

UNIVERSITATEA DIN PETROȘANI  
Facultatea de Inginerie Mecanică și Electrică  
Departamentul de Inginerie Mecanică Industrială și Transporturi  
Examen pentru ocuparea postului de conferențiar, poz. 11  
Disciplinele: Mecanică I  
Mecanică II  
Fiabilitate și menenanță  
Domeniul Inginerie Mecanică Mecatronică și Robotică

## L I S T A D E L U C R Ă R I

Candidat: Itu V. Răzvan Bogdan dr. din 2012, șef lucrări/ din 2018

### A) Lucrări relevante pentru realizările profesionale proprii (maxim 10 lucrări)

1. **Itu, R.B; Marc, B.I,** (2023), *Aspects regarding determination of articulated bar structures' own vibration characteristics*, Fiability & Durability / Fiabilitate si Durabilitate, 2023, Issue 1, p60, ISSN 1844-640X, Publication type: Academic Journal, [https://www.utgjiu.ro/rev\\_mec/mecanica/pdf/2023-01/11\\_Itu%20R%20B.%20Marc-%20B%20I%20-Aspects%20regarding%20determination%20of%20articulated%20bar%20structures%20own%20vibration%20characteristics.pdf](https://www.utgjiu.ro/rev_mec/mecanica/pdf/2023-01/11_Itu%20R%20B.%20Marc-%20B%20I%20-Aspects%20regarding%20determination%20of%20articulated%20bar%20structures%20own%20vibration%20characteristics.pdf)
2. **Itu, R.B; Toderaș, M; Marc, B.I,** (2023), *Aspects regarding reduction of sliding vectors*, Annals of the University of Petroșani Mechanical Engineering, Volum 25, [https://www.upet.ro/annals/mechanical/pdf/2023/10\\_Itu\\_3.pdf](https://www.upet.ro/annals/mechanical/pdf/2023/10_Itu_3.pdf)
3. **Itu, R.B; Apostu, S; Florea, V.A; Marc, B.I,** (2022), *Calculation of optimal structures made of articulated bars*, Annals of the Faculty of Engineering Hunedoara, Volumul 20, Numărul 4, <https://annals.fih.upt.ro/pdf-full/2022/ANNALS-2022-4-02.pdf>
4. **Itu, R.B; Florea, V.A,** (2022), *The experimental investigation of the force system from the acting elements of the press for balotting metallic*, Annals of Constantin Brâncuși University of Targu-Jiu. Engineering Series/Analele Universității Constantin Brâncuși din Târgu-Jiu. Seria Ingineri Nr. 4, [https://www.utgjiu.ro/rev\\_ing/pdf/2022-4/10\\_R%C4%83zvan%20Bogdan%20Iitu,%20Vlad%20Alexandru%20Florea\\_THE%20EXPERIMENTAL%20INVESTIGATION%20OF%20THE%20FORCE%20SYSTEM%20FROM%20THE%20ACTING%20ELEMENTS%20OF%20THE%20PRESS%20FOR%20BALOTTING%20METALLIC.pdf](https://www.utgjiu.ro/rev_ing/pdf/2022-4/10_R%C4%83zvan%20Bogdan%20Iitu,%20Vlad%20Alexandru%20Florea_THE%20EXPERIMENTAL%20INVESTIGATION%20OF%20THE%20FORCE%20SYSTEM%20FROM%20THE%20ACTING%20ELEMENTS%20OF%20THE%20PRESS%20FOR%20BALOTTING%20METALLIC.pdf)
5. **Itu, R.B; Florea, V.A,** (2022), *Plane -parallel motion aspects regarding isoclinal circles*, Annals of the University of Petroșani, Mechanical Engineering 24, [https://www.upet.ro/annals/mechanical/pdf/2022/09\\_Itu\\_Florea.pdf](https://www.upet.ro/annals/mechanical/pdf/2022/09_Itu_Florea.pdf)
6. **Itu, R.B; Dumitrescu, I;** (2020), *Study of the possibility of reducing a rectilinear neo-homogeneous bar to a material points system of the same inertial properties as that of the bar*, Fiability & Durability/Fiabilitate si Durabilitate, Nr. 1, [https://www.utgjiu.ro/rev\\_mec/mecanica/pdf/2020-01/10\\_R%C4%83zvan%20Bogdan%20ITU,%20Iosif%20DUMITRESCU%20-STUDY%20OF%20THE%20POSSIBILITY%20OF%20REDUCING%20A%20RECTILINEAR%20NEO-HOMOGENEOUS%20BAR%20TO%20A%20MATERRIAL%20POINTS%20SYSTEM%20OF%20THE%20SAME%20INERTIAL%20PROPERTIES%20AS%20THAT%20OF%20THE%20BAR.pdf](https://www.utgjiu.ro/rev_mec/mecanica/pdf/2020-01/10_R%C4%83zvan%20Bogdan%20ITU,%20Iosif%20DUMITRESCU%20-STUDY%20OF%20THE%20POSSIBILITY%20OF%20REDUCING%20A%20RECTILINEAR%20NEO-HOMOGENEOUS%20BAR%20TO%20A%20MATERRIAL%20POINTS%20SYSTEM%20OF%20THE%20SAME%20INERTIAL%20PROPERTIES%20AS%20THAT%20OF%20THE%20BAR.pdf)
7. **Itu, R.B; Șoica, A; Bogdanffy, L;** *Solar tracker system for monitoring the maximum sun potential that can be produced in a specific place*, Proceedings of 23rd International Multidisciplinary Scientific GeoConference SGEM 2023, Volume 23, Issue 4.2, DOI: 10.5593/sgem2023V/4.2/s17.56, [https://epslibrary.at/sgem\\_irsearch\\_publication\\_view.php?page=view&editid1=9482](https://epslibrary.at/sgem_irsearch_publication_view.php?page=view&editid1=9482)

