

PUBLICAȚII ȘI PROIECTE DE CERCETARE

Listă lucrări reprezentative

1. Ginghina, R.E., **Toader, G.**, Purica, M., Bratu, A.E., Lazaroaie, C., Tigănescu, T.V., Oncioiu, R.E., Iorga, G.O., Zorila, F.L., Constantin, M., Craciun, G., Comanescu, F., Romanitan, C. - *Antimicrobial Activity and Degradation Ability Study on Nanoparticle-Enriched Formulations Specially Designed for the Neutralization of Real and Simulated Biological and Chemical Warfare Agents*, **Pharmaceuticals**, 15 (1), p.97, (2022), category **Q1**, 5-year WoS Impact factor: **5.850**;
 2. R. E. Ginghina, A. E. Bratu, **G. Toader**, A. E. Moldovan, T. V. Tigănescu, R. E. Oncioiu, P. Deliu, R. Petre, G. Epure and M. Purica - *Reactive Organic Suspensions Comprising ZnO, TiO₂, and Zeolite Nanosized Adsorbents: Evaluation of Decontamination Efficiency on Soman and Sulfur Mustard*, **Toxics**, 9 (12), p.334, (2021), category **Q2**, 5-year WoS Impact factor: **4.816**;
 3. F. M. Dirloman, **G. Toader**, T. Rotariu, T. V. Tigănescu, R. E. Ginghina, R. Petre, F. Alexe, M. I. Ungureanu, E. Rusen, A. Diacon, A. Ghebaur, M. Duldner, A. E. Coman and R. Tincu - *Novel Polyurethanes Based on Recycled Polyethylene Terephthalate: Synthesis, Characterization, and Formulation of Binders for Environmentally Responsible Rocket Propellants*, **Polymers**, 13 (21), p. 28, (2021), category **Q1**, 5-year WoS Impact factor: **4.493**;
 4. **G. Toader**, D. Pulpea, T. Rotariu, A. Diacon, E. Rusen, A. Moldovan, A. Podaru, R. Ginghina, F. Alexe, O. Iorga, S. A. Bajenaru, M. Ungureanu, F. Dirloman, B. Pulpea and L. Leonat - *Strippable Polymeric Nanocomposites Comprising "Green" Chelates, for the Removal of Heavy Metals and Radionuclides*, **Polymers**, 13 (23), p. 22, (2021), category **Q1**, 5-year WoS Impact factor: **4.493**;
 5. **G. Toader**, A. Diacon, T. Rotariu, M. Alexandru, E. Rusen, R. E. Ginghina, F. Alexe, R. Oncioiu, F. L. Zorila, A. Podaru, A. E. Moldovan, D. Pulpea, A. M. Gavrila, T. V. Iordache and R. Somoghi - *Eco-Friendly Peelable Active Nanocomposite Films Designed for Biological and Chemical Warfare Agents Decontamination*, **Polymers**, 13 (22), p. 27, (2021), category **Q1**, 5-year WoS Impact factor: **4.493**;
 6. **G. Toader**, A. Diacon, E. Rusen, F. Rizea, M. Teodorescu, P.O. Stanescu, C. Damian, A. Rotariu, E. Trana, F. Bucur, R. Ginghina, *A Facile Synthesis Route of Hybrid Polyurea-Polyurethane-MWCNTs Nanocomposite Coatings for Ballistic Protection and Experimental Testing in Dynamic Regime*, **Polymers**, 13(10), 1618 (1-16), (2021), category **Q1**, 5-year WoS Impact factor: **4.493**;
 7. **G. Toader**, P.O. Stanescu, T. Zecheru, T. Rotariu, A. El-Ghayoury, M. Teodorescu, *Water-based strippable coatings containing bentonite clay for heavy metal surface decontamination*, **Arabian Journal of Chemistry**, 12, 4026-4034 (2019), category **Q2**, 5-year WoS Impact factor: **5.397**;
 8. K. Iliopoulos, I. Guezguez, A.P. Kerasidou, A. El-Ghayoury, D. Branzea, **G. Nita**, N. Avarvari, H. Belmabrouk, S. Couris, B. Sahraoui, *Effect of metal cation complexation on the nonlinear optical response of an electroactive bisiminopyridine ligand*, **Dyes and Pigments**, 101, 229-233, (2014), category **Q1**, 5-year WoS Impact factor: **4.016**;
 9. **G. Nita**, D. Branzea, F. Pop, A. El-Ghayoury, N. Avarvari - *Electroactive Bisiminopyridine Ligands: Synthesis and Complexation Studies*, **Crystals**, 2(2), 338-348, (2012), category **Q2**, 5-year WoS Impact factor: **2.615**;
 10. Pulpea D., Rotariu T., **Toader G.**, Pulpea B., Neculae V., Teodorescu M., *Decontamination of radioactive hazardous materials by using novel biodegradable strippable coatings and new generation complexing agents*, **Chemosphere**, 258, 1-12 (2020), category **Q1**, 5-year WoS Impact factor: **6.956**;
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Teza de doctorat

