

Universitatea Tehnică din Cluj-Napoca
Facultatea de Autovehicule Rutiere, Mecatronică și Mecanică
Departamentul Autovehicule Rutiere și Transporturi

d2) lista de lucrări - engleză

candidat: **Conf. Dr. Habil. Ing. Ioan-Adrian TODORUȚ**

pentru concursul de ocupare a postului de: **Profesor universitar, poziția 6**, din statul de funcții (2021-2022) al Departamentului Autovehicule Rutiere și Transporturi

Disciplinele: Dinamica autovehiculelor I, Dinamica autovehiculelor II, Dinamica accidentelor de circulație

Post publicat în **Monitorul Oficial al României, Partea a III-a, Nr. 1242/3.XII.2021**

d2_a) list of published papers

d2_b) list of research contracts - project innovation research and development-based on contract / grant won through competition

Cluj-Napoca,
10.01.2022

Todoruț Ioan-Adrian



**PUBLISHED PAPERS****A. PORTFOLIO OF 10 SCIENTIFIC PAPERS - extract from the other categories of works**

1. **Todoruț, A.**; Cordoș, N.; Iclodean, C. (2020). *Replacing Diesel Buses with Electric Buses for Sustainable Public Transportation and Reduction of CO₂ Emissions*. In: Polish Journal of Environmental Studies, PJOES-00732-2019-02, Pol. J. Environ. Stud. 2020;29(5):3339–3351, ISSN: 1230-1485, eISSN: 2083-5906, Acceptance date: 2019-10-08, Online publication date: 2020-03-05, DOI: <https://doi.org/10.15244/pjoes/112899>, <http://www.pjoes.com/Replacing-Diesel-Buses-with-Electric-Buses-nfor-Sustainable-Public-Transportation,112899,0,2.html>, <http://apps.webofknowledge.com> - Web of Science Core Collection - **WOS:000534642300033**.
2. **Todoruț, A.**; Molea, A.; Barabás, I. (2019). *Predicting the Temperature and Composition-Dependent Density and Viscosity of Diesel Fuel–Ethanol Blends*. In: Periodica Polytechnica Chemical Engineering (Period. Polytech. Chem. Eng.), 64(2), pp. 213–220, 2020, ISSN: 1587-3765, Print ISSN: 0324-5853, Received: 29 July 2019, Accepted: 21 October 2019, Published online: 02 December 2019, OnlineFirst: <https://pp.bme.hu/ch/article/view/14757/8560>, (ONLINE) DOI: <https://doi.org/10.3311/PPch.14757>, <http://apps.webofknowledge.com> - Web of Science Core Collection - **WOS:000513892600007**.
3. Iclodean, C.; Cordoș, N.; **Todoruț, A.** (2019). *Analysis of the Electric Bus Autonomy Depending on the Atmospheric Conditions*. In: *Energies* (ENERGA) 2019, Volume 12, Issue 23, 4535; ISSN 1996-1073, <https://doi.org/10.3390/en12234535>, <https://www.mdpi.com/1996-1073/12/23/4535>, <http://apps.webofknowledge.com> - Web of Science Core Collection - **WOS:000514090100133**.
4. **Todoruț, A.**; Cordoș, N. (2019). *Evaluation of the Vehicle Sideslip Angle According to Different Road Conditions*. In: Burnete N., Varga B. (eds) *Proceedings of the 4th International Congress of Automotive and Transport Engineering (AMMA 2018)*, pp. 814-819. AMMA 2018. *Proceedings in Automotive Engineering*. Springer 2019, DOI: https://doi.org/10.1007/978-3-319-94409-8_95, First Online: 30 September 2018, Print ISBN 978-3-319-94408-1, Series Print ISSN 2524-7778, Online ISBN 978-3-319-94409-8, Series Online ISSN 2524-7786, https://link.springer.com/chapter/10.1007/978-3-319-94409-8_95, <https://www.springer.com/us/book/9783319944081>, <http://apps.webofknowledge.com> - Web of Science Core Collection, **WOS:000578264900095**.
5. **Todoruț, A.**; Cordoș, N.; Bălcău, Monica; Toacă, A., (2018). *Evaluating the Influence of the Parameters that Characterise the Traffic Incidents by Using the Sensitivity Analysis of the Obtained Results*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 61, Issue II, June, 2018, pg. 181-188, Editura U.T.PRESS, ISSN 1221-5872, <https://atna-mam.utcluj.ro/index.php/Acta/article/view/980/926>, <http://apps.webofknowledge.com> - Web of Science Core Collection, **WOS:000437045000005**.
6. **Todoruț, A.**; Cordoș, N.; Barabás, I.; Miheț, S. (2017). *Evaluation by Experimental Methods of the Parameters that Influence the Behavior of Various Passenger Cars Classes in the Braking Process*. Springer International Publishing Switzerland 2017, A. Chiru and N. Ispas (eds.), CONAT 2016 International Congress of Automotive and Transport Engineering, DOI 10.1007/978-3-319-45447-4_8, ISBN: 978-3-319-45446-7 (Print), 978-3-319-45447-4 (eBook), pp 75-82, http://link.springer.com/chapter/10.1007/978-3-319-45447-4_8, <http://apps.webofknowledge.com> - Web of Science Core Collection - **WOS:000390821400008**, Conference Proceedings Citation Index- Science.


