

Informatii Personale (Personal information)

CV

Prenume-Nume (First name(s) /
Surname(s))

Cristian Toma

E-mail

Nationalitate (Nationality)

Date of birth

Work experience

Interval de timp (Dates)

1991-present

Pozitii Ocupate (Occupation or position
held)

Asistent Predare/Cercetare. Sef Lucrari, Conferentiar, Departament Fizica, facultatea Stiinte Aplicate, Universitatea Politehnica Bucuresti
Teaching Assistant, Research Assistant, Assistant Professor, Associate Professor at Physics Department - Applied Sciences Department, Politehnica University, Bucharest

Principale responsabilitati (Main
activities and responsibilities)

Cursuri predate
- Fizica – Facultatea IMST (2005-2019)
- Fizica Computationala - facultatea Automatica si Calculatoare- (2009-2015)
- Complexitate si nanostructuri – Facultatea de Stiinte Aplicate (Master Program: Fotonica si Materiale Avansates)-2006-2010

Courses Taught:
- Physics – Engineering and Management of Technological Systems Department (2005-2018)
- Computational Physics- Control Engineering and Computers Department (2009-2015)
- Complexity and Nanostructures – Applied Sciences Department (Master Program: Photonics and Advanced Materials)-2006-2010

Nume si Adresa Angajator (Name and
address of employer)

Politehnica University - Bucharest, 313 Spl. Independentei , Bucharest, Romania

Domeniul de Activitate (Type of
business or sector)

Education

Interval de timp (Dates)

1985-1991

Pozitii Ocupate (Occupation or position
held)

Inginer Cercetare (Research Engineer)

Principale responsabilitati (Main
activities and responsibilities)

activitati de cercetare pentru achizitia si prelucrarea datelor la motoare termice
(research activities for measurements, sampling and data acquisition for thermal engines)

Nume si Adresa Angajator (Name and
address of employer)

Institutul National de Motoare Termice (National Institute for Thermal Engine)s -Master SA, 246 Bd. I. Maniu, Bucharest

Domeniul de Activitate (Type of
business or sector)

Cercetare (Research)

Education and training

Interval de Timp (Dates)

1998-2003

Titlu obtinut (Title of qualification
awarded)

Doctor in Stiinte Tehnice-Electronica si Telecomunicatii (Philosophy Doctor in Technical Sciences-
Electronics andTelecommunications)

Domeniul ocupational (Principal
subjects/occupational skills covered)

Optoelectronica (Optoelectronics)

Organizatia ce a asigurat pregatirea (Name and type of organisation providing education and training)	Politehnica University, Bucharest
Level in national or international classification	
Interval de timp (Dates)	1998-1999
Titlul Obtinut (Title of qualification awarded)	Master Inginer in Electronica si Telecomunicatii (Master Engineer in Electronics, Telecommunications)
Domeniul ocupational (Principal subjects/occupational skills covered)	Optoelectronica (Optoelectronics)
Organizatia ce a asigurat pregatirea (Name and type of organisation providing education and training)	Politehnica University, Bucharest
Interval de Timp (Dates)	1980-1985
Titlul Obtinut (Title of qualification awarded)	Inginer Diplomat in Automatica si calculatoare Diploma Engineer in Control Engineering and Computers
Domeniul ocupational (Principal subjects/occupational skills covered)	Automatica
Organizatia ce a asigurat pregatirea (Name and type of organisation providing education and training)	Politehnica University, Bucharest
Competente de organizare (Organisational skills and competences)	Editor Invitat la Numere Speciale pentru Fenomene de Propagare si tranzitii in Sisteme Complexe- Mathematical Problems in Engineering 2011-2013 Organizator al Workshop-ului Pulses in cadrul Conferintelor Internationale ICCSA din 2005 in 2010 (lucrari selectate fiind publicate in Editura Springer Guest Editor at Special Issues on Propagation Phenomena and Transitions in Complex Systems. Efficient mathematical Problems at Mathematical Problems in Engineering- Annual Issues 2011-2013 Organizer of PULSES Workshop (Modelling Suddenly Emerging Phenomena) as part of International Conference on Computational Sciences and Applications ICCSA from 2005 to 2010, each year (selected papers published in Lecture Notes in Computer Science - Springer)

Annexes:

30 ISI Indexed papers- Hirsch Index 10

LISTA DE LUCRĂRI ȘTIINȚIFICE PUBLICATE

Conf. Dr. Ing. TOMA Cristian-Ghiocel
Universitatea POLITEHNICA din București
Facultatea de Stiinte Aplicate
Departamentul de Fizica