„Materiale compozite polimerice cu aplicații în domeniul apărării și securității naționale” - Conducător științific: Prof.univ.dr.ing. Mircea TEODORESCU, Universitatea Politehnica din București, 2018

Publicații

Publicații ISI

1. Ginghina, R.E., **Toader, G.**, Purica, M., Bratu, A.E., Lazaroaie, C., Tiganescu, T.V., Oncioiu, R.E., Iorga, G.O., Zorila, F.L., Constantin, M., Craciun, G., Comanescu, F., Romanitan, C. - *Antimicrobial Activity and Degradation Ability Study on Nanoparticle-Enriched Formulations Specially Designed for the Neutralization of Real and Simulated Biological and Chemical Warfare Agents*, **Pharmaceuticals**, 15 (1), p.97, (2022), category **Q1**, 5-year WoS Impact factor: **5.850**;
2. R. E. Ginghina, A. E. Bratu, **G. Toader**, A. E. Moldovan, T. V. Tiganescu, R. E. Oncioiu, P. Deliu, R. Petre, G. Epure and M. Purica - *Reactive Organic Suspensions Comprising ZnO, TiO₂, and Zeolite Nanosized Adsorbents: Evaluation of Decontamination Efficiency on Soman and Sulfur Mustard*, **Toxics**, 9 (12), p.334, (2021), category **Q2**, 5-year WoS Impact factor: **4.816**;
3. F. M. Dirloman, **G. Toader**, T. Rotariu, T. V. Tiganescu, R. E. Ginghina, R. Petre, F. Alexe, M. I. Ungureanu, E. Rusen, A. Diacon, A. Ghebaur, M. Duldner, A. E. Coman and R. Tincu - *Novel Polyurethanes Based on Recycled Polyethylene Terephthalate: Synthesis, Characterization, and Formulation of Binders for Environmentally Responsible Rocket Propellants*, **Polymers**, 13 (21), p. 28, (2021), category **Q1**, 5-year WoS Impact factor: **4.493**;
4. **G. Toader**, D. Pulpea, T. Rotariu, A. Diacon, E. Rusen, A. Moldovan, A. Podaru, R. Ginghina, F. Alexe, O. Iorga, S. A. Bajenaru, M. Ungureanu, F. Dirloman, B. Pulpea and L. Leonat - *Strippable Polymeric Nanocomposites Comprising "Green" Chelates, for the Removal of Heavy Metals and Radionuclides*, **Polymers**, 13 (23), p. 22, (2021), category **Q1**, 5-year WoS Impact factor: **4.493**;
5. **G. Toader**, A. Diacon, T. Rotariu, M. Alexandru, E. Rusen, R. E. Ginghina, F. Alexe, R. Oncioiu, F. L. Zorila, A. Podaru, A. E. Moldovan, D. Pulpea, A. M. Gavrilă, T. V. Iordache and R. Somoghi - *Eco-Friendly Peelable Active Nanocomposite Films Designed for Biological and Chemical Warfare Agents Decontamination*, **Polymers**, 13 (22), p. 27, (2021), category **Q1**, 5-year WoS Impact factor: **4.493**;
6. **G. Toader**, A. Diacon, E. Rusen, F. Rizea, M. Teodorescu, P.O. Stănescu, C. Damian, A. Rotariu, E. Trana, F. Bucur, R. Ginghina, *A Facile Synthesis Route of Hybrid Polyurea-Polyurethane-MWCNTs Nanocomposite Coatings for Ballistic Protection and Experimental Testing in Dynamic Regime*, **Polymers**, 13(10), 1618 (1-16), (2021), category **Q1**, 5-year WoS Impact factor: **4.493**;
7. Florin-Marian Dirloman, Traian Rotariu, Tudor-Viorel Țigănescu, **Gabriela Toader**, Teodora Zecheru, Tanța-Verona Iordache, *Phase stabilized ammonium nitrate for future green rocket propellants*, **U.P.B. Sci. Bull. Series B Chemistry and Materials Science**, 83(3), July 2021.
8. **G. Toader**, T. Rotariu, D. Pulpea, A. Moldovan, A. Podaru, A.M. Gavrilă, M. Alexandru, A. Diacon, R. Ginghina, O. Iorga, C. Sau, *Polymeric Blends Designed For Surface Decontamination*, **U.P.B. Sci. Bull. Series B Chemistry and Materials Science**, 83(3), July 2021.
9. Pulpea D., Rotariu T., **Toader G.**, Pulpea B., Neculae V., Teodorescu M., *Decontamination of radioactive hazardous materials by using novel biodegradable strippable coatings and new generation complexing agents*, **Chemosphere**, 258, 1-12 (2020), category **Q1**, 5-year WoS Impact factor: **6.956**;
10. Epure C., Zecheru T., Epure G., Lazaroaie C., Iorga O., Petre R., **Nita G.**, Munteanu M., Stoica D., Plosnita A., Raditoiu V., *Composite Materials for Passive Antiradar Camouflage*, **Materiale Plastice**,