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7. **Todoruț, A.**; Cordoș, N.; Barabás, I.; Bălcău, Monica (2016). *Aspects regarding the numerical modeling of traffic incidents between motorcycles and passenger cars*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 59, Issue II, June, 2016, pg. 169-180, Editura U.T.PRESS, ISSN 1221-5872, <http://atna-mam.utcluj.ro/index.php/Acta/article/view/768>, <https://journals.indexcopernicus.com/api/file/view/ByFileId/125352.pdf>.
8. **Todoruț, A.**; Cordoș, N.; Barabás, I.; Bălcău, Monica (2015). *Aspects regarding the numerical modelling of pedestrian-vehicle accidents when both parties have continuous visibility of each other in traffic*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 58, Issue IV, November, 2015, pg. 537-546, Editura U.T.PRESS, ISSN 1221-5872, (Journal indexed in: *Index Copernicus International - ICI Journals Master List*; Thomson Reuters - *Web of Science Core Collection - Emerging Sources Citation Index - Master Journal List*), <https://atna-mam.utcluj.ro/index.php/Acta/issue/view/27>, <http://www.atna-mam.utcluj.ro/index.php/Acta/article/view/724>.
9. **Todoruț, A.**; Cordoș, N.; Burdea, M.D.; Bălcău, Monica (2015). *The evaluation of normal load redistribution on the static axles and on the wheels, when the vehicle is in motion*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 58, Issue III, September, 2015, pg. 349-360, Editura U.T.PRESS, ISSN 1221-5872, (Journal indexed in: *Index Copernicus International - ICI Journals Master List*; Thomson Reuters - *Web of Science Core Collection - Emerging Sources Citation Index - Master Journal List*), <https://atna-mam.utcluj.ro/index.php/Acta/issue/view/26>, <http://www.atna-mam.utcluj.ro/index.php/Acta/article/view/695>.
10. **Todoruț, I.-A.**; Barabás, I.; Cordoș, N.; Moldovanu, D.; Bălcău, Monica (2014). *The evaluation of kinematic measures within the process of overtaking motor vehicles*. In: 3rd AMMA International Congress "Automotive, Motor, Mobility, Ambient" - AMMA 2013, 17-19 October 2013. Paper Identification Number: AMMA2013_412, <http://amma2013.utcluj.ro/images/program.pdf>. Published - *Acta Technica Napocensis - Scientific Journal of Technical University of Cluj-Napoca, Series Environmental Engineering & Sustainable Development Entrepreneurship (EESDE), Special Edition AMMA 2013, Volume 3, Issue 1, Special Edition (January – March 2014)*, pg. 29-44, ISSN: 2284-743X; ISSN-L: 2284-743X, U.T.Press Publishing House Cluj-Napoca, <https://imadd.utcluj.ro/acta-technica-napocensis/>, <https://imadd.utcluj.ro/eesde/welcome.html>, https://imadd.utcluj.ro/eesde/welcome_files/Special%20Edition%20AMMA_2013_1.pdf.

B. THESES
B1. Habilitation Thesis

Todoruț, I.-A. (2020). *Modeling, simulation and experimentation of the vehicles dynamic behavior in the road traffic system*. Specialty field: Mechanical Engineering, Technical University of Cluj-Napoca.

B2. PhD Thesis

Todoruț, I.-A. (2006). *Researches regarding the sunflower oil use as fuel for Diesel engines*. Specialty field: Mechanical Engineering, Scientific leader: Prof.dr.ing. Bățaga A. Nicolae, Technical University of Cluj-Napoca.

