# LISTA DE LUCRĂRI
**2001-2025 (selecție)**

## Profesor dr. ing. OPREA Mihaela

### (A) Teza de doctorat

A1 **Oprea, M.,** *Contribuţii la elaborarea unor algoritmi de recunoaştere a formelor cu aplicaţii la roboţi industriali*, Universitatea Petrol-Gaze din Ploiesti, 1996.

### (B) Cărţi

**B1. Cărţi publicate în edituri internaţionale de prestigiu**

B1.1 **Oprea M**., Mihalache S.F., Cărbureanu, M., Knowledge-Based Intelligent Process Control, chapter in Nakamatsu K., Kuntchev R. (Editors): New Approaches in Intelligent Control, **Springer**, Intelligent Systems Reference Library 107, ISBN 978-3-319-32166-0, 207-240, 2016.

B1.2 Paraschiv N., **Oprea M.**, Carbureanu M, Olteanu M., *Computational Intelligence Techniques for Chemical Process Control*, chapter in Balas V.E., Koprinkova-Hristova P., Jain L.C. (Editors), Innovations in Intelligent Machines-5: Computational Intelligence in Control Systems Engineering, Book Series: Studies in Computational Intelligence, **Springer**, Volume: 561, ISBN 978-3-662-43369-0, Engineering ISSN 1860-949X, pages: 191-226, 2014. http://link.springer.com/chapter/10.1007/978-3-662-43370-6_7

B1.3 **Oprea M.**, *Agent-based modeling of an air quality monitoring and analysis system for urban regions*, chapter in: Iliadis L., Maglogiannis I., Papadopoulos H. (Editors), Artificial Intelligence Applications and Innovations, IFIP 381, **Springer**, pp. 371-379, 2012, ISBN 978-3-642-33408-5.

B1.4 **Oprea M**., Iliadis L., An Artificial Intelligence-Based Environment Quality Analysis System, chapter in Iliadis L., Jayne C. (Editors), Engineering Applications of Neural Networks, IFIP Advances in Information and Communication Technology, **Springer**, Volume 363, pp. 499-508, 2011, ISBN 978-3-642-23957-1.

B1.5 **Oprea M.**, *Applications of multi-agent systems*, chapter in Reis, R. (Editor), Information Technology: Selected Tutorials, Book Series: International Federation for Information Processing, **Kluwer Academic Publisher**, Vol. 157, ISBN 1-4020-8158-8, pp. 239-270, 2004. http://link.springer.com/chapter/10.1007/1-4020-8159-6_9

**B2. Cărţi de specialitate publicate în edituri naţionale, recunoscute de CNCSIS**

B2.1. **Oprea M.,** Cărbureanu M., *Programare orientată pe obiecte în limbajul Java* – îndrumar de laborator, Editura UPG Ploieşti, **2024**.

B2.2. **Oprea M.**, *Programare orientată pe obiecte – Exemple în limbajele C++, C# şi Java*, Editura MatrixRom Bucureşti, ISBN 978-606-25-0858-6, 183 pagini, **2023**. http://www.matrixrom.ro

B2.3. **Oprea M.**, *Inteligență artificială – Îndrumar de proiect*, Editura MatrixRom Bucureşti, ISBN 978-606-25-0765-7, 79 pagini, **2022**. http://www.matrixrom.ro

B2.4. **Oprea M.**, *Programare logică şi Programare funcțională – Teorie şi Aplicații*, Editura MatrixRom Bucureşti, ISBN 978-606-25-0550-9, 170 pagini, **2020**. http://www.matrixrom.ro

B2.5. **Oprea M.**, Carbureanu M., Programare orientată pe obiecte – îndrumar de laborator, Editura Universității Petrol-Gaze din Ploieşti, ISBN 978-973-719-728-3, 161 pagini, 2018.

B2.6. **Oprea M.**, Inteligenta artificiala – Elemente teoretice şi aplicative, Editura Universității Petrol-Gaze din Ploieşti, ISBN 978-973-719-688-0, 149 pagini, 2017.

B2.7. **Oprea M.**, Programare orientata pe obiecte – Limbajul C++, Editura Universitatii Petrol-Gaze din Ploiesti, ISBN 978-973-719-686-6, 173 pagini, 2017.

