friction and emission behavior of a commercially employed friction material formulation

Contents lists available at ScienceDirect

Tribology International

ELSEVIER journal homepage: www.elsevier.com/locate/triboint

Study on the effect of the addition of bulk and exfoliated graphitic carbon nitride on the dry sliding behavior of a commercial friction material formulation through pin on disc and subscale dynamometer analysis

Contents lists available at ScienceDirect

Applied Surface Science

ELSEVIER journal homepage: www.elsevier.com/locate/apsusc

Full Length Article

On P-doping of graphitic carbon nitride with hexachlorotriphosphazene as a source of phosphorus

Patents

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International Bureau

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TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
— *of inventorship (Rule 4.17(iv))*

Published:
— *with international search report (Art. 21(3))*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*
— *upon request of the applicant, before the expiration of the time limit referred to in Article 21(2)(a)*

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Patents pending

PV 2025-425

Method for semi-continuous production of Ti_3AlC_2 phase powders

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PV 2025-317

Electrochemical measuring unit

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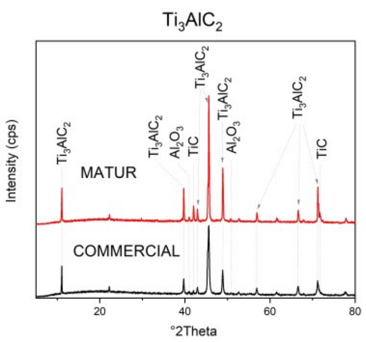
Current Projects

Synthesis and testing of photocatalysts

MATUR

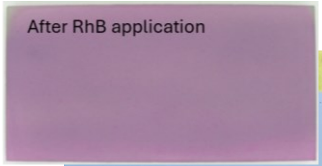
MAX phases and MXenes synthesis

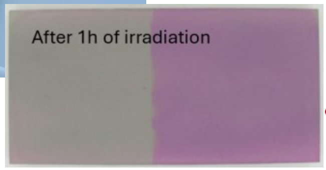


Materials for BT and SC

REFRESH

Self-cleaning surfaces





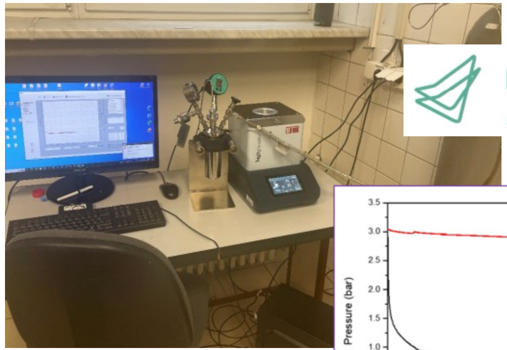
GAČR
CZECH SCIENCE FOUNDATION

MATUR

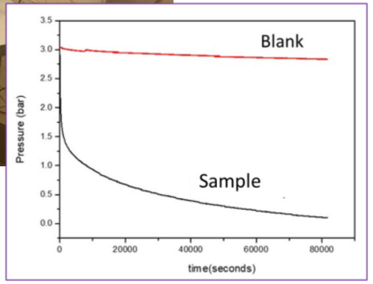
Fe phases separation

Cirk Arena

Decarbonization with carbonatation



Cirk Arena



Collaborations of our group

National

Institute of Geonics of the CAS

Material and Metallurgical Research Ltd.

Institute of Chemical Process Fundamentals of the CAS

Precheza a.s.

Profibaustoffe s.r.o.

