

Technical University of Cluj Napoca

Faculty of Electrical Engineering

Department of Electrotechnics and Electrical Measurements

Dr.ing. Budu Sorin Radu

## 1. PhD. THESYS

**"Contributions regarding the increase of the ozone concentration generated in the electric laboratory ozonators and of the efficiency of the neutralization of the micropollutants contained in the wastewater".**

PhD supervisor- prof.dr.ing. Roman Morar.

## 2. Monography.

**S.R. Budu** - *"Efficient generation of ozone and its use for decontamination of wastewater, neutralization of micro-pollutants and pathogenic microorganisms"*, May. 2020, 216 pages, UTPRESS Publishing. ISBN: 978-606-737-453-7.

## 2. ISI articles

1. Suărășan, R.E., Suărășan, I., **Budu, S.R.**, M. I. Suărășan, Maniu, A., Morar, R. - *Ozone and intense electric fields applyance in treating of external wounds become overinfected*. IFMBE Proceedings (2017), vol.59, pp. 49-52. ISSN:16800737.[https://link.springer.com/chapter/10.1007/978-3-319-52875-5\\_11](https://link.springer.com/chapter/10.1007/978-3-319-52875-5_11); (<https://gateway.webofknowledge.com/> WOS:000426009100011).(IF=0).
2. **Budu, S.R.**, Suărășan, R., Suărășan, I., Moldovan,D., Fechete, Radu. - *Complex influence of Intense Electric Fields upon Ozone and Free Radicals from Aqueous Solutions*. IFMBE Proceedings (2019),vol.71, pp 347-350. ISSN:16800737;[https://link.springer.com/chapter/10.1007/978-981-13-6207-1\\_54](https://link.springer.com/chapter/10.1007/978-981-13-6207-1_54). (<https://gateway.webofknowledge.com/> WOS:000493501100054).(IF=0).

## 2. Scientific articles at conferences with ISI Proceedings, ISI Thomson Reuters, SCIE indexed

- 2.1. Suărășan, R.E., Suărășan, I., **Budu, S.R.**, M. I. Suărășan, Maniu, A., Morar, R. - *Ozone and intense electric fields applyance in treating of external wounds become overinfected*. IFMBE Proceedings (2017), vol.59, pp. 49-52. ISSN:16800737.[https://link.springer.com/chapter/10.1007/978-3-319-52875-5\\_11](https://link.springer.com/chapter/10.1007/978-3-319-52875-5_11); (<https://gateway.webofknowledge.com/> WOS:000426009100011).(IF=0).

2.2. **Budu, S.R.**, Suărășan, R., Suărășan, I., Moldovan, D., Fechete, Radu. - *Complex influence of Intense Electric Fields upon Ozone and Free Radicals from Aqueous Solutions*. IFMBE Proceedings (2019), vol. 71, pp 347-350. ISSN:16800737; [https://link.springer.com/chapter/10.1007/978-981-13-6207-1\\_54](https://link.springer.com/chapter/10.1007/978-981-13-6207-1_54). (<https://gateway.webofknowledge.com/WOS:000493501100054>).(IF=0).

**f) 3. Articles presented at specialized international conferences or published in the volumes of the respective scientific events (BDI)**

3.1. Morar, R., Suărășan, I., **Budu, S.R.**, Bologa, M., Dăscălescu, L. – *Influence of Corona discharging field about some physical and chemical parameters of the water- (in orig.- Einfluss des korona - entladungsfeldes auf einige physikalisch – chemische parameter des wassers)* - International Meeting on Chemical Engineering, Environmental Protection and Biotechnology, Achema '2012, Frankfurt am Main, Germany, 22 – 27.05.2000, vol. 21, issue 4, pp. 376–377, ACS CHEMICAL BIOLOGY (SCIE), ISSN:0193-6484, ISSN/eISSN:1554-8929/1554-8937, <https://pubs.acs.org/doi/10.1021/cen-v078n007.p046>.