B2.8. **Oprea M.**, Dragomir E.G., Mihalache S.F., Popescu M., *Metode si tehnici de predictie a concentratiei particulelor PM2.5 in mediul urban*, capitolul 11 din cartea: *Metode de evaluare a efectelor poluarii aerului cu particule in suspensie asupra sanatatii copiilor*, Iordache S, Dunea D. (Editori), Editura MatrixRom, Bucuresti, ISBN 978-606-25-0121-1, 42/476 pagini, 2014.

B2.9. **Oprea M**, *Recunoasterea formelor – indrumar de laborator*, Editura Universitatii Petrol-Gaze din Ploiesti, ISBN 978-973-719-343-8, 87 pagini, 2010.

B2.10. **Oprea M.**, *Inteligenta artificiala – indrumar de laborator*, Editura Universitatii Petrol-Gaze din Ploiesti, ISBN 978-973-719-320-9, 107 pagini, 2009.

B2.11. **Oprea M.**, *Agenti inteligenti – indrumar de laborator*, Editura Universitatii Petrol-Gaze din Ploiesti, ISBN 978-973-719-290-5, 131 pagini, 2009.

B2.12. **Oprea M.**, Nichita C., Dunea D., *Aplicatii ale inteligentei artificiale in protectia mediului*, Editura Universitatii Petrol-Gaze din Ploiesti, ISBN 978-973-719-236-3, 127 pagini, 2008.

B2.13. **Oprea M.**, Tanasescu A., *Tehnici de modelare a cunoasterii in sistemele bazate pe cunostinte*, capitolul XX (pag. 223-242) din cartea *Managementul cunoasterii in universitatea moderna*, Bodea C.-N., Andone I.I (Coordonatori), Editura ASE, Bucuresti, ISBN 978-973-594-953-2, 470 pagini, 2007.

**Oprea M.**, Tanasescu A., *Rationament bazat pe cazuri – paradigma si model al cunoasterii umane*, capitolul XXV (pag. 285-292) din cartea *Managementul cunoasterii in universitatea moderna*, Bodea C.-N., Andone I.I (Coordonatori), Editura ASE, Bucuresti, ISBN 978-973-594-953-2, 470 pagini, 2007.

**Oprea M.**, Tudor I., *Retele de cunoastere*, capitolul XXXIII (pag. 417-432) din cartea *Managementul cunoasterii in universitatea moderna*, Bodea C.-N., Andone I.I (Coordonatori), Editura ASE, Bucuresti, ISBN 978-973-594-953-2, 470 pagini, 2007.

**Oprea M.**, Tudor I., *Retele de cunoastere pentru cercetare-dezvoltare*, capitolul XXXIV (pag. 433-439) din cartea *Managementul cunoasterii in universitatea moderna*, Bodea C.-N., Andone I.I (Coordonatori), Editura ASE, Bucuresti, ISBN 978-973-594-953-2, 470 pagini, 2007.

B2.13 **Oprea M**., Nicoara S., *Inteligenţă artificială*, Ed. Universităţii Petrol-Gaze din Ploieşti, 2005, ISBN 973-719-073-4, 191 pagini.

B2.14 Oprea M., *Programare orientata pe obiecte*, manual pentru IDD-IFR, Editura Universitatii din Ploiesti, 2004, ISBN 973-7965-69-8, 185 pagini.

B2.15 Oprea M., *Programare orientata pe obiecte – Exemple in limbajul C++*, Ed. MATRIX ROM, Bucuresti, 2003, ISBN 973-685-527-9, 201 pagini.

B2.16 Oprea M., *Sisteme bazate pe cunoştinţe – ghid teoretic si practic*, Ed. MATRIX ROM, Bucureşti, 2002, ISBN 973-685-484-1, 127 pagini.

**(C) Articole** (selecţie)

**C.1 Articole publicate în reviste cotate ISI**

C1.1. **Oprea M.**, A general framework and guidelines for benchmarking computational intelligence algorithms applied to forecasting problems derived from an application domain-oriented survey, *Applied Soft Computing Journal*, Vol. 89, 106103, April **2020**, **FI: 4.873.** https://doi.org/10.1016/j.asoc.2020.106103 **Q1**

C1.2. **Oprea M.**, A knowledge modelling framework for intelligent environmental decision support systems and its application to some environmental problems, *Environmental Modelling & Software*, vol. 110, issue 12 (no 12), pp. 72-94, December **2018**, ISSN: 1364-8152, Special issue on Environmental Data Science Applications to Air quality and Water cycle, Indicatori scientometrici: **SRI = 2.399**, **FI = 4,177**, https:doi.org/10.1016/j.envsoft.2018.09.001 (**Q1**).