C. PATENTS AND OTHER INDUSTRIAL PROPERTY TITLES

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D. BOOKS AND CHAPTERS IN BOOKS
D1. International publishing house

1. Barabás, I.; **Todoruț, I.-A.**; Zöldy, M. (2015). *The Potential of Biodiesel–Petrodiesel–Bioethanol Blends as an Alternative Fuel for Compression Ignition Engines*. In: Energy Science and Technology, Volume 3: Oil and Natural Gas, Chapter 21, pp. 577-606, Editors: Umesh Chandra Sharma, Ram Prasad, Sri Sivakumar, Executive Editor: J.N. Govil, Published by: Studium Press LLC, U.S.A., Houston (*Thomson Reuters, Web of Science - Master Book List, Publishers*), ISBN: 978-1-626990-64-7, ISBN: 1-62699-064-6, Series ISBN: 1-62699-061-1, Printed at: Thomson Press (India) Limited. <http://www.studiumpress.in/indetail.asp?id=291>, <http://www.studiumpress.in/energy-science-and-technology-vol-3-oil-and-natural-gas.html>.
2. Barabás, I.; **Todoruț, I.-A.** (2011). *Biodiesel Quality, Standards and Properties*. In: Biodiesel-Quality, Emissions and By-Products, Gisela Montero and Margarita Stoytcheva (Ed.), ISBN: 978-953-307-784-0, InTech, Rijeka, DOI: [10.5772/25370](https://doi.org/10.5772/25370), Chapter 1, pp. 3-28, <http://apps.webofknowledge.com> - Web of Science Core Collection - WOS:000385799400002, Available from: <http://www.intechopen.com/books/biodiesel-quality-emissions-and-by-products/biodiesel-quality-standards-and-properties>.
3. Barabás, I.; **Todoruț, I.-A.** (2011). *Utilization of Biodiesel-Diesel-Ethanol Blends in CI Engine*. In: Biodiesel- Quality, Emissions and By-Products, Gisela Montero and Margarita Stoytcheva (Ed.), ISBN: 978-953-307-784-0, InTech, Rijeka, DOI: [10.5772/27137](https://doi.org/10.5772/27137), Chapter 14, pp. 215-234, <http://apps.webofknowledge.com> - Web of Science Core Collection - WOS:000385799400015, Available from: <http://www.intechopen.com/books/biodiesel-quality-emissions-and-by-products/utilization-of-biodiesel-diesel-ethanol-blends-in-ci-engine>.

D2. National publishing house

1. **Todoruț, A.**; Cordoș, N.; Barabás, I. (2021). *Elemente de dinamica autovehiculelor*. Cluj-Napoca, Editura U.T.PRESS, 276 pg. ISBN 978-606-737-521-3.
2. **Todoruț, A.**; Cordoș, N. (2017). *Modele fizico-matematice în dinamica accidentelor de circulație rutieră*. Cluj-Napoca, Editura U.T.PRESS, 148 pg. ISBN 978-606-737-267-0.
3. **Todoruț, I.-A.**; Barabás, I.; Burnete, N. (2012). *Siguranța autovehiculelor și securitatea în transporturi rutiere*. Cluj-Napoca, Editura U.T.PRESS, 360 pg. ISBN 978-973-662-764-4.
4. Barabás, I.; **Todoruț, I.-A.** (2010). *Combustibili pentru automobile: testare, utilizare, evaluare*. Cluj-Napoca, Editura U.T.PRESS, 266 pg. ISBN 978-973-662-595-4.
5. **Todoruț, A.** (2008). *Dinamica accidentelor de circulație*. Cluj-Napoca, Editura U.T.PRESS, 204 pg. ISBN 978-973-662-383-7.
6. **Todoruț, A.** (2005). *Bazele dinamicii autovehiculelor. Algoritmi de calcul, teste, aplicații*. Cluj-Napoca, Editura Sincron, 230 pg. ISBN 973-9234-60-7.
7. Cordoș, N.; Burnete, N.; **Todoruț, A.** (2003). *Coliziunea automobilelor*. Cluj-Napoca, Editura TODESCO, 276 pg., ISBN 973-8198-26-7.
8. Burnete, N.; Bățaș, N.; Brânzaș, P.; Naghiu, A.; Filip, N.; Barabás, I.; **Todoruț, A.**; Cordoș, N.N.; Chintoanu, M.; Coman, Virginia; Ábrahám, B.; Ivan, I.; Coldea, C.; Varga, B.; Costea, C.; Borza, E.; Vlad, N. (2004). *Rapița - o provocare pentru fermieri și energeticieni*. Cluj-Napoca, Editura Sincron, 218 pg., ISBN 973-9234-57-7.
9. Cordoș, N.; **Todoruț, A.** (2001). *Dinamica autovehiculelor pe roți. Teste și aplicații*. Cluj-Napoca, Editura TODESCO, 172 pg., ISBN 973-99779-9-5.