3.2. Suărășan, I., Ghizdavu, I., Dinuță, A., **Budu, S.R.**, - *Ozone and High Intensity Electric Field - Ecological Factors in the Control of the Diseases of the Stored Corn and Wheat Seeds*. 5<sup>th</sup> Conference de la Societe Francaise d'Electrostatique, (SFE 2016), Grenoble, August 30 – 31, 2016. Recueil de communications; F – Depollution et Bio – Electrostatique, pp. 333 – 336, ISBN 2-914306-01-6 / LEMD (<http://www.lemd.grenoble.cnrs.fr/sfe.htm>), publ. CNRS, ISSN / eISSN:0153-8756 / 1775-4100.

3.3. Suărășan, I., Ghizdavu, I., Dinuță, A., **Budu, S.R.**, - *The Influence of High Intensity Electric Field on the Germination of the Corn and Wheat Seeds*. 5<sup>th</sup> Conference de la Societe Francaise d'Electrostatique, (SFE 2016), Grenoble, August 30 – 31, 2016. Recueil de communications; F – Depollution et Bio – Electrostatique, pp. 337 – 342, ISBN 2-914306-016 / LEMD (<http://www.lemd.grenoble.cnrs.fr/sfe.htm>), publ. CNRS, ISSN / eISSN:0153-8756 / 1775-4100.

3.4. **Budu, S.R.** - *Treatment of Urban Channel Waste Waters with Ozone and Intense Electric Field, in Thin Pellicular Layers*, 6th International Conference „Advancements of Medicine and Health Care Through Technology”, MEDITECH 2018, 17th – 20th October (2018), article, poster & ppt presentation (P15), Cluj-Napoca.

3.5. **Budu, S.R.**, - *Ozone Neutralization of Biological and Chemical Micropollutants Present in the Waste and Treated Waters, using Barbotage towers equipped with sintered Microporous diffusers – 6th International Conference „Advancements of Medicine and Health Care Through Technology”, MEDITECH 2018, 17th – 20th October (2018), article, poster & ppt presentation (P16), Cluj-Napoca.*

3.6. R.E. Suărășan, I. Suărășan, **S.R. Budu**, M.I. Suărășan, A. Maniu, R. Morar - *Ozone and intense electric fields appliance in treating of external wounds become overinfected*, International Conference „Advancements of Medicine and Health Care Through Technology”, MEDITECH 2016, 12th-15th october (2016), article & poster presentation (P8), Cluj-Napoca.