A. TEZE DE DOCTORAT

A1. Cristian Toma, *Instabilități și controlabilitate în optoelectronică*, Universitatea Politehnica, Bucuresti, 2003

B. ARTICOLE

Ba. Articole publicate în Reviste de Specialitate indexate ISI

Ba.01: Bogdan Dumitru Mihaela Ghelmez, , Cristian Toma, *Physical Methods for Analysis and Treatment of Risks in a System with Planned Evolution*, Scientific Bulletin Politehnica University, Bucharest, Series A-Applied Mathematics and Physics. Vol. 83, Issue 4, pp.231-242, WOS:000731398600021, 2021, Factor Impact 1.160 pe 2021, AIS 0.167 pe 2021, eigenfactor 0.00088 pe 2021, ISSN 1223-7027, 2021

Ba.02: Cristian Toma, *Filtering Method Based on Symmetrical Second Order Systems*, Symmetry-Basel, Vol.11, Issue 6, Article Number 813, DOI: 10.3390/sym11060813, Published: JUN 2019, WOS:000475703000088, Factor Impact 2.645 pe 2019, AIS 0.303 pe 2019, eigenfactor 0.00539 pe 2019, eISSN: 2073-8994, 2019

Ba.03: Mihaela Ghelmez, Bogdan Dumitru, Cristian Toma, *Simple Systems of Fatty Acids under Laser Action* ,Scientific Bulletin Politehnica University, Bucharest, Series A-Applied Mathematics and Physics. Nr.2, Vol. 79, pp.243-254, WOS:000406126800024 Factor Impact 0.461 pe 2017, AIS 0.094 pe 2017, eigenfactor 0.00063 pe 2017, ISSN 1223-7027, 2017

Ba.04: Ezzat G. Bakhoun, Cristian Toma, *Alternating Coordinate-Momentum Representation for Quantum States Based on Bopp Operators for Modelling Long-Distance Coherence Aspects* , Mathematical Problems in Engineering, Volume 2015 (2015), WOS:000355863300001 Factor Impact 0.644 pe 2015, AIS 0.163 pe 2015, eigenfactor 0.0123 pe 2015, ISSN 1024-123X, Article ID 818019, 7 pages

Ba.05: Cristian Toma, *Wavelets-Computational Aspects of Sterian Realistic Approach to Uncertainty Principle in High Energy Physics: A Transient Approach*, Advances in High Energy Physics, Volume 2013 (2013), WOS:000325286900001 , Factor Impact 2.62 pe 2013, AIS 1.176 pe 2013, eigenfactor 0.00224 pe 2013, ISSN 1687-7357, Article ID 735452, 6 pages

Ba.06: Ezzat G. Bakhoun, Cristian Toma, *Transient Aspects of Wave Propagation Connected with Spatial Coherence*, Mathematical Problems in Engineering, Volume 2013 (2013), WOS:000322674900001 , Factor Impact 1.082 pe 2013, AIS 0.178 pe 2013, eigenfactor 0.00462 pe 2013,, ISSN 1024-123X, Article ID 691257, 5 pages

Ba.07: Ezzat G. Bakhoun, Cristian Toma, *Modeling Transitions in Complex Systems by Multiplicative Effect of Temporal Patterns Extracted from Signal Flows*, Mathematical Problems in Engineering, Volume 2012 (2012), WOS:000312843300001, Factor Impact 1.383 pe 2012, AIS 0.216 pe 2012, eigenfactor 0.00284 pe 2012, ISSN 1024-123X, Article ID 409856, 11 pages

Ba.08: Cristian Toma, *Advanced Signal Processing and Command Synthesis for Memory-Limited Complex Systems* , Mathematical Problems in Engineering, Volume 2012 (2012),

WOS:000298630500001 , Factor Impact 1.383 pe 2012, AIS 0.216 pe 2012, eigenfactor 0.00284 pe 2012, ISSN 1024-123X, Article ID 927821, 13 pages

Ba.09: Ezzat Bakhoun, Cristian Toma, *Specific Mathematical Aspects of Dynamics Generated by Coherence Functions* , Mathematical Problems in Engineering, Volume 2011 (2011), WOS:000285604600001, Factor Impact 0.777 pe 2011, AIS 0.216 pe 2011, eigenfactor 0.00285 pe 2011, ISSN 1024-123X, Article ID 436198, 10 pages