57(2), 15-22, (2020), category **Q4**, 5-year WoS Impact factor: **0.564**;

11. **G. Toader**, P.O. Stanescu, T. Zecheru, T. Rotariu, A. El-Ghayoury, M. Teodorescu, *Water-based strippable coatings containing bentonite clay for heavy metal surface decontamination*, **Arabian Journal of Chemistry**, 12, 4026-4034 (2019), category **Q2**, 5-year WoS Impact factor: **5.397**;
12. **Toader, G.**, Rotariu, T., Rusen, E., Tartiere, J., Esanu, S., Zecheru, T., Stancu, I.C., Serafim, A., Pulpea, B., *New Solvent-free Polyurea Binder for Plastic Pyrotechnic Compositions*, **Materiale Plastice**, 54(1), 22-28, (2017), category **Q4**, 5-year WoS Impact factor: **0.564**;
13. **G. Toader**, E. Rusen, M. Teodorescu, A. Diacon, P.O. Stanescu, C. Damian, T. Rotariu, A. Rotariu, *New polyurea MWCNTs nanocomposite films with enhanced mechanical properties*, **Journal of Applied Polymer Science**, 53(4), 45061 (1-7), (2017), category **Q2**, 5-year WoS Impact factor: **2.754**;
14. **G. Toader**, E. Rusen, M. Teodorescu, A. Diacon, P.O. Stanescu, T. Rotariu, A. Rotariu - Novel polyurea polymers with enhanced mechanical properties, **Journal of Applied Polymer Science**, 133 (38) (2016), category **Q2**, 5-year WoS Impact factor: **2.754**;
15. **Toader, G.**, Rusen, E., Teodorescu, M., Diacon, A., Stanescu, P.O., Sau, C., *Effect of chain length of polymeric aliphatic diamines on thermal and mechanical properties of polyurea films*, **U.P.B. Sci. Bull. Series B Chemistry and Materials Science**, 78(4), 3-12, (2016);
16. Rotariu, A., Bucur, F., **Toader, G.**, Lupoae, M., Sava, A.C., Somoiaș, P., Matei, M.C., *Experimental Study on Polyurea Coating Effects on Deformation of Metallic Plates Subjected to Air Blast Loads*, **Materiale plastice**, 53(4), 670-674, (2016), category **Q4**, 5-year WoS Impact factor: **0.564**;
17. T. Rotariu, C. Enache, D.A. Goga, **G. Toader**, I.C. Stancu, A. Serafim, S. Eșanu, E. Trană, *Theoretical and experimental studies on new plastic pyrotechnic compositions*, **Materiale plastice**, 53 (3), (2016), category **Q4**, 5-year WoS Impact factor: **0.564**;
18. K. Iliopoulos, I. Guezguez, A.P. Kerasidou, A. El-Ghayoury, D. Branzea, **G. Nita**, N. Avarvari, H. Belmabrouk, S. Couris, B. Sahraoui, *Effect of metal cation complexation on the nonlinear optical response of an electroactive bisiminopyridine ligand*, **Dyes and Pigments**, 101, 229-233, (2014), category **Q1**, 5-year WoS Impact factor: **4.016**;
19. **G. Nita**, D. Branzea, F. Pop, A. El-Ghayoury, N. Avarvari - *Electroactive Bisiminopyridine Ligands: Synthesis and Complexation Studies*, **Crystals**, 2(2), 338-348, (2012), category **Q2**, 5-year WoS Impact factor: **2.615**;