FACULTY OF AUTOMOTIVE, MECATRONICS AND MECHANICAL ENGINEERING
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E. ARTICLES / STUDIES IN EXTENSO, PUBLISHED IN JOURNALS FROM MAIN INTERNATIONAL SCIENTIFIC FLUX – ARTICLES / STUDIES PUBLISHED IN SCIENTIFIC JOURNALS OF INTERNATIONAL RECOGNIZED IN THE COUNTRY OR JOURNALS RECOGNIZED BY CNCSIS
E1. Articles / studies published in national journals and abroad recognized by CNCSIS
E1.1. Journals Category A (ISI)

1. **Todoruț, A.**; Cordoș, N.; Iclodean, C. (2020). *Replacing Diesel Buses with Electric Buses for Sustainable Public Transportation and Reduction of CO₂ Emissions*. In: Polish Journal of Environmental Studies, PJOES-00732-2019-02, Pol. J. Environ. Stud. 2020;29(5):3339–3351, ISSN: 1230-1485, eISSN: 2083-5906, Acceptance date: 2019-10-08, Online publication date: 2020-03-05, DOI: <https://doi.org/10.15244/pjoes/112899>, <http://www.pjoes.com/Replacing-Diesel-Buses-with-Electric-Buses-nfor-Sustainable-Public-Transportation,112899,0,2.html>, <http://apps.webofknowledge.com> - Web of Science Core Collection - **WOS:000534642300033**.
2. **Todoruț, A.**; Molea, A.; Barabás, I. (2019). *Predicting the Temperature and Composition-Dependent Density and Viscosity of Diesel Fuel–Ethanol Blends*. In: Periodica Polytechnica Chemical Engineering (Period. Polytech. Chem. Eng.), 64(2), pp. 213–220, 2020, ISSN: 1587-3765, Print ISSN: 0324-5853, Received: 29 July 2019, Accepted: 21 October 2019, Published online: 02 December 2019, OnlineFirst: <https://pp.bme.hu/ch/article/view/14757/8560>, (ONLINE) DOI: <https://doi.org/10.3311/PPch.14757>, <http://apps.webofknowledge.com> - Web of Science Core Collection - **WOS:000513892600007**.
3. Iclodean, C.; Cordoș, N.; **Todoruț, A.** (2019). *Analysis of the Electric Bus Autonomy Depending on the Atmospheric Conditions*. In: Energies (ENERGA) 2019, Volume 12, Issue 23, 4535; ISSN 1996-1073, <https://doi.org/10.3390/en12234535>, <https://www.mdpi.com/1996-1073/12/23/4535>, <http://apps.webofknowledge.com> - Web of Science Core Collection - **WOS:000514090100133**.
4. Barabás, I.; **Todoruț, I.-A.** (2011). *Predicting the Temperature Dependent Viscosity of Biodiesel – Diesel – Bioethanol Blends*. In: Energy & Fuels (ENERG FUEL), 2011, Volume 25, Issue 12, pg. 5767–5774, DOI: [10.1021/ef2007936](https://doi.org/10.1021/ef2007936), ISSN: 0887-0624 (Print Edition), ISSN: 1520-5029 (Web Edition), <http://pubs.acs.org/doi/abs/10.1021/ef2007936>, <http://www.scopus.com>, <http://apps.webofknowledge.com> - Web of Science Core Collection - **WOS:000297946500025**. Publication Date (Web): November 6, 2011.
5. Barabás, I.; **Todoruț, A.**; Băldean, D. (2010). *Performance and emission characteristics of an CI engine fueled with diesel-biodiesel-bioethanol blends*. In: Fuel (FUELA) - The Science and Technology of Fuel and Energy, Volume 89, Issue 12, pg. 3827-3832, December 2010, Published by Elsevier Ltd., ISSN 0016-2361, DOI: [10.1016/j.fuel.2010.07.011](https://doi.org/10.1016/j.fuel.2010.07.011), Journal: JFUE, Article Number: 4861, Journal homepage: <https://www.journals.elsevier.com/fuel>, <http://dx.doi.org/10.1016/j.fuel.2010.07.011>, <http://www.sciencedirect.com/science/article/pii/S0016236110003583>, <http://www.scopus.com>, <http://apps.webofknowledge.com> - Web of Science Core Collection - **WOS:000282086200027**.

E1.2. Journals Category B + (indexed in international databases)

1. **Todoruț, A.**; Cordoș, N.; Barabás, I., Duma, Irina, (2021). *Possibilities for Assessing the Pre-Collision and Post-Collision Vehicles Speeds, in the Event of Side Collisions, by the Quantity of Motion Conservation Law*. Cluj-Napoca, Acta Technica Napocensis, Series:



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- Applied Mathematics, Mechanics, and Engineering*, Vol. 64, Issue I, March, 2021, pg. 47-54, Editura U.T.PRESS, ISSN 1221-5872, <https://atna-mam.utcluj.ro/index.php/Acta/article/view/1552/1271>, <http://apps.webofknowledge.com> - Web of Science Core Collection, WOS:000694719400005.
2. **Todoruț, A.**; Cordoș, N.; Bălcău, Monica, (2018). *Ways to Evaluate the Transversal Stability Parameters of the Vehicles*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 61, Issue III, September, 2018, pg. 323-332, Editura U.T.PRESS, ISSN 1221-5872, <https://atna-mam.utcluj.ro/index.php/Acta/article/view/1010/937>, <http://apps.webofknowledge.com> - Web of Science Core Collection, WOS:000468025900006.
 3. **Todoruț, A.**; Cordoș, N.; Bălcău, Monica; Toacă, A., (2018). *Evaluating the Influence of the Parameters that Characterize the Traffic Incidents by Using the Sensitivity Analysis of the Obtained Results*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 61, Issue II, June, 2018, pg. 181-188, Editura U.T.PRESS, ISSN 1221-5872, <https://atna-mam.utcluj.ro/index.php/Acta/article/view/980/926>, <http://apps.webofknowledge.com> - Web of Science Core Collection, WOS:000437045000005.
 4. Cordoș, N.; **Todoruț, A.**; Burdea, M.D.; Bălcău, Monica (2017). *Comparative study on the dynamic axle loads and on the dynamic wheels loads of different classes cars*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol.60, Issue III, September, 2017, pg. 377-388, Editura U.T.PRESS, ISSN 1221-5872, <http://www.atna-mam.utcluj.ro/index.php/Acta/article/view/903>, <http://apps.webofknowledge.com> - Web of Science Core Collection, WOS:000416962000007.
 5. **Todoruț, A.**; Cordoș, N.; Marian, A.; Bălcău, Monica, (2017). *Evaluation of the Transversal Stability Parameters for the Vehicles with Two Wheels Locate in Parallel, Segway Type*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 60, Issue II, June, 2017, pg. 205-216, Editura U.T.PRESS, ISSN 1221-5872, <http://www.atna-mam.utcluj.ro/index.php/Acta/article/view/874>, <http://apps.webofknowledge.com> - Web of Science Core Collection, WOS:000416960900007.
 6. **Todoruț, A.**; Cordoș, N.; Barabás, I.; Bălcău, Monica, (2017). *Algorithm for Plotting the Power and Traction Characteristics of the Motor Vehicles*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 60, Issue I, March, 2017, pg. 83-90, Editura U.T.PRESS, ISSN 1221-5872, <http://www.atna-mam.utcluj.ro/index.php/Acta/article/view/837>, <http://apps.webofknowledge.com> - Web of Science Core Collection, WOS:000416959000013.
 7. **Todoruț, A.**; Cordoș, N.; Barabás, I.; Bălcău, Monica; Miheț, S. (2016). *STUDIES ON THE BRAKING BEHAVIOUR OF THE VEHICLES USING NUMERICAL MODELS AND COMPUTERIZED SIMULATION*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 59, Issue IV, November, 2016, pg. 369-378, Editura U.T.PRESS, ISSN 1221-5872, <http://www.atna-mam.utcluj.ro/index.php/Acta/article/view/805>, <https://journals.indexcopernicus.com/api/file/viewByFileId/125049.pdf>.
 8. **Todoruț, A.**; Cordoș, N.; Barabás, I.; Mureșan, R.D.; Bălcău, Monica (2016). *Comparative study on the dynamic behaviour in cornering from different classes of passenger cars, by experimental and simulation methods*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 59, Issue III, September, 2016, pg. 285-296, Editura U.T.PRESS, ISSN 1221-5872, <http://atna-mam.utcluj.ro/index.php/Acta/article/view/790>, <https://journals.indexcopernicus.com/api/file/viewByFileId/125221.pdf>.
 9. Barabás, I.; **Todoruț, A.**; Cordoș, N. (2016). *An artificial neural network approach to estimate the viscosity of biodiesel-diesel-ethanol blends*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 59, Issue III, September,


