



## Europass Curriculum Vitae



### Informații personale

Prenume/Nume

**Emil SIMION**

Adresa

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[emil.simion@upb.ro](mailto:emil.simion@upb.ro); [emil\\_simion@hotmail.com](mailto:emil_simion@hotmail.com)

Nationalitate

Română

### Experiență profesională

Perioada

**1993-1994, 2000-2004, 2009-prezent**

Ocupația sau poziția deținută

Conferentiar (din anul 2021)

Principalele activități și  
responsabilități

- Cursuri de criptografie, probabilități și statistică, securitate cibernetică, criminalitate informatică, cercetări operaționale, securitatea rețelelor și calculatoarelor;
- Conducere activități de cercetare evaluarea algoritmilor și protocoalelor criptografice, semnături digitale, evaluări de securitate; Conducere lucrări de licență și disertație.
- Coordonator al programului de master "Teoria codării și stocării informației" ([www.tcsi.ro](http://www.tcsi.ro));
- Membru în consiliul Facultății de Științe Aplicate;
- Membru în biroul Departamentului de Metode și Modele Matematice. (2016-2020).

Numele și adresa angajatorului

Universitatea Politehnica din București, Splaiul Independenței nr. 313, sector 6, București, Romania.

Categoria activității

Educație

Perioada

**2021-prezent**

Ocupația sau poziția deținută

Inginer software (colaborator extern)

Principalele activități și  
responsabilități

- Cercetare & Dezvoltare în domeniul cybersecurity
- Evaluări de securitate

Numele și adresa angajatorului

BlueSpace TECHNOLOGY SRL, sos Bragadiru 82, București.

Categoria activității

Cercetare-Dezvoltare

Perioada

**2007 - 2009**

Ocupația sau poziția deținută

Cercetător asociat

Principalele activități și  
responsabilități

Activități de cercetare ([www.imar.ro](http://www.imar.ro))

Numele și adresa angajatorului

Institutul de matematică al Academiei Române "Simion Stoilow", 21 Calea Grivitei Street, 010702 București, Romania

Categoria activității

Cercetare

Perioada

**2012 - 2016**

Ocupația sau poziția deținută

Profesor asociat

|                                             |                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Principalele activități și responsabilități | <ul style="list-style-type: none"> <li>▪ Activități didactice în cadrul programului de master, "Expertise Economique &amp; Juridique des Systèmes d'Information" (www.eejsi.org).</li> <li>▪ Membru în consiliul de coordonare al programului de master "Expertise Economique &amp; Juridique des Systèmes d'Information"</li> </ul> |
| Numele și adresa angajatorului              | Université Panthéon Assas - 12 place Panthéon 75005 PARIS, France                                                                                                                                                                                                                                                                    |
| Categoria activității                       | Educatie                                                                                                                                                                                                                                                                                                                             |
| Perioada                                    | <b>1994 – 2020</b>                                                                                                                                                                                                                                                                                                                   |
| Ocupația sau poziția deținută               | Specialist (CRIPTO, INFOSEC), sef structura, director adjunct (ITA), sef Structura interna INFOSEC                                                                                                                                                                                                                                   |
| Principalele activități și responsabilități | Activitati de R&D (CRIPTO, INFOSEC) in domeniul securitatii informatiei, realizare si coordonare activitati de audit de securitate                                                                                                                                                                                                   |
| Numele și adresa angajatorului              | UM0318, UM0167                                                                                                                                                                                                                                                                                                                       |
| Categoria activitatii                       | Securitate Nationala                                                                                                                                                                                                                                                                                                                 |

## Educație și formare

|                                                            |                                                                                                                    |
|------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Perioada                                                   | <b>1996 - 2000</b>                                                                                                 |
| Titlul calificării obținute                                | Doctor în matematici                                                                                               |
| Principalele domenii ocupaționale                          | Matematică<br>Titlul tezei de doctorat: <i>Statistical-Informational techniques in diagnosis of cipher systems</i> |
| Denumirea și tipul organizației care a asigurat instruirea | Universitatea din București                                                                                        |
| Perioada                                                   | <b>1994 - 1995</b>                                                                                                 |
| Titlul calificării obținute                                | Master în statistică și probabilități                                                                              |
| Principalele domenii ocupaționale                          | Matematică<br>Teza de dizertație: <i>Bent sequences used in spread spectrum systems</i>                            |
| Denumirea și tipul organizației care a asigurat instruirea | Universitatea din București                                                                                        |
| Perioada                                                   | <b>1989 - 1994</b>                                                                                                 |
| Titlul calificării obținute                                | Licență în matematici                                                                                              |
| Principalele domenii ocupaționale                          | Matematică<br>Titlul licenței: <i>Majority logic decoding of binary cyclic codes</i>                               |
| Denumirea și tipul organizației care a asigurat instruirea | Universitatea din București                                                                                        |

## Informații adiționale

**Publicații și activități de cercetare:** 7 cărți, 6 capitole de cărți; 28 articole jurnal indexate, 26 articole conferințe indexate în BD internaționale, 16 articole volume conferințe cu ISBN/ISSN; 11 proiecte de cercetare naționale/internaționale

### Recenzor:

- Scientific Bulletin of University „Politehnica” of Bucharest, Series A (ISI, impact factor 0.3).
- International Conference on Security for Information Technology and Communication (2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2020).
- International Conference on Electronics Computers and Artificial Intelligence (2009, 2011, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020).
- 2012 Third International Conference on Emerging Intelligent Data and Web Technologies (EIDWT 2012).
- Computer Information Systems and Industrial Management 11-th IFIPTC 8 International Conference, CISIM 2012 Venice, Italy, September 26-28, 2012.
- The 14th International Conference on Cryptology and Network Security (CANS 2015) 8-12 December 2015, Morocco, Marrakesh.
- IEEE ACCES.