International

University of Trento

University of La Plata

Danube Private University

National Taiwan University of Science and Technology

Future directions

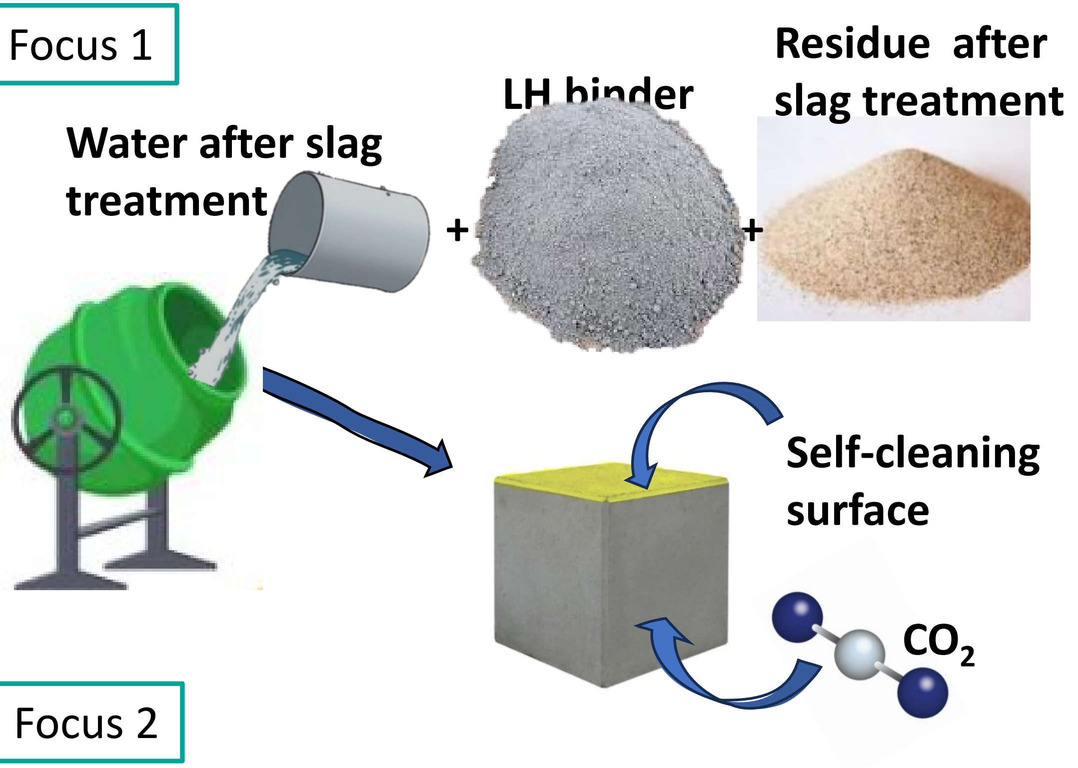
We Seek

- Suggestions for the application areas for our materials
- The industrial partners looking for our solutions
- Collaboration on special analysis

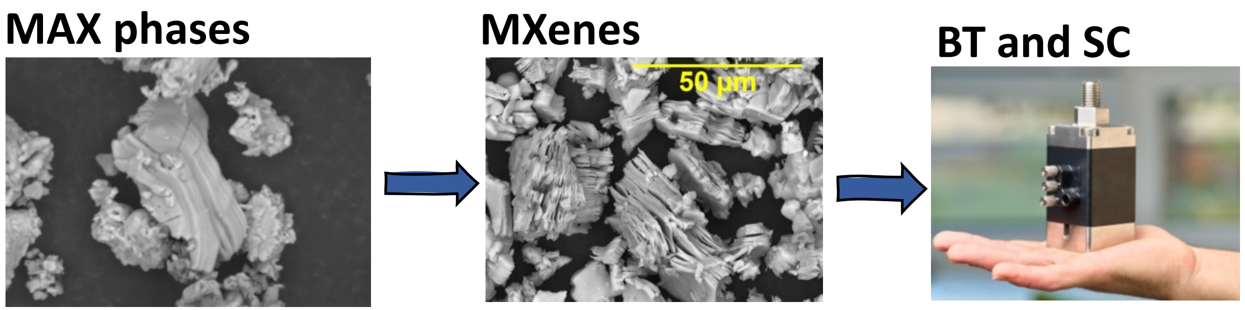
We Offer

- Openness for joint research activities
- Performing analyses on our devices

Research Focus 1



Research Focus 2



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Thank you for your attention

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