



Adrian Coleșa

Locul nașterii: Blaj, România | **Cetățenie:** română | **Gen:** Masculin | **Număr de telefon:**

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EXPERIENȚA PROFESIONALĂ

UNIVERSITATEA TEHNICĂ DIN CLUJ-NAPOCA – CLUJ-NAPOCA, ROMÂNIA

Departament Computer Science | **Site de internet** <https://www.utcluj.ro/>

CONFERENȚIAR – 2017 – ÎN CURS

- Cursuri predate (program licență): *Sisteme de operare și Proiectarea sistemelor de operare*
- Cursuri predate (program master): *Securitatea aplicațiilor software și Securitatea bazată pe mecanisme hardware și de virtualizare*
- Coordonare program de master *Cybersecurity Engineering*
- Domenii de cercetare: soluții de securitate în domeniul sistemelor de operare, asigurării mediilor de execuție de încredere, evaluarea gradului de expunere la atacuri a persoanelor și instituțiilor, pe baza informațiilor lor publice

BITDEFENDER – CLUJ-NAPOCA, ROMÂNIA

CERCETĂTOR SENIOR ÎN SECURITATE CIBERNETICĂ – 2019 – ÎN CURS

Domenii de cercetare:

- soluții de securitate bazate pe mecanisme de virtualizare
- soluții de detecție a atacurilor, folosind analiza dinamică
- securitatea infrastructurilor de acces la calculatoare cuantice

Gestionarea relațiilor de colaborare cu mediul academic.

UNIVERSITATEA TEHNICĂ DIN CLUJ-NAPOCA – CLUJ-NAPOCA, ROMÂNIA

ȘEF LUCRĂRI – 2006 – 2017

- Cursuri predate (program licență): *Sisteme de operare și Proiectarea sistemelor de operare*
- Cursuri predate (program master): *Securitatea aplicațiilor software și Securitatea bazată pe mecanisme hardware și de virtualizare*
- Coordonare program de master *Cybersecurity Engineering*

UNIVERSITATEA TEHNICĂ DIN CLUJ-NAPOCA – CLUJ-NAPOCA, ROMÂNIA

ASISTENT UNIVERSITAR – 1998 – 2006

- Laboratoare la materiile (program licență): *Programarea calculatoarelor, Structuri de date și algoritmi, Sisteme de operare și Proiectarea sistemelor de operare*

EDUCAȚIE ȘI FORMARE PROFESIONALĂ

1998 – 2010 Cluj-Napoca, România

DOCTORAT Technical University of Cluj-Napoca

Domeniu de studiu Știința Calculatoarelor

01/10/2002 – 01/07/2007 Cluj-Napoca, România

LICENȚĂ Universitatea Babeș-Bolyai

Domeniu de studiu Teologie Ortodoxă

Domeniu de studiu Calculatoare

01/10/1991 – 01/07/1996 Cluj-Napoca, România
LICENȚĂ Universitatea Tehnică din Cluj-Napoca

Domeniu de studiu Calculatoare

● **PUBLICAȚII**

2024

[Detection strategies for com, wmi, and alpc-based multi-process malware](#)

Autori: Radu Marian Portase, Andrei Marius Muntea, Andrei Mermeze, Adrian Colesa, Gheorghe Sebestyen | **Denumirea publicației/conferinței:** Sensors | **Volum, număr, pagini:** 24(16) | **Editura:** MDPI

2024

[Specrep: Adversary emulation based on attack objective specification in heterogeneous infrastructures](#)

Autori: Radu Marian Portase, Adrian Colesa, and Gheorghe Sebestyen | **Denumirea publicației/conferinței:** Sensors | **Volum, număr, pagini:** 24(17):5601 | **Editura:** MDPI

2024

[Leda—layered event-based malware detection architecture](#)

