INFORMAȚII PERSONALE

Chiorean Cosmin-Gruia

📍 Str. Prof. Emil Racovita, Cluj-Napoca

📞 Scrieți numărul de telefon   📠 0740934581

✉ Cosmin.chiorean@mecon.utcluj.ro

🌐 www.cosminchiorean.com

Sexul Masculin | Naționalitatea Română

EXPERIENTA PROFESIONALA

2009-prezent   **Profesor Universitar**

Universitatea Tehnică din Cluj-Napoca (UTCN), str. Memorandumului nr. 28, www.utcluj.ro

▪ *Cercetare științifică, conducere de doctorat în domeniul calculului avansat al structurilor.*
https://www.cosminchiorean.com/
▪ *Activități didactice și educaționale: Dinamica și Stabilitatea Structurilor; Analiza Numerică; Metode computaționale avansate în analiza structurală; Analiza Statică și Dinamică Neliniară a Structurilor; Metode numerice în Inginerie Civilă; Metoda Elementelor Finite;*
https://www.cosminchiorean.com/students
▪ *Management academic, evaluări academice și instituționale - naționale și internaționale: Director al Departamentului Mecanică Construcțiilor 2011-2020 (UTCN); Membru în Consiliul Cercetării - UTCN, 2012-2020; Membru în Consiliul Studiilor Universitare de Doctorat (CSUD) - Universitatea Tehnică de Construcții, București (2016-prezent); Membru CNATDCU - Ministerul Educației și Cercetării 2011-2012; 2016-2019; 2024-prezent (Inginerie Civilă); Membru în Consiliul Național al Cercetării Științifice (CNCS) - Panelul Științe Inginerești, 2011-2013; Membru în Consiliul Național al Cercetării Științifice (CNCS) - Comisia de Științe Inginerești: președinte (2020-2021), vicepreședinte (2022-2024)*
http://www.cncs-nrc.ro/comisii-cncs2020/comisia-de-stiinte-inginersti/

Tipul sau sectorul de activitate Universitate

2016-2020   **Cercetator științific I (postdoc)**

Universitatea Babeș-Bolyai, str. Mihail Kogalniceanu nr. 1, www.ubbcluj.ro

▪ Dezvoltarea și validarea unor modele numerice avansate (FEM-CFD) pentru identificarea mecanismelor de acumulare a radonului și elaborarea unor tehnici de reducere a acumulărilor de radon în locuințe.

Tipul sau sectorul de activitate Universitate

2001-2009   **Asistent Universitar, Șef de lucrări, Conferențiar Universitar**

Universitatea Tehnică din Cluj-Napoca, str. Memorandumului nr. 28, www.utcluj.ro

▪ Cercetare științifică în domeniul calculului avansat al structurilor; Activități didactice și educaționale: Dinamica și Stabilitatea Structurilor; Analiza Numerică; Metode computaționale în analiza structurală.
▪ Evaluări academice și instituționale - naționale și internaționale.
Tipul sau sectorul de activitate   Universitate

2006-prezent   **Cercetător/dezvoltare software SC GEOSTRU Software-Italia (www.geostru.eu)**
Dezvoltare pachete software în domeniul ingineriei geotehnice; GFAS: Finite Element System for Geotechnical Applications; RSL III-2D-Local Seismic Response https://www.geostru.eu/product-category/software-en/geotechnical-software/ Tipul sau sectorul de activitate Construcții/Cercetare

1995-2000   **Inginer proiectant S.C. CONSORT CONSTRUCTII SRL**
Tipul sau sectorul de activitate Construcții

20.09.2024

EDUCAȚIE ȘI FORMARE

2013

Abilitare în inginerie civilă-conducere de doctorat
(certificat abilitare în domeniul inginerie civilă)

Universitatea Tehnică de Construcții București, România
- Aplicarea metodelor numerice în analiza structurală; analiza statică și dinamică neliniară a structurilor;
- Metoda Elementelor Finite cu aplicabilitate în ingineria structurală și geotehnică;
- Impact balistic;Materiale compozite

2002-2004

Cercetător științific PostDoc

New University of Lisbon, Faculty of Science and Technology, Lisbon, Portugal
- Metoda Elementelor Finite cu aplicabilitate în impactul ballistic asupra materialelor compozite; Aplicarea metodelor numerice în analiza dinamică neliniară și seismică a structurilor.