### Editor:

- Proc. of the 6-th International Conference on Security for Information Technology and Communication, Bucharest, June 2013, ISSN 2285-1798.
- Proc. of the 7-th International Conference on Security for Information Technology and Communication, Bucharest, June 2014, ISSN 2285-1798.
- Proc. of the 8-th International Conference on Security for Information Technology and Communication, Bucharest, June 2015, ISSN 2285-1798.
- Innovative Security Solutions for Information Technology and Communications, 8th International Conference, SECITC 2015, Bucharest, Romania, June 11-12, 2015, Revised Selected Papers, Springer Verlag, ISBN 978-3-319-27179-8.
- Innovative Security Solutions for Information Technology and Communications, 10th International Conference, SECITC 2017, Bucharest, Romania, June 8-9, 2017, Revised Selected Papers, Springer Verlag, ISBN 978-3-319-69283-8.
- Innovative Security Solutions for Information Technology and Communications, 10th International Conference, SECITC 2020, Bucharest, Romania, November 14-15, 2019, Revised Selected Papers, Springer Verlag, ISBN 978-3-030-41025-4.

### Membru în comitetul de program al următoarelor manifestări științifice:

- International Conference on Security for Information Technology and Communication (2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020); in 2015 and 2017-PC chair.
- International Conference on Electronics Computers and Artificial Intelligence (2009, 2011, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020).
- The 14th International Conference on Cryptology and Network Security (CANS 2015) 8-12 December 2015, Morocco, Marrakesh.
- First Workshop on Innovative Techniques, Diversity & Connectivity, 14 nov 2019.
- Second Workshop on Innovative Techniques, Diversity & Connectivity, May 2020.
- Third Workshop on Innovative Techniques, Diversity & Connectivity, 19 nov 2020.

### Membru în următoarele organizații profesionale:

- Romanian Society of Mathematical Sciences (since 1998)
- International Association of Cryptographic Research (since 1998)
- Romanian Society of Probability and Mathematical Statistics (since 1998)
- Foundation member of Romanian Association of Cryptography and Protection of Information (1997)
- Executive Agency for Higher Education Research Development and Innovation Funding – UEFISCDI (2013-prezent) - evaluator
- Patriot Fest- evaluator (2017, 2018)
- Membru fondator al Centrului de Cercetare și Instruire în Tehnici Inovative de Matematici Aplicate în Inginerie “Traian Lalescu” (2019).
- Membru Consiliu Consultativ al Ministerului Cercetării Dezvoltării și Inovării (poziție ocupată prin concurs, 2022-prezent)

Competențe lingvistice: lb. engleză (atestat FILS nivel B)

Lista articolelor și a proiectelor de cercetare

## Anexe

# LISTA DE LUCRĂRI

## 1. CELE MAI RELEVANTE ARTICOLE

1. **E. Simion**, *Entropy And Randomness: From Analogic To Quantum World*, IEEE Acces, april 2020, vol. 8, pp. 74553 – 74561, DOI: 10.1109/ACCESS.2020.2988658, Electronic ISSN: 2169-3536, (ISI Web of Science CPCI-S, Factor Relativ de Impact 1.51 cf JCR 2017 (ediția iunie 2018), SRI 2.76, IEEEExplore), WOS:000530830800089.
2. P. Burciu and **E. Simion**, *A note on the correlations between NIST cryptographic statistical tests suite*, U.P.B. Sci. Bull., Series A, Vol.1, Iss. 1, 2019, pp 209-218, ISSN 1223-7027, (ISI Web of Science CPCI-S, Factor Relativ de Impact 0.39 in anul 2020, SRI 0.256 in anul 2018), WOS:000461794200021.
3. C. Georgescu and **E. Simion**, *New results concerning the power of NIST randomness tests*, Proceedings of the Romanian Academy, Series A, vol.18, ISSN 1454-9069, Special issue 2017, pp. 381-389, (ISI Web of Science CPCI-S, Factor Relativ de Impact 0.435 cf JCR 2019 (ediția iunie 2020), SRI 0.45 cf JCR 2017 (ediția iunie 2018)), WOS:000433390400008.
4. C. Georgescu, A. Nita-Petrescu, **E. Simion** and Antonela Toma, *A view on NIST randomness tests (in)dependence*, Proc. of 9-th International Conference on Electronics, Computers and Artificial Intelligence ECAI 2017, Targoviste, 29 June-1 July 2017, vol. 9, pp. 1-4, doi: 10.1109/ECAI.2017.8166460, ISSN-1843-2115, ISBN 978-1-5090-6458-8, (ISI Web of Science CPCI-S, IEEEExplore), WOS:000425865900076.
5. **E. Simion**, *The relevance of statistical tests in cryptography*, IEEE Security & Privacy, 1540-7993/15, January/February 2015, pp. 66-70, (ISI Web of Science CPCI-S, Factor Relativ de Impact 0.85 cf JCR 2019 (ediția iunie 2020), SRI 1.35, IEEEExplore), WOS:000349671400013.
6. A. Marghescu, D.- C. Vasile, P. Svasta, **E. Simion**, *Personalized Ring Oscillator-based True Random Number Generator Analysis using Non-Invasive Attacks*, Proceedings of the 22th International symposium for design and technology in electronic packaging, Oradea, October 2016, 10.1109/SIITME.2016.7777253, Electronic ISBN: 978-1-5090-4445-0, pp.98-101, (ISI Web of Science CPCI-S, IEEEExplore), WOS:000390557400018.
7. A. Marghescu, P. Svasta and **E. Simion**, *Randomness Extraction Techniques for Jittery Oscillators*, 38<sup>th</sup> International Spring Seminar on Electronics Technology – ISSE2015, Eger, Hungary, May, 6–10, 2015, ISBN 978–963–313–177–0, pp. 90-91, (ISI Web of Science CPCI-S, IEEEExplore), WOS:000374113000033.
8. A. Marghescu, P. Svasta and **E. Simion**, *High Speed and Secure Variable Probability Pseudo/True Random Number Generator using FPGA*, Proceedings of the 21<sup>th</sup> international symposium for design and technology of electronic packages, Brasov, 22-25 Oct. 2015, ISBN 978–1–5090–0332–7, pp. 323-328, (ISI Web of Science CPCI-S, IEEEExplore), WOS:000377765500059.
9. A. G. Oprina, A. Popescu, **E. Simion** and Gh. Simion, *Walsh-Hadamard randomness test and new methods of test results integration*, Bulletin of Transilvania University of Braşov, vol. 2(51) Series III-2009, pp. 93-106, (Zentralblatt MATH, Mathematical Reviews, Scopus, EBSCO, Crossref, Cat. B+ cod CNCSIS 493).
10. **E. Simion**, *Truncated Bayesian estimation of Rényi entropies and cryptographic applications*, Mathematical Reports, tom 2 (52), nr.2/2000, pp. 215-227, (Science Citation Index Expanded, Journal Citation Reports/Science Edition, Mathematical Reviews, Zentralblatt für Mathematik, rev. Cat. B+ cotația CNCSIS 694, , Factor Relativ de Impact 0.44 cf JCR 2019 (ediția iunie 2020), SRI 0.197 cf JCR 2016 (ediția iunie 2017)).