Autori: Radu Marian Portase, Raluca Laura Portase, Adrian Colesa, and Gheorghe Sebestyen | **Denumirea publicației/conferinței:** Sensors | **Volum, număr, pagini:** 24(19):6393 | **Editura:** MDPI

2024

[A Path Sensitive and Scalable Approach for Mapping the Capabilities Required for Linux Kernel Defined System Calls Using Static Analysis Techniques](#)

Autori: Răzvan-Mihai Bolundut, Adrian-Viorel Coleșa, Radu-Marian Portase | **Denumirea publicației/conferinței:** IEEE 20th International Conference on Intelligent Computer Communication and Processing (ICCP) | **Editura:** IEEE

2024

[CodeFlowGen: A Generator of Synthetic Source Code with Scalable Control Flow Paths for Evaluating Static Analysis Tools](#)

Autori: Răzvan-Mihai Bolundut, Adrian-Viorel Coleșa, Radu-Marian Portase | **Denumirea publicației/conferinței:** International Conference on Information Technology and Communications Security | **Volum, număr, pagini:** 70-83 | **Editura:** Springer Nature Switzerland

2024

[Enhancing ML Model Resilience to Time-Evolving Data in Malware Detection Systems with Adversarial Learning](#)

Autori: Marian Șandor, Radu Marian Portase, Adrian Colesa | **Denumirea publicației/conferinței:** IEEE 20th International Conference on Intelligent Computer Communication and Processing (ICCP) | **Editura:** IEEE

2024

[CANComa: Shutdown Attack on Automotive Control Units over Controller Area Network](#)

Autori: Balázs Benedek, Adrian Coleșa | **Denumirea publicației/conferinței:** IEEE International Conference on Cognitive Mobility | **Volum, număr, pagini:** 361-373 | **Editura:** Springer Nature Switzerland

2024

[PwnMaster: Automatic Buffer Overflow and Format String Vulnerability Detection and Exploitation](#)

Autori: Florin Petrean, Adrian Coleșa | **Denumirea publicației/conferinței:** IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR) | **Editura:** IEEE

2024

From Weapon to Target: Quantum Computers Paradox

Autori: Adrian Coleșa, Sorin Boloș | **Denumirea publicației/conferinței:** BlackHat USA

Link <https://www.youtube.com/watch?v=11W7ookIX7I>

2023

Efficient Multi-Stage Detection of Malicious Windows Executable During Execution

Autori: Radu-Marian Portase, Adrian Coleșa, Gheorghe Sebestyen | **Denumirea publicației/conferinței:** IEEE 19th International Conference on Intelligent Computer Communication and Processing (ICCP) | **Volum, număr, pagini:** 211-218 | **Editura:** IEEE

2023

Ember feature dataset analysis for malware detection

Autori: Marian Șandor, Radu Marian Portase, Adrian Coleșa | **Denumirea publicației/conferinței:** IEEE 19th International Conference on Intelligent Computer Communication and Processing (ICCP) | **Editura:** IEEE

2021

Infrastructure for Capturing and Persisting Virtualization-Specific Events Triggered by In-Guest Process Executions for Behavioral-Based Analysis

Autori: Robert Váradi, Adrian Coleșa, Gabriel Raț | **Denumirea publicației/conferinței:** 20th RoEduNet Conference: Networking in Education and Research (RoEduNet) | **Editura:** IEEE

2021

VE-VMI: high-performance virtual machine introspection based on virtualization exception

Autori: Andrei Luțăș, Gheorghe Sebestyen, Raul Toșa, Adrian Coleșa | **Denumirea publicației/conferinței:** 20th International Symposium on Parallel and Distributed Computing (ISPDC) | **Editura:** IEEE

2021

Curator-a system for creating data sets for behavioral malware detection

Autori: Radu-Marian Portase, Adrian Coleșa | **Denumirea publicației/conferinței:** 20th International Symposium on Parallel and Distributed Computing (ISPDC) | **Volum, număr, pagini:** 57-64 | **Editura:** IEEE

