

**List of articles published in 2022-2025 years**  
**AtomDeC - „Atomic Design of Carbon-Based Materials for New Normal Society“**  
**V4-Japan**  
**Czech Republic team (WP2)**

**2022:**

1. **V. Matějka**, R. Škuta, K. Foniok, **V. Novák**, D. Cvejn, A. Martaus, **M. Michalska**, **J. Pavlovský**, **P. Praus**, *The role of the g-C<sub>3</sub>N<sub>4</sub> precursor on the P doping using HCCP as a source of phosphorus*, Journal of Materials Research and Technology 18 (2022) 3319-3335.  
<https://doi.org/10.1016/j.jmrt.2022.04.019>
2. A. Jain, **M. Michalska**, A. Zaszczyńska, P. Denis, *Surface modification of activated carbon with silver nanoparticles for electrochemical double layer capacitors*, Journal of Energy Storage 54 (2022) 105367.  
<https://doi.org/10.1016/j.est.2022.105367>
3. **M. Michalska**, **J. Pavlovský**, K. Lemański, M. Małecka, M. Ptak, **V. Novák**, M. Kormunda, **V. Matějka**, *The effect of surface modification with Ag nanoparticles on 21 nm TiO<sub>2</sub>: anatase/rutile material for application in photocatalysis*, Materials Today Chemistry 26 (2022) 101123.  
<https://doi.org/10.1016/j.mtchem.2022.101123>
4. A. Jain, S.R. Manippady, R. Tang, H. Nishihara, K. Sobczak, **V. Matejka**, **M. Michalska**, *Vanadium oxide nanorods as an electrode material for solid state supercapacitor*, Scientific Reports 12 (2022) 21024.  
<https://doi.org/10.1038/s41598-022-25707-z>
5. **M. Michalska**, P. Ławniczak, T. Strachowski, A. Ostrowski, W. Bednarski, *Structural studies and selected physical investigations of LiCoO<sub>2</sub> obtained by combustion synthesis*, Beilstein Journal of Nanotechnology 13 (2022) 1473–1482.  
<https://doi.org/10.3762/bjnano.13.121>
6. **P. Praus**, L. Řeháčková, J. Čížek, A. Smýkalová, M. Koštejn, **J. Pavlovský**, M. Filip Edelmannová, K. Kočí, *Synthesis of vacant graphitic carbon nitride in argon atmosphere and its utilization for photocatalytic hydrogen generation*, Scientific Reports 12 (2022) 13622.  
<https://doi.org/10.1038/s41598-022-17940-3>
7. **P. Praus**, A. Smýkalová, D. Cvejn, S. Losertová, M. Koštejn, **V. Novák**, *Post-synthetic modification of graphitic carbon nitride with PCl<sub>3</sub> and POCl<sub>3</sub> for enhanced photocatalytic degradation of organic compounds*, Diamond and Related Materials 130 (2022) 109439.  
<https://doi.org/10.1016/j.diamond.2022.109439>

**2023:**

1. **M. Michalska**, **V. Matejka**, **J. Pavlovsky**, **P. Praus**, M. Ritz, J. Serencisova, L. Gembalova, M. Kormunda, K. Foniok, M. Reli, G. Simha Martynkova, *Effect of Ag modification on TiO<sub>2</sub> and melem/g-C<sub>3</sub>N<sub>4</sub> composite on photocatalytic performances*, Scientific Reports 13 (2023) 5270.  
<https://doi.org/10.1038/s41598-023-32094-6>
2. A. Jain, Y. Ziai, K. Bochenek, S. R. Manippady, F. Pierini, **M. Michalska**, *Utilization of compressible hydrogels as electrolyte materials for supercapacitor applications*, RSC Advances 13 (2023) 11503-11512.  
<https://doi.org/10.1039/D3RA00893B>