1996-2001

Doctorat in inginerie civilă

Universitatea Tehnică din Cluj-Napoca, România; Titlul tezei de doctorat: Analiza neliniară avansată a structurilor în cadre.
- Analiza statică și dinamică neliniară a structurilor.
- Metoda elementelor finite
- Analiză Numerică

1995-1996

Masterat in inginerie civilă

Universitatea Tehnică din Cluj-Napoca, România;
- Analiza statică și dinamică neliniară a structurilor
- Metoda elementelor finite
- Analiză Numerică

1994-1999

Universitatea Babes-Bolyai
Facultatea de matematica,
sectia informatica

Analiza numerica; Analiza matematica; Programarea calculatoarelor
Sisteme de operare; Limbaje formale;

1990-1995

Univ. Tehnica Cluj-Napoca
Facultatea Constructii
sectia Constructii Civile

- Analiza statica si dinamică
Metoda elementelor finite
- Fizică, Mecanică si Analiză Numerică
- Rezistența materialelor și teoria elasticității.
- Inginerie Geotehnică si Fundații;

COMPETENTE PERSONALE

Limba(i) maternă(e) | Româna

Alte limbi străine cunoscute

INTELEGERE		VORBIRE		SCRIERE
Ascultare	Citire	Participare la conversație	Discurs oral	
Engleza C1	C1	C1	C1	C1

Competențe de comunicare
- Bune competențe de comunicare dobândite prin experiența de cadru didactic universitar, cercetător științific, editor și recenzor la reviste de specialitate naționale și internaționale, membru sau președinte în comisiile de concurs universitare naționale/internaționale, doctorat sau abilitare, director de departament (șef de catedră), participări în cadrul comisiilor academice naționale (CNATDCU, CNCS etc.); Invited speaker la conferințe de prestigiu (ex. 1st Int. Conf. on Engineering Structures; Session 9, Advances and Innovation in Steel Structures, Guangzhou, China, 2024; 11th International Conference on Advanced Computational Engineering and Experimenting, ACE-X, Session 10 Numerical Modeling of Structures, Viena, Austria 2017); Organizator sesiuni speciale în cadrul conferințelor de prestigiu (ex. Civil Comp Conferences (Elsevier) 2019 (Italia), 2022 (Franța)). *Computational Efficient Models for Non-Linear Inelastic Analysis of Building Frameworks*).

Competențe organizaționale/manageriale
- Director al Departamentului de Mecanică a Construcțiilor, Universitatea Tehnică din Cluj-Napoca (2011-2020).
- Coordonatorul domeniilor Construcții-Instalații și Arhitectură din cadrul Consiliului Studiilor Universitare de Doctorat (CSUD) al Universității Tehnice din Cluj-Napoca (2012-2016);
- Membru în Consiliul Național al Cercetării Științifice (CNCS) - România 2020-2024, Președinte (2020-2021)/Vicepreședinte (2022-2024) al Comisiei de Științe Inginereștihttps://www.cncs-nrc.ro/comisii-cncs2020/comisia-de-stiinte-ingineresti/);
- Responsabil științific al programului de master cu dublă diplomă în inginerie structurală, Universitatea Tehnică din Cluj-Napoca, România și Universitatea din Bergamo, Italia (2019-prezent)
https://ls-ie.unibg.it/it/opportunita-e-studi-allestero/doppio-titolo-double-degree
- Editor șef al revistei Acta Technica Napocensis: Civil Engineering & Architecture (2011-2021).

20.09.2024

INFORMATII SUPLIMENTARE
Publicaţii reprezentative
(Selecţie- Lista completă:
www.cosminchiorean.com)

