

### Autoevaluare privind îndeplinirea criteriilor CNATDCU

| Criteriaul           | Indicatori                           | Punctaj minimal        | Punctaj realizat            |
|----------------------|--------------------------------------|------------------------|-----------------------------|
| A1                   | Activitatea didactică / profesională | 130                    | 154.63                      |
| A2                   | Activitatea de cercetare             | 300                    | 705.55                      |
| A3                   | Recunoașterea impactului activității | 100                    | 1667.23                     |
| <b>Total general</b> |                                      | <b>Necesar<br/>530</b> | <b>Realizat<br/>2527.41</b> |

#### **A1. Activitatea didactică și profesională - 154.63**

##### **1.1 Cărți/manuale/monografii/ capitole în cărți de specialitate** (minimum 2 ca prim autor) **61.81**

|   |       |
|---|-------|
| 1. <b>Frățilă D.</b> <i>Sustainable Manufacturing through Environmentally-friendly Machining.</i> Chapter in book: <i>Green Manufacturing Processes and Systems, Materials Forming, Machining and Tribology</i> , DOI: 10.1007/978-3-642-33792-5_1, Springer-Verlag Berlin Heidelberg 2013, pp 1-21, J. P. Davim (ed.).   | 4.2   |
| 2. <b>Frățilă D.</b> <i>Environment-friendly manufacturing processes in the context of transition to sustainable production.</i> Chapter in book: <i>Comprehensive Materials Processing. Volume 8: Health, Safety and Environmental issues.</i> Volume Editor: Professor Nabil Bassim, Editor in Chief - Saleem Hashmi, Development editor - Es Collins (Elsevier), Pages 163-175, ISBN: 978-0-08-096532-1, <a href="http://dx.doi.org/10.1016/B978-0-08-096532-1.00815-3">http://dx.doi.org/10.1016/B978-0-08-096532-1.00815-3</a> | 2.4   |
| 3. <b>Frățilă D.,</b> Bâlc N., Achimaș Gh. <i>Monografia Departamentului Ingineria Fabricației. Istoric. Evoluție. Perspective. 60 de ani spre succes.</i> Cluj-Napoca 2015. Editura Târgu-Mureș, ISBN 978-973-0-20176-5.   | 6.66  |
| 4. Gyenge, Cs., <b>Frățilă, D.</b> <i>Ingineria fabricației.</i> Editura Alma Mater, Cluj-Napoca, 2004, ISBN 973-8397-77-4 , 150 p.   | 7.5   |
| 5. Roș O., <b>Frățilă D.</b> <i>Ecoproiectare.</i> Casa Cărții de Știință. Cluj-Napoca 2007. ISBN 978-973-133-204-8, 305 p.   | 15.25 |
| 6. <b>Frățilă D.</b> <i>Umweltfreundliche Zerspanung.</i> Editura UT Press, Cluj-Napoca 2008. ISBN 978-973-662-404-9, 200 p.  | 20    |
| 7. Roș Olimpia, <b>Frățilă Domnița.</b> <i>Proiectare pentru mediu.</i> Casa Cărții de Știință, Cluj 2000, ISBN 973-686-113-9, 116 p.   | 5.8   |

**1.2 Alte materiale didactice** (suport de curs, îndrumare) inclusiv în format electronic (minimum 4, din care 2 ca prim autor) **37.82**

|   |       |
|---|-------|
| 1. <b>Frăţilă D.</b> , Radu A., Păcurar A., Păcurar R., Conţiu G., Panc N., Pop G. <i>Tehnologii de fabricaţie. Îndrumător pentru lucrări de laborator</i> . Editura UT Press, Cluj-Napoca 2011. ISBN 978-973-662-626-5, 170 p.   | 1.22  |
| 2. <b>Frăţilă D.</b> <i>Bazele fabricaţiei. Grundlagen der Fertigungstechnik. Manufacturing Fundamentals</i> . (Suport de curs, germană, engleză, română, în format electronic), Editura UT Press, ISBN 978-606-737-351-6, 2019, 142 p.   | 7.2   |
| 3. <b>Frăţilă D.</b> <i>Manufacturing Fundamentals – Questions and Exercises. Bazele fabricaţiei - Întrebări și probleme. Grundlagen der Fertigungstechnik-Fragen und Übungen</i> . (engleză, română, germană, în format electronic), 2014, 85 p. ( <a href="https://tcm.utcluj.ro/wp-content/uploads/2019/03/Fratila-D_Exercitii-BF-QEP-2018.pdf">https://tcm.utcluj.ro/wp-content/uploads/2019/03/Fratila-D_Exercitii-BF-QEP-2018.pdf</a> ) | 4.25  |
| 4. <b>Frăţilă D.</b> <i>Spanende Fertigungsverfahren II</i> . (Suport de curs, germană-română, în format electronic), Editura UT Press, ISBN 978-606-737-352-3, 2019, 168 p.  | 10.35 |
| <b>Frăţilă D.</b> <i>Tehnologii de fabricaţie. Suport de curs</i> în format electronic, 2019, Editura UT Press, ISBN 978-606-737-353-0, 206 p.  | 10.30 |
| 6. <b>Frăţilă D.</b> <i>Kompetitive Methoden der Gestaltung. Unterrichtsmaterial</i> , în format electronic, 2018, 35p. ( <a href="https://tcm.utcluj.ro/wp-content/uploads/2019/03/Fratila-D_Suport-de-curs-MCP-deutsch-2018.pdf">https://tcm.utcluj.ro/wp-content/uploads/2019/03/Fratila-D_Suport-de-curs-MCP-deutsch-2018.pdf</a> )   | 1.75  |
| 7. <b>Frăţilă D.</b> <i>Proiectare pentru mediu. Suport de curs</i> în format electronic, 2018, 54 p. ( <a href="https://tcm.utcluj.ro/wp-content/uploads/2019/03/Fratila-D_Suport-de-curs-PM-2017.pdf">https://tcm.utcluj.ro/wp-content/uploads/2019/03/Fratila-D_Suport-de-curs-PM-2017.pdf</a> )   | 2.7   |

**1.3 Coordonare de programe de studii, organizare și coordonare programe de formare continua** **15**

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| Responsabil al Domeniului studii de masterat <i>Inginerie Industrială</i> | 15 |
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**1.4 Dezvoltare de noi discipline** (titular, 10 x disciplină) **40**