## 2. CELE MAI RELEVANTE CĂRȚI (Cb)

1. Gh. Opreșan and **E. Simion**, *Operational research and Cryptology*, Politehnica Press, 2002, ISBN 973-8449-006, 225 pages.
2. A. Popescu, V. Preda and **E. Simion**, *Cryptanalysis. Techniques and mathematical methods*, Ed. Univ. Buc, 2004, ISBN 973575975-6, 339 pages.
3. A. Mihăiță, R.F. Olimid, A. G. Oprina, D. Naccache and **E. Simion**, *Information security and Cryptology. Applications*, MATRIX ROM, 2011, ISBN 978-973-755-675-2, 107 pages, COD CNCSIS 39.
4. A. G. Oprina and **E. Simion**, *Introduction to Probability Theory*, MATRIX ROM, 2017, ISBN 978-606-25-0313-0, 128 pages, COD CNCSIS 39.

## 3. TEZA DE DOCTORAT (T)

1. **Statistical-Informational techniques in diagnosis of cipher systems**, Ph.D. dissertation, University of Bucharest, 23<sup>rd</sup> Feb. 2000, 116 pp.

## 3. CĂRȚI

### 3. 1. CĂRȚI (Cb)

1. Gh. Opreșan and **E. Simion**, *Operational research and Cryptology*, Politehnica Press, 2002, ISBN 973-8449-006, 225 pages.
2. A. Popescu, V. Preda and **E. Simion**, *Cryptanalysis. Techniques and mathematical methods*, Ed. Univ. Buc, 2004, ISBN 973575975-6, 339 pages.
3. A. Mihăiță, R.F. Olimid, A. G. Oprina, D. Naccache and **E. Simion**, *Cryptography and Information security. Applications*, MATRIX ROM, 2011, ISBN 978-973-755-675-2, 107 pages, COD CNCSIS 39.
4. I. Bica, D. Naccache and **E. Simion**, *Innovative Security Solutions for Information Technology and Communications*, Springer Verlag, 2015, ISBN: 978-3-319-27179-8, 281 pages.

5. A. G. Oprina and **E. Simion**, *Introduction to Probability Theory*, MATRIX ROM, 2017, ISBN 978-606-25-0313-0, 128 pages, COD CNCIS 39.
6. Pooya Farshim and **E. Simion**, *Innovative Security Solutions for Information Technology and Communications*, Springer Verlag, LNCS 10543, 2017, ISBN: 978-3-319-69283-8, DOI: 10.1007/978-3-319-69284-5, 202 pages.
7. **E. Simion** and R. Geraud-Stewart, *Innovative Security Solutions for Information Technology and Communications*, Springer International Publishing, LNCS 12001, 2020, ISBN: 978-3-030-41025-4, DOI: 10.1007/978-3-030-41025-4, 257 pages.

## 4. CAPITOLE DIN CĂRȚI (D)

1. N. Bizon (coordonator), *Complex Behavior of the Distributed Generation System: Intelligent Management of the Renewable Energy Resources for assuring the DG System Power Quality and a Sustainable Development*, Publishing house of the University of Pitești, 2010, ISBN 978-606-560-128-4 (hardcover), ISBN 978-606-560-129-1 (e-book), am contribuit la Chapter 6, *Techniques for Secure Communications* (C. A. Shoniregun, coordinator of chapter):
  - 6.3 *A Review of Techniques for Secure Communications - Cryptographic Algorithms*, pp. 181-184.
  - 6.4 *A Proposal for Research and Development of Cryptographic Standards*, pp. 185-188.
  - 6.5 *Information Security and Cryptography*, pp. 189-194.
2. Marius Iosifescu, Octavian Stanasila, Dan Stefanoiu (coordonatori), *Mathematical encyclopedia*, am elaborat Chapter 18 - Mathematical Cryptography, AGIR - Publishing House, 2010, ISBN 978-973-720-288-8, pp. 905-944.
3. N. Bizon, **E. Simion** et. al., *Advances in Energy Research: Distributed Generations Systems Integrating Renewable Energy Resources*, Nova Publishers, ISBN: 978-1-61209-991-0, 2011.
4. Nicu Bizon, Lucian Dascalescu, Naser M. Tabatabaei (coordonatori), *Autonomous Vehicles: Intelligent Transport Systems and Automotive Technologies*, am contribuit la Chapter 4: *Cyber Security Evaluation of Critical Infrastructures System*, pp 73-92, Publishing house of the University of Pitești, 2013, ISBN: 978-606-560-327-1.
5. Nicu Bizon, Lucian Dascalescu, Naser M. Tabatabaei (coordonatori), *Autonomous Vehicles: Intelligent Transport Systems and Smart Technologies*, am contribuit la Chapter 6: *Cyber Security Evaluation of Critical Infrastructures System*, pp. 185-206, Nova Publishers, 2014, ISBN 978-1-63321-326-5.
6. E. Simion and V. Pasca, *Cyber-Physical System Security*, Chapter *Challenges in cyber security - Ransomware Phenomenon*, Proc. of the First Cyber-Physical Security, pp. 303-330, Springer International Publishing, Springer Nature Switzerland AG, 2018, Koc Ed., ISBN 978-3-319-98934-1.

