

Dr. Davor Ljubas, Professor (Ph.D. of technical sciences)

FSB University of Zagreb
Faculty of Mechanical Engineering and Naval Architecture

Department of Energy, Power Engineering and Environment

Chair of Water and Environmental Engineering

Ivana Lučića 5, HR-10000 Zagreb, Croatia

Tel: +385 1 6168 467

E-mail: davor.ljubas@fsb.hr



Education

- Ph.D. University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, *The application possibilities of magnetic photocatalysts in the drinking water treatment technology*, 2004
- M.S. University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, *Technological application of solar radiation for degradation of the organic matter in surface waters*, 2000
- B.S. - University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, *Measurement-line project for the efficiency evaluation of special floor heating constructions*, 1996
- Vienna University of Technology (TU Vienna), *Measurement of heat transfer on floor heating of special construction - oscillating floor (in German)*, 1996

Academic Experience

- 2017 – present Professor
2012 – 2017 Associate Professor
2007 – 2012 Assistant Professor
1996 – 2007 Research Assistant

Positions

- 2016 – present Head of Chair of water and environmental engineering
2016 – 2017 Member of management board of *Hrvatske vode* (legal entity of Republic of Croatia for water management)
2010 – 2016 Head of the Laboratory for water, fuels and lubricants of the Faculty of mechanical engineering and naval architecture

Scholarships & Awards

- 2015 DAAD (German Academic Exchange Service) scholarship for research stay, July 2015 – August 2015, *Karlsruhe Institute of Technology, Institute of Functional Interfaces*
- 2004 *Hrvatske vode's* Annual Award for the Best Doctoral Thesis in Water Management, Zagreb, Croatia
- 2002 – 2003 DAAD (German Academic Exchange Service) scholarship (pre-doctoral research, Forschungszentrum Karlsruhe, University of Karlsruhe, Germany)
- 1995 Rector's Prize for the best student article – University of Zagreb

Scientific & Professional Memberships

- Croatian Water Pollution Control Society
- Croatian Society for Fuels and Lubricants
- Croatian Gas Association
- Croatian DAAD Club (General Secretary, 2007-2011; vice President, 2015 - present)

Research Interests

Efficiency of water treatment technologies

Advanced oxidation processes in water treatment technology:

- photocatalytic oxidation with TiO₂ as the photocatalyst
- UV/H₂O₂; UV/O₃, high power ultrasonic radiation in water treatment

Environmental impacts (LCA methodology, Environmental management systems – ISO 14001 standard)

Fuels and lubricants

Recent Publications

a) scientific

1. Čizmić, M., **Ljubas, D.**, Ćurković, L., Škorić, I., Babić, S., [Kinetics and degradation pathways of photolytic and photocatalytic oxidation of the anthelmintic drug praziquantel](#), *Journal of hazardous materials*, **323**(2017), Part A; 500-512.
2. **Ljubas, D.**, Ćurković, L., Marinović, V., Bačić, I., Tavčar, B. [Photocatalytic degradation of azo-dyes by sol-gel TiO₂ films: effects of polyethylene glycol addition, reaction temperatures and irradiation wavelengths](#), *Reaction Kinetics, Mechanisms and Catalysis*, **116**(2015), 2; 563-576.
3. Babić, S., Zrnčić, M., **Ljubas, D.**, Ćurković, L., Škorić, I., [Photolytic and thin TiO₂ film assisted photocatalytic degradation of sulfamethazine in aqueous solution](#), *Environmental science and pollution research*, 22(2015), 11372-11386.
4. **Ljubas, D.**, Smoljanić, G., Juretić, H., [Degradation of Methyl Orange and Congo Red dyes by using TiO₂ nanoparticles activated by the solar and the solar-like radiation](#), *Journal of environmental management*, **161**(2015), 83-91.
5. Ćurković, L., **Ljubas, D.**, Šegota, S., Bačić, I., [Photocatalytic degradation of Lissamine Green B dye by using nanostructured sol-gel TiO₂ films](#), *Journal of alloys and compounds*, **604**(2014), 309-316.
6. **Ljubas, D.**, Franzreb, M., Bruun Hansen, H.Ch., Weidler, P.G., [Magnetizing of nano-materials on example of Degussa's P-25 TiO₂ photocatalyst: Synthesis of magnetic aggregates, characterization and possible use](#), *Separation and Purification Technology*, **136** (2014), 274-285.
7. Dobrović, S., Juretić, H., **Ljubas, D.**, Vinković Vrček, I., Zebić Avdičević, M., Milić, M., Kopjar, N., Nemet, I., [Genotoxicity and Effects of Nanosilver Contamination in Drinking Water Desinfection](#), *Water Science and Technology: Water Supply*, **12** (2012), 6; 829-836
8. Šegota, S., Ćurković, L., **Ljubas, D.**, Svetličić, V., Fiamengo Houra, I., Tomašić, N. [Synthesis, characterization and photocatalytic properties of sol-gel TiO₂ films](#), *Ceramics International* 37(2011), 4; 1153-1160
9. Ćurković, L., **Ljubas, D.**, Juretić, H. [Photocatalytic decolorization kinetics of diazo dye Congo Red aqueous solution by UV/TiO₂ nanoparticles](#), *Reaction Kinetics, Mechanisms and Catalysis*. 99 (2010), 1; 201-208
10. Ćurković, L., **Ljubas, D.** [Photoactivity of Suspended and Immobilized P-25 TiO₂ Nanoparticles on Example of Diazo Congo Red dye Degradation](#) in *Handbook of Research on Chemoinformatics and Chemical Engineering*, A. K. Haghi (Ed.), Nova Science Publishers, Inc. New York, 2010, pp. 9-25