#### 4. SCIENTIFIC RESEARCH CONTRACTS

1. Morar, R., Iuga, A., V. Neamtu, Suărășan, I., R. Dascalescu, D. Rafiroiu, Samuilă, A., **Budu, S.**, I. Csorvassy, C. Bularca, R. Marian - *"Improvement of installations and technology for recovery by electroseparation of copper from waste electrical cables"*, Scientific research contract no. 17/1991, beneficiary of "Electromures", Târgu-Mures.
2. Morar, R., Iuga, A., V. Neamtu, Suărășan, I., R. Dascalescu, D. Rafiroiu, Samuilă, A., **Budu, S.**, C. Petru - EQUIPMENT AND TECHNOLOGIES FOR ELECTROSPARATION Phase 1/1991 - *"Technical report on the improvement of laboratory electroseparators"*, Scientific research contract no. 133 F / 2134/1991, beneficiary M.I.S. ; Phase 3/1991 - *"Execution of high voltage electrodes and grounding of the rotating cylinder"*, Scientific research contract no. 133 F / 2134/1991, beneficiary M.I.S.
- 3 Morar, R., Suărășan, I., **S. Budu** - EQUIPMENT AND TECHNOLOGIES FOR ELECTROSPARATION - *„Experimental research on seed electrostimulation. Applications to stimulate barley germination for beer ”*, Theme A31, Phase 1/1994 and Theme A 67, Phase 2/1994, Scientific research contract no. 3003/1994, Beneficiary: Ministry of Education.
4. Morar, R., Suărășan, I., **Budu, SR**, Bologa, M., Bologa, A., Usenco, V., Râbalco, A. - *Researches of technology and apparatus for ozonation, using electric discharges in*
5. Suărășan, I., Morar, R., Iuga, A., **Budu, SR**, Bologa, M., Bologa, A., Pârgaru, I. - *Researches of technology and apparatus for ozonation, using electric discharges in layers of sapphire. Phase II 2000: Design and execution of the laboratory ozonator with sapphire dielectric barrier. Design and execution of ozonator cooling and supply systems, ozonator functional parameters monitoring system.* Scientific research contract no. 950/1996, ad. 409 I / 2000, Theme: A1, in collaboration with the Institute of Applied Physics, Chisinau, Republic of Moldova. Beneficiary: A. N. S. T. I. (Ministry of Research and Technology).
6. Morar, R., Iuga, A., Dăscălescu, L., Samuilă, A., Neamțu, V., Rafiroiu, D., **Budu, SR**, Suărășan, I., sa - *Program for the promotion of modern electrostatic technologies electroseparation and ozonation, preparation of human resources for research and consolidation of the material base of the Laboratory of Intense Electric Fields.* Contract financed by the World Bank and the Government of Romania, no. 48 / 3. Phases: 1998, 1999, 2000, 2001, 2002.
7. Suărășan, I., Morar, R., Neamțu, V., **Budu, S.R.**, Munteanu, I., Ghizdavu, L., Muncelean, I., Mudura, M., Oros, O., Kali, A. , Mic, L. - *Research on the combined influence of electric field and ozone in wastewater rehabilitation. Phase 2001: Experimental research on the influence of ozone in the rehabilitation of wastewater from public sewerage networks.* Scientific research grant No. 34970/2001,

Theme 57, CNCSIS Code 1311. Funded by the Ministry of Education and Research. Project manager: Suărășan, I.

8. Suărășan, I., Morar, R., Mudura, M., Neamțu, V., **Budu, S.R.**, Munteanu, I., Ghizdavu, L., Muncelean, I., Ceclan, C., Botezan, M., Mic, L. - *Research on the combined influence of electric field and ozone in wastewater rehabilitation. Phase 2002: Experimental research on the combined influence of the intense electric field, corona discharge, with controlled ozone generation, on the rehabilitation of wastewater from public sewerage networks.* Scientific research grant No. 33531/2002, Theme A15, CNCSIS Code 484. Funded by the Ministry of Education and Research. Project manager: Suărășan, I.

9. Suărășan, I., Morar, R., Mudura, M., Neamțu, V., **Budu, S.R.**, Petru, C., Munteanu, I., Ghizdavu Letiția, Munceleanu, I., Ceclan, C., Botezan, MA, Popa Violeta Carmen, Oros, O., Chira, R., Mic Lucia, Ciortea Viorica - *Research on the combined influence of electric field and ozone in wastewater rehabilitation. Phase 2003: Experimental research on the implementation of complex technologies for treatment in intense electric fields, with controlled generation of ozone and ozonators in the process of rehabilitation of wastewater from public sewerage networks.* Scientific research grant No. 33532/2003, Theme A 31, CNCSIS Code 720. Funded by the Ministry of Education, Research and Youth. Project manager: Suărășan, I.

10. Morar, R., Samuilă, A., Neamțu, V., Suărășan, I., **Budu, S.R.**, Bențe, S. - *Optimization of new electrostatic separation processes with application in the materials recycling industry. (Optimization of new electrostatic separation processes with application in the recycling industry).* Research grant won through international competition: PROGRAM PAI\_RO 04BRÂNCUȘI-2004. Phases 2004, 2005, 2006. Technical University of Cluj-Napoca, Laboratory of Intense Electric Fields & Université Poitiers, Laboratory of Automation and Industrial Informatics, France. Romanian project manager: Iuga, A. Chef du project Française: Dăscălescu, L.

**Totally: 10 research contracts (4 international contracts, 6 national contracts).**

Cluj Napoca Dr. ing. Sorin Radu Budu

09.12.2022