Numărul de contribuții la capitole din cărți: 6.

## 5. ARTICOLE PUBLICATE ÎN REVISTE INDEXATE (Ris)

1. **E. Simion**, *The Asymptotic behavior of  $(h, \phi)$ -entropies and applications at key agreement protocols*, Annals of University of Bucharest, Mathematics and Computer Science series XLVII, 1998, pp. 15- 26, (Mathematical Reviews, Zentralblatt Math).
2. **E. Simion**, *Remarks on the Bayesian estimation of Shannon entropy using priori truncated Dirichlet distribution*, SCM, tom 51, nr. 2, 1999, pp. 277-288, (Science Citation Index Expanded, Journal Citation Reports/Science Edition, Mathematical Reviews, Zentralblatt für Mathematik). Din 1999 SCM a fost redenumita Mathematical reports, Impact Factor Relativ 0.44 cf JCR 2019 (ediția iunie 2020), SRI 0.197 cf JCR 2016 (ediția iunie 2017).
3. **E. Simion**, *Information reconciliation for almost uniform distributions*, SCM, tom 51, nr. 4, 1999, pp. 621-630, (Science Citation Index Expanded, Journal Citation Reports/Science Edition, Mathematical Reviews, Zentralblatt für Mathematik). Din 1999 SCM a fost redenumita Mathematical reports, Impact Factor Relativ 0.44 cf JCR 2019 (ediția iunie 2020), SRI 0.197 cf JCR 2016 (ediția iunie 2017).
4. **E. Simion**, *Statistical estimators for the effective key size of a cipher system*, Annals of University of Bucharest, Mathematics and Computer Science series XLVIII, 1999, pp. 73-84, (Mathematical Reviews and Zentralblatt Math).
5. **E. Simion**, *The linear complexity profile and applications at the evaluation of the cryptographic applications*, Annals of University of Bucharest, Mathematics and Computer Science series XLVIII, 1999, pp. 85-93, (Mathematical Reviews and Zentralblatt Math).
6. M. Bărboi, N. Constatinescu and **E. Simion**, *Bayesian estimation of the cryptographic stochastic process*, Scientific Bulletin of Henry Coandă Air Force Academy, Brașov, no. 2 (12), 2000, pp. 49-56, (index Copernicus, EBSCO).
7. **E. Simion**, *Truncated Bayesian estimation of Rényi entropies and cryptographic applications*, Mathematical Reports, tom 2 (52), nr.2/2000, pp. 215-227, (Science Citation Index Expanded, Journal Citation Reports/Science Edition, Mathematical Reviews, Zentralblatt für Mathematik, rev. Cat. B+ cotația CNCIS 694, , Factor Relativ de Impact 0.44 cf JCR 2019 (ediția iunie 2020), SRI 0.197 cf JCR 2016 (ediția iunie 2017)).
8. **E. Simion**, *Asymptotic behavior of some statistical estimators used in cryptography*, Annals of University of Bucharest, Mathematics Series XLIX, no. 1, 2000, pp. 85-89, (Mathematical Reviews and Zentralblatt Math).
9. V. Preda and **E. Simion**, *Correlated stochastic time series and cryptographic applications*, Annals of University of Bucharest, Mathematics and Computer Science series XLIX, 2000, pp. 115-121, (Mathematical Reviews and Zentralblatt Math).
10. N. Constantinescu and **E. Simion**, *Bayesian principles in cryptanalysis of stream ciphers algorithms*, Annals of University of Constanța, vol. 8(1), 2000, pp. 161-166, (Mathematical Reviews, Zentralblatt MATH, jurnal Categoria A clasificare CNCIS, Factor Relativ de Impact 0.85 cf JCR 2019 (ediția iunie 2020), SRI 0.269 cf JCR 2019 (ediția iunie 2020)).
11. V. Preda and **E. Simion**, *Confirmatory tests used in cipher systems evaluations*, Annals of University of Bucharest, Mathematics and Computer Science series L, 2001, pp. 105-126, (Mathematical Reviews and Zentralblatt Math).
12. V. Preda and **E. Simion**, *Statistical cryptanalytic techniques*, Annals of University of Bucharest, Mathematics and Computer Science series LI, 2002, pp. 73-82, (Mathematical Reviews and Zentralblatt Math).
13. A. Oprina, A. Popescu, **E. Simion** and Gh. Simion, *Walsh-Hadamard randomness test and new methods of test results integration*, Bulletin of Transilvania University of Brașov, vol. 2(51) Series III-2009, pp. 93-106, (Zentralblatt MATH, Mathematical Reviews, Scopus, EBSCO, Crossref).