C1.3. **Oprea M.**, ABVE-Frame: An agent-based virtual enterprise development framework, *AI Communications*, Vol. 30, Nr. 2, Pag: 117-140, 2017, **FI: 0,461**.

C1.4. **Oprea M.**, Dunea D., Liu H.-Y., Development of a knowledge based system for analyzing particulate matter air pollution effects on human health, *Environmental Engineering and Management Journal*, Vol. 16, Nr. 3, Pag: 669-676, 2017, **FI: 1,334**.

C1.5. **Oprea M.**, Mihalache S., Popescu M., Computational intelligence-based PM2.5 air pollution forecasting, *International Journal of Computers Communications & Control (IJCCC)*, Vol. 12, Nr. 3, Pag: 365-380, 2017, **FI: 1,29**.

C1.6. **Oprea M**., Olteanu M., Ianache R., An urban air pollution early warning system based on PM2.5 prediction applied in Ploiesti city, *Revista de Chimie*, Vol. 68, Nr. 4, Pag: 858-863, 2017, **FI: 1,412**.

C1.7. Popescu M., Mihalache S., **Oprea M.**, Air pollutants and meteorological parameters influence on PM2.5 forecasting and performance assessment of the developed artificial intelligence-based forecasting model, *Revista de Chimie*, Vol. 68, Nr. 4, Pag: 864-868, 2017, **FI: 1,412**.

C1.8. **Oprea M.**, Dragomir E.G., Popescu M., Mihalache S.F., Particulate Matter Air Pollutants Forecasting Using Inductive Learning Approach, *Revista de Chimie*, Vol. 67, Nr. 10, Pag: 2075-2081, 2016, **FI: 1,412**.

C1.9. **Oprea M.**, Buruiana V., Matei A., A Microcontroller-based Intelligent System for Real-time Flood Alerting, *International Journal of Computers, Communications & Control (IJCCC)*, Vol. 5, No. 5, pp. 205-213, 2010. (factor impact 0,694)

C1.10. **Oprea M**., Dunea D., SBC-Mediu: A Multi-expert System for Environmental Diagnosis, *Environmental Engineering and Management Journal (EEMJ)*, Vol. 9, No. 2, pp. 205-213, 2010. (factor impact 1,258)

C1.11. Oprea M., MAS_UP-UCT: A multi-agent system for university course timetable scheduling, I*nternational Journal of Computers, Communications & Control (IJCCC)*, Vol. 2, No. 1, pp. 94-102, 2007.

C1.12. Oprea M., Ontology Mapping in Open Multi-Agent Systems, *Studies in Informatics and Control* (SIC), Vol. 16, No. 2, 2007. (factor impact 0,605) http://sic.ici.ro/sic2007_2/art05.html

C1.13. Oprea M., A case study of knowledge modelling in an air pollution control decision support system, *Ai Communications*, Vol. 18, No. 4, pp. 293-303, 2005.

C1.14. **Oprea M.**, Sanchez-Marre M., Wotawa F., Binding environmental sciences and artificial intelligence, *Ai Communications*, Vol. 18, No.4, pp. 243-245, 2005.

C1.15. Oprea M., Coordination in an Agent-Based Virtual Enterprise, *Studies in Informatics and Control* (SIC), Vol. 12, No. 3, 2003. http://sic.ici.ro/sic2003_3/art5.pdf (factor impact 0,605)

C1.16. Oprea M., An Adaptive Negotiation Model for Agent-Based Electronic Commerce, *Studies in Informatics and Control (SIC)*, Vol. 11, No. 3, pp. 271-279, 2002. http://www.sic.ici.ro/sic2002_3/art5.pdf

**C.2 Articole în reviste indexate în alte baze de date internaţionale de referinţă pentru domeniu, care fac un proces de selecţie a revistelor pe baza unor criterii de performanta**

C2.1. Stan C., Oprea M., Stan A.C., Case Study Of Predictive Maintenance Using Data Analysis For A Flexible Manufacturing Line, *Journal of Electrical Engineering, Electronics, Control and Computer Science – JEEECCS*, Volume 9, Issue 31, pages 43-48, 2023.