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| <ul style="list-style-type: none"> <li>• <i>Bazele fabricaţiei</i>. Anul I – Specializarea Inginerie Industrială</li> <li>• <i>Proiectare pentru mediu</i>. Anul III – Specializarea Tehnologia Construcţiilor de Maşini</li> <li>• <i>Metode competitive de proiectare</i>. Anul I master - Specializarea Procese de Producţie Inovative și Management Tehnologic</li> <li>• <i>Dezvoltare durabilă</i>. Anul I master - Specializarea Procese de Producţie Inovative și Management Tehnologic</li> </ul> | 40 |
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**A2. Activitatea de cercetare - 705.55**

**2.1 Articole indexate în reviste ISI Thomson Reuters și în volumele unor manifestări științifice indexate** (de la ultima promovare minimum 8, din care 3 în reviste, minimum 3 autor principal, minimum 1 articol în reviste din zona roșie sau galbenă; (30+10xFI)/nr. autori, 25/nr. autori) **363.49**

|   |      |
|---|------|
| Roş, O. Gyenge Cs. & <b>Frăţilă, D.</b> <i>Sustainable Product Development by Considering the Environmental Consequences</i> . 18 <sup>th</sup> International DAAAM Symposium "Intelligent Manufacturing & Automation: Focus on Creativity, Responsibility and Ethics of Engineers", 24-27th October 2007, Zadar, Croatia, pp.645-646. (ISTP/ISI Proceedings) | 8.33 |
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| and ISTP CDROM/ ISI Proceedings).  |        |
| Gyenge, Cs., Ros, O., <b>Frățilă, D.</b> <i>Achievements of Manufacturing Engineering Department from TU Cluj-Napoca in the Field of Competitive and Ecological Products Development.</i> 19th International DAAAM Symposium "Intelligent Manufacturing & Automation: Focus on Next Generation of Intelligent Systems and Solutions. 22-25th October 2008, Trnava Slovakia. ISSN 1726-9679, ISBN 978-3-901509-68-1, pp. 577-578. | 8.33   |
| <b>Frățilă D.</b> <i>Evaluation of Near Dry Machining Effects on Gear Milling Process Efficiency.</i> Journal of Cleaner Production 17/9 (2009), pp.839-845. (FI=1.867)  | 48.67  |
| <b>Frățilă D.</b> <i>Minimization of metal working fluid ecological impact by NDM.</i> Environmental Engineering and Management Journal March-April/2009, Vol.8, No.2, pp.335-339. (FI=0.885)  | 38.85  |
| <b>Frățilă D.</b> <i>Macro-Level Environmental Comparison Of Near-Dry Machining And Flood Machining.</i> Journal of Cleaner Production Vol. 18, No 10-11 (2010), pp. 1031-1039. ISSN 0959-6526. (FI=1.435)   | 44.35  |
| <b>D. Frățilă, A. Radu.</b> <i>Modeling and comparing of steady thermal state at gear milling by conventional and environment-friendly cooling method.</i> International Journal of Advanced Manufacturing Technology (2010) 47/9-12, pp. 1003-1012, Springer London. ISSN 0268-3768 (Print), ISSN 1433-3015 (Online). (FI=1.068)  | 20.34  |
| <b>Frățilă D., Caizar C.</b> <i>Application of Taguchi method to selection of optimal lubrication and cutting conditions in face milling of AlMg3.</i> Journal of Cleaner Production, 19(2011), pp. 640-645, ISSN 0959-6526. (FI=2.727)  | 28.64  |
| <b>Frățilă D. Caizar C.</b> <i>Assessment of Cooling Effect and Surface Quality to Face Milling of AlMg<sub>3</sub> using Several Cooling Lubrication Methods.</i> Journal of Materials and Manufacturing Processes 27/3(2012), pp. 291-296, ISSN 1042-6914(Print), 1532-2475(Online). (FI =1.297)   | 21.49  |
| <b>Frățilă D., Caizar C.</b> <i>Investigation of the Influence of Process Parameters and Cooling Method on Surface Quality of AISI-1045 during Turning.</i> Journal of Materials and Manufacturing Processes 27/10(2012), pp.1123-1128, ISSN 1042-6914. (FI=1.297)   | 21.49  |
| Radu A., <b>Frățilă D.</b> <i>Simulation and Experimental Research on the Vacuum Casting of Non-metallic Complex Parts using Flexible Molds.</i> Proceedings of Romanian Academy, Series A. Volume 13, Number 4/2012, pp. 343-350, ISSN 1454-9069. (FI=0.537)  | 17.685 |
| <b>Frățilă D.</b> <i>Research of Environment-Friendly Techniques Influence on the Accuracy of Gear Processing in the Context of Sustainable Machining.</i> Proceedings of Romanian Academy, Series A. Volume 14, Number 1/2013, pp.56-63, ISSN 1454-9069. (FI=1.115)   | 41.15  |
| Leordean D., Radu S.A., <b>Frățilă D., Berce P.</b> <i>Studies on design of customized orthopedic endoprotheses of titanium alloy manufactured by SLM.</i> International Journal of Advanced Manufacturing Technology, 79(5) 2015, pp 905-920. ISSN 0268-3768. 2015. (FI=1.568)  | 11.42  |
| <b>Frățilă D.</b> <i>Numerical and Experimental Approach of Cutting Temperatures to Green Turning of 42CrMo4 Steel.</i> Journal of Materials and Manufacturing Processes 31/5 (2016), pp.657-666, ISSN 1042-6914. (FI=2.274)   | 52.74  |

**2.2 Articole în reviste și volume ale unor manifestări științifice indexate în baze de date internaționale, B+** (de la ultima promovare minimum 8; 15/nr. autori)