14. M. Andraşiu, A. Oprina, **E. Simion** and Gh. Simion, *Monte-Carlo detection of the outliers data and cryptographic applications*, Acta Universitatis Apulensis, 22 (2010), ISSN: 1582-5329, pp. 231-242, (Mathematical Reviews and Zentralblatt Math).
15. C.T. Păun and **E. Simion**, *New trends in IT&C security process implementation*, Lex&Scientia International Journal, nr. XVII, vol. 2, 2010, ISSN 1583-039x, pp. 281-287, (EBSCO).
16. Mircea Andraşiu and **E. Simion**, *Evaluation of cryptographic algorithms*, Journal of Information Systems & Operation Management, vol. 5, no. 1, 2011, ISSN: 1843 – 4711, pp.51-61, (EBSCO, GALE Cengage Learning, Index Copernicus, ProQuest, Cat B+ COD CNCSIS 844).
17. A. Mihăiță and **E. Simion**, *New trends in lattice-based cryptography*, Acta Universitatis Apulensis, 29 (2012), ISSN: 1582-5329, pp. 53-64, (Mathematical Reviews and Zentralblatt Math).
18. A. Mihăiță, R.F. Olimid and **E. Simion**, *Statistical tools used in cryptographic evaluation*, Bulletin of Transilvania University of Braşov, vol. 4(53), no. 1, Series III-2011, pp. 129-140, (Zentralblatt MATH, Mathematical Reviews, Scopus, EBSCO, Crossref).
19. A. Atanasiu, R.F. Olimid, **E. Simion**, *On the Security of Black-Box Implementation of Visual Secret Sharing Schemes*, Journal of Mobile, Embedded and Distributed Systems, vol. 4(1), 2012, ISSN 2067 – 4074, pp. 1-11, (Copernicus, Google scholar, WorldCat, Computer science directory).
20. D. Maimuț, A. Pătraşcu, **E. Simion**, *Homomorphic encryption schemes and applications for a secure digital world*, Journal of Mobile, Embedded and Distributed Systems, vol. 4(4), 2012, ISSN 2067 – 4074, pp. 224-232, (Copernicus, Google scholar, WorldCat, Computer science directory).
21. D. Maimuț, A. Pătraşcu, **E. Simion**, *Cloud Computing in Cyberwarfare*, MTA Review, Military Technical Academy Publishing House, vol.XXII, no. 3, sept. 2012, ISSN 1843-3391, pp. 159-180, (EBSCO, Google scholar, Ulrich's Periodicals Directory, The Lancaster Index, Cat. B+ cod CNCSIS 493).
22. A. Pătraşcu, **E. Simion**, *Applied cryptography and practical scenarios for cyber security defense*, Scientific Bulletin of University „Politehnica” of Bucharest, Series C: Electrical Engineering and Computer Science, vol 75, Iss. 4, 2012, ISSN 2286 – 3540, pp. 131-142, (INSPEC, SCOPUS, ELSEVIER SCIENCES BIBLIOGRAPHIC DATABASES).
23. A. Pătraşcu, **E. Simion**, *Critical Infrastructures Cyber Protection Using Kernel Based Supervised Learning Techniques*, MTA Review, Military Technical Academy Publishing House, vol.XXIV, no. 2, Jun. 2014, ISSN 1843-3391, pp. 59-66, (EBSCO, Google scholar, Ulrich's Periodicals Directory, The Lancaster Index, Cat. B+ cod CNCSIS 493).
24. **E. Simion**, *The relevance of statistical tests in cryptography*, IEEE Security & Privacy, 1540-7993/15, January/February 2015, pp. 66-70, (ISI Web of Science CPCI-S, Factor Relativ de Impact 0.85 cf JCR 2019 (ediția iunie 2020), SRI 1.35, IEEEExplore), WOS:000349671400013.
25. C. Georgescu and **E. Simion**, *New results concerning the power of NIST randomness tests*, Proceedings of the Romanian Academy, Series A, vol.18, ISSN 1454-9069, Special issue 2017, pp. 381-389, (ISI Web of Science CPCI-S, SRI 0.45 cf JCR 2017 (ediția iunie 2018), IF 0.435 cf JCR 2019 (ediția iunie 2020)), WOS:000433390400008.
26. P. Burciu and **E. Simion**, *A systematic approach on the NIST statistical tests dependencies*, Journal of Electrical Engineering, Electronics, Control and Computer Science, 2018, pp. 1-6, ISSN 2457-7812, (Google Scholar, Copernicus).
27. P. Burciu and **E. Simion**, *A note on the correlations between NIST cryptographic statistical tests suite*, U.P.B. Sci. Bull., Series A, Vol.1, Iss. 1, 2019, pp 209-218, ISSN 1223-7027, (ISI Web of Science CPCI-S, Factor Relativ de Impact 0.39 in anul 2020, SRI 0.256 in anul 2018), WOS:000461794200021.
28. **E. Simion**, *Entropy And Randomness: From Analogic To Quantum World*, IEEE Acces, april 2020, vol. 8, pp. 74553 – 74561, DOI: 10.1109/ACCESS.2020.2988658, Electronic ISSN: 2169-3536, (ISI Web of Science CPCI-S, Factor Relativ de Impact 1.51 cf JCR 2017 (ediția iunie 2018), SRI 2.76, IEEEExplore), WOS:000530830800089.
29. E. Neacșu, **E. Simion**, *A study on the encryption techniques and methods implemented within the critical infrastructures*, U.P.B. Sci. Bull., Series C, Vol. 84, Iss. 2, 2022, pp 237-250, ISSN 2286-3540, (ISI Web of Science CPCI-S), WOS:000461794200021.
30. I. C. Bogdan, E. Simion, *Games Theory Involvement In The Social Robots Facial Expressions*, U.P.B. Sci. Bull., Series C, Vol. 85, Iss. 1, 2023, pp 165-180, ISSN 2286-3540, (ISI Web of Science CPCI-S), WOS:000983211300010.
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1. **E. Simion**, *The Asymptotic behavior of  $(h, \phi)$ -entropies and applications at key agreement protocols*, The Annual meeting of the Faculty of Mathematics, University of Bucharest, 1998.
2. **E. Simion**, *Statistical estimators for the effective key size of a cipher system*, The Annual meeting of the Faculty of Mathematics, University of Bucharest, 1999.
3. **E. Simion**, *The linear complexity profile and applications at the evaluation of the cryptographic applications*, The Annual meeting of the Faculty of Mathematics, University of Bucharest, 1999.
4. M. Bârboi, N. Constantinescu and **E. Simion**, *Bayesian estimation of the cryptographic stochastic process*, Third National Conference of Henry Coandă Air Force Academy, 16-17 november, 2000.
5. M. Bârboi and **E. Simion**, *Classes of cryptographic algorithms and digital signatures used in Internet security infrastructure*, Workshop The impact of Internet Technologies in Defense Systems of the National Security organized by The Association in Electronics, Communications and Informational Systems for the Defense Forces, AFCEA-Romania, 24 nov, 2000.
6. V. Preda and **E. Simion**, *Correlated stochastic time series and cryptographic applications*, The Annual meeting of the Faculty of Mathematics, University of Bucharest, 2000.
7. N. Constantinescu and **E. Simion**, *Bayesian principles in cryptanalysis of stream ciphers algorithms*, 4<sup>th</sup> Annual meeting of Romanian Society of Mathematical Sciences, Constanța, may 25-28, 2000.
8. N. Constantinescu and **E. Simion**, *Checking and testing random games tables*, The Annual meeting of the Romanian Probability and Statistics Association, Bucharest, 23<sup>rd</sup> feb. 2001.
9. V. Preda and **E. Simion**, *Confirmatory tests used in cipher systems evaluations*, The Annual meeting of the Faculty of Mathematics, University of Bucharest, 2001.
10. V. Preda and **E. Simion**, *Statistical testing of some analytical cryptographic properties*, The Annual Meeting of the Faculty of Mathematics, University of Bucharest, May 2002.
11. B. Fundulea, A. Popescu and **E. Simion**, *Walsh-Hadamard randomness test*, The Annual meeting of the Romanian Probability and Statistics Association, Bucharest, 28<sup>th</sup> april 2006.
12. **E. Simion**, *Walsh-Hadamard randomness test and new methods of test results interpretation*, The Annual meeting of the Romanian Probability and Statistics Association, Bucharest, april 2007.
13. **E. Simion**, *Walsh-Hadamard randomness test and new methods of test results integration*, 9<sup>-eme</sup> Colloque franco-roumain de math. appl., Brașov, Romania, 28 août-2 sept. 2008.
14. **E. Simion**, *Statistical tools used in cryptographic evaluation*, The Seventh Congress of Romanian Mathematicians, Brașov, Romania, 29 june - 5 july 2011.
15. **E. Simion**, *Improvements of NIST Statistical Test Suite*, Joint International Meeting of the American Mathematical Society and the Romanian Mathematical Society, Alba Iulia, Romania, 27-30 june 2013.
16. **E. Simion**, *Probability, Statistics and Cryptology*, BakanCrypt Kickoff Meeting and Workshop, Sofia, Bulgaria, 7-8 november 2013.
17. **E. Simion**, *Statistical tests used in cryptographic evaluation*, The Eight Congress of Romanian Mathematicians, Iasi, Romania, 26 june - 2 july 2015.
18. C. Georgescu, A. Nita-Petrescu, **E. Simion** and Antonela Toma, *A view on NIST randomness tests (in)dependence*, 9-th International Conference on Electronics, Computers and Artificial Intelligence ECAI 2017, Targoviste, 29 june-1 july 2017.