1. D. Pulpea, D. Buliga, M. Bunea, B. Pulpea, **G. Toader**, *The Disposal of Strippable Coatings Employed in Chemical and Radioactive Surface Decontamination*, **Journal of Military Technology**, 2020;
2. D. Pulpea, M. Bunea, T. Rotariu, R. Ginghina, **G. Toader**, *Review of Materials and Technologies Used for Chemical and Radiological Decontamination*, **Journal of Military Technology**, 2019;

Publicații
neindexate

Brevete

1. Andrei Sarbu, Tanta Verona Iordache, Ana-Mihaela Florea, Steluta Apostol, Teodor Sandu, Carmen Lazau, Traian Rotariu, **Gabriela Nita**, Anita Laura Radu – *Polymeric films molecularly imprinted with trinitrotoluene deposited on TiO₂ support and process for their obtaining*, folder OSIM A/00571/04.08.2015
2. T. Rotariu, Moldovan E.A., **G. Nita**, T.V. Iordache, A.M. Florea, A. Zaharia, A. Sarbu, - *Electroactive Polymeric binders with selective solubility for green energetic composite materials and process for obtaining them*, folder OSIM A/00805/28.11.2019
3. **G. Toader**, T. Rotariu, E.A. Moldovan, S.R. Esanu, D. Pulpea, I.A. Podaru, M.F. Dirloman, T.V. Iordache, A.M. Gavrilă, M. Istrate - *Biodegradable polymeric nanocomposites, with film-forming properties, intended for surface decontamination and process for obtaining and using them*, folder OSIM A00340 /16.06.2021

Distincții

Acest brevet [A/00571/04.08.2015](#) a fost premiat cu **medalia de aur** la Salonul internațional de invenții de la Geneva 2018