- **Chiorean C.G.**, Computational issues in biaxial bending capacity assessment of RC and composite cross-sections exposed to fire, *Computers & Structures (Elsevier)*, vol. 302, 107477, 2024. (*Q1 WoS*)
- **Chiorean C.G.**, Passera D., Ferrari R., Rizzi, E., An implementation for 2nd - order *M-N* coupling and geometric stiffness adaptation in tapered beam-column elements, *Engineering Structures (Elsevier)*, vol. 225, 111241, 2020. (*Q1 WoS*)
- **Chiorean C.G.** Second-order flexibility based model for nonlinear inelastic analysis of 3D semirigid steel frameworks, *Engineering Structures (Elsevier)*, vol.136, pp.547-579, 2017. (*Q1 WoS*)
- **Chiorean C.G**, Buru, M., Practical nonlinear inelastic analysis method of composite steel-concrete beams with partial composite action, *Engineering Structures (Elsevier)*, vol.134, pp.74-106,2017.(*Q1 WoS*)
- **Chiorean C.G.,** Marchis I., A second-order flexibility based model for steel frames of tapered members, *Journal of Constructional Steel Research (Elsevier)*, vol.132, pp.43-71, 2017. (*Q1 WoS*)
- **Chiorean C.G.** A computer method for nonlinear inelastic analysis of 3D composite steel–concrete frame structures, *Engineering Structures (Elsevier)*, vol.57, pp.125-152, 2013. (*Q1 WoS*)
- **Chiorean C.G.** Computerised interaction diagrams and moment capacity contours for composite steel-concrete cross sections, *Engineering Structures (Elsevier)*, vol.32, pp.3734-57, 2010. (*Q1 WoS*)
- **Chiorean C.G.,** A computer method for nonlinear inelastic analysis of 3D semi-rigid steel frameworks, *Engineering Structures (Elsevier)*, vol. 31, pp. 3016-33, 2009. (*Q1 WoS*)
- **Chiorean C.G.**, Barsan G.M., Large deflection distributed plasticity analysis of 3D steel-frameworks, *Computers & Structures (Elsevier)*, vol. 83, pp. 1555-71, 2005. (*Q1 WoS*)
- Silva, M., Cismasiu C., **Chiorean C.G.**, Numerical simulation of ballistic impact on composite laminates, Int. J. of Impact Engineering (Elsevier), vol. 31, pp. 289-306, 2005 (*Q1 WoS*).

Brevete & Aplicaţii ale rezultatelor cercetării (selecţie)

- Brevet de invenție OSIM Nr. 134001 „Sistem Inteligent și Metodă de Determinare și Control al Concentrației de Radon din Interiorul Clădirilor Civile" autori Tunyagi Arthur Robert, Cucoș Alexandra Laura, Dicu Tiberiu, Botoș Marius Lucian, Chiorean Cosmin Gruia, Fernández Sainz Carlos, Titular Universitatea Babeș – Bolyai, Cluj-Napoca.
- Aplicații software comerciale cu aplicabilitate în analiza avansată a structurilor de rezistență și geotehnice
  - GFAS aplicație software pentru analiza in element finit a structurilor geotehnice (dezvoltată pentru casa de software Geostru, Italia);
  - RSLIII-2D aplicatie software pentru determinarea răspunsului seismic local si determinarea spectrului seismic in cazul masivelor bidimensionale (dezvoltată pentru casa de software Geostru, Italia);
  - Aplicatiile software NEFCAD & ASEP pentru analiza neliniară a structurilor supuse la actiuni extreme (seism, foc) si evaluarea performantelor seismice ale structurilor de rezistență-aplicații software utilizate in activitatea de cercetare (teze de doctorat) si didactică (master) (Universitatea Tehnica din Cluj-Napoca, Universitatea din Bergamo, Italia, Universitatea Calabria, Italia, Universitatea Ouro Preto, Brazilia).

Proiecte/Granturi cercetare
(Selectie: www.cosminchiorean.com)