Ba.10: Ezzat Bakhoun, Cristian Toma, *Dynamical Aspects of Macroscopic and Quantum Transitions due to Coherence Function and Time Series Events*, Mathematical Problems in Engineering, Volume 2010 (2010), WOS:000276345600001 Factor Impact 0.689 pe 2010, AIS 0.199 pe 2010, eigenfactor 0.00185 pe 2010, ISSN 1024-123X, Article ID 428903, 13 pages

Ba.11: Ghiocel Toma, *Specific Differential Equations for Generating Pulse Sequences*, Mathematical Problems in Engineering, Volume 2010 (2010), WOS:000271799000001 , Factor Impact 0.689 pe 2010, AIS 0.199 pe 2010, eigenfactor 0.00185 pe 2010, ISSN 1024-123X, Article ID 324818, 11 pages

Ba.12: Ezzat Bakhoun, Cristian Toma, *Mathematical Transform of Traveling-Wave Equations and Phase Aspects of Quantum Interaction*, Mathematical Problems in Engineering, Volume 2010 (2010), WOS:000271799800001 Factor Impact 0.689 pe 2010, AIS 0.199 pe 2010, eigenfactor 0.00185 pe 2010, ISSN 1024-123X, Article ID 695208, 15 pages

Ba.13 Ghiocel Toma, Flavia Doboga, *Vanishing waves on closed intervals and propagating short range phenomena*, Mathematical Problems in Engineering, Volum 2008, WOS:000260813500001 Factor Impact 0.54 pe 2008, AIS 0.287 pe 2008, eigenfactor 0.00145 pe 2008, ISSN 1024-123X, Article ID 359481, pag.14

Ba.14 Ezzat Bakhoun, Cristian Toma, Relativistic short range phenomena and spactime aspects of pulse measuremets eiscoelastic behaviour of the technical polymers by bidiemnsional pulses generation, Mathematical Problems in Engineering, Volum 2008, WOS:000260813700001 Factor Impact 0.54 pe 2008, AIS 0.287 pe 2008, eigenfactor 0.00145 pe 2008, ISSN 1024-123X, Article ID 410156, pag.20

Ba.15 Stefan Pusca, Maria Paun, Cristian Toma, *Viscoelastic behaviour of the technical polymers by bidiemnsional pulses generation*, Materiale Plastice vol. 44, nr.1, ISSN 0025-5289 , WOS:000246485400008 (Factor impact 0.40 pe 2007), AIS 0.033 pe 2007, eigenfacor 0.00021 pe 2007, pag. 39-43, 2007

Ba.16: Crina Turcas, Cristian Toma, Stefan Pusca, Elisabeta Ciocan, *Analiza unor parametri fizico-chimici si biologici ai apelor in scopul determinarii gradului de poluare*, Revista de Chimie nr. 3, ISSN 0034-7752, WOS:000237578100022 (Factor impact: 0.28 pe 2006), AIS 0.018 pe 2006, eigenfactor 0.00047 pe 2006, pag. 322-326, 2006

Ba.17: Alexandru .Paun, Cristian Toma, Stefan Pusca, *Calculation of polymer flow through the nanopores*, Materiale Plastice vol. 43, nr.1, ISSN 0025-5289 WOS:000236960700016 (Factor impact 0.31 pe 2006), AIS 0.031 pe 2006, eigenfactor 0.00017 pe 2006 pag. 68-69, 2006

Ba.18: Mihaela Ghelmez, Bogdan Dumitru, Cristian Toma, Elena Slavnicu, Razvan Trascu, Andreea Sterian, Constantin Georgescu, *The effect of neutron irradiation on fatty acids and computer modelling*, Journal of Optoelectronics and Advanced Materials vol..8, nr. 1, ISSN 1454-4164 WOS:000236107300038 (Factor impact : 1.10 pe 2006), AIS 0.13 pe 2006, eigenfactor 0.0035 pe 2006, pag. 172-176, 2006

Ba.19: Bogdan Lazar, Andreea Sterian, Stefan Pusca, Viorel Paun, Cristian Toma, Cristian Morarescu, *Simulating delayed pulses in organic materials*, Lecture Notes Computer Science

vol.3980, ISSN 0302-9743 WOS:000237642900084 (Factor impact: zero pe 2006, 0.42 pe 2005), pag.779-785, 2006