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- 2016, pg. 245-250, Editura U.T.PRESS, ISSN 1221-5872, <http://atna-mam.utcluj.ro/index.php/Acta/article/view/784>, <https://journals.indexcopernicus.com/api/file/viewByFileId/125113.pdf>.
10. **Todoruț, A.**; Cordoș, N.; Barabás, I.; Bălcău, Monica (2016). *Aspects regarding the numerical modeling of traffic incidents between motorcycles and passenger cars*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 59, Issue II, June, 2016, pg. 169-180, Editura U.T.PRESS, ISSN 1221-5872, <http://atna-mam.utcluj.ro/index.php/Acta/article/view/768>, <https://journals.indexcopernicus.com/api/file/viewByFileId/125352.pdf>.
 11. **Todoruț, A.**; Cordoș, N.; Bălcău, Monica; Varga, T.I. (2016). *Aspects regarding the numerical modeling of the traffic accidents with mutual visibility between vehicles*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 59, Issue I, March, 2016, pg. 45-52, Editura U.T.PRESS, ISSN 1221-5872, <http://atna-mam.utcluj.ro/index.php/Acta/article/view/747>, <https://journals.indexcopernicus.com/api/file/viewByFileId/125316.pdf>.
 12. **Todoruț, A.**; Cordoș, N.; Barabás, I.; Bălcău, Monica (2015). *Aspects regarding the numerical modelling of pedestrian-vehicle accidents when both parties have continuous visibility of each other in traffic*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 58, Issue IV, November, 2015, pg. 537-546, Editura U.T.PRESS, ISSN 1221-5872, (Journal indexed in: *Index Copernicus International - ICI Journals Master List*; Thomson Reuters - *Web of Science Core Collection - Emerging Sources Citation Index - Master Journal List*), <https://atna-mam.utcluj.ro/index.php/Acta/issue/view/27>, <http://www.atna-mam.utcluj.ro/index.php/Acta/article/view/724>.
 13. **Todoruț, A.**; Cordoș, N.; Burdea, M.D.; Bălcău, Monica (2015). *The evaluation of normal load redistribution on the static axles and on the wheels, when the vehicle is in motion*. Cluj-Napoca, *Acta Technica Napocensis*, Series: *Applied Mathematics, Mechanics, and Engineering*, Vol. 58, Issue III, September, 2015, pg. 349-360, Editura U.T.PRESS, ISSN 1221-5872, (Journal indexed in: *Index Copernicus International - ICI Journals Master List*; Thomson Reuters - *Web of Science Core Collection - Emerging Sources Citation Index - Master Journal List*), <https://atna-mam.utcluj.ro/index.php/Acta/issue/view/26>, <http://www.atna-mam.utcluj.ro/index.php/Acta/article/view/695>.
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G. OTHER PAPERS AND SCIENTIFIC CONTRIBUTIONS
G1. Articles / studies published in volumes of national scientific events with international participation

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5. **Todoruț, A.**; Barabás, I. (2011). *Evaluarea distanței de siguranță dintre autovehicule la desprinderea din coloană, în vederea depășirii*. In: Știință și Inginerie, Vol. 20, pg. 529-538. București, Editura AGIR, ISSN 2067-7138, e-ISSN 2359-828X.
6. **Todoruț, A.**; Barabás, I.; Brânzaș, P.; Gavrițaș, C.A. (2010). *Reconstrucția accidentelor rutiere motocicletă-automobil*. In: Știință și Inginerie, Vol. 17, pg. 135-144. București, Editura AGIR, ISSN 2067-7138, e-ISSN 2359-828X.
7. Barabás, I.; **Todoruț, A.**; Brânzaș, P. (2010). *Sporirea siguranței rutiere prin îmbunătățirea calităților de frânare ale automobilelor*. In: Știință și Inginerie, Vol. 17, pg. 145-154. București, Editura AGIR, ISSN 2067-7138, e-ISSN 2359-828X.
8. **Todoruț, A.**; Barabás, I.; Brânzaș, P.; Szathmari, R. (2010). *Studii asupra suspensiei unui autovehicul cu trei roți (trike) și asupra parametrilor dinamici ai acestuia*. In: Știință și Inginerie, Vol. 17, pg. 533-542. București, Editura AGIR, ISSN 2067-7138, e-ISSN 2359-828X.
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 15. **Todoruț, A.** (2007). *Cercetări privind utilizarea uleiurilor de floarea soarelui ca și combustibili pentru motoarele diesel (rezumat teză doctorat)*. In: Știință și Inginerie, Vol. 12, pg. 487. București, Editura AGIR, ISBN 973-8130-82-4, ISBN 978-973-720-123-2.
 16. **Todoruț, A.**; Burnete, N.; Barabás, I. (2006). *Utilizarea uleiului alimentar uzat sub formă de combustibil pentru motoarele diesel*. In: Știință și Inginerie, Vol. 10, pg. 271-274. București, Editura AGIR, ISBN 973-8130-82-4, ISBN 973-720-030-6.
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G2. Articles / studies published in volumes of national scientific events