Participări la conferințe internaționale

1. **Gabriela Nita**, Edina Rusen, Mircea Teodorescu, Paul Stanescu, Traian Rotariu - *New types of performance polymers used in ballistic protection* (poster), Greener and safer energetic and ballistic systems (GSEBS 2015), 22-23 mai 2015, București, România
2. **Gabriela Nita**, Edina Rusen, Mircea Teodorescu, Paul Stanescu, Traian Rotariu - *New types of performance polymers used in ballistic protection* (prezentare orală), 19th Romanian International Conference on Chemistry and Chemical Engineering (RICCCE 19), 2-5 septembrie 2015, Sibiu, România
3. Ana-Mihaela Florea, Tanta-Verona Iordache, Andrei Sarbu, Steluta Apostol, Traian Rotariu, **Gabriela Nita**, Carmen Lazau, Teodor Sandu, Anita-Laura Radu, Liliana Sarbu, Andreea-Elena Voicu – *New molecularly imprinted polymer membranes for biometric sensors*, 2nd Asian-European Symposium on Organic Optoelectronics, 27-29 octombrie 2015, Edinburgh, United Kingdom
4. Tudor V. Tigănescu, Eugen Trana, Marin Lupoaie, Florina Bucur, Elena A. Voicu, **Gabriela Toader** - *Numerical simulation of blast loaded Ti/Steel foam/Ti sandwich plate*, 19th International Seminar – *New Trends in Research of Energetic Materials*, 20-22 aprilie 2016, Czech Republic, (ISBN 978 – 80-7395-976-0);
5. Ana-Mihaela Florea, Tanta Verona Iordache, Carmen Lazau, Traian Rotariu, Anita-Laura Radu, Andrei Sarbu, Andreea Voicu, **Gabriela Toader**, Steluta Apostol, Gheorghe Hubca - 2,4,6 – *Trinitrotoluene Molecularly Imprinted Membranes for Selective Sensors*, 19th International Seminar – *New Trends in Research of Energetic Materials*, 20-22 aprilie 2016, Czech Republic, (ISBN 978 – 80-7395-976-0);
6. **Gabriela Toader**, Edina Rusen, Mircea Teodorescu, Aurel Diacon, Paul Stanescu, Traian Rotariu, Adrian Rotariu - *New types of polyurea nanocomposites with enhanced mechanical properties* (prezentare orală), Greener and safer energetic and ballistic systems (GSEBS 2016), 26-27 mai 2016, București, România
7. **Gabriela Toader**, Edina Rusen, Mircea Teodorescu, Aurel Diacon, Paul Stanescu, Traian Rotariu, Adrian Rotariu - *Novel polyurea polymers with enhanced mechanical properties* (prezentare orală), Polymers and Organic Chemistry (POC 2016), 3-6 iunie 2016, Hersonissos, Greece
8. **Gabriela Toader**, Gabriela Ciupitu - *National experiences in Education and Outreach*, (prezentare orală), OPCW 1st Regional Meeting on Education and Outreach in Eastern Europe, 4-5 mai 2016, Vilnius
9. Andreea E. Voicu, **Gabriela Toader**, Mircea Teodorescu, Octavian D. Orban, Traian Rotariu, Viorel Tigănescu - *Eco-friendly polymeric binders for energetic formulations*, *New Trends in Research of Energetic Materials* (NTREM 2017), 26-28 Aprilie 2017, Pardubice, Czech Republic
10. Andreea Voicu, **Gabriela Toader**, Octavian Orban, Viorel Tigănescu, Traian Rotariu, Mircea Teodorescu - *Eco-friendly polymeric binders*, Defence Technology Forum 2017 – International scientific Conference, “Vasil Levski” National Military University, 3-4 octombrie 2017, Shumen, Bulgaria
11. **Gabriela Toader**, Traian Rotariu, Adrian Rotariu, Sorin Esanu, Aurel Diacon, Edina Rusen - *New polyurea nanocomposites designed for ballistic protection*, Greener and safer energetic and ballistic systems Conference, ENSTA Bretagne, 8-9 noiembrie 2018, Brest, France
12. **Gabriela Toader**, Traian Rotariu, Daniela Pulpea, Andreea Moldovan, Alice Podaru, Ana Mihaela Gavrilă, Mioara Alexandru, Aurel Diacon, Raluca Ginghina, Ovidiu Iorga, Ciprian Sau, POLYMERIC BLENDS DESIGNED FOR SURFACE DECONTAMINATION, 8th International Conference on Materials Science and Technologies – RoMat 2020, Bucharest, Romania, November 26-27th, 2020
13. D. Pulpea, **G. Toader**, T. Rotariu, A. Moldovan, G.B. Pulpea and E. Trană, *A review on water decontamination methods and future research trends*, Proceedings of the International Scientific Conference SEA-CONF 2021
14. D. Pulpea, **G. Toader**, T. Rotariu, A. Moldovan, G.B. Pulpea, A. Podaru, *Advances in Radioactive Decontamination via STRIPCOAT-HMR Research Project*, Nuclear 2021 – The 13th Annual International Conference on Sustainable Development through Nuclear Research and Education, 26-28 May 2021 in Pitesti
15. Daniela Pulpea, **Gabriela Toader**, Traian Rotariu, Mircea Teodorescu, Gheorghe Bogdan Pulpea, Valentina Neculae, *Strippable polymeric nanocomposite coatings for radioactive decontamination*, Bucharest Polymer Conference 2nd Edition University POLITEHNICA of Bucharest, Romania, 10 - 11 June 2021
16. **Gabriela Toader**, Daniela Pulpea, Traian Rotariu, Aurel Diacon, Andreea Moldovan, Alice Podaru, Ciprian Sau, Florentina Alexe, Raluca Ginghina, Mihai Ungureanu, Florin Dirloman, *Evaluation of alginate-based formulations suitable for the removal of radionuclides and heavy metals from the contaminated surfaces*, Bucharest Polymer Conference 2nd Edition University POLITEHNICA of Bucharest, Romania, 10 - 11 June 2021
17. Adriana Bratu, Raluca Ginghină, Andreea Moldovan, Tudor Tigănescu, **Gabriela Toader**, Ramona Oncioiu, Panaghia Deliu, Gabriel Epure, *The influence of the zinc oxide nanoparticles over decontamination efficiency of soman and sulfur mustard*, The International Symposium PRIORities of CHEMistry for a sustainable development, XVIIth Edition, ICECHIM - Bucharest – ROMANIA