**128.05**

|   |      |
|---|------|
| <b>Frățilă, D.</b> , Gyenge Cs. <i>Study of the Performance of Non Aggressive Cutting Fluids to the Environment for Applications in Metal Cutting</i> . Proceedings of The 14 <sup>th</sup> International DAAAM Symposium "Intelligent Manufacturing & Automation: Focus on Reconstruction and Development", 22 <sup>nd</sup> -25 <sup>th</sup> October 2003, Bosnia Herzegovina, ISBN 3-901509-34-8, ISSN 1726-9679, pp. 151-152.  | 7.5  |
| <b>Frățilă D.</b> , Gyenge Cs., Roș O. <i>Some Teoretichal And Experimental Aspects Related To The Minimal Lubrication By Gear Milling</i> . The 15 <sup>th</sup> International DAAAM Symposium. "Intelligent Manufacturing & Automation: Globalisation - Technology - Men - Nature", 3 <sup>rd</sup> - 6 <sup>th</sup> November 2004, Vienna, Austria. ISSN 1726-9679 ISBN 3-901509-42-9, p.113-114.   | 5    |
| <b>Frățilă D.</b> , Gyenge Cs., Roș O. <i>Effect of coolant strategy on the process efficiency, tool performance and surface quality to gear milling</i> . Annals of DAAAM for 2005 & Proceedings of the 16 <sup>th</sup> DAAAM International Symposium "Intelligent Manufacturing & Automation: Focus on Young Researchers and Scientists " 19 <sup>th</sup> -22 <sup>nd</sup> October 2005. ISSN 1726-9679, pp. 135-136.  | 5    |
| O. Roș, Cs. Gyenge, <b>D. Frățilă</b> . <i>The Analysis of the Ecological Impact of a Product on the Environment Using LCA Method</i> . Acta Mechanica Slovaca 2004. Košice, ISSN 1335-2393, pp.33-38.  | 5    |
| Almansa A., Bou S., <b>Frățilă F.</b> - <i>Micro handling and Assembly: Project ASSEMIC</i> . The 3 <sup>rd</sup> International Precision Assembly Seminar (IPAS 2006), 19 <sup>th</sup> -22 <sup>nd</sup> February 2006, Bad Hofgastein, Austria, p. 327-332. Publisher: SPRINGER, 233 Spring Street, New York, NY 10013, United States, IDS Number: BDW53, Book series: IFIP International Federation for Information Processing, ISBN 0-387-31276-5.   | 5    |
| Almansa A., Bou S., <b>Frățilă D.</b> <i>Methods and Tools for Microassembly: a Survey</i> . IPAS' 2006 3 <sup>rd</sup> International Precision Assembly Seminar, Bad Hofgastein, Austria, 19-22 February 2006. Publisher: Springer, New York, IDS Number: BDW53, Book series: International Federation for Information Processing, ISBN 0-387-31276-5.   | 5    |
| Almansa A., <b>Frățilă D.</b> , Bou S., Brenner W. <i>ASSEMIC: A European Project for Advanced Microhandling and -assembly</i> . The 12 <sup>th</sup> International Conference on Robotics and Applications-RA 2006, August 14-16, 2006 Honolulu, Hawaii, USA. in: "Proceedings of the 12 <sup>th</sup> IASTED International Conference Robotics and applications", IASTED, (2006), ISBN 0-88986-597-3; pp.79 - 84. Publisher: Acta Press Anaheim, PO BOX 5124, Anaheim, CA 92814-5124 USA, IDS Number: BFR61, ISBN: 978-0-88986-595-2. | 3.75 |
| <b>Frățilă, D.</b> - <i>Consequences of Cooling and Lubrication Strategy on Gear Milling Process Efficiency</i> . Buletinul Universității Petrol-Gaze Ploiești. Seria Tehnică. Vol. LIX. No.3/2007; pp. 17-24.  | 15   |
| Bou S., <b>Frățilă D.</b> , Boglea A., Adrijasevic D., Almansa A., Palfinger W., Mann W., Olowinsky A., Brenner W., Moest R. - <i>Technologies for Microassembly- Selected Methods</i> . 4M 2007 - Proceedings of 3 <sup>rd</sup> International conference on Multi-material micro manufacture, Borovets, Bulgaria (invited paper); 3 <sup>rd</sup> -5 <sup>th</sup> October 2007; 4M 2007, ISBN: 978-1904445-53-1, pp. 55-58.  | 1.66 |
| <b>Frățilă D.</b> , Palfinger W., Bou S., Almansa A., Mann W., Wogerer C., Moest R - <i>A Method for Measurement and Characterization of Microdispensing Process</i> . IEEE International   | 2.14 |

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| Symposium on Assembly and Manufacturing- ISAM 2007. University of Michigan, Ann Arbor, USA on July 22-25, 2007. Publisher: IEEE, 345 E 47 <sup>th</sup> ST, New York, IDS Number: BGV27. ISBN: 978-1-4244-0562-6, pp.209-214.  |     |
| <b>Frăţilă D.</b> <i>Study on joining techniques in micro-size world.</i> Acta Technica Napocensis. Series: Machine Construction. Materials. No. 52/2009, pp. 13-20, ISSN 1224-9106.   | 15  |
| Radu A., <b>Frăţilă D.</b> <i>Manufacturing flexible molds to obtain non-metallic complex parts.</i> Acta Technica Napocensis. Series: Machine Construction. Materials. No. 52/2009, pp. 9-12, ISSN 1224-9106.   | 7.5 |
| <b>Frăţilă D.,</b> Balc N., Sabou A. <i>Macro Level Analyse of Ecological Impact of Mechanical Cutting Processes.</i> Academic Journal of Manufacturing Engineering, Vol.8, No.3/2010, pp.37-42. ISSN 1583-7904.   | 5   |
| <b>Frăţilă D.</b> <i>Assessment of Cutting Area Temperature to the Face Milling Using Several Cooling Methods.</i> Acta Mecanica Slovaca, Vol. 15, No. 1 (2011), ISSN: 1335-2393, pp. 50-54.   | 15  |
| Trif A., Borzan M., Popan A., <b>Frăţilă D.,</b> Rus A. and Nedezki C. <i>Researches regarding the Influence of Cutting Regime on Processed Surface in Aluminum Alloys Turning Process.</i> Volume 808 of Applied Mechanics and Materials. Selected, peer reviewed papers from 12 <sup>th</sup> International Conference on Modern Technologies in Manufacturing (MTeM), 14-16 October 2015, Cluj-Napoca, pp. 15-20. ISSN 1660-9336. | 2.5 |
| Popan I.A., Bâlc N., Popan A.I., <b>Frăţilă D.</b> and Trif A. <i>Surface Roughness Prediction During Dry Turning of Austenitic Stainless Steel AISI 304.</i> Volume 808 of Applied Mechanics and Materials. Selected, peer reviewed papers from 12 <sup>th</sup> International Conference on Modern Technologies in Manufacturing (MTeM), 14-16 October 2015, Cluj-Napoca, pp. 54-59. ISSN 1660-9336.                               | 3   |
| <b>Frăţilă D.,</b> Rotaru H. <i>Additive Manufacturing – a sustainable manufacturing route.</i> MATEC Web of Conference, Vol. 94. The 4 <sup>th</sup> International Conference on Computing and Solutions in Manufacturing Engineering 2016 – CoSME'16, 3-4 november 2016, Braşov. <a href="http://dx.doi.org/10.1051/mateconf/20179403004">http://dx.doi.org/10.1051/mateconf/20179403004</a>                                       | 7.5 |
| <b>Frăţilă, D.,</b> Popan, A. <i>Analysis and optimization of cutting parameters in drilling operation of EM AW-2007 aluminum alloy.</i> Academic Journal of Manufacturing Engineering, 16(1), pp. 19-26, 2018.  | 7.5 |
| <b>Frăţilă D.,</b> Popan A, Trif A. <i>Study on chips' morphology at conventional and environmental-friendly turning of 42CrMo4 alloyed steel.</i> Acta Technica Napocensis Series: Applied Mathematics, Mechanics, and Engineering, Vol. 62, Issue 1, March, 2019.  | 5   |
| <b>Frăţilă D.</b> Trif A., Popan A. <i>Analysis of cutting forces at dry and near-dry turning of AISI 316l stainless steel.</i> Academic Journal of Manufacturing Engineering, 17(1) 2019.   | 5   |

### 2.3 Articole in extenso în reviste/volumele unor manifestări ştiinţifice

**naţionale/internaţionale neindexate** (6/nr. autori reviste, 4/nr. autori volume conferinţe)

**45.16**

|   |      |
|---|------|
| Gyenge, Cs., Roş O., <b>Frăţilă D.</b> <i>The results of the cooperation between ETH Zurich and TU Cluj-Napoca in the frame of SNCF, in the modernizing of teaching process. 5th Conference on environmental education.</i> Zurich, Swiss, 15 <sup>th</sup> -17 <sup>th</sup> April 1999. | 1.33 |
| Gyenge, Cs., Roş, O., Vuşcan, I., <b>Frăţilă, D.</b> <i>International co-operation in environmental training trough the CEEPUS network (Central European Exchange Program for University</i>  | 1    |

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| <i>Studies. 5<sup>th</sup> Conference on Environmental Education, Zürich, Swiss, 15<sup>th</sup> -17<sup>th</sup> April 1999.</i>  |      |
| Roş, O., Gyenge Cs., <b>Frăţilă D.</b> , Petho, L. <i>Analysis of the ecological impact of the products in the disassembly phase, using the DFE program.</i> ICIT' 99, 2 <sup>nd</sup> International Conference on Industrial Tools, 18 <sup>th</sup> -22 <sup>nd</sup> April 1999, Maribor Slovenia. ISBN 961-90401-4-7, pp.474-477.                          | 1    |
| Gyenge, Cs., Pethö, L., <b>Frăţilă, D.</b> <i>Design Optimisation of a car-assembly using the DFA method.</i> ICIT '99, 2 <sup>nd</sup> International Conference on Industrial Tools, 18 <sup>th</sup> -22 <sup>nd</sup> April 1999, Maribor Slovenia. ISBN 961-90401-4-7, pp. 428-431.  | 1.33 |
| Gyenge Cs., Petho L., Roş O., <b>Frăţilă D.</b> <i>International cooperation in environmental training trough The CEEPUS Network.</i> Proceedings of the International Regional DAAAM-CEEPUS Workshop on Intelligent Machines and Technologies in the 21 <sup>st</sup> century, Miskolc, Hungary, 27 <sup>th</sup> -29 <sup>th</sup> of May 1999, pp. 239-242. | 1    |
| <b>Frăţilă D.</b> , Roş O., Gyenge Cs. <i>Research concerning the determination of the ecological impact of the cutting process.</i> Buletinul Ştiinţific al U.T.C.N., Acta Technica Napocensis. Nr. 42/1999. ISSN 1221-5872, pp. 25-30.   | 2    |
| Roş O., <b>Frăţilă D.</b> , Pastor P. <i>Analysis of the DPA Type injection pump from the ecological point of view using The DFE software.</i> Buletinul Ştiinţific al U.T.C.N., Acta Technica Napocensis. Nr. 43/2000, ISSN 1221-5872, pp. 35-41.   | 2    |
| <b>Frăţilă D.</b> , Lierath F., Gyenge Cs., Emmer, Th. <i>Research concerning the cooling effect by ecological cutting of the cylindrical gears with small module.</i> Proceedings of MTeM 2001. Cluj-Napoca, 4 <sup>th</sup> -6 <sup>th</sup> October 2001, ISBN 973-85354-1-7, pp.203-204.   | 1    |
| Roş O., <b>Frăţilă D.</b> , Varga, A., Goia, C. <i>Development of the integrated parts in the automobiles industry.</i> Proceedings of MTeM 2001. Cluj-Napoca, 4 <sup>th</sup> -6 <sup>th</sup> October 2001, ISBN 973-85354-1-7, pp.395-396.  | 1    |
| M. Mera, <b>D. Frăţilă.</b> <i>Berechnung der linearverteilten Belastung auf der Zahnbreite des Stirnzahnrades.</i> Acta Technica Napocensis, Series: Applied Mathematics and Mechanics, 44, Vol. 2, 2001, ISSN 1221-5872, pp.35-40.   | 3    |
| Gyenge, Cs., Roş, O., <b>Frăţilă, D.</b> , Varga, A. <i>Achievements of the Manufacturing Engineering Department from T.U. Cluj-Napoca in the Field of Competitive and Ecological Products Development.</i> Conference on Environmental Engineering, May, 22 <sup>nd</sup> -23 <sup>rd</sup> , 2002, Koşice, ISSN 1335-2393, pp. 43-49.                        | 1    |
| Gyenge, Cs., Roş, O., <b>Frăţilă, D.</b> <i>Researches Concerning the Minimal Lubrication Technique in the Gear Cutting.</i> Acta Mechanica Slovaca, Koşice, 2/2002, ISSN 1335-2393, pp. 49-54.  | 1.33 |
| <b>Domniţa Frăţilă,</b> Olimpia Roş. <i>Analyse und Vergleich des Einflusses der Umweltfreundlichen Kühlverfahren auf den Zerspankräfte bei Drehprozess.</i> Acta Tehnica Napocensis a UTC-N 45/2002, ISSN 1221-5872, pp.27-34.  | 3    |
| <b>Domniţa Frăţilă,</b> Valentina Nistor, Christine Bohm, Cristian Hoza. <i>Design For Environment - Friendly Products And Sustainable Development.</i> ICAMES 2002, 10 <sup>th</sup> -18 <sup>th</sup> May 2002, Istanbul, Turkey.  | 1    |
| Roş, O., <b>Frăţilă, D.</b> , Nistor V. <i>Analyse of a thermal power station on the environment using SimaPro software.</i> Proceedings of MTeM 2003. Cluj-Napoca, 3 <sup>rd</sup> -5 <sup>th</sup> October 2003, ISBN 973-656-490-8, pp.391-394.   | 1.33 |
| <b>Frăţilă, D.</b> , Gyenge Cs., Roş, O. <i>Testing the providing efficiency of micro lubrication in gear manufacturing.</i> Proceedings of MTeM 2003. Cluj-Napoca, 3 <sup>rd</sup> -5 <sup>th</sup> October 2003, ISBN 973-656-490-8, pp.201-202.   | 1.33 |
| Legutko, St., Gyenge Cs., <b>Frăţilă D.</b> <i>New Ways In Nanotechnologies.</i> Acta Technica   | 2    |

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|---|------|
| Napocensis, Series: Applied Mathematics and Mechanics, 46, 2003, ISSN 1221-5872. pp. 115-122.   |      |
| <b>Frăţilă D.</b> , Roş O. <i>The use of Eco-Indicator criteria for the evaluation of environmental pollution by cutting process due to the consumption of electrical power.</i> Acta Tehnica Napocensis a UTC-N 46/2003, ISBN 1224 -9106, pp. 79-86.   | 3    |
| <b>Frăţilă D.</b> , Gyenge Cs. <i>Theoretical And Experimental Aspects Related To The Ecological Machining Of The Gear Wheels.</i> ICMaS Bucharest, 3 <sup>rd</sup> -6 <sup>th</sup> October 2004. Proceedings of the International Conference on manufacturing systems ICMaS 2004. Romanian Journal of Technical Sciences "Applied Mechanics", 49 Special number 2004, Editura Academiei Române, Bucureşti 2004, ISSN 00354074, ISBN 973-27-1102-7, pp. 245-248. | 2    |
| <b>Frăţilă D.</b> , Gyenge Cs., Roş O. <i>Sustainable Development And Manufacturing Using The Minimal Lubrication Technique By The Gear Milling Process.</i> Computing and Solution in Manufacturing Engineering (CoSME' 04), Brasov, 16 <sup>th</sup> -18 <sup>th</sup> September 2004, ISBN 973-635-372-9, pp.125-127.  | 1.33 |
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| <b>Frăţilă D.</b> , Gyenge Cs., Ros R. – <i>Evaluation on the effects of minimal quantity lubrication and dry cutting in gear milling.</i> Annals of MTeM for 2005 & Proceedings of 7 <sup>th</sup> MTeM Conference. Published by MTeM 2005. Cluj-Napoca, 6 <sup>th</sup> -8 <sup>th</sup> October 2005, ISBN 973-656-490-8, pp.203-206.  | 1.33 |
| Ros O., <b>Frăţilă D.</b> – <i>Comparative analysis of the impact of product on the environment using LCA Method.</i> Annals of MTeM for 2005 & Proceedings of 7 <sup>th</sup> MTeM Conference. Published by MTeM 2005. Cluj-Napoca, 6 <sup>th</sup> -8 <sup>th</sup> October 2005, ISBN 973-656-490-8, pp.363-364.   | 2    |
| Gherman, E., <b>Frăţilă, D.</b> , Teodorescu I., Selescu L., Petruţa V. – <i>Linie tehnologică integrată cu fluxuri selectabile pentru producerea de preparate agroalimentare şi parafarmaceutice.</i> Revista Minelor nr.10/2007. ISSN 1220-2053, pp.53-56.  | 1.2  |
| <b>Frăţilă, D.</b> , Roş, O., Gyenge, Cs. <i>LCA as Evaluation Tool for Environment-Friendly Product Development.</i> Annals of MTeM for 2007 & Proceedings of 8 <sup>th</sup> MTeM Conference. Cluj-Napoca, 4 <sup>rd</sup> -5 <sup>th</sup> October 2007, ISBN 973-9087-83-3, pp. 151-154.  | 1.33 |
| Rozynek Z, <b>Frăţilă D.</b> , Almansa A. <i>Automation of MEMS chip assembly using vision alignment system and non-contact dispensing.</i> The International Workshop on Micro- and Nano Production Technologies and Systems Date: October, 17-18 2007, Moscow, Russia.  | 1.33 |
| <b>Frăţilă, D.</b> , Roş, O., Gyenge, Cs. <i>Environment-Friendly Cutting Of Cylindrical Gears.</i> Archive of Material Science 28(1-4) 2007, pp. 45-50.  | 2    |
| <b>Frăţilă, D.</b> , Roş, O., Gyenge, Cs. <i>Environment-Friendly Cutting Of Cylindrical Gears.</i> 12 <sup>th</sup> International Research/Expert Conference - Trends in the Development of Machinery and Associated Technology, TMT 2008, Istanbul, Turkey, 26-30 August 2008. ISBN 978-9958-617-41-6, pp. 17-20.   | 1.33 |
| A. Trif, M. Borzan, <b>D. Frăţilă</b> , A. Popan, V. Ceclan, A. Popescu. <i>Research regarding the influence of temperature on carbide inserts in turning process.</i> Automation in Production   | 0.66 |

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| Planning and Manufacturing Scientific conference, 19-21 may 2014, Zilina, Slovakia 2014, pp.170-174, ISBN 978-80-554-0878-1. |  |
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## 2.5 Granturi/proiecte câștigate prin competiție sau contracte cu mediul economic - 168.85

### 2.5.1 Director/Responsabil (minimum 2D sau 4R)- 110.86

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| 2.5.1.1 internaționale   | <b>97.75</b> |
| <ul style="list-style-type: none"> <li>• <i>Research and Training Network ASSEMIC-Advanced Methods and Tools for Handling and Assembly in Micro technology.</i> EC FP6 Marie Curie RTN. Contract finanțat de Uniunea Europeană. Coordonator: Assoc.prof. Werner Brenner (Vienna University of Technology – Institute of Sensor and Actuator Systems); Perioada de derulare: 2004-2007. Coordonator: IMFT-TU Wien (Austria). Responsabil UTC-N</li> </ul> | 97.75        |
| 2.5.1.2 naționale  | <b>13.1</b>  |
| <ul style="list-style-type: none"> <li>• <i>Cercetări privind introducerea tehnicilor de aşchiere ecologică în construcția de mașini.</i> Contract tip AT cu Ministerul Educației și Cercetării, Tema nr.9 (Cod 175/2003) - Contract Nr. 33523/2003; beneficiar: Ministerul Educației și Cercetării (CNCSIS). Perioada de derulare: 2003, Buget: 2400 Euro. Director.</li> </ul>   | 2.4          |
| <ul style="list-style-type: none"> <li>• <i>Cercetărilor privind producerea de noi preparate agroalimentare sau para-farmaceutice competitive pe bază de legume, sare și extracte naturale din flora spontană prin implementarea unor procese de procesare.</i> Program AGRAL, Subprogram S5 INDAL/2004-2006 în parteneriat cu S.C. Minesa Cluj-Napoca. perioada 2004-2006, Buget UTCN: 10.700 Euro. Responsabil UTC-N.</li> </ul>                       | 10.7         |

### 2.5.2 Membră în echipă – 58

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| 2.5.2.1 internaționale (4x nr. ani)  | <b>45</b> |
| <ul style="list-style-type: none"> <li>• <i>Modernising of teaching and scientific research concerning the environmental aspects in the construction of machines.</i> TEMPUS AC-JEP-13578-98: Network of leading center on continuing education for industry. Contract Nr. 7 IP 051249. Parteneri: Swiss Național Science Foundation and Process Engineering, UT Cluj-Napoca și UP București. Director : Prof.dr.ing. Csaba Gyenge perioada de derulare: 1997-1998.</li> </ul> | 4         |
| <ul style="list-style-type: none"> <li>• <i>Umweltgerechte Zerspanung durch den Einsatz der Minimalschmiertechnik beim Wälzfräsen.</i> Director Dr. Thomas Emmer (Otto-von-Guericke-Universität Magdeburg, Fakultät für Maschinenbau, IFQ); Perioada de derulare: 1999-2001.</li> </ul>  | 1         |
| <ul style="list-style-type: none"> <li>• <i>Improvement of Industrial Production Industrial Production through Integration of Macro-, Micro- and Nanotechnologies.</i> EC FP6 Thematic priority: Nanotechnologies and Nanosciences, knowledge-based multifunctional materials and new production processes and devices (NMP). Coordonator proiect: Dr. Ana Almansa, ARCS Seibersdorf Research GmbH Austria; perioada de derulare: 2006-2009.</li> </ul>                        | 1         |
| <ul style="list-style-type: none"> <li>• <i>Tools and Technologies for the Analysis and Synthesis of Nanostructures.</i> EC FP6 Thematic priority: Nanotechnologies and Nanosciences, knowledge-based on multifunctional materials and new production processes and devices (NMP). Responsabil proiect: Dr. Ana Almansa; perioada de derulare: 2005-2007.</li> </ul>   | 1         |
| <ul style="list-style-type: none"> <li>• FP7 European Project, Grant No. 295016 <i>Adm-ERA-Reinforcing Additive Manufacturing research cooperation between the Central Metallurgical Research and</i></li> </ul>   | 8         |



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| <i>Development Institute and the European Research Area, Durata: 3 ani (2012-2014), Finalizat, Buget 496.634 €, (Responsabil UTCN: Prof. Nicolae Bâlc), <a href="http://www.fp7-admera.org/">http://www.fp7-admera.org/</a></i>  |           |
| <ul style="list-style-type: none"> <li>• Horizon 2020: Proiect European AMaTUC, Grant Agreement No. 691787: <i>Boosting the scientific excellence and innovation capacity in additive manufacturing of the TUC-N</i>, perioada 01.01.2016 – 30.12.2018, buget 999.443 Euro, Coordonator: Prof. Nicolae Bâlc (<a href="http://www.amatuc.com">www.amatuc.com</a>)</li> </ul>  | 12        |
| <ul style="list-style-type: none"> <li>• Horizon 2020: DiCoMi, No.778068/RISE-2017, <i>Directional Composites through Manufacturing Innovation</i>, 2017 – 2021, buget 1.426.500 Euro, Responsabil UTCN: Prof. Nicolae Bâlc (<a href="http://www.dicomi.eu">www.dicomi.eu</a>);</li> </ul>   | 16        |
| 2.5.2.2 naționale (2x nr. Ani)   | <b>13</b> |
| <ul style="list-style-type: none"> <li>• <i>Cercetări privind optimizarea etapelor ciclului de viață a produselor și prelucrarea prin așchiere ecologică a acestora.</i> Contract de tip A cu Ministerul Educației și Cercetării (Nr. 1546/2007-2008); Beneficiar: Ministerul Educației și Cercetării (CNCSIS); Director proiect: Prof.dr.ing. Olimpia Roș; Perioada de derulare: 2007-2008.</li> </ul>  | 4         |
| <ul style="list-style-type: none"> <li>• <i>Instalație Pilot pentru studiul experimental al etanșărilor frontale cu impulsuri.</i> Contract Tip AT cu Ministerul Educației și Cercetării, Tema nr.14, Cod CNCSIS 156/2003; beneficiar: Ministerul Educației și Cercetării (CNCSIS). Director: Conf.dr. ing. Marius Pustan; Perioada de derulare: 2003.</li> </ul>  | 2         |
| <ul style="list-style-type: none"> <li>• <i>Cercetări privind introducerea proiectării ecologice în construcția de mașini.</i> Contract de tip A cu Ministerul Educației și Cercetării (Tema 40/1998-1999); beneficiar: Ministerul Educației și Cercetării (CNCSIS); Director: Prof.dr.ing. Olimpia Roș; Perioada de derulare: 1998-1999.</li> </ul>   | 2         |
| <ul style="list-style-type: none"> <li>• <i>Asigurarea echității sociale prin extinderea accesului la studii universitare.</i> Domeniul vizat: 1. Creșterea echității sociale, în vederea incluziunii sociale și sporirea accesului la învățământul superior (inclusiv cele privitoare la consilierea și orientarea în carieră. Cod de înregistrare CNFIS-FDI-2016-0010 (ASESUN). Director Prof.dr.ing. Liana Hancu. Durata proiectului 2016. Coordonator grup țintă.</li> </ul> | 1         |
| <ul style="list-style-type: none"> <li>• <i>Dezvoltarea posibilităților de prelucrare a materialelor 9iennale9 avansate prin tăiere de precizie cu jet de apă.</i> PN-III-P2-2.1-BG-2016-0216. Director S.l. dr. ing. Ioan Alexandru Popan. Partener: SC TRAMBUS SRL.</li> </ul>   | 4         |

### **A3. Recunoașterea și impactul activității -1667.23**

#### **3.1 Vizibilitate în baze de date internaționale - 1548.23**

##### **3.1.1 Citări în articole indexate ISI (10/nr. autori) – 1067.5**

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| method, and multiple linear and quadratic regression analyses   |  |      |   |
| 2. Turning of Inconel 718 with whisker-reinforced ceramic tools applying vegetable-based cutting fluid mixed with solid lubricants by MQL                                 | Marques, A., Paipa Suarez, M., Falco Sales, W., Rocha Machado, Á.  | 2019 | Journal of Materials Processing Technology 266, pp. 530-543                               |
| 3. Environment Friendly Machining of Inconel 625 under Nano-Fluid Minimum Quantity Lubrication (NMQ)  | Singh, T., Dureja, J.S., Dogra, M., Bhatti, M.S.                   | 2018 | International Journal of Precision Engineering and Manufacturing 19(11), pp. 1689-1697    |
| 4. High-speed drawing of al alloy wire by diamond-coated drawing die under environmentally friendly water-based emulsion lubrication                                      | Wang, X., Wang, C., Shen, X., Sun, F.                              | 2018 | Journal of Manufacturing Science and Engineering, Transactions of the ASME 140(12),124502 |
| 5. Taguchi-Grey Relational Based Multi-Response Optimization on the Performance of Tool Coating Thickness in Pocket Milling   | Santhakumar, J., Mohammed Iqbal, U., Prakash, M.                   | 2018 | Materials Today: Proceedings 5(5), pp. 13422-13428  |
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| 7. Performance of a Carbon Dioxide Removal Process Using a Water Scrubber with the Aid of a Water-Film-Forming Apparatus  | Nguyen, M.K.D., Imai, T., Yoshida, W., et al                       | 2018 | Waste and Biomass Valorization 9(10), pp. 1827-1839                                       |
| 8. A comprehensive assessment of minimum quantity lubrication machining from quality, production, and sustainability perspectives   | Banerjee, N., Sharma, A.   | 2018 | Sustainable Materials and Technologies 17,e00070  |
| 9. Optimization of titanium alloys turning operation in varied cutting fluid conditions with multiple machining performance characteristics                               | Revuru, R.S., Zhang, J.Z., Posinasetti, N.R., Kidd, T.             | 2018 | International Journal of Advanced Manufacturing Technology 95(1-4), pp. 1451-1463         |
| 10. Evaluation of material removal rate and electrode wear rate in die sinking EDM with tool material Al <sub>2</sub> O <sub>3</sub> /Cu composite through Taguchi method | Hussain, M.Z., Khan, U.  | 2018 | International Journal of Materials Engineering Innovation 9(2), pp. 115-139               |
| 11. Joint decisions of machining process parameters setting and lot-size determination with environmental and quality cost consideration                                  | Awad, M.I., Hassan, N.M.   | 2018 | Journal of Manufacturing Systems 46, pp. 79-92  |
| 12. Analysis of Machining Behavior of Al/A206-Al <sub>2</sub> O <sub>3</sub> Metal Matrix Composite Using End Milling Process   | Parashar, V., Purohit, R.  | 2017 | Materials Today: Proceedings 4(2), pp. 2687-2692  |
| 13. Experimental Investigations of Surface Roughness of Inconel 718 under different Machining Conditions  | Kumar, S., Singh, D., Kalsi, N.S.                                  | 2017 | Materials Today: Proceedings 4(2), pp. 1179-1185  |
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| 15. Ultrasonic assisted grinding of advanced materials for biomedical and aerospace applications—a review   | Dambatta, Y.S., Sarhan, A.A.D., Sayuti, M., Hamdi, M.              | 2017 | Int Journal of Advanced Manufacturing Technology 92(9-12), pp. 3825-3858                  |
| 16. Influence factors and operational strategies for energy efficiency improvement of CNC machining   | Li, L., Li, C., Tang, Y., Yi, Q.                                   | 2017 | Journal of Cleaner Production 161, pp. 220-238  |
| 17. Energy consumption characteristics of turn-mill machining   | Moradnashad, M., Unver, H.O.                                       | 2017 | Int Journal of Advanced Manufacturing Technology 91(5-8), pp. 1991-2016                   |
| 18. Multi-objective robust optimization of the  | Pereira, R.B.D., Leite,  | 2017 | Journal of Cleaner Production   |