### B) Teza de doctorat

**Itu, R.B,** *Soluții de depozitare a deșeurilor radioactive în România*, Universitatea din Petroșani, Conducător științific: Prof. univ. dr. ing. Mircea Georgescu, 2012, confirmat prin Ordinul M.E.C.T.S. nr. 3639/2012.

### C) Teza(-ele) de abilitare

### D) Brevete de invenție și alte titluri de proprietate industrială

### E) Cărți și capitole în cărți:

## **E.1. Cărți /capitole din cărți (monografii, tratate), publicate la edituri de prestigiu din străinătate**

1. Itu, R.B; Marc B.I, (2022) *Increasing the Elastic Properties of Gypsum Materials by Reinforcing with Terephthalate Polyethylene (PET)*, EURECA-PRO Conference on Responsible Consumption and Production, DOI: [https://doi.org/10.1007/978-3-031-25840-4\\_44](https://doi.org/10.1007/978-3-031-25840-4_44), [https://link.springer.com/chapter/10.1007/978-3-031-25840-4\\_44](https://link.springer.com/chapter/10.1007/978-3-031-25840-4_44)
2. Wilhelm, K; Itu, R.B; (2023), *Condition of concurrence of three lines in a plane applied in mechanics*, Conferința internațională Educația în perspectiva valorilor: explorări, modele, reconsiderări, Chișinău, Editura Eikon, ISBN 978-606-49-1050-9, pag. 21-28, 2023;

## **E.2. Cărți sau capitole din cărți (monografii, tratate), publicate la edituri din țară, recunoscute de CNCS**

1. Itu, R.B.; Urdea, G.B.; Marc, B.I, (2024), *Dimensionarea și verificarea instalațiilor de extracție cu ajutorul softului Mathcad*, Editura Universitas, Petroșani, ISBN 978-973-741-969-9, pag. 446, 2024;
2. Itu, R.B., *Mecanică I – Note de curs*, Editura Universitas, Petroșani, ISBN 978-973-741-964-8, pag. 220, 2024;
3. Itu, R.B.; Zamora A., *Calitate asistată de calculator*, Editura Universitas, Petroșani, ISBN 978-973-741-988-0, pag. 130, 2024;
4. Itu, R.B., *Mecanică II – Note de curs*, Editura Universitas, Petroșani, ISBN 978-973-741-978-1, pag. 178, 2024;
5. Marc, B.I.; Itu R.B.,- *Statică lucrări practice de laborator*, Editura Universitas, Petroșani, ISBN 978-973-741-847-0, pag. 104, 2023;
6. Itu, R.B., *Concurența a trei drepte în plan aplicată în problemele de statica solidului rigid*, Editura Universitas, Petroșani, ISBN 978-973-741-911-8, pag. 147, 2023;
7. Itu, R.B., *Locuri geometrice în mecanică teorie și aplicații*, Editura Universitas, Petroșani, ISBN 978-973-741-899-9, pag. 297, 2023;
8. Itu, R.B., *Mecanică indicații metodice pentru rezolvarea problemelor. Tipuri de probleme*, Editura Universitas, Petroșani, ISBN 978-973-741-937-8, pag. 418, 2023;
9. Itu, R.B., *Elemente teoretice de mecanica punctului material și solidului rigid*, Editura Universitas, Petroșani, ISBN 978-973-741-871-5, pag. 293, 2022;
10. Itu, R.B., *Mecanică probleme de limită și extrem cu și fără derivate*, Editura Universitas, Petroșani, ISBN 978-973-741-837-1, pag. 267, 2022;
11. Itu R.B., *Mecanică, îndrumător pentru lucrări de laborator*, Editura Universitas, Petroșani, ISBN 978-973-741-611-7, pag. 475, 2021;

