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RECTORATUL

## Universitatea Babeş-Bolyai Competiția Excelenței 2010

### Dosar individual

**Notă: Toate datele se referă la perioada 2005-2009**

Nume, prenume, grad did.	<b>Agachi Paul Serban, Profesor</b>
Facultatea, Catedra	Facultatea de Chimie si Inginerie Chimica, Catedra de Inginerie Chimică și Știința Materialelor Oxidice
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### Criteriaul I – Output

**1. Articole științifice publicate în reviste indexate ISI (cu menționare factorului de impact în cazul celor cotate)**

1. Cristea Vasile Mircea, Mihet Maria, **Agachi Paul Serban**, *FCCU simulation based on first principle and artificial neural network models*, Thomson ISI, <http://science.thomsonreuters.com>, Asia-Pacific Journal of Chemical Engineering, 2009, P.1-14 **Factor impact: 0.141**
2. Cormos Calin-Cristian, Cormos Ana Maria, **Agachi Paul Serban**, *Power generation from coal and biomass based on integrated gasification combined cycle concept with pre- and post-combustion carbon capture methods*, Wiley InterScience, [www.interscience.wiley.com](http://www.interscience.wiley.com), ASIA-PACIFIC JOURNAL OF CHEMICAL ENGINEERING, 2009, P.870-877 **Factor impact: 0.141**
3. Cormos Calin-Cristian, **Agachi Paul Serban**, *Gasification process – A practical way for solid fossil fuels decarbonisation*, Social\_Sciences\_Citation, STUDIA UNIVERSITATIS BABES-BOLYAI CHEMIA, LIV, 2009, P.81 – 91 **Factor impact: 0.00**
4. Avramenko Yuri, Ani Elisabeta Cristina, Kraslawski Andrzej, **Agachi Paul Serban**, *Mining of Graphics for Identification of Mechanisms of Processes*, Social\_Sciences\_Citation, COMPUTERS & CHEMICAL ENGINEERING, 33,3, 2009, P.618 – 627 **Factor impact: 1.755**
5. Ani Elisabeta Cristina, Wallis Steve G., Kraslawski Andrzej, **Agachi Paul Serban**, *Development, calibration and evaluation of two mathematical models for pollutant transport in a small river*, Social\_Sciences\_Citation, ENVIRONMENTAL MODELLING & SOFTWARE, 24, 10, 2009, P.1139 – 1152 **Factor impact: 2.659**
6. Cristea Vasile Mircea, Roman Raluca, **Agachi Paul Serban**, *Simulation of the Reactor-Regenerator-Main Fractionator Fluid Catalytic Cracking Unit Using Artificial Neural Networks*, Social\_Sciences\_Citation, STUDIA UNIVERSITATIS BABES-BOLYAI CHEMIA, Vol. nr.1, 2009, P.125 – 132 **Factor impact: 0.00**

7. Nagy Zoltan Kalman, Roman Raluca, Cristea Vasile Mircea, **Agachi Paul Serban**, *Dynamic Modelling and Nonlinear Model Predictive Control of a Fluid Catalytic Cracking Unit*, Social\_Sciences\_Citