



## Endre-Zsolt Kedves

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### About me:

I've been working in the field of advanced oxidation processes, specifically photocatalysis, since I started my research as an undergraduate researcher. My main responsibilities were to synthesize and characterize potentially photocatalytically active semiconductors. During my studies I have applied for different scholarships and projects to challenge myself, expand my social network and experience other working environments. I worked more than 1 year as a laser operator, where I got a brief overview about cutting edge technology regarding ultra fast lasers and their application. Afterwards, I moved to Budapest where I started working as a reliability engineer for airbag ECU-s.

## WORK EXPERIENCE

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12/2022 – CURRENT Budapest, Hungary

### RELIABILITY ENGINEER FOR AUTOMOTIVE ELECTRONICS BOSCH

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- airbag ECU testplan design and validation
- failure mode investigation
- chemical migration investigation

20/10/2021 – 11/2022 Szeged, Hungary

### LASER OPERATOR ELI-ALPS RESEARCH FACILITY

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MIR Laser Group

- Ø Operation of MIR laser system
- Ø Basic knowledge of ultra short laser pulses and their characteristics
- Ø Building optical setups for laser beam characterization

01/09/2020 – 01/06/2022 Szeged, Hungary

### ASSOCIATE RESEARCH FELLOW UNIVERSITY OF SZEGED

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- Ø Hydrothermal crystallization of differently shaped SrTiO<sub>3</sub> and photocatalytic reduction of CO<sub>2</sub>
- Ø Hydrothermal crystallization of BiVO<sub>4</sub> and their photocatalytic activity assessment based on its structural properties

2018 – 2020 Cluj-Napoca, Romania

### ASSOCIATE RESEARCH FELLOW GRAPHENE4LIFE – PN-III-P1-1.2-PCCDI-2017-0350

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- Ø Graphene-oxide and functionalized graphene-oxide characterization XRD, XPS, and IR

## ● EDUCATION AND TRAINING

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01/10/2016 – CURRENT Cluj-Napoca, Romania

**PH.D.** Babeş-Bolyai University

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**Address** Cluj-Napoca, Romania | **Field of study** Physics |

**Thesis** Structural and photocatalytic investigations of TiO<sub>2</sub>-MoO<sub>3</sub> composites

2014 – 2016 Cluj-Napoca, Romania

**M.SC.** Babeş-Bolyai University

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**Address** Cluj-Napoca, Romania | **Field of study** Process Engineering |

**Thesis** Kinetic study of the photocatalytic degradation of salicylic acid by different TiO<sub>2</sub> photocatalysts

2010 – 2014 Cluj-Napoca, Romania

**B.SC.** Babeş-Bolyai University

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**Address** Cluj-Napoca, Romania | **Field of study** Chemical Engineering |

**Thesis** Sinteza hidrotermală nanocristalelor TiO<sub>2</sub> și activitatea fotocatalitică a acestora

## ● LANGUAGE SKILLS

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Mother tongue(s): **HUNGARIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ROMANIAN</b>	C1	C1	C1	C1	C1
<b>ENGLISH</b>	C1	C1	C1	C1	C1

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*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## ● DIGITAL SKILLS

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Microsoft Office | Origin Pro: proficient at scientific data processing | Matlab | Endnote X9

## ● ADDITIONAL INFORMATION

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### PUBLICATIONS

**α-MoO<sub>3</sub> with inhibitive properties in Fenton reactions and insights on its general impact on OH radical based advanced oxidation processes**

– 2023

Authors:

**Endre-Zsolt Kedves**, Claudiu Fodor, Ákos Fazekas, István Székely, Ákos Szamosvölgyi, András Sági, Zoltán Kónya, Lucian Cristian Pop, Lucian Baia, Zsolt Pap

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**Photoinhibitive properties of α-MoO<sub>3</sub> on its composites with TiO<sub>2</sub>, ZnO, BiOI, AgBr, and Cu<sub>2</sub>O** – 2023

Authors:

**Endre-Zsolt Kedves**, Enikő Bárdos, Alpár Ravasz, Zsejke-Réka Tóth, Szilvia Fodor, Zoltán Kovács, Zsolt Pap and Lucian Baia