2020

Following the pebble trail: Extending return-oriented programming to risc-v

Autori: Bogdan Pavel Deac, Adrian Colesă | **Denumirea publicației/conferinței:** Proceedings of the 2020 ACM SIGSAC Conference on Cloud Computing Security Workshop | **Volum, număr, pagini:** 161-161 | **Editura:** ACM

2020

COSTS AND BENEFITS OF ADAPTIVE TESTING IN ASSESSMENT OF RANDOM NUMBER SEQUENCES

Autori: Kinga Marton, Laurentiu Lazar, Adrian Colesă, Alin Suciu | **Denumirea publicației/conferinței:** PROCEEDINGS OF THE ROMANIAN ACADEMY - MATHEMATICS PHYSICS TECHNICAL SCIENCES INFORMATION SCIENCE | **Volum, număr, pagini:** 21(1), 37-44 | **Editura:** ROMANIAN ACADEMY

2015

Strongly isolated malware scanning using secure virtual containers

Autori: Sandor Lukacs, Dan H Lutas, Adrian V Colesă | **Denumirea publicației/conferinței:** US Patent | **Volum, număr, pagini:** 9117081

2017

Enabling a secure environment through operating system switching

Autori: Sandor Lukacs, Radu I CIOCAS, Vlad I Topan, Adrian V COLESA, Raul V Tosa | **Denumirea publicației/conferinței:** US Patent | **Volum, număr, pagini:** 9563457

2016

Below-OS security solution for distributed network endpoints

Autori: Sandor Lukacs, Adrian V COLESA | **Denumirea publicației/conferinței:** US Patent | **Volum, număr, pagini:** 9319380

2016

[Systems And Methods Of Transaction Authorization Using Server-Triggered Switching To An Integrity-Attested Virtual Machine](#)

Autori: Adrian V COLESA, Sandor Lukacs | **Denumirea publicației/conferinței:** US Patent Application | **Volum, număr, pagini:** 14558922

2015

[Systems and Methods for Mutual Integrity Attestation Between A Network Endpoint And A Network Appliance](#)

Autori: Sandor Lukacs, Adrian V COLESA, Dan H Lutas | **Denumirea publicației/conferinței:** US Patent Application | **Volum, număr, pagini:** 14244505

2016

[Bare-metal computer security appliance](#)

Autori: Sandor Lukacs, Adrian V COLESA | **Denumirea publicației/conferinței:** US Patent | **Volum, număr, pagini:** 9383934

2008

[Software random number generation based on race conditions](#)

Autori: Adrian Colesă, Radu Tudoran, Sebastian Banescu | **Denumirea publicației/conferinței:** 10th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing | **Volum, număr, pagini:** 439-444 | **Editura:** IEEE

2015

[U-HIPE: hypervisor-based protection of user-mode processes in Windows](#)

Autori: Andrei Luțăș, Adrian Coleșa, Sándor Lukács, Dan Luțăș | **Denumirea publicației/conferinței:** Journal of Computer Virology and Hacking Techniques | **Editura:** Springerlink

2019

[Router-based IoT Security using Raspberry Pi](#)

Autori: Lilla Nagy, Adrian Colesă | **Denumirea publicației/conferinței:** 18th RoEduNet Conference: Networking in Education and Research (RoEduNet) | **Editura:** IEEE

2018

[Malware clustering based on called api during runtime](#)

Autori: Gergő János Széles, Adrian Coleșa | **Denumirea publicației/conferinței:** International Workshop on Information and Operational Technology Security Systems | **Volum, număr, pagini:** 110-121 | **Editura:** Springer International Publishing

2018

[File System Minifilter Based Data Leakage Prevention System](#)

Autori: Adrian Buda, Adrian Coleșa | **Denumirea publicației/conferinței:** 17th RoEduNet Conference: Networking in Education and Research (RoEduNet) | **Editura:** IEEE