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5. Pop, M.P.; **Todoruț, A.** (coordinator) (2006). *Studiul formării agregatelor agricole având ca sursă energetică tractorul de 35 CP*. In: Sesiunea de Comunicări Științifice a Studenților Facultății de Mecanică din Universitatea Tehnică din Cluj-Napoca, Secțiunea Automobile, Ediția a II-a, Cluj-Napoca, 18 mai, (Premiul I).
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 8. Candale, L.I.; **Todoruț, A.** (coordinator) (2005). *Calcul numeric al schimbului de gaze pentru motoarele cu aprindere prin comprimare alimentate cu combustibili pe bază de ulei vegetal comparativ cu motorina.* Sesiunea de Comunicări Științifice a Studenților Facultății de Mecanică din Universitatea Tehnică din Cluj-Napoca, secțiunea Autovehicule Rutiere, Mașini și Instalații pentru Agricultură și Industrie Alimentară, Ediția I, Cluj-Napoca, 28 aprilie.
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 12. Mariașiu, F.; Brânzaș, P.; Barabás, I.; **Todoruț, A.** (2005). *Contribuția sistemului de securitate activă ESP (Electronic Security Program) la prevenirea și reducerea accidentelor rutiere.* În Simpozion Național: Siguranța Circulației în Actualitate "Participăm la trafic, suntem responsabili", Ediția a III-a, Cluj-Napoca, 10-11 Noiembrie, România, Editura U.T.PRESS, ISBN 973-662-196-0.
 13. Ghimici, M.; **Todoruț, A.**; Barabás, I.; Brânzaș, P.; Mariașiu, F. (2005). *Analiza dinamicii accidentelor de circulație rutieră cu urmări grave.* În Simpozion Național: Siguranța Circulației în Actualitate "Participăm la trafic, suntem responsabili", Ediția a III-a, Cluj-Napoca, 10-11 Noiembrie, România, Editura U.T.PRESS, ISBN 973-662-196-0.
 14. Barabás, I.; Brânzaș, P.; **Todoruț, A.**; Mariașiu, F. (2005). *Sisteme moderne de supraveghere a traficului rutier.* În Simpozion Național: Siguranța Circulației în Actualitate "Participăm la trafic, suntem responsabili", Ediția a III-a, Cluj-Napoca, 10-11 Noiembrie, România, Editura U.T.PRESS, ISBN 973-662-196-0.
 15. Brânzaș, P.; Barabás, I.; **Todoruț, A.**; Mariașiu, F. (2005). *Indicatorii dezvoltării transportului rutier european și ai siguranței traficului - barieră sau trambulină pentru integrarea României?* În Simpozion Național: Siguranța Circulației în Actualitate "Participăm la trafic, suntem responsabili", Ediția a III-a, Cluj-Napoca, 10-11 Noiembrie, România, Editura U.T.PRESS, ISBN 973-662-196-0.

Cluj-Napoca, 10.01.2022

Assoc. Prof. Dr.-Eng. Habil. TODORUȚ V. Ioan-Adrian




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**PROJECT INNOVATION RESEARCH AND DEVELOPMENT-BASED ON CONTRACT / GRANT
 WON THROUGH COMPETITION**
A) Member in the national research contracts (by CNCISIS), won through competition