- more at the link: <http://bib.irb.hr/lista-radova?autor=213585>

b) professional

1. Rakić, A., Ljoljo, D., **Ljubas, D.** [Tehničke mjere za sprječavanje razmnožavanja bakterija *Legionella spp.* u sustavima za opskrbu toplom vodom](#), *Hrvatske vode: časopis za vodno gospodarstvo*, 2016, 24, 96; 109-118
2. Rakić, A., **Ljubas, D.**, Juretić, H. [Dezinfekcija u sustavima javne vodoopskrbe // II. međunarodni i VI. hrvatski znanstveno-stručni skup Voda za sve / Mirna Habuda-Stanić \(ur.\). Osijek: Prehrambeno-tehnološki fakultet Osijek](#), 2016. 227-237

3. Juretić, H., Cajner, H., Smoljanić, G., Ahac, I., **Ljubas, D.** Optimiranje koagulacijske predobrade sirove bunarske vode bogate prirodnim organskim tvarima // II. međunarodni i VI. hrvatski znanstveno-stručni skup Voda za sve / Mirna Habuda-Stanić (ur.). Osijek: Prehrambeno-tehnološki fakultet Osijek, 2016., 87-96
 4. Smoljanić, G., **Ljubas, D.** Dinamika stvaranja i taloženja kamenca u toplovodnom sustavu pri 55, 65 i 75 °C// *Interklima 2013: 22. Međunarodni simpozij o grijanju, hlađenju i klimatizaciji ; 11. Konferencija o termografiji / Mladen Andrassy (ur.)*, Sveučilište u Zagrebu, Fakultet strojarstva i brodogradnje, 2013., 1-8.
 5. Dobrović, S., Juretić, H, **Ljubas, D.**, Smoljanić, G, Sustavno laboratorijsko istraživanje kao preduvjet za odabir najprikladnijeg dezinfekcijskog sredstva: klor ili klorov dioksid? (Systematic laboratory research as a prerequisite for the selection of the most appropriate disinfectant: chlorine or chlorine dioxide?), *Aktualna problematika u vodoopskrbi i odvodnji*, Beslić, A ; Ban, D (eds.). Ičići: Revelin d.o.o., 2012. 80-88
 6. **Ljubas, D.**, Sabol, G. Possibilities of environmental aspects and impacts evaluation according to ISO 14001 standard on the example of an academic institution, *The Holistic Approach to Environment*, 1 (2011), 2; 75-84
 7. **Ljubas, D.**, Krpan, H., Matanović, I. Influence of engine oils dilution by fuels on their viscosity, flash point and fire point, *Nafta: exploration, production, processing, petrochemistry*. 61 (2010), 2; 73-79
 8. Dobrović, S., **Ljubas, D.**, Džeko, A. Analiza mogućnosti opskrbe otoka Lastova pitkom vodom korištenjem LCA metodologije (An analysis of drinking water supply possibilities of island of Lastovo using LCA methodology), *5th Croatian Water Conference With International Participation "Croatian Waters Facing The Challenge of Climate Changes"*, Opatija, Croatia, 18-21.May2011., Biondić, D.; Holjević, D.; Tropan, Lj. (eds), Opatija: Hrvatske vode, 2011., 1031-1038
 9. Dobrović, S., Juretić, H., **Ljubas, D.** Ekonomski i ekološki aspekti recikliranja otpadne vode u industriji, *Zbornik radova - 9. međunarodno znanstveno-stručno savjetovanje Energetska i procesna postrojenja*, Iljaš, B. (ed.), Zagreb: Energetika marketing d.o.o., 2010. 76-76
 10. **Ljubas, D.**, Benčić, T., Marčić, B. Mogućnosti transporta i skladištenja prirodnog plina u obliku plinskih hidrata, *Jubilarni XXV. međunarodni znanstveno-stručni susret stručnjaka za plin: Zbornik sažetaka radova = Anniversary 25th International Scientific & Expert Meeting of Gas Professionals: Proceedings*, Šunić, M. (ed.). Sveta Nedelja: Printera grupa, 2010. 49-56
- more at the link: <http://bib.irb.hr/lista-radova?autor=213585>

c) cooperation with economic subjects

- more at the link: <https://www.fsb.unizg.hr/voda/suradnja.html>

Zagreb, October 2017

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