## **F) Articole /studii in extenso, publicate în reviste din fluxul științific internațional principal**

1. Itu, R.B; Șoica, A, (2024), *The Reintegration of The Surfaces Affected by the Phenomenon of Subsidence through the Cultivation of Trees with High Energy Value*, Volume 13, No. 3, Revista de Gestão Social e Ambiental, DOI: <https://doi.org/10.24857/rgsa.v18n3-137>, <https://rgsa.openaccesspublications.org/rgsa/article/view/6506>
2. Itu R.B; Toderaș, M, (2024), *Aspects of Collinearity Property in Mechanics*, Volume 13, Ishue 5, International Journal of Engineering and Advanced Technology (IJEAT) DOI: [10.35940/ijeat.E4450.13050624](https://www.ijeat.org/portfolio-item/E445013050624/), <https://www.ijeat.org/portfolio-item/E445013050624/>
3. Șoica, A, Itu, R.B; MarcB.I, (2024), *Reducing the energy consumption through friendly sun buildings in Jiu Valley region*, Volume 6, Issue 1, Journal of Research and Innovation for Sustainable Society (JRISS), DOI: [10.33727/JRISS.2024.1.1:5-9](https://doi.org/10.33727/JRISS.2024.1.1:5-9), [https://jriss.4ader.ro/wp-content/uploads/2024/04/01\\_A-Soica-R-B-Itu-I-B-Marc-REDUCING-THE-ENERGY-CONSUMPTION-THROUGH-FRIENDLY-SUN-BUILDINGS-IN-JIU-VALLEY-REGION.pdf](https://jriss.4ader.ro/wp-content/uploads/2024/04/01_A-Soica-R-B-Itu-I-B-Marc-REDUCING-THE-ENERGY-CONSUMPTION-THROUGH-FRIENDLY-SUN-BUILDINGS-IN-JIU-VALLEY-REGION.pdf)
4. Toderaș, M; Florea, V.A; Itu, R.B. (2023), *Stability Analysis of the Tailings Dam for the Purpose of Closing, Greening, and Ensuring Its Safety-Study Case*, Volume: 15, Issue 9, Nr articol 7606, Sustainability, DOI: [10.3390/su15097606](https://doi.org/10.3390/su15097606), <https://www.mdpi.com/2071-1050/15/9/7606>
5. Florea, V.A; Toderaș, M; Itu, R.B. (2023), *Assessment possibilities of the quality of mining equipment and of the parts subjected to intense wear*, Volume 13, Nr. 6, Applied sciences, doi.org/10.3390/app13063740, <https://www.mdpi.com/2076-3417/13/6/3740>
6. Florea, V.A; Ionică, A.C; Florea, A; Itu, R.B; (2022) *Popescu-Stelea, M, Study of the Possibilities of Improving Maintenance of Technological Equipment Subject to Wear*, Volume 10, Nr. 12, Processes, doi.org/10.3390/pr10122550, <https://www.mdpi.com/2227-9717/10/12/2550>
7. Florea, V.A; Itu, R.B, (2022) *Potential Methods for Limiting the Consumption of Machine Components Exposed to Abrasive Wear*, Volume 14, No. 19, Sustainability, doi.org/10.3390/su141912819, <https://www.mdpi.com/2071-1050/14/19/12819>