1. The program: **IDEI**, National Plan for Research, Development and Innovation - PN II Project type: **Exploratory Research Project** Code: **ID_1098**, Nr. the Contract: **88/01.10.2007**, three-year (**Oct. 2007 - Sept. 2010**) "*Research on partial substitution of diesel or diesel engines with biodiesel-diesel blends and bioethanol*".
2. The program: **Capabilities, Module I, no. 86/2007, 2007-2008**, "Bioenergy research center - BIOENERG-RO".
3. The program: **CEEX-Module 1 – Complex Projects, Research grant ECOTRANS / (2005-2008), the Contract no. X1C01 / 03.10.2005. Project Title: "Possibilities and limits of greening urban transport using fuels derived from vegetable oils". Project coordinator: Technical University of Cluj-Napoca.**
4. The program: "**Research of Excellence**", **Module 1, Type of Project P-CD, the Contract no. 38/01.08.2006. Project Title: "New technologies, modern, unconventional superior valorization of the biomass - production of biogasoline, BIOBENZ". Partner in the project: Technical University of Cluj-Napoca. Contract duration: 2 years 2 months 15 days.**
5. The program: "**Research of Excellence**" **Module 1 Project type: P-CD, the Contract no. 124/20.07.2006. Project title: "Complex system for investigating the phenomena of degradation of arable land and monitoring the negative impact of agriculture on natural resources and global climate change." Partner in the project: Technical University of Cluj-Napoca. Subcontract Duration: 2 years and 1 month.**
6. The program: **CEEX – Module 1; the Contract: CeEx/2199/MEC/NASR/104/01.08.2006. Project title: "Sustainable capitalization of medicinal plants and hops with obtaining bioactive preparations". Duration: 2006-2008. Project coordinator: Veterinary Medicine Cluj-Napoca. (<http://www.usamvcluj.ro/vaduplamed/colectiv.htm>). Project partner (P3): Technical University of Cluj-Napoca.**
7. The contract nr. **5 C 12/2003 (AMTRANS)** (Member of the UTC-N), (**2003-2005**): *Use of alternative clean fuels in urban transport to limit the polluting effects in cities*, coordinated by ICIA Cluj-Napoca (UTC-N partner).
8. Priority Project **PP7** (Member of the UTC-N), (**2002-2004**): *Biofuels clean diesel and glycerin obtained by chemical processing of renewable resources*. the Contract no. **112/2002 (MATNANTECH)**, coordinated by ICIA Cluj-Napoca (UTC-N partner).



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9. Project tip **A** (COD CNCSIS **874**), (**2004–2005**), "Research regarding the recycling used cooking oils by using them as fuel in compression ignition engines." The Contract no. **33385 / 29.06.2004**, Theme no. **A 13**; The Contract no. **34702 / 20.06.2005**, Theme no. **A 16**.
10. Project tip **A** (COD CNCSIS **902**), (**2004–2005**), "*Research regarding the increasing the energy efficiency, reducing the chemical pollution and noise by modeling wave effect from direct injection diesel engines manufactured in the country*". The Contract no. **33385/29.06.2004**, Theme no. **A 14**; The Contract no. **34702/20.06.2005**, Theme no. **A 19**.
11. The contract nr. **25/3.06.2002**, financed from the state budget by MEC - HORIZON 2000; Contract theme: "*Research on the use of vegetable oils as alternative fuels in medium power Diesel engines and their effects for reducing the pollution*".
12. Project tip **A** (**2001–2002**) - financed from the state budget by MEC-by CNCSIS, project title "*Research on reducing the fuel consumption and pollution of internal combustion engines by ionizing air-fuel mixture*". The Contract Nr. **3988/2001**; theme **459**; by CNCSIS code **1319**; The Contract Nr. **33531/2002**; theme **38**; by CNCSIS code **459**.

B) Member of the research groups of of some projects with international financing won through competition

13. Project no. **861/2002** (Grant Agreement no. **1523/26.09.2002**), (**2002-2005**) funded by the World Bank through the Ministry of Agriculture and Food. Project Title: "*Recovery rapeseed production in order to be used as fuel for tractors in Romania*".

C) Member of the research groups of contracts with other institutions

14. Contract Number. **7951/17.04.2007**, contract research title: "*Restoring the road infrastructure and improving Traffic - traffic study in the city of Oltenița*". Duration: 19.03.2007 up to 19.10.2007. Beneficiary: Municipality Oltenița. Address: Oltenița, Republic str, No. 40, Calarasi County, Postal code: 915400. Contractor: Technical University of Cluj-Napoca, Faculty of Mechanical Engineering, Department: Automotive and Agricultural Machinery.

Cluj-Napoca, 10.01.2022

Assoc. Prof. Dr.-Eng. Habil. TODORUȚ V. Ioan-Adrian



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