October 27 - 29, 2021

18. Alice PODARU, **Gabriela TOADER**, Daniela PULPEA, Traian ROTARIU, Aurel DIACON, Edina RUSEN, Andreea MOLDOVAN, Raluca GINGHINĂ, Florentina ALEXE, Sorina BAJENARU, Ovidiu IORGA, Mihai UNGUREANU, Florin DIRLOMAN, Bogdan PULPEA, Lucia LEONAT, Film-forming polymeric blends designed for the removal of heavy metals and radionuclides from contaminated surfaces, The International Symposium PRIOrities of CHEMistry for a sustainable development, XVIIth Edition, ICECHIM - Bucharest – ROMANIA October 27 - 29, 2021

Cărți

1. Andreea Elena Voicu, **Gabriela Toader** - *Materiale energetice. Îndrumar de laborator*, Editura Academiei Tehnice Militare, 100 pg, 2018, ISBN 978-973-640-284-5;
2. Andreea-Elena MOLDOVAN, Daniela PULPEA, **Gabriela TOADER** și Gheorghe Bogdan PULPEA - *Chimia Carburanților și Lubrifianților. Îndrumar de Laborator*, 2021, ISBN 978-973-640-330-9

Proiecte de
cercetare-
dezvoltare

(director/responsabil
de proiect)

- PSCD 2014, *Pelicule polimerice pentru decontaminarea suprafețelor contaminate cu metale grele*, director de proiect
- PSCD 2015, *Metode de mărire a capacității de decontaminare și îmbunătățire a proprietăților peliculelor polimerice utilizate pentru îndepărtarea metalelor grele*, director de proiect
- 2020-2022 *Strippable coatings for heavy metals and radionuclids decontamination*, **PN-III-P2-2.1-PTE-2019-0400, No.49PTE/2020**, responsabil de proiect P1-ATMFI

(membru în colectivul
de cercetare)

- 2014-2016, *Small calibre ballistic system, rapidly convertible for lethal and non-lethal actions*, PN-II-PT-PCCA-2013 No. 293/2014
- 2014-2016, *New sensor development for multiple and selective detection of representative explosives - SENSOREX*, PN-II-PT-PCCA-2013 No. 291/2014
- 2014-2016, *Ballistic protection systems for military vehicles*, PN-II-PT-PCCA-2013 No. 278/2014
- 2014-2016, *Complex systems with deformable structure for ballistic protection of armoured vehicles involved in asymmetric conflicts*, PN-II-PT-PCCA-2013 No. 305/2014
- 2014-2017 - *Vehicle blast protection system*, PN-II-PT-PCCA-2013-4-1511
- 2018-2020, *Contingency of CBRN hazards and improvement of national security resources SECURE-NET*, PN-III-P1-1.2-PCCDI no.70/2018
- 2018-2019, *Studii și cercetări pentru identificarea soluțiilor de protecție a obiectivului militar U.M. 01463 Florești pe zona afectată de lucrarea de investiții „Drum de legătură - varianta Sud – comuna Florești”*, contract nr. 47964/2018
- 2020-2022 - *Adaptive mobile mixing and dispersing system using nanoparticles into innovative colloidal solutions for chemical, biological and radiological agents' mitigation*, PN-III-P2-2.1-PED-2019-4222;