## **G) Publicații in extenso, apărute în lucrări ale principalelor conferințe internaționale de specialitate**

1. Soica, A; **Itu R.B**; Marc B.I, (2024), *The use of aramids and para-aramids in the manufacture of individual protective equipment*, Volume 389, No. 00026, 11<sup>th</sup> International Symposium on Occupational Health and Safety, DOI: <https://doi.org/10.1051/matecconf/202438900026>, [https://www.matec-conferences.org/articles/matecconf/abs/2024/01/matecconf\\_sesam2023\\_00026/matecconf\\_sesam2023\\_00026.html](https://www.matec-conferences.org/articles/matecconf/abs/2024/01/matecconf_sesam2023_00026/matecconf_sesam2023_00026.html)
2. Marica, L; **Itu, R.B.**, (2024), *Reducing the occurrence of occupational diseases in order to make the work of mining personnel more efficient*, Volume 389, No. 7, 11<sup>th</sup> International Symposium on Occupational Health and Safety, DOI: <https://doi.org/10.1051/matecconf/202438900047>, [https://www.matec-conferences.org/articles/matecconf/abs/2024/01/matecconf\\_sesam2023\\_00047/matecconf\\_sesam2023\\_00047.html](https://www.matec-conferences.org/articles/matecconf/abs/2024/01/matecconf_sesam2023_00047/matecconf_sesam2023_00047.html)
3. **Itu, R.B.**; Toderaș, M; Florea, V.A, (2023), *Dimensioning of Radioactive Waste Deposits According to Their Evolution: Study Case*, Proceedings of 17<sup>th</sup> SCF International Conference on “Sustainable Development in a Global Perspective”, [https://www.researchgate.net/profile/Venelin-Terziev/publication/376409604\\_Strategic\\_Management\\_in\\_the\\_Conditions\\_of\\_Global\\_Crises\\_and\\_the\\_New\\_Social\\_Leaders/links/65776419cbd2c535ea17bf2e/Strategic-Management-in-the-Conditions-of-Global-Crises-and-the-New-Social-Leaders.pdf#page=87](https://www.researchgate.net/profile/Venelin-Terziev/publication/376409604_Strategic_Management_in_the_Conditions_of_Global_Crises_and_the_New_Social_Leaders/links/65776419cbd2c535ea17bf2e/Strategic-Management-in-the-Conditions-of-Global-Crises-and-the-New-Social-Leaders.pdf#page=87)
4. **Itu, R.B.**; Marc B.I, (2022) *Increasing the Elastic Properties of Gypsum Materials by Reinforcing with Terephthalate Polyethylene (PET)*, EURECA-PRO Conference on Responsible Consumption and Production, DOI: [https://doi.org/10.1007/978-3-031-25840-4\\_44](https://doi.org/10.1007/978-3-031-25840-4_44), [https://link.springer.com/chapter/10.1007/978-3-031-25840-4\\_44](https://link.springer.com/chapter/10.1007/978-3-031-25840-4_44)
5. Marc, B.I; Soica, A.; **Itu, R.B.**, (2022), *Dewatering of waters from surface quarries in the Oltenia basin with the help of horizontal drilling*, Volumul 373, No. 69, MATEC Web of Conferences, DOI: <https://doi.org/10.1051/matecconf/202237300069>, [https://www.matec-conferences.org/articles/matecconf/abs/2022/20/matecconf\\_simpro2022\\_00069/matecconf\\_simpro2022\\_00069.html](https://www.matec-conferences.org/articles/matecconf/abs/2022/20/matecconf_simpro2022_00069/matecconf_simpro2022_00069.html)
6. Ridzi, M.C; **Itu, R.B.**; Kecs, W; Itu, V, (2018), *Assessment of remnant life duration for bucket wheel excavators in lignite quarries*, Volumul 393, No. 1, IOP Conference Series: Materials Science and Engineering, DOI: [10.1088/1757-899X/393/1/012015](https://doi.org/10.1088/1757-899X/393/1/012015), <https://iopscience.iop.org/article/10.1088/1757-899X/393/1/012015/meta>
7. Cozma, B.Z; **Itu, R.B.**; Udrea, G.B; Dumitrescu, I, (2018), *Study of cutting parts of mining machines with the help of CAD/CAE softwares*, International Multidisciplinary Scientific GeoConference: SGEM; Sofia, Vol. 18, DOI:10.5593/sgem2018/1.3/S03.111,<https://www.proquest.com/openview/32b5548154585cebf94230efa7113437/1?pq-origsite=gscholar&cbl=1536338>
8. **Itu, R.B.**; Ridzi, M.C; Kecs, W.; Itu, V., (2017), *Vibromechanical diagnosis of the winding machine in the old shaft with skip in Lonea mine*, MultiScience - XXXI. microCAD International Multidisciplinary Scientific Conference, University of Miskolc, DOI: 10.26649/musci.2017.056, [https://www.researchgate.net/publication/321295377\\_Vibromechanical\\_Diagnosis\\_of\\_the\\_Winding\\_Machine\\_in\\_the\\_Old\\_Shift\\_with\\_Skip\\_in\\_Lonea\\_Mine](https://www.researchgate.net/publication/321295377_Vibromechanical_Diagnosis_of_the_Winding_Machine_in_the_Old_Shift_with_Skip_in_Lonea_Mine)
9. Dumitrescu, I; Cozma, B.Z; **Itu R.B.**, (2017), *Constructive improvements of cable tensioning mechanism for DEC devices*, Volumul 17, No. 1.3, International Multidisciplinary Scientific GeoConference: SGEM, DOI:10.5593/sgem2017/13, <https://www.proquest.com/openview/ea42246c3085f834843a8fa7c2fee026/1?pq-origsite=gscholar&cbl=1536338>
10. Dumitrescu, I; Cozma, B.Z; **Itu, R.B.**, (2016), *Safety mechanisms for mining extraction vessels*, Volumul 2, International Multidisciplinary Scientific GeoConference: SGEM, Surveying Geology & Mining Ecology Management (SGEM), <https://www.proquest.com/openview/026d38e9a6e78fecb551503ffd6836fa/1?pq-origsite=gscholar&cbl=1536338>
11. Pop, A; **Itu, R.B.**; Radu, S.M, (2016), *Applications of forces reduction in the calculation of technological mechanical loads transmited to the tower of a winding engine trough extraction pulley bearings*, Volumul 2, International Multidisciplinary Scientific GeoConference: SGEM; Sofia, <https://www.proquest.com/docview/2014454544?pq-origsite=gscholar&fromopenview=true&sourcetype=Conference%20Papers%20&%20Proceedings>