19. D. Popa and **E. Simion**, *Enhancing Security by Combining Biometrics and Cryptography*, Proc. of 9-th International Conference on Electronics, Computers and Artificial Intelligence ECAI 2017, Targoviste, 29 june-1 july 2017.
20. V.-R. Pasca and **E. Simion**, *Challenges in cyber security - Ransomware Phenomenon*, Cyber-Physical Security Education Workshop, Paris 17-19 july, 2017.
21. C. Georgescu and **E. Simion**, *Improvements of NIST Statistical Tests and Applications to Cryptology*, Joint International Meeting of the German Mathematical Society and the Romanian Mathematical Society, September 16-19, Constanta, Romania, 2017.
22. **E. Simion**, *Probability and Statistics Applied in information Security*, The ninth congress of the Romanian Mathematicians, June 28- July 3, Galati, Romania, 2019.
23. S. Bibic, I. Badralexi, C. Cipu, C. Georgescu, R. Purchinescu-Purtan, M. Rebenciuc, **E. Simion**, A. Toma, *The role of mathematics, perspectives for research in the industrial revolution 4.0*, ThinkBS: Basic Sciences in Engineering Education Workshop, Erasmus + project, 25-26 march 2021, online: <http://thinkbsworkshop.com/>.
24. **E. Simion**, *Black swan & Security evaluation (Secure by design and security evaluation)*, <https://www.cyberlearning.ro/courses/>.
25. **E. Simion**, *Manipularea controlată a datelor din canalul de cifrat*, <https://www.cyberlearning.ro/courses/>.
26. **E. Simion**, *Security in the era of advanced technologies*, CyberCon Romania 2023, <https://cybercon.ro/>.
27. **E. Simion**, *PANEL: A "TRIPLE HELIX" APPROACH TO CYBERSECURITY: HOW CAN PARTNERSHIPS BETWEEN STATE, BUSINESS, AND ACADEMIA ENHANCE CYBERSECURITY?*, Conference on Preventing the Cybertheft of Research and Technology, <https://insights.crdfglobal.org/events/preventing-cybertheft-of-research-and-technology>
28. **E. Simion**, *Cryptology: from theory to practice, an integrated view*, Lectures at the Summer School MATH4ENG in the framework of the Erasmus + Project ThinkBS: Basic Sciences in Engineering Education, Bucharest, 28 June – 4 July, 2022.
29. **E. Simion**, *Innovative techniques for data security. Applied cryptography in information security*, Lectures at the Summer School MATH4ENG in the framework of the Erasmus + Project ThinkBS: Basic Sciences in Engineering Education, Bucharest, 28 June – 4 July, 2022.
30. **E. Simion**, *Cryptology: from theory to practice, an integrated view ; Innovative techniques for data security. Applied cryptography in information security*, Lectures at the Summer School MATH4ENG in the framework of the EELISA Community DIGITAL4PPP, Bucharest, 27 June – 11 July, 2023.
31. **E. Simion**, *Cryptology: from theory to practice, an integrated view ; Innovative techniques for data security. Applied cryptography in information security*, Lectures at the Summer School MATH4ENG in the framework of the EELISA Community DIGITAL4PPP, 2<sup>nd</sup> edition, Bucharest, 25 June – 4 July, 2024.
32. **E. Simion**, *Limitation of statistical tools in validation of random number generators*, Le 16ème Colloque Franco-Roumain, Bucarest, du 26 au 30 août 2024, <https://16colfro.sciencesconf.org/resource/page/id/7>