- **Grantul POC-A1-A1.1.4-E-2015** "Smart Systems for Public Safety Through Control and Mitigation of Residential Radon linked with Energy Efficiency Optimization of Buildings in Romanian Major Urban Agglomerations (coordonator Prof. Carlos Sainz, Univ. Cantabria, Spania - Universitatea Babeș-Bolyai) - Responsabil temă: Configurarea modelelor numerice avansate de predicție asistate de experiment, simulare numerică avansată-Perioada de implementare 2016-2020. http://www.smartradon.ro/echipa
- **Grantul PCE-PNII-IDEI/193/2008**- Proiectarea și evaluarea performanțelor seismice ale structurilor în cadre spațiale prin analiza statică neliniară avansată - Director de proiect - http://users.utcluj.ro/~ccosmin/RESEARCHPROJECT.htm (Perioada de implementare 2009-2012)
- **Grantul POCTI 43228/EME/2001**- finanțat de Fundația pentru Știință și Tehnologie (FCT), Portugalia, Responsabil temă „Impact on Plates of Composite Materials Protected with Polymeric Mortar", 2002-2004 (coordonator prof. MAG Silva), Facultatea de Știință și Tehnologie, Departamentul de Inginerie Civilă, Universitatea Nova din Lisabona, Portugalia. Perioada de implementare: 2002-2004;
- **Grantul POCTI/36055/ECM/2000** finanțat de Fundația pentru Știință și Tehnologie (FCT), Portugalia, *Resposnabil Tema* "Aplicacao de Algoritmos Geneticos e Redes Neuronais a Optimizacao e Fiabilidade Estrutural", 2004.- Univ. Nova din Lisabona (coordonator Prof. J.R. Almeida), Facultatea de Stiinta si Tehnologie, Departamentul de Inginerie Civilă, Universitatea Nova din Lisabona, Portugalia. Perioada de implementare: 2004.

Responsabilităţi academice complementare (selecţie)

- Membru în Consiliul Național de Atestare a Titlurilor și Diplomelor și Certificatelor Universitare (CNATDCU), Comisia de Specialitate Inginerie Civilă (2011-2012; 2016-2019; 2024-prezent);
- Membru în Consiliul Cercetării al Universității Tehnice din Cluj-Napoca (2012-2020);
- Coordonatorul domeniilor Construcții-Instalații și Arhitectură din cadrul Consiliului Studiilor Universitare de Doctorat (CSUD) al Universității Tehnice din Cluj-Napoca (2012-2016);

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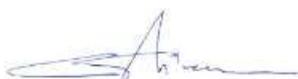
- Membru în Consiliul Studiilor Universitare de Doctorat (CSUD) al Universității Tehnice de Construcții București (2016-2020; 2020-2024; 2024-prezent);
- Membru/Președinte în comisiile de susținere a tezelor de doctorat, abilitare, comisii de concurs (Prof/Conf): (40+) - România (UTCN, UPT, UTCB, UTGAI), Italia (University of Calabria), Brazilia (University of Ouro Preto), Malaysia (University of Malaya), Vietnam (Ho Chi Minh City University), India (Indian Institute of Technology);
- Coordonatorul programului de master cu "dublă diploma" în Inginerie Structurală (Universitatea Tehnică din Cluj-Napoca, Universitatea Bergamo, Italia)https://ls-ie.unibg.it/it/opportunita-e-studi-allestero/doppio-titolo-double-degree (2019-prezent);
- Membru în Consiliul Facultății de Construcții, Universitatea Tehnică din Cluj-Napoca (2011-2020);
- Membru în colectivul editorial al revistelor:
    - Open Civil Engineering Journal, Bentham Science Publisher;
    - International Journal of Earthquake and Impact Engineering, InderScience Publisher;
    - Journal of Science and Technology in Civil Engineering, National University of Vietnam (2020-);
- Membru în colectivul editorial International Conference on Computational Structures Technology (CST), 2012-2024 Civil Comp Press, Stirlingshire, UK.
- Membru în comitetul științific al conferinței: "The international colloquium on stability and ductility of steel structures – SDSS (Structural Stability Research Council (SSRC); European Convention for Constructional Steelwork (ECCS)) 2016; 2019; 2022; 2025".
- Evaluator pentru Young Researcher Best Paper Competition în cadrul conferințelor "The Fifteenth International Conference on Civil, Structural and Environmental Engineering Computing (Civil Comp 2015)" si "Eleventh International Conference on Computational Structures Technology (CST 2012)", Civil Comp, UK.
- Membru în Technical Committee TC103 (Numerical Methods in Geomechanics), International Society for Soil Mechanics and Geotechnical Engineering.
- Editor/Chairman International Conferences for PhD Students in Civil Engineering and Architecture, 2012, 2014, Cluj-Napoca, Romania.
- Expert Evaluator/Raportor pentru UEFISCDI, (2007-prezent). Coordonator de domeniu (UTCN) în cadrul Exercitului Național de Evaluare a Cercetării din universități „Doctoratul în Școli de Excelență - Evaluarea calității în universități și creșterea vizibilității prin publicarea științifică" (2007)- beneficiar UEFISCDI
- Referent stiintific pentru reviste de specialitate (selecție): Computers & Structures (Elsevier); Advances in Engineering Software (Elsevier); Finite Elements in Analysis and Design (Elsevier); Engineering Structures (Elsevier); Journal of Constructional Steel research (Elsevier); Composite Structures (Elsevier); Steel and Composite Structures (Techno Press), Structures and Building (Institution of Civil Engineering); Proceedings of the Romanian Academy-Series A; Asia Pacific Journal on Computational Engineering (Springer).