C2.2. S. T. Groza, **M. Oprea**, Development of a faster shortest path search algorithm based on A* strategy integrated in an e-learning virtual environment, *Journal of Electrical Engineering, Electronics, Control and Computer Science*, vol. 5, nr. 16, 2019, pag. 17-22.

C2.3. B. G. Bucur, **M. Oprea**, Development of a prototype remote controlled multifunctional mobile robot for applications in hazardous environments, *Journal of Electrical Engineering, Electronics, Control and Computer Science*, vol. 5, nr. 16, 2019, pag. 11-16.

C2.4. Oprea M., ABVE-Construct: An agent-based virtual enterprise model for civil engineering, *Scalable Computing: Practice and Experience (SCPE)*, Vol. 15, No. 3, pp. 231-249, 2014. DOI 10.12694/scpe.v15i3.987 http://www.scpe.org/index.php/scpe/article/view/1018

C2.5. Dragomir E.G., **Oprea M.**, *Forecasting Knowledge Extraction by Computational Intelligence Techniques*, Buletinul Institutului Politehnic din Iasi, Automatic Control and Computer Science Section, Tome LX (LXIV), Fasc. 3, pp. 73-84, 2014.

C2.6. Oprea M., AQ-MAS: A multiagent system for air quality monitoring in urban regions, *Engineering Intelligent Systems*, Vol. 21, No. 2/3, 2013.

C2.7. Oprea M., A General Framework for Educational Ontologies Development, *International Journal of Computer Science Research and Application (IJCSRA)*, Vol. 3, No. 2, pp. 12-22, 2013.

C2.8. Oprea M., INTELLEnvQ-Air: An intelligent system for air quality analysis in urban regions, *International Journal of Artificial Intelligence (IJAI)*, Vol. 9, No. A12, 2012.

C2.9. Oprea M., Carbureanu M., Dragomir E., AirQMAS: A Collaborative Multi-agent System for Air Quality Analysis, *Annals of the University of Craiova, Automation, Computers, Electronics and Mechatronics series*, Vol. 9(37), No. 1, 2012.

C2.10. Oprea M., An agent-based knowledge management system for university research activity monitoring, *Informatica Economica*, Vol. 16, No. 3, pp. 136-147, 2012.

C2.11. Oprea M., A university knowledge management tool for academic research evaluation, *Informatica Economica*, Vol. 15, No. 3, pp. 58-71, 2011.

C2.12. Oprea M., Matei A., The neural network-based forecasting in environmental systems, *WSEAS Transactions on Systems and Control*, Vol. 5, No. 12, pp. 893-901, 2010.

C2.13. Dunea D., Oprea M., Fuzzy-APA: Employing Fuzzy and Neural Network Techniques in Data Analysis of Industrial Wastewaters Monitoring, *WSEAS Transactions on Environment and Development*, Vol. 6, No. 8, pp. 581-590, 2010.

C2.14. Oprea M., Modelling a Virtual Enterprise as a Multi-Agent System, *International Journal of Modelling & Simulation*, ACTA Press, Vol. 28, No. 4, 2008

C2.15. Oprea M., Modelling an Environmental Protection System as a Knowledge-Based System, *International Journal of Modelling & Simulation*, ACTA Press, Vol. 24, No. 1, 2004.

**C.3 Articole publicate în reviste naţionale de categoriile B+ şi B, în cotarea CNCSIS**

C3.1. Dunea D., Iordache S., **Oprea M.**, Savu T., Pohoata A., Lungu E., A relational database structure linking air pollution levels with children's respiratory illnesses, *Bulletin USAMV series Agriculture*, 11, 2014, vol. 71, no 2, 205-213.

C3.2. Oprea M., On the Use of Data Mining Techniques in Knowledge Based Systems, *Economy Informatics*, Vol. VI, No. 1, pp. 21-24, 2006.

C3.3. Oprea M., COM_ELECTRON: An Agent-Based Electronic Commerce System, Economy Informatics, Vol. V, No. 1, pp. 62-66, 2005.