2006

[Providing high data availability in mediogrid](#)

Autori: Adrian Colesă, Iosif Ignat, Radu Opris | **Denumirea publicației/conferinței:** Eighth International Symposium on Symbolic and Numeric Algorithms for Scientific Computing | **Volum, număr, pagini:** 296-302 | **Editura:** IEEE

2018

[False positive mitigation in behavioral malware detection using deep learning](#)

Autori: Alexru Mihai Lungana-Niculescu, Adrian Colesă, Ciprian Oprisa | **Denumirea publicației/conferinței:** IEEE 14th International Conference on Intelligent Computer Communication and Processing (ICCP) | **Volum, număr, pagini:** 197-203 | **Editura:** IEEE

2016

[Systems and methods for batch processing of samples using a bare-metal computer security appliance](#)

Autori: Sandor Lukacs, Adrian V COLESA | **Denumirea publicației/conferinței:** US Patent | **Volum, număr, pagini:** 9507939

2013

Automatic code features extraction using bio-inspired algorithms

Autori: Ciprian Oprea, George Cabău, Adrian Colea | **Denumirea publicației/conferinței:** Journal of Computer Virology and Hacking Techniques | **Volum, număr, pagini:** 1-12 | **Editura:** Springerlink

PROIECTE

01/10/2024 – 30/09/2026

Cybersecurity Seminars

- Financial Support: Google.org, Grant 2024-348638
- Project Scope: Developing students' technical skills in the field of cybersecurity and raising cybersecurity awareness in the local community.
- Position: Director
- Principal responsibility: Supervise all project activities. Participate in teaching material preparation and teach classes on Information Security, OS Security and Software Security. Work with students and keep in touch with local community organizations.
- Organization: Technical University of Cluj-Napoca

12/2024 – 08/2025

The Digital Innovation Hub for a Smarter, Safer and more Sustainable Society (DIH4Society)

Budget: €4M funding

Grant: Under the *Digital Europe Programme* (Grant No. 101083952 — DIH4Society) and *POCIDIF* co-financing (SMIS 161824).

Purpose: Supports SMEs, public authorities, and healthcare organizations with free specialized services for innovation and digital transformation.

Role: member - teach courses about cybersecurity risks, defence mechanisms and good practices for protection against those risks

Link <https://dih4society.ro/>

10/2024 – 05/2025

Transilvania Digital Innovation Hub (TDIH)

Budget: €2.52M

Funding: (total project budget: **12,524,421 RON**) under the *Digital Europe Programme* – **DIGITAL-2021-EDIH-01** (*European Digital Innovation Hubs*). Funded through the *Intermediary Body for the Promotion of the Information Society* — *POCIDIF/1147/2/1, Action 2.4: Digitalisation of SMEs via EDIHs in Romania* (SMIS Code: 322938).

Role: member - teach courses about cybersecurity risks, defence mechanisms and good practices for protection against those risks

Link <https://transilvaniadih.ro/despre-tediht/>

06/2020 – 12/2022

GEIGER Cybersecurity Counter

- Financial support: UE, H2020-SU-DS03, Grant 883588/2020
- Position: Research member
- Principal responsibility: Develop courses for different levels of cybersecurity certifications for SME
- Organization: Cluj-IT Cluster, Romania

01/10/2017 – 30/09/2018

STARG-VM: Server Triggered Protection of Client Applications by Running Their Security-Sensitive Phases in a Trusted VM

- Financial support: Grant 230PED/2017, PN-III-P2-2.1-PED-2016-2073 from UEFISCDI, Romanian Ministry of Education and Scientific Research
- Position: Director
- Principal subjects: Bring an Experimental Virtualization-Based Security Product to Technology Readiness Level 4
- Organization: Technical University of Cluj-Napoca (TUCN)

05/2013 – 12/2018

Evaluation of the state-of-the-art and implementation of a demo software regarding the field of information security on MS Windows operating systems using security methods based on Intel hardware virtualization support

- Financial support: Bitdefender
- Position: Director
- Principal responsibilities: Research of the main directions regarding information security methods based on virtualization
- Organization: Technical University of Cluj-Napoca (TUCN)

11/2014 – 10/2015

Feasibility study and design of a software subsystem for providing high-availability for Cloud software services

- Financial support: Inovative project POSCCE/SMIS 49752
- Position: Subproject coordinator at TUCN
- Principal subjects: Design of a software strategy and system for providing high-availability of services in Cloud using virtual machine replication
- Organization: Technical University of Cluj-Napoca (TUCN)

2010 – 2013

Initiative for Globus in Europe (IGE)

- Financial support: Grant 261560/2010 Seventh Framework Programme (FP7)
- Position: Research member
- Principal subjects: Globus infrastructure support, test and maintenance of Globus configurations and applications
- Organization: Technical University of Cluj-Napoca (TUCN)

2006 – 2007

Innovative Strategies for Fast and Flexibly Data Organization and Searching in File Systems

- Financial support: Grant 24/2007 from Romanian Ministry of Research and Education
- Position: Research member
- Principal subjects: Support for user attributes of files, new concepts for data organization in file systems, integration of the new concepts with existing applications
- Organization: Technical University of Cluj-Napoca (TUCN)

2005 – 2008

MEDIOGRID: Parallel and distributed graphical computation over GRID of geographical and environmental data

- Financial support: Grant 19CEEX-I03/2005 from Romanian Ministry of Research and Education
- Position: Research member
- Principal subjects: Distribution of huge volumes of data over Grid
- Organization: Technical University of Cluj-Napoca (TUCN)

● **FELLOWSHIPS & AWARDS**

03/2021 – 06/2021

Visiting Fulbright Scholarship

- **Goal:** Develop new master programs in cybersecurity
- **Activities:** Meetings with academic and industry leadership and professionals in USA to learn about their master programs and industry requirements in the cybersecurity field
- **Organization:** Fulbright Polonia

Link <https://fulbright.edu.pl/cybersecurity-study-visits>

05/2014 – 10/2015

Postdoctoral Fellowships

- **Grant:** PARTING (POS DRU) project
- **Topics:** Virtualization-Based Protection of Security-Sensitive Client Applications
- **Organization:** Technical University of Cluj-Napoca (TUCN), Romania

05/2014

Best Paper Award

- **Paper:** Fast creation of short-living virtual machines using copy-on-write RAM-disks
- **Conference:** IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR 2014)

08/1999 – 09/1999

Visiting Professor

- **Topics:** Study of Web-authoring tools and development of a guide for writing a Web-course
- **Organization:** University of Limerick, Ireland

03/1997 – 06/1997

Visiting Student

- **Pupose:** Work on disertation thesis
- **Topics:** Image processing algorithms
- **Organization:** Technical University of Athens, Greece

CERTIFICĂRI

Offensive Security, 12/2014

Offensive Security Certified Professional (OSCP)

Modul de învățare: Online

VOLUNTARIAT

1998 – 2002 Cluj-Napoca

Asociația Studenților Creștini Ortodocși Români (ASCOR)

Activități: Religioase, culturale și sociale dedicate studenților

Responsabilități: Vice-președinte (1998-1999) și președinte (1999-2002)

PERMIS DE CONDUCERE

Permis de conducere: B

COMPETENȚE LINGVISTICE

Limbă(i) maternă(e): **ROMÂNĂ**

Altă limbă (Alte limbi):

	COMPREHENSIUNE		VORBIT		SCRIS
	Comprehensiune orală	Citit	Exprimare scrisă	Conversație	
ENGLISH	B2	C1	C1	C1	C1
GERMANĂ	A2	A2	A1	A2	A2

Niveluri: A1 și A2 Utilizator de bază B1 și B2 Utilizator independent C1 și C2 Utilizator experimentat