20.09.2024

Prof. dr.ing. Cosmin-Gruia CHIOREAN

ANEXA

LISTA DE LUCRĂRI
(www.cosminchiorean.com)

A. Refereed Papers In International Journals

1. **Chiorean C.G**, Computational Issues in Biaxial Bending Capacity Assessment of RC and Composite Cross-Sections Exposed to Fire, Computers & Structures (*Elsevier*), **302**, 107477, 2024.

2. Imre, L., **Chiorean C.G.**, Particular Aspects Regarding the Radiative Heat Transfer in Thermal Analysis of Steel-Concrete Composite Structural Elements, Defect & Diffusion Forum (Trans Tech Publications), 202*4*

3. Le-Van Binh, **Chiorean C.G.**, Kim S.E., Ngo-Huu C., Nonlinear Inelastic Analysis of Space Semi-Rigid Steel Frames Subjected to Static Load Using Plastic-Zone Method, Mechanics of Advanced Materials and Structures, (Taylor & Francis), 2023.

4. **Chiorean, C.G.**, A Global Convergent Method for Strength Capacity Evaluation of Composite Sections Subjected to Fire, ce/papers, vol. 5 (4), (Wiley), 2022.

5. Lemes, I.J.M., Lima, P.H.A., Barros, R.C., Silveira R.A.M., **Chiorean, C.G.,** A Complete Assessment of the Moment-Curvature Relationship of Compressed Steel-concrete Composite Cross-sections, ce/papers, vol. 5 (4), (Wiley), 2022.

6. R. Moga, S. Buru, **CG Chiorean**, Overall stress in periodontal ligament under orthodontic movement during a periodontal breakdown, American Journal of Orthodontics and Dentofacial Orthopedics *(Elsevier),* 2021.

7. R. Moga, S. Buru, **CG Chiorean**, R. Cosgarea, Compressive stress in periodontal ligament under orthodontic movements during periodontal breakdown, American Journal of Orthodontics and Dentofacial Orthopedics *(Elsevier),* 2021.

8. Buru S.M, **CG. Chiorean** and M Botez (2021). Elastic Analysis of Steel-Concrete Composite Beams with Partial Interaction. IOP Conf. Ser.: Mater. Sci. Eng. 1203 032110. IOP Conference Series: Materials Science and Engineering, Volume 1203.

9. **Chiorean C.G.**, Passera D., Ferrari R., Rizzi, E., An implementation for 2nd - order M-N coupling and geometric stiffness adaptation in tapered beam-column elements, Engineering Structures (Elsevier), **225**, 111241, 2020.

10. Tunyagi A., (...), **Chiorean C.G**., An innovative system for monitoring radon and indoor ai quality, *Romanian Journal of Physics*, 803, 2020.

11. R. Moga, R. Cosgarea, S. Buru, **C.G. Chiorean**, Finite element analysis of the dental pulp under orthodontic forces, American Journal of Orthodontics and Dentofacial Orthopedics *(Elsevier)* **155(4)**, 543-551, 2019.

12. Varga S., **Chiorean, C.G**., Refined NSA Approach for Seismic Assessment of Regular RC Frames, GRAĐEVINAR, **69 (12)**, 1137-1151, 2017.

13. **Chiorean, C.G**., Second-order Flexibility-Based Model for Nonlinear Inelastic Analysis of 3D Semi-Rigid Steel Frameworks, Engineering Structures (Elsevier), **136**, 547-579, 2017.

14. **Chiorean, C.G**., Marchis, I.V., A Second-Order Flexibility-Based Model for Steel Frames of Tapered Members, Journal of Constructional Steel Research (Elsevier), 132, 43-71, 2017.