## 11. PRELEGERI - INVITAT

1. **E. Simion**, *Hash functions*, Summer school of Coding Theory organized by University of Bucharest, Vatra Dornei, 2008.
2. **E. Simion**, *Information Security and Cryptography – Cryptographic algorithms*, International Conference on Electronics, 3-rd International Conference on Electronics Computers and Artificial Intelligence ECAI 2009, Pitești, 3-5 july 2009.
3. **E. Simion**, *Principles for design and analysis of cryptographic algorithms*, Romanian Cryptology Days, Bucharest, Romania, 11-12 october 2011.
4. **E. Simion**, *Statistics in cryptographic evaluation*, 5<sup>th</sup> International Conference on Security for Information Technology and Communication, Bucharest, june 2012.
5. **E. Simion**, *Cryptography and Cybersecurity. Practical Scenarios*, Challenges in Cyber Security- from Paradigm to Implementation, Advanced Studies School, University Titu Maiorescu, CNCS –UEFISCDI PNII Program IDEI, SSA code: PN-II-ID-SSA-2012-2-017, Bușteni, 18 august-24 august 2012.
6. **E. Simion**, *Game Theory and Cyber Security*, Exploratory Workshop (EW) on Distributed Generation Systems (DGS) integrating Renewable Energy Sources (RES), University of Pitești, CNCS –UEFISCDI project number PNII – IDEI/ WE-code/ 2012, EWDGSRRES code: PN-II-ID-WE-2012-4-137, Pitești, 29-30 november 2012.
7. **E. Simion**, *Cyber Security. A Game Theory Approach*, International Conference on Electronics, 5-th International Conference on Electronics Computers and Artificial Intelligence ECAI 2013, vol. 5, no. 1/2013, ISSN -1843-2115, ISBN- 978-1-4673-4937-6, Pitești, 27-29 june 2013.
8. **E. Simion**, *Cryptology and cyber security from theory to practice. Trends of academic research*, 6<sup>th</sup> International Conference on Security for Information Technology and Communication, Bucharest, june 2013.
9. **E. Simion**, *Probability and Statistics in Cyberspace*, International Conference on Electronics, 6-th International Conference on Electronics Computers and Artificial Intelligence ECAI 2014, vol. 6, no. 1/2014, ISSN -1843-2115, ISBN- 978-1-4799-5478-0, Bucharest, 22-24 october 2014, pp. 15.
10. D. Maimut and **E. Simion**, *Post-Quantum Cryptography and a (Qu)Bit More*, The 11th International Conference on Security for Information Technology and Communication, Bucharest, 08-09 november 2018.
11. **E. Simion**, *Applied Statistics in Information Security*, The 2019 edition of the annual Conference on Mathematical Foundations of Informatics, Iasi 3-6 july, 2019.
12. S. Bibic, C. Georgescu, **E. Simion**, A. Toma, *A view on innovative techniques for data security, a link between academic and industry*, ThinkBS: Basic Sciences in Engineering Education Workshop, Erasmus + project, 25-26 march 2021, online: <http://thinkbsworkshop.com/>.

13. **E. Simion**, *Cryptology: from theory to practice, an integrated view*, ThinkBS - Promoting Deep and Wide Thinking / Early Dual Degrees in Basic Sciences, Project n°: 2019-1-TR01-KA203-077194, Online Multiplier Event, June 3, 2022.
14. **E. Simion**, *Innovative techniques for data security*. Applied cryptography in information security, ThinkBS - Promoting Deep and Wide Thinking / Early Dual Degrees in Basic Sciences, Project n°: 2019-1-TR01-KA203-077194, Online Multiplier Event, June 3, 2022.
15. **E. Simion**, *Black swan & Security evaluation (Secure by design and security evaluation)*, <https://www.cyberlearning.ro/courses/>.
16. **E. Simion**, *Manipularea controlată a datelor din canalul de cifrat*, <https://www.cyberlearning.ro/courses/>.
17. **E. Simion**, *Security in the era of advanced technologies*, CyberCon Romania 2023, <https://cybercon.ro/>.
18. **E. Simion**, *PANEL: A "TRIPLE HELIX" APPROACH TO CYBERSECURITY: HOW CAN PARTNERSHIPS BETWEEN STATE, BUSINESS, AND ACADEMIA ENHANCE CYBERSECURITY?*, Conference on Preventing the Cybertheft of Research and Technology, <https://insights.crdfglobal.org/events/preventing-cybertheft-of-research-and-technology>