Ba.20: Dan Iordache, Stefan Pusca, Ghiocel Toma, Viorel Paun, Andreea Sterian, Cristian Morarescu, *Analysis of compatibility with experimental data of fractal descriptions of the fracture parameters*, Lecture Notes Computer Science vol.3980, ISSN 0302-9743 , WOS:000237642900087 (Factor impact: zero pe 2006, 0.42 pe 2005), pag.804-814, 2006

Ba.21: Mihaela Ghelmez (Dumitru), Bogdan Lazar, Cristian Toma, Bogdan Dumitru, Elena Slavnicu, *Valuri ultrasonice in masa si de suprafata generate de solide metalice prin surse sub forma de impuls*, Revista de Chimie nr. 7, ISSN 0034-7752 WOS:000241770900012 (Factor impact: 0.28 pe 2006), AIS 0.018 pe 2006, eigenfactor 0.00047 pe 2006, pag. 722-725, 2006

Ba.22: Adrian Podoleanu, Cristian Toma, Cristian Morarescu, Alexandru Toma, Theodora Toma, *Specific aspects of training IT students for modeling pulses in physics*, Lecture Notes Computer Science vol.3482, ISSN 0302-9743 WOS:000229696900059 (Factor impact: 0.42 pe 2005), AIS 0.21 pe 2005, eigenfactor 0.032 pe 2005, pag. 556-563, 2005

Ba.23: Flavia Doboga, Ghiocel Toma, Mihaela Ghelmez, Stefan Pusca, Cristian Morarescu, *Filtering aspects of practical test-functions and the ergodic hypothesis*, , Lecture Notes Computer Science vol.3482, ISSN 0302-9743 WOS:000229696900060 (Factor impact: 0.42 pe 2005), AIS 0.21 pe 2005, eigenfactor 0.032 pe 2005, pag. 563-569, 2005

Ba.24: Ghiocel Toma,, *Practical test functions generated by computer algorithms*, Lecture Notes Computer Science vol.3482, ISSN 0302-9743 (Factor impact: 0.42 pe 2005), WOS:000229696900062 AIS 0.21 pe 2005, eigenfactor 0.032 pe 2005, pag.576-584, 2005

Ba.25: Andreea Sterian, Ghiocel Toma,, *Possibilities for obtaining the derivative of a received signal using computer driven second order oscillator*, Lecture Notes Computer Science vol.3482, ISSN 0302-9743, WOS:000229696900063 (Factor impact: 0.42 pe 2005), AIS 0.21 pe 2005, eigenfactor 0.032 pe 2005, pag.585-591, 2005

Ba.26: Cristian Toma, Andreea Sterian:, *Statistical aspects of acausal pulses in physics and wavelets applications*, Lecture Notes Computer Science vol.3482, ISSN 0302-9743 , WOS:000229696900065 (Factor impact: 0.42 pe 2005), AIS 0.21 pe 2005, eigenfactor 0.032 pe 2005, pag.598-604, 2005

Ba.27: Rodica Sterian, Cristian Toma, *Simulating laser pulses by practical test functions and progressive waves*, , Lecture Notes Computer Science vol.3482, ISSN 0302-9743, WOS:000229696900064 (Factor impact: 0.42 pe 2005), AIS 0.21 pe 2005, eigenfactor 0.032 pe 2005, pag.592-598, 2005

Ba.28: Minas Simeonidis, Stefan Pusca, Ghiocel Toma, Alexandru Toma, Theodora Toma, *Definition of wave-corpuscle interaction suitable for simulating sequences of physical pulses*, , Lecture Notes Computer Science vol.3482, ISSN 0302-9743 , WOS:000229696900061 (Factor impact: 0.42 pe 2005), AIS 0.21 pe 2005, eigenfactor 0.032 pe 2005, pag.569 - 576, 2005

Ba.29: Dan Iordache, Stefan Pusca, Ghiocel Toma, *Numerical analysis of some typical finite differences simulations of the waves propagation through different media*, Lecture Notes Computer Science vol.3482, ISSN 0302-9743 , WOS:000229696900067 (Factor impact: 0.42 pe 2005), AIS 0.21 pe 2005, eigenfactor 0.032 pe 2005, pag.614 - 621, 2005)

Ba.30: Mihaela Ghelmez (Dumitru), Bogdan Dumitru, Elena Slavnicu, Dan Slavnicu, Cristian Toma, Andreea Sterian, *Study of laser field of some irradiated fatty acids in liquid crystal state*, Revista de Chimie nr.7, 2005, ISSN 0034-7752, WOS:000232629000017 (Factor impact : 0.27 pe 2005), AIS 0.016, eigenfactor 0.00037, pag. 762-763, 2005