## **H) Proiecte de cercetare-dezvoltare-inovare:**

1. **Itu R.B. – Director de proiect**, *Sistem integrat de gestiune a activității de cercetare științifică în cadrul UPET*, Cod: CNFIS-FDI-2022-0117, Acronim SIGAC-UPET, Beneficiar: Universitatea din Petroșani, Valoare totală: 297.980 lei, durată implementare 9 luni.
2. **Itu R.B. – Membru în proiect**, *Cercetări comparate de geologie urbană, ecologie umană și studii de trafic cu impact asupra calității aerului în Municipiul Petroșani în contextul decarbonizării zonelor miniere*, Acronim CCGUEUST, Contract de cercetare științifică universitară, Nr. 4282/2023, Valoare

totală 100.000 lei.

3. **Itu R.B. – Membru în echipă**, *Cercetări pentru reabilitarea cu materiale avansate a structurilor din componența echipamentelor tehnologice, exploatate în condiții severe de funcționare în scopul creșterii duratei lor de viață*, Contract de cercetare științifică nr. 2/07.05.2021 cu SC Sudotim AS SRL Timișoara ca beneficiar și Universitatea din Petroșani ca executant, valoare totală 26.000 lei.
4. **Itu R.B. – Membru în echipă**, *Contract de cercetare științifică cu privire la elaborarea unui studiu de trafic și de sistematizare a circulației rutiere*, Nr 28823/2023, Părțile contractante: Primăria Municipiului Vulcan ca beneficiar și Universitatea din Petroșani ca executant, Valoare contract: 26.000 lei.
5. **Itu R.B. – Membru în Proiect**, *EURECA-PRO*, Grant agreement NR: 101004049, Părțile contractante: Education, Audiovisual and Culture Executive Agency, delegated by the European Commission și Universitatea din Petroșani, Valoare totală grant 825.000 Euro, 2020-2023.
6. **Itu R.B. – Membru în Proiect**, *EURECA-PRO 2*, Grant agreement NR: 101124439, Părțile contractante: European Education and Culture Executive Agency, delegated by the European Commission și Universitatea din Petroșani, Valoare totală grant 1.100.000 Euro (în derulare).
7. **Itu R.B. – Membru în Proiect**, *HI EURECA-PRO 2*, Grant agreement NR: 101136779, Părțile contractante: European Research Executive Agency, delegated by the European Commission și Universitatea din Petroșani, Valoare totală grant 766.125 Euro (în derulare).
8. **Itu R.B. – Membru în proiect**, *Grant pentru digitalizarea UPET*, Nr. 5590/2022, Părțile contractante: Ministerul Educației și Universitatea din Petroșani, Valoare totală: 16.128.334,78 lei (în derulare).

Data: 12.07.2024



Semnătura.....

Candidat,

Şef lucr. Dr. ing. Itu Răzvan  
Bogdan