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**Application of BiVO<sub>4</sub>/TiO<sub>2</sub>/CNT Composite Photocatalysts for Membrane Fouling Control and Photocatalytic Membrane Regeneration during Dairy Wastewater Treatment**

– 2023

Authors:

Elias Jigar Sisay, Szabolcs Kertész, Ákos Fazekas, Zoltán Jákói, **Endre Zsolt Kedves**, Tamás Gyulavári, Áron Ágoston, Gábor Veréb, Zsuzsanna László

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## **Dependence of cationic dyes' adsorption upon $\alpha$ -MoO<sub>3</sub> structural properties – 2022**

Author(s):

**Endre-Zsolt Kedves**, Enikő Bárdos, Tamás Gyulavári, Zsolt Pap, Klara Hernadi, Lucian Baia

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## **Synthesis Design of Electronegativity Dependent WO<sub>3</sub> and WO<sub>3</sub>·0.33H<sub>2</sub>O Materials for a Better Understanding of TiO<sub>2</sub>/WO<sub>3</sub> Composites' Photocatalytic Activity**

– 2021

Author(s):

István Székely, **Endre-Zsolt Kedves**, Zsolt Pap, Monica Baia

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## **Hydrothermal Crystallization of Bismuth Oxychlorides (BiOCl) Using Different Shape Control Reagents**

– 2021

Author(s):

Enikő Bárdos, Viktória A Márta, Szilvia Fodor, **Endre-Zsolt Kedves**, Klara Hernadi, Zsolt Pap

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## **3-Aminopropyl-Triethoxysilane Functionalized Graphene Oxide for Silane-Based Consolidation Treatments to Increase Mortar Performances**

– 2021

Author(s):

C Cadar, CI Fort, A Mihis, **Zs Kedves**, K Magyari, L Baia, M Baia, MC Dulescu, I Olteanu, LC Cotet, V Danciu

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## **Significance of the surface and bulk features of hierarchical TiO<sub>2</sub> in their photocatalytic properties – 2021**

Author(s):

**Endre-Zsolt Kedves**, Zsolt Pap, Klara Hernadi, Lucian Baia

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## **The Comparison of the Photocatalytic Performance Shown by TiO<sub>2</sub> and TiO<sub>2</sub>/WO<sub>3</sub> Composites—A Parametric and Kinetic Study**

– 2019

Author(s):

**Endre-Zsolt Kedves**, István Székely, Lucian Baia, Monica Baia, Alexandra Csavdári, Zsolt Pap

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## **Shape-controlled agglomeration of TiO<sub>2</sub> nanoparticles. New insights on polycrystallinity vs. single crystals in photocatalysis**

– 2016

Author(s):

Krisztina Vajda, K Saszet, **E Zs Kedves**, Zs Kása, V Danciu, L Baia, K Magyari, K Hernádi, G Kovács, Zs Pap

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## **Preparation of TiO<sub>2</sub>/WO<sub>3</sub> composite photocatalysts by the adjustment of the semiconductors' surface charge**

– 2016

Author(s):

Lucian Baia, Eszter Orbán, Szilvia Fodor, Boglárka Hampel, **Endre Zsolt Kedves**, István Székely, Éva Karácsonyi, Balázs Réti, Péter Berki, Adriana Vulpoi, Klára Magyari, Alexandra Csavdári, Csaba Bolla, Veronica Coşoveanu, Klára Hernádi, Monica Baia, András Dombi, Virginia Danciu, Gábor Kovács, Zsolt Pap

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## **DRIVING LICENCE**

**Driving Licence:** B

## **HOBBIES AND INTERESTS**

**Free time** •Football, squash

•Chess

•Hiking

## **CHARACTERIZATION TECHNIQUES**

### **Characterization techniques**

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UV-vis, IR, and DRS spectroscopy

XRD, ED: X-ray and electron diffraction

XPS X-ray photoelectron spectroscopy

HPLC high performance liquid chromatography

TEM, SEM micrographs evaluation