Ba.31: Mihaela Ghelmez, Cristian Toma, Mihai Piscureanu, Andreea Sterian, *Laser signal's nonlinear change in fatty acids*, Chaos, Fractals and Solitons 17, Vol. 2-3, ISSN 0960-0079, WOS:000182147500032 (Factor impact 1.06 pe 2003), AIS 0.27 pe 2003, eigenfactor 0.0086 pe 2003, pag. 405-409, 2003

Ba.: Mihaela Ghelmez, Cristian Toma, Paul Sterian, *Study of some laser signals emerging from nonlinear optical media*, Computer Physics Communications 147, Vol. 1-2, ISSN 0010-4655, WOS:000177824600138 (Factor impact 1.20 pe 2002), AIS 0.88 pe 2002. eigenfactor 0.028 pe 2002, pag. 633-636, 2002

Bb. Articole publicate în Reviste de Specialitate indexate BDI

Bc. Articole publicate în Reviste de Specialitate neindexate

Bd. Articole publicate în Volumele unor Conferințe Științifice Internaționale indexate ISI

Be. Articole publicate în Volumele unor Conferințe Științifice Internaționale indexate BDI

Bf. Articole publicate în Volumele unor Conferințe Științifice Internaționale neindexate

Bg. Articole publicate în Volumele unor Conferințe Științifice Naționale

C. CĂRȚI

Ca. Cărți publicate în Edituri Naționale cu ISBN și în edituri recunoscute CNCSIS

Ca.01. Stefan Pușcă Cristian Toma, , Practical Test-Functions. Advanced Topics, Editura Printech, București (ISBN 978-606-23-0293-1), 160 pagini, 2014

Ca.02. Cristian Toma, Stefan Pușcă, Fizica Solidului, Editura Printech, București (ISBN 978-606-23-0292-4), 215 pagini, 2014

Ca.03. Cristian Toma, Cristian Morarescu, *Aspecte specifice ale modelarii, simulării și achiziției datelor utilizând funcții test practice*, Editura Printech, București (ISBN 978-606-521-198-8), 200 pagini, 2008

Ca.04: Mihaela Ghelmez (Dumitru), Cristian Toma, *Fizica – Culegere de texte si note de curs pentru studentii facultatilor de profil mecanic*, Editura Printech, Bucuresti (ISBN 973-718-629-X), 200 pagini, 2006

Ca.05: Cristian Toma, Mihaela Ghelmez (Dumitru), *Fizica – Note de curs si aplicatii*, Editura Printech, Bucuresti (ISBN 973-718-349-5), 204 pagini, 2005

Ca.06: Cristian Toma, *Elemente de fizica matematica pentru invatamantul tehnic*, Editura MatrixRom, Bucuresti ((ISBN 973-685-711-5) 220 pagini, 2004

Ca.07: Mihaela Ghelmez (Dumitru), Cristian Toma, *Fizica – partea a II-a*, Editura Printech, Bucuresti (ISBN 973-718-001-1), 278 pagini, 2004

Cb. Cărți publicate în Edituri Internaționale

Cc. Capitole de cărți

Cd. Cărți/cursuri pentru uzul studenților

D. CULEGERI ȘI ÎNDRUMARE

Da. Lucrări publicate în Edituri Naționale cu ISBN

Da.01. *Elemente de aprofundare a lucrarilor de laborator de fizica solidului (indrumar)*, Mihaela Ghelmez (Dumitru), Stefan Pusca, Cristian Toma, Andreea Sterian, Gheorghe Popescu, Editura Printech, Bucuresti (ISBN 973-718-310-X), 107 pagini, 2005

Da.02 *Elemente de aprofundare a lucrarilor de laborator de optica (indrumar)*, Mihaela Ghelmez (Dumitru), Cristian Toma, Stefan Pusca, Andreea Sterian, Editura Printech, Bucuresti (ISBN 973-652-694-9-53), 167 pagini, 2004

Db. Lucrări publicate în Edituri Internaționale

Dc. Lucrări publicate pe plan local în UPB

F. CONTRACTE DE CERCETARE

**Fa. Contracte Naționale/Internaționale realizate ca Responsabil
/Director de Contract/Program/Proiect**

**Fb. Contracte Naționale/Internaționale realizate ca Membru al
Echipelor de Cercetare**

G. ALTE LUCRĂRI ȘI CONTRIBUȚII ȘTIINȚIFICE

Data: 20.10.2022

Conf. Dr. Ing.



Semnătura