15. **Chiorean C.G**., Buru S.M., Practical Nonlinear Inelastic Analysis Method of Composite Steel-Concrete Beams with Partial Composite Action, Engineering Structures (Elsevier) 134, 74-106, 2017.

16. **Chiorean, C.G**., A Computer Method for Moment-Curvature Analysis of Composite Steel-Concrete Cross-Sections of Arbitrary Shape, Engineering Structures and Technologies Journal (Taylor & Francis Publisher), **9**, 25-40, 2017.

17. Varga S., **Chiorean, C.G**., Seismic Assessment of Reinforced Concrete Frameworks through Advanced Pushover Analysis and Nonlinear Response of a SDOF Oscillator, Procedia Engineering (Elsevier), **161**, 332-336, 2016.

18. **Chiorean C.G.**, Marchis I.V., Buru M., A Computer Method Design and M-N-O Analysis of Prestressed RC Cross-Sections, *Journal of Structural Engineering (CSIR-SERC)*, **42 (1)**, 64-77, 2015

19. **Chiorean, C.G.**, A Computer Method for Nonlinear Inelastic Analysis of 3D Composite Steel-Concrete Frame Structures, *Engineering Structures* (Elsevier), **57**, 125-152, 2013.

20. **Chiorean, C.G.**, A Computer Method for Rapid Design of Composite Steel-concrete Cross-sections, *Open Civil Engineering Journal (Bentham Science)*, **7(1)**, 1-17, *2013.*

21. **Chiorean, C.G**., Computerised Interaction Diagrams and Moment Capacity Contours for Composite Steel-Concrete Cross-Sections, *Engineering Structures* (Elsevier), **32(11)**, 3734-57, 2010.

22. **Chiorean, C.G**., A Computer Method for Nonlinear Inelastic Analysis of 3D Semi-Rigid Steel Frameworks, *Engineering Structures* (Elsevier), **31(12)**, 3016-33, 2009.
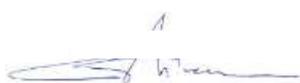
23. **Chiorean, C.G**., Barsan, G.M., Large Deflection Distributed Plasticity Analysis of 3D Steel Frameworks, *Computers & Structures (Elsevier)*, **83 (19-20),** 1555-71, 2005.

24. Silva, M.A.G., Cismasiu, C., **Chiorean, C.G**., Numerical Simulation of Ballistic Impact on Composite Laminates, *International Journal of Impact Engineering (Elsevier)*, **31 (3)**, 289-306, 2005.

25. Barsan, G.M., **Chiorean, CG**. Computer Program for Large Deflection Elasto-Plastic Analysis of Semi-Rigid Steel Frameworks, *Computers & Structures (Pergamon-Elsevier)*, 72(6), 699-711, 1999.

B. Refereed Papers & Presentations in International Conference Proceedings

1. **Chiorean, C.G**, Direct Strength Capacity Assessemnt of Bi-Axially Loaded SRC Cross-Sections Exposed to Full-Range Fire, *First International Conference on Engineering Structures & Engineering Structures Editorial Board Meeting*, Guangzhou, China, Nov. 2024 (Invited paper). Published in Lecture Notes in Civil Engineering, (LNCE), Springer-Nature (2024).

2. **Chiorean, C.G**., Imre, L., Silveira, R.A.M., A Strain-Driven Moment-Curvature Analysis of Composite Cross-Sections Exposed to Fire, Proceedings of The Fifteenth International Conference on Computational Structures Technology P. Ivanyi, J. Kruis and B.H.V. Topping (Editors) Civil-Comp Press, Saxe-Coburg Publications, 2024.

3. Imre, L., **Chiorean C.G**., Particular Aspects Regarding the Radiative Heat Transfer in Thermal Analysis of Steel-Concrete Composite Structural Elements, Book of Abstracts from 9th International Scientific Conference on Advances in Mechanical Engineering, University of Debrecen, Trans Tech Publications, 2023.

4. **Chiorean, C. G.** (2022). Ultimate and nominal strength capacity evaluation of composite sections with arbitrary shapes at elevated temperatures. Paper presented at the *IABSE Symposium Prague, 2022: Challenges for Existing and Oncoming Structures - Report,* 1715-1722. Retrieved from www.scopus.com

5. **Chiorean, C. G**., & Buru, S. M. (2020). Ultimate and nominal strength analysis of composite sections with arbitrary shape. Paper presented at the *Proceedings of the 9th International Conference on Advances in Steel Structures, ICASS 2018,* doi:10.18057/ICASS2018.P.140 Retrieved from www.scopus.com

6. Buru, S. M., & **Chiorean, C. G**. (2020). Practical nonlinear inelastic analysis method of 3D composite steel-concrete frameworks. Paper presented at the *Proceedings of the 9th International Conference on Advances in Steel Structures, ICASS 2018,* doi:10.18057/ICASS2018.P.139 Retrieved from www.scopus.com

7. **Chiorean, C. G.,** Selariu, M., & Buru, S. M. (2019). Ultimate strength analysis of steel-concrete cross-sections at elevated temperatures. Paper presented at the *Stability and Ductility of Steel Structures - Proceedings of the International Colloquia on Stability and Ductility of Steel Structures, 2019,* 253-261. Retrieved from www.scopus.com

8. **Chiorean, C. G**, Buru, S. M. (2018). Second-order flexibility-based model for nonlinear inelastic analysis of composite steel-concrete frameworks with partial composite action and semi-rigid connections. Paper presented at PROCEEDINGS OF THE 12TH INTERNATIONAL CONFERENCE ON ADVANCES IN STEEL-CONCRETE COMPOSITE STRUCTURES (ASCCS 2018)

9. Marchis, I. V., & **Chiorean, C. G.** (2016). Nonlinear inelastic analysis of steel frameworks with non-prismatic members and semi-rigid connections. Paper presented at the *Insights and Innovations in Structural Engineering, Mechanics and Computation - Proceedings of the 6th International Conference on Structural Engineering, Mechanics and Computation, SEMC 2016,* 1153-1159. doi:10.1201/9781315641645-189 Retrieved from www.scopus.com

10. **Chiorean, C. G**., & Buru, S. M. (2016). A computer method for nonlinear inelastic analysis of composite steel-concrete frameworks with partial shear connection. Paper presented at the *Insights and Innovations in Structural Engineering, Mechanics and Computation - Proceedings of the 6th International Conference on Structural Engineering, Mechanics and Computation, SEMC 2016,* 1208-1214. doi:10.1201/9781315641645-198 Retrieved from www.scopus.com

11. **Chiorean, C. G**., & Buru, S. M. (2016). Nonlinear inelastic analysis of 3D composite steel-concrete frameworks with partial shear connection. Paper presented at the *Proceedings of the International Colloquium on Stability and Ductility of Steel Structures, SDSS 2016,* 877-884. Retrieved from www.scopus.com

12. Varga S., **Chiorean C.G**., A Computer Method for Advanced Pushover Analysis of Reinforced-Concrete Frameworks, *Proceedings of The Fifteenth International Conference on Civil*, Structural and Environmental Engineering Computing, Civil Comp Press, UK, 2015.

13. **Chiorean C.G**., Moment-Curvature Analysis of Composite Steel-Concrete Cross-Sections of Arbitrary Shape, *Proceedings of the Twelfth International Conference on Computational Structures Technology*, Civil Comp Press, Stirlinghire, UK, Paper 14, 2014.

14. **Chiorean C.G**., Buru M.S., Chir A., Advanced Nonlinear Inelastic Analysis of Three Dimensional Composite Steel-Concrete Frameworks, *Proceedings of the Twelfth International Conference on Computational Structures Technology*, Civil Comp Press, Stirlinghire, UK, Paper 15, 2014.

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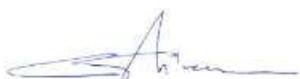
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F. Invited Lectures

1. **Chiorean, C.G.,** *Direct Strength Capacity Assessemnt of Bi-Axially Loaded SRC Cross-Sections Exposed to Full-Range Fire*, 1st Int. Conf. on Engineering Structures, Session 9, Advances and Innovation in Steel Structures, Guangzhou, China, 2024;
2. **Chiorean C.G**., *Advanced Nonlinear Inelastic Analysis of 3D Steel and Composite Steel-Concrete Frameworks*, 11th International Conference on Advanced Computational Engineering and Experimenting, ACE-X, Session 10 Numerical Modeling of Structures, Viena, Austria 2017;
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4. **Chiorean C.G.,** *Advanced Computational Methods for Nonlinear Analysis of Composite Steel-Concrete Structures*, First International Conference for PhD Students in Civil Engineering and Architecture, 2014, Cluj-Napoca, Romania.
5. **Chiorean, C.G.,** *Geotechnical software applications updated face Eurocode guidelines*, Seminar tehnic international, Projektek megvalositasa geomunyagok felhasznalasaval, Budapest,2008.
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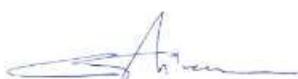
G. Theses

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H. Books

1. **Chiorean, C.G**., *Nonlinear analysis of structures. Vol. I Plane structures*, UT PRESS Publisher, 2009 (in Romanian).
2. **Chiorean, C.G**., *Software Applications for Nonlinear Analysis of Frame Structures*, UT-PRES Publisher, ISBN (10) 973-662-231-2; ISBN(13) 978-973-662-231-1, pp.339, 2006 (in Romanian)
3. Bors, I., **Chiorean, C.G**., *Mechanics. Theoretical Compendium and Applications of Kinematics*, UT-PRES Publisher, ISBN 973-8335-43-4, pp.128, 2002, (in Romanian).

I. Patents

1. Brevet de invenție OSIM Nr. 134001 „Sistem Inteligent și Metodă de Determinare și Control al Concentrației de Radon din Interiorul Clădirilor Civile" autori Tunyagi Arthur Robert, Cucoș Alexandra Laura, Dicu Tiberiu, Botoș Marius Lucian, Chiorean Cosmin Gruia, Fernández Sainz Carlos, Titular Universitatea Babeș – Bolyai, Cluj-Napoca.
2. Cerere de brevet de invenție depusă la OSIM cu nr. A/10020/2020 din 29.04. 2020 pentru invenția intitulată "SISTEM INTELIGENT DE PREDICȚIE ȘI REGLEMENTARE A CONCENTRAȚIEI DE RADON ÎN INTERIORUL CLĂDIRILOR CIVILE BAZATE PE METODE DE INVATARE AUTOMATA", autori Botoș Marius Lucian, Chiorean Cosmin Gruia, Cucoș Alexandra Laura, Dicu Tiberiu, Fernandez Sainz Carlos, Solicitant Babeș - Universitatea Bolyai.
3. Cerere de brevet depusă la OSIM cu confirmarea din 05.03.2020 și nr. A/10008/2020 din 26.02. 2020 pentru invenția cu titlul "SISTEM INTEGRAT DE IZOLAȚIE TERMICĂ ȘI REDUCERE A CONCENTRĂRII GAZELOR EMANATE DIN PĂMÂNT, ÎN PARTICULAR RADON, ÎN CLĂDIRILE REZIDENȚIALE", autori Botoș Marius Lucian, Tunyagi Arthur Robert, Cucoș Alexandra Laura, Dicu Tiberiu, Chiorean Cosmin Gruia, Fernandez Sainz Carlos, Solicitant Universitatea Babeș - Bolyai.

J. Software applications

1. **Chiorean C.G.,** GFAS aplicație software pentru analiza in element finit a structurilor geotehnice (dezvoltată pentru casa de software Geostru, Italia);

2. **Chiorean C.G.,** RSLIII-2D aplicatie software pentru determinarea răspunsului seismic local si determinarea spectrului seismic in cazul masivelor bidimensionale (dezvoltată pentru casa de software Geostru, Italia);

3. **Chiorean C.G.**, Aplicatiile software NEFCAD & ASEP pentru analiza neliniară a structurilor supuse la acțiuni extreme (seism, foc) si evaluarea performanțelor seismice ale structurilor de rezistență-aplicații software utilizate in activitatea de cercetare (teze de doctorat) si didactică (master) (Universitatea Tehnica din Cluj-Napoca, Universitatea din Bergamo, Italia, Universitatea Calabria, Italia, Universitatea Ouro Preto, Brazilia).

20.09.2025

Prof. dr.ing. Cosmin-Gruia CHIOREAN