C3.4. Oprea M., Negotiation Techniques Applied in Multi-Agent Systems, *Annals in Mathematics and Informatics of Timisoara University*, Vol. XLI, fasc. 1, 2003.

C3.5. Oprea M., The agent-based virtual enterprise, *Economy Informatics*, Vol. III, No. 1, pp. 21-25, 2003.

C3.6. Oprea M., The Architecture of a Shopping Agent, *Economy Informatics*, Vol. II, No. 1, pp. 63-68, 2002.

C3.7. Oprea M., Knowledge Acquisition by Inductive Learning, *Economy Informatics*, Vol. I, No. 1, pp. 70-74, 2001.

**C.4 Articole publicate în reviste de specialitate recunoscute, altele decât B si B+,**

C4.1. Nica (Stan) C., Oprea M., Stan A. C., PREDICTIVE MAINTENANCE OF A FLEXIBLE PRODUCTION LINE IMPLEMENTED IN MATLAB, Romanian Journal of Petroleum & Gas Technology, VOL. IV (LXXV) • No. 2/2023. DOI: 10.51865/JPGT.2023.xy.xy

C4.2. Oprea M., Metodologii pentru dezvoltarea sistemelor bazate pe agenţi inteligenţi, *Revista Română de Informatică şi Automatică* (RRIA), Vol. 20, No. 1, 2010.
C4.3. Oprea M., Aldea N., Sistem robot educational de navigare, *Revista Română de Informatică şi Automatică* (RRIA), Vol. 15, No. 3, 2005.
C4.4. Oprea M., Schiopu D., Knowledge Representation on a Semantic Web Server, *Buletinul Universitatii Petrol-Gaze din Ploiesti, seria Matematica, Informatica, Fizica,* Vol. LVII, No. 2, 2005.
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C4.7. Oprea M., Arhitectura unui sistem de recunoastere a caracterelor scrise de mana, R*evista Română de Informatică şi Automatică* (RRIA), Vol. 13, No. 1, 2003.
C4.8. Oprea M., Pana L., Tudor I., Applications of a Handwritten Character Recognition System, Buletinul Universitatii Petrol-Gaze din Ploiesti, Vol. LV, No. 2, 2003.
C4.9. Oprea M., Pana L., Tudor I., CharReco : A Handwritten Character Recognition System, Buletinul Universitatii Petrol-Gaze din Ploiesti, Vol. LV, No. 1, 2003.
C4.10. Oprea M., Modelarea incertitudinii intr-un sistem expert, *Revista Română de Informatică şi Automatică* (RRIA), Vol. 12, No. 3, 2002.
C4.11. Oprea M., Recunoasterea caracterelor scrise de mana, *Revista Română de Informatică şi Automatică* (RRIA), Vol. 12, No. 4, 2002.
C4.12. Oprea M., Monitoring Expert System for Optimal Control, Buletinul Universitatii Petrol-Gaze din Ploiesti, Vol. LIV, No. 2, 2002.
C4.13. Andrei M., **Oprea M**., Sistem expert pentru autoacordarea optimala a buclelor de reglare automate, *Revista Română de Informatică şi Automatică* (RRIA), Vol. 12, No. 2, 2002.
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C4.17. Oprea M., Invatarea inductiva a regulilor, *Informatica Economica*, Vol. V, Nr. 1(17), 2001.
C4.18. Oprea M., An Artificial Neural Network Based Stereo Vision System, *Buletinul Universitatii Petrol-Gaze din Ploiesti*, Vol. LIII, No. 1, 2001.
C4.19. Oprea M., Relational Learning System, *Studii si Cercetari Stiintifice seria Matematica, Universitatea din Bacau*, ISSN:1224-2519, Vol. 21, No. 1, 2001. http://pubs.ub.ro/scssm/

**(D) Lucrări/studii publicate (prezentate) la manifestări ştiinţifice internaţionale sau naţionale cu comitet de program – cu volum indexat BD WOS, Scopus, ACM etc.**

D.1. **Oprea M**., Knowledge Modelling for Teaching and Learning Artificial Intelligence by Using Educational Robots, Proceedings of ICVL 2024, 397-406. https://doi.org/10.58503/icvl-v19y202433
D.2. Stan C, **Oprea M.**, On the development of educational resources for smart industrial manufacturing teaching and learning, *Proceedings of ICVL 2023*, Bucharest, October 2023, pag. 57-66. https://doi.org/10.58503/icvl-v18y202304. WOS
D.3. Stan C., **Oprea M.**, *Virtual learning simulator of a flexible manufacturing line using Petri NET toolbox*, Proc. of ICVL 2022, vol. 17, pp. 101 – 108, 2022. https://doi.org/10.58503/icvl-v17y202208
D.4. Stan A., **Oprea M.**, *Applied learning of artificial intelligence techniques by using the Gazebo simulator and Turtlebot3 multi-robot system*, Proc. of ICVL 2022, vol. 17, pp. 117-126, 2022. https://doi.org/10.58503/icvl-v17y202210
D.5. Nica C., **Oprea M.**, Stan A. C., On the development of a mobile TurtleBot3 Burger multi-robot system for manufacturing environment monitorization. In A. Noor et al. (eds.) Proc. Of Emerging Trends and Technologies on Intelligent Systems (ETTIS), Advances in Intelligent Systems and Computing, 1371, pp. 323-336, 2022, Springer. https://doi.org/10.1007/978-981-16-3097-2-27.
D.6. **Oprea M.**, Artificial intelligence based approaches for higher education applications, Proc. of ICVL 2021, p. 15-22.
D.7. **Oprea M.**, Burlan B., Dinu I. G., Case studies of some educational applications in Computer Science Domain, Proc. of ICVL 2021, p. 177-184.
D.8. **Oprea M.**, An Educational Ontology for Formal Languages and Compilers, The 15th International Conference on Virtual Learning ICVL 2020, pag. 54-60, ISSN 1844 - 8933.
D.9. **Oprea M.**, A Vartan, P. Vatamanu, Some Educational Applications of Artificial Intelligence to Real World Problem Solving, The 15th International Conference on Virtual Learning ICVL 2020, pag. 61-66, ISSN 1844 - 8933.

D.10. Stan A. C., **Oprea M.**, A. Moise, C. Popescu, Environmental SCADA system using mobile robots, International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM, 2020, 2020-August (4.1), pp. 407–414. BDI: SCOPUS.

D.11. Stan A. C., **Oprea M.**, A Case Study of Multi-Robot Systems Coordination using PSO simulated in Webots, *The 11th Int. Conf. Electronics, Computers and Artificial Intelligence*, 27 June - 29 June **2019**, Piteşti, Romania. IEEE Xplore, DOI:10.1109/ECAI46879.2019.9042144

D.12. **Oprea M.**, Onto-DeclarProg: An educational ontology for declarative programming, *Proceedings of the 14th ICVL 2019*, pag. 37-43, Bucuresti, Oct 25-26, **2019**, ISSN 1844-8933 – ISI Proceedings. http://www.icvl.eu

D.13. **Oprea M.**, On the development of a student evaluation model, *Proceedings of the 14th ICVL 2019*, pag. 44-48, Bucuresti, Oct 25-26, **2019**, ISSN 1844-8933 – ISI Proceedings. FI: **0.25** http://www.icvl.eu

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D.15. **Oprea M.**, An OWL prototype educational ontology for functional programming, *Proceedings of ICVL 2018*, Alba Iulia, Oct 2018, p. 51-56.

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D.17. Oprea M., Agent-based modelling of multi-robot systems, *The 8th Int. Conf. on Advanced Concepts in Mechanical Engineering*, IOP Publishing, IOP Conf. Series: Materials Science and Engineering, 444 (2018), 052026, doi: 10.1088/1757-899X/444/5/052026, Iasi, Romania.

D.18. **Oprea M.**, M. Popescu, S. Mihalache, E. Dragomir, Data mining and ANFIS application to particulate matter air pollutant prediction. A comparative study, *Proceedings of the Int. Conf. ICAART 2017*, vol. 2, 551-558.

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D.21. **Oprea M.**, Popescu M., Mihalache S.F., *Applying Artificial Neural Networks to Short-Term PM2.5 Forecasting Modeling*, Artificial Intelligence Applications and Innovations, 12th IFIP WG 12.5 International Conference and Workshops, AIAI 2016, Proceedings, Volume 475, **Springer**, Thessaloniki, Greece, Sept 16-18, 2016, pp. 204-211, 2016.

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