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| sustainable helical milling process of the aluminum alloy Al 7075 using the augmented-enhanced normalized normal constraint method  | R.R., Alvim, A.C., (...), Ferreira, J.R., Davim, J.P.                          |      | 152, pp. 474-496  |
| 19.Design of chassis of two-wheeled electrical vehicle by optimization of design parameters using taguchi method  | Rao, K.S., Kumar, M.P., Prasad, S.S., Teja, B.S., Chandh, Y.V.S.               | 2017 | International Journal of Mechanical Engineering and Technology 8(4), pp. 223-232  |
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| 23.Parametric optimisation for surface roughness of AISI 4340 steel during turning under near dry machining condition   | Selvam, M.D., Senthil, P., Sivaram, N.M.                                       | 2017 | Int Journal of Machining and Machinability of Materials 19(6), pp. 554-569        |
| 24.Investigation of flank wear in mql milling of ferritic stainless steel by using nano graphene reinforced vegetable cutting fluid   | Uysal, A.  | 2016 | Industrial Lubrication and Tribology 68(4), pp. 446-451                           |
| 25.A normal boundary intersection with multivariate mean square error approach for dry end milling process optimization of the AISI 1045 steel                              | Duarte Costa, D.M., Brito, T.G., de Paiva, A.P., Leme, R.C., Balestrassi, P.P. | 2016 | Journal of Cleaner Production 135, pp. 1658-1672                                  |
| 26.A method integrating Taguchi, RSM and MOPSO to CNC machining parameters optimization for energy saving   | Li, C., Xiao, Q., Tang, Y., Li, L.   | 2016 | Journal of Cleaner Production 135, pp. 263-275                                    |
| 27.Modelling and optimization of energy consumption for feature based milling   | Altıntaş, R.S., Kahya, M., Ünver, H.Ö.   | 2016 | Int Journal of Advanced Manufacturing Technology 86(9-12), pp. 3345-3363          |
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| 29.Ultrasonic assisted grinding process with minimum quantity lubrication using oil-based nanofluids  | Molaie, M.M., Akbari, J., Movahhedy, M.R.                                      | 2016 | Journal of Cleaner Production 129, pp. 212-222                                    |
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|---|-----------|
| 3.3.1 Indexate ISI  | <b>50</b> |
| Recenzor pentru <i>International Journal of Advanced Manufacturing Technologies</i> ( <a href="http://www.springer.com/engineering/production+engineering/journal/170">http://www.springer.com/engineering/production+engineering/journal/170</a> ) | 10        |
| Recenzor pentru <i>Materials &amp; Manufacturing Processes Journal</i> ( <a href="http://www.tandfonline.com/toc/lmmp20/">http://www.tandfonline.com/toc/lmmp20/</a> )  | 10        |
| Recenzor pentru <i>Journal of Cleaner Production</i> ( <a href="http://www.journals.elsevier.com/journal-of-cleaner-production/">http://www.journals.elsevier.com/journal-of-cleaner-production/</a> )  | 10        |
| Recenzor pentru <i>Tribology International</i> ( <a href="http://www.journals.elsevier.com/tribology-international/">http://www.journals.elsevier.com/tribology-international/</a> )  | 10        |
| Recenzor pentru <i>Journal of Machining Science and Technology</i> ( <a href="http://www.tandfonline.com/toc/lmst20/">http://www.tandfonline.com/toc/lmst20/</a> )  | 10        |

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| 3.3.2 Indexate BDI  | <b>24</b> |
| Membră a comitetului de organizare al Conferinței Internaționale 30iennale <i>Modern Technologies in Manufacturing (MteM)</i> în perioada 2001-2017 și membră în comitetul științific al aceleiași conferințe în 2017 ( <a href="http://www.mtem.utcluj.ro/">http://www.mtem.utcluj.ro/</a> )                       | 8         |
| Membră a comitetului editorial al <i>Open Engineering (formerly Central European Journal of Engineering)</i> ( <a href="https://www.degruyter.com/view/j/eng">https://www.degruyter.com/view/j/eng</a> )  | 8         |
| Recenzor pentru <i>Scientific Research and Essays</i> ( <a href="http://www.academicjournals.org/SRE">http://www.academicjournals.org/SRE</a> )   | 8         |
| 3.3.3 Naționale și internaționale neindexate  | <b>15</b> |
| Membră a comitetului editorial al <i>International Journal of Materials Forming and Machining Processes</i> ( <a href="http://www.igi-global.com/journal/international-journal-materials-forming-machining/69666">http://www.igi-global.com/journal/international-journal-materials-forming-machining/69666</a> )   | 5         |
| Membră a comitetului editorial al <i>International Journal of Applied Management Sciences and Engineering</i> ( <a href="http://www.igi-global.com/journal/international-journal-applied-management-sciences/68203">http://www.igi-global.com/journal/international-journal-applied-management-sciences/68203</a> ) | 5         |
| Membră a comitetului editorial al <i>Journal of Mechanics &amp; Industry Research</i> ( <a href="http://www.sciknow.org/journals/show/id/jmir">http://www.sciknow.org/journals/show/id/jmir</a> )   | 5         |

### 3.4 Experiență de management, analiză și evaluare în cercetare și învățământ -24

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| 3.4.2 membru (2 x nr. ani)   |    |
| Expert evaluator UEFISCDI în competițiile: <i>Joint Applied Research Projects (PCCA)</i> din cadrul Planului Național de Cercetare, Dezvoltare și Inovare 2007-2013, PNII, <i>Black Sea ERA – NET</i> și în cadrul Programului <i>Capacități</i> , Subprogramul <i>Cooperări bilaterale – Programul de cooperare bilaterală România – Austria</i> , din cadrul Planului Național de Cercetare, Dezvoltare și Inovare 2007-2013, PN-II. | 4  |
| Expert evaluator pentru National Science Centre (Narodowe Centrum Nauki) Polonia, în cadrul competițiilor SONATA 8 și Preludium 8, 2015-2016 ( <a href="https://osf.opi.org.pl">https://osf.opi.org.pl</a> ).  | 4  |
| Membră în comisii de licență și dizertație (2013-2018)   | 10 |
| Membră în comisii de îndrumare pentru stagii de pregătire doctorală (2017-2019)  | 4  |
| Membră a comisiei de selecție <i>DAAD-Studienstipendien (Master)</i> 2018  | 2  |

### 3.6 Membră în academii, asociații profesionale naționale și internaționale - 6

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| 3.6.4.2 Asociații profesionale naționale   |   |
| Asociația Universitară de Ingineria Fabricației (AUIF) ( <a href="http://eng.upt.ro/auif/index.php">http://eng.upt.ro/auif/index.php</a> ) | 3 |
| DAAAM International Association-Young Researches' and Scientists' Committee 2005 ( <a href="http://www.daaam.info">www.daaam.info</a> )    | 3 |