3. S.R. Manippady, **M. Michalska**, M. Krajewski, K. Bochenek, M. Basista, A. Zaszczynska, T. Czeppe, L. Rogal, A. Jain, *One-step synthesis of a sustainable carbon material for high performance supercapacitor and dye adsorption applications*, *Materials Science and Engineering: B* 297 (2023) 116766.  
<https://doi.org/10.1016/j.mseb.2023.116766>
4. A. Smykalova, G. Słowik, M. Kostejn, M. Kawulokova, K. Foniok, **V. Novak, P. Praus**, *Graphitic carbon nitride/xylene soot metal-free nanocomposites for photocatalytic degradation of organic compounds*, *Diamond and Related Materials* 139 (2023) 110434.  
<https://doi.org/10.1016/j.diamond.2023.110434>

## **2024:**

1. **M. Michalska, J. Pavlovsky**, G. Simha Martynkova, G. Kratosova, V. Hornok, P.B. Nagy, **V. Novak**, T. Szabo, *Comparative study of photocatalysis with bulk and nanosheet graphitic carbon nitrides enhanced with silver*, *Scientific Reports* 14 (2024) 11512.  
<https://doi.org/10.1038/s41598-024-62291-w>
2. **M. Michalska, J. Pavlovsky**, E. Scholtzova, P. Skorna, **V. Matejka**, K. Bochenek, A. Jain, K. Chida, T. Yoshii, H. Nishihara, *A facile approach for fabricating g-C<sub>3</sub>N<sub>4</sub>-based materials as metal-free photocatalysts*, *Results in Engineering* 24 (2024) 103109.  
<https://doi.org/10.1016/j.rineng.2024.103109>
3. A. Jain, **M. Michalska**, *Enhanced electrochemical properties of multiwalled carbon nanotubes modified with silver nanoparticles for energy storage application*, *Materials Chemistry and Physics* 317 (2024) 129200.  
<https://doi.org/10.1016/j.matchemphys.2024.129200>
4. **M. Michalska**, P. Pietrzyk-Thel, K. Sobczak, M. Janssen, A. Jain, *Carbon framework modification; an interesting strategy to improve the energy storage and dye adsorption*, *Energy Advances* 3 (2024) 1354-1366.  
<https://doi.org/10.1039/D4YA00159A>
5. D.A. Buchberger, B. Hamankiewicz, **M. Michalska**, A. Głaszczka, A. Czerwinski, *Ex Situ Raman Mapping of LiMn<sub>2</sub>O<sub>4</sub> Electrodes Cycled in Lithium-Ion Batteries*, *ACS Omega* 9 (2024) 30381–30391.  
<https://doi.org/10.1021/acsomega.4c01480>
6. **P. Praus**, A. Smykalova, R. Skuta, M. Kostejn, **J. Pavlovsky**, J. Tokarsky, K. Foniok, M. Filip Edelmannova, K. Koci, *Graphitic C<sub>3</sub>N<sub>4</sub> and Ti<sub>3</sub>C<sub>2</sub> nanocomposites for the enhanced photocatalytic degradation of organic compounds and the evolution of hydrogen under visible irradiation*, *Journal of Photochemistry and Photobiology A: Chemistry* 447 (2024) 115260.  
<https://doi.org/10.1016/j.jphotochem.2023.115260>
7. A. Smykalova, E. Kinnertova, V. Slovak, **P. Praus**, *Metal-free hybrid nanocomposites of graphitic carbon nitride and char, Synthesis, characterisation and photocatalysis under visible irradiation*, *Journal of the Taiwan Institute of Chemical Engineers* 158 (2024) 104864.  
<https://doi.org/10.1016/j.jtice.2023.104864>
8. D. Cvejn, H. Starukh, M. Koštejn, P. Peikertová, **P. Praus**, *On mechanism of the synthesis of boron doped graphitic carbon nitride*, *Materials Today Chemistry* 39 (2024) 102157.  
<https://doi.org/10.1016/j.mtchem.2024.102157>

2025:

1. P. Pietrzyk-Thel, A. Jain, K. Bochenek, **M. Michalska**, M. Basista, T. Szabo, P.B. Nagy, A. Wolska, M. Klepka, *Flexible, tough and high-performing ionogels for supercapacitor application*, Journal of Materiomics 11 (2025) 100833.  
<https://doi.org/10.1016/j.jmat.2024.01.008>