## 12 PROIECTE DE CERCETARE

| No. | Project Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Value            | Function                   | Period                  |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------|-------------------------|
| 1   | <p>„Technological proof for electronic identity cards management based on multi-application smart cards - SMCID”, National Program of Research and Development, inter - ministerial group for research in the security field SP2.<br/> <a href="http://web.rosa.ro/Securitate/Lista%20Proiecte%20finantate_r_ezerva.htm">http://web.rosa.ro/Securitate/Lista%20Proiecte%20finantate_r_ezerva.htm</a><br/>                     Project code S177.<br/>                     Coordinator of project: UTI SYSTEMS S.A.</p> | 47.000 EURO      | team member (ATI)          | 2006-2007               |
| 2   | <p>„Video surveillance system with encrypted communication - SVDCrypt”, National Program of Research and Development, inter- ministerial group for research in the security field SP2.<br/> <a href="http://web.rosa.ro/Securitate/Lista%20Proiecte%20finantate_r_ezerva.htm">http://web.rosa.ro/Securitate/Lista%20Proiecte%20finantate_r_ezerva.htm</a><br/>                     Project code S170.<br/>                     Coordinator of project: UTI SYSTEMS S.A.</p>                                            | 60.000 EURO      | team member (ATI)          | 2006-2007               |
| 3   | <p>„Interpretation of the content of video images from the security structures - SICIS”, National Program of Research and Development, inter-ministerial group for research in the security field SP3.<br/> <a href="http://web.rosa.ro/Securitate/Lista%20Proiecte%20finantate_r_ezerva.htm">http://web.rosa.ro/Securitate/Lista%20Proiecte%20finantate_r_ezerva.htm</a><br/>                     Project code S169.<br/>                     Coordinator of project: UTI SYSTEMS S.A.</p>                            | 60.000 EURO      | team member (ATI)          | 2006-2007               |
| 4   | <p>„Biometric system for the acquisition and verification of the dynamic signatures”, national program PN2.<br/>                     Project AMCSIT code 1166/2007.<br/> <a href="http://rd.softwin.ro/bioacs/UserInterface/Forms/Partnership.aspx?Project=BIOACS">http://rd.softwin.ro/bioacs/UserInterface/Forms/Partnership.aspx?Project=BIOACS</a><br/>                     Coordonator of project: SOFTWIN GRUP</p>                                                                                               | 860.000 EURO     | team member (IMAR)         | 2007-2009               |
| 5   | <p>„Online training and evaluation system student-centered at bachelor and master fundamental disciplines of technical higher education”,<br/>                     POSDRU project ID 62485<br/>                     Coordinator of project: University Politehnica of Bucharest</p>                                                                                                                                                                                                                                    |                  | team member (UPB)          | march-june 2013         |
| 6   | <p>Sistem Național de Protecție a Infrastructurilor IT&amp;C de Interes Național împotriva Amenințărilor Provenite din Spațiul Cibernetic, încadrat în Axa Prioritară III „Tehnologia Informației și Comunicațiilor pentru sectoarele privat și public”, Domeniul Major de Intervenție 2 „Dezvoltarea și creșterea eficienței serviciilor publice electronice”, Operațiunea 2 „Implementarea de sisteme TIC în scopul creșterii interoperabilității sistemelor informatice”.</p>                                       | Proiect european | Echipa de management       | 2013                    |
| 7   | <p>„Practical Escrow-free Identity-based Mutual „Authentication and Key Management without Pairings”,<br/>                     PN-II-PT-PCCA-2013-4-1651.<br/> <a href="http://thor.info.uaic.ro/~ibmake/">http://thor.info.uaic.ro/~ibmake/</a><br/>                     Coordinator of project: University “Al. Cuza” Iasi</p>                                                                                                                                                                                       | 284.000 EURO     | Partener team leader (ATI) | july 2014-november 2017 |
| 8   | <p>Îmbunătățirea Sistemului Național de Protecție a Infrastructurilor IT&amp;C de Interes Național împotriva Amenințărilor Provenite din Spațiul Cibernetic, încadrat în Axa Prioritară III „Tehnologia Informației și Comunicațiilor pentru sectoarele privat și public”, Domeniul Major de Intervenție 2 „Dezvoltarea și creșterea eficienței serviciilor publice electronice”, Operațiunea 2 „Implementarea de sisteme TIC în</p>                                                                                   | Proiect european | Echipa de management       | 2019-2020               |

| No. | Project Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Value     | Function                                   | Period    |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------|-----------|
|     | scopul creșterii interoperabilității sistemelor informatice”.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |                                            |           |
| 9   | „Promoting Deep And Wide Thinking/Early Dual Degrees In Basic Sciences”, ERASMUS+, acronym (ThinkBS) 2019-1-TR01-KA 203-077194                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           | UPB                                        | 2019-2021 |
| 10  | „Attracting Students’ Interest In Mathematics And Improving Their Skills, Comprehension And Performance With The Use Of A Virtual Reality Educational Platform”, ERASMUS+, acronim (MATHESIS), grant agreement: 2020-1-RO01-KA201-080410                                                                                                                                                                                                                                                                                                                                                                           |           | UPB                                        | 2021-     |
| 11  | DEVELOPMENT AND IMPLEMENTATION OF FPE TYPE (presearving encryption format)<br>Contract nr. 1/15.03.2021,<br>Coordinator of project: Center for Research and Training in Innovative Techniques of Applied Mathematics in Engineering, University Politehnica of Bucharest                                                                                                                                                                                                                                                                                                                                           | 50000 RON | UPB                                        | 2021      |
| 12  | Romanian National Quantum Communication Infrastructure, <a href="https://ontest.ro">University “Politehnica” Bucharest (ontest.ro)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           | UPB, security expert                       | 2023-2026 |
| 13  | Unifying & Upgrading Certification Capabilities Across Europe Trustboost,,<br>Coordinator of project: NATIONAL STANDARDS AUTHORITY OF IRELAND<br>National<br>Partener: SAFETECH INNOVATIONS SA<br><a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/projects-details/43152860/101158687/DIGITAL">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/projects-details/43152860/101158687/DIGITAL</a>                                                                                                                                    |           | Safetech Inovation SA, Cybersecuriy expert | 2025-2028 |
| 14  | SOL-2024 - 26 - Sistem de detecție și protecție tip IDS/IPS a infrastructurilor critice de comunicații cu capabilități de alertă și blocare timpurie a atacurilor de tip DDoS<br>Coordonator de proiect: Universitatea Nationala de Stiinta si Tehnologie Politehnica Bucuresti<br><a href="https://uefiscdi.gov.ro/sol-2023-sistem-de-detectie-si-protectie-tip-ids-ips-a-infrastructurilor-critice-de-comunicatii-cu-capabilitati-de-alerta-si-blo">https://uefiscdi.gov.ro/sol-2023-sistem-de-detectie-si-protectie-tip-ids-ips-a-infrastructurilor-critice-de-comunicatii-cu-capabilitati-de-alerta-si-blo</a> |           | UNSTB Expert                               | 2024-2026 |
| 15  | SMEs Cyber Security Change Agents-CYBER AGENT, ERASMUS-EDU-2022-PI-ALL-INNO, nr. Proiect 101111732<br>Coordonator: Liceul Tehnologic Grigore C. Moisil, Buzau                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | Expert voluntar                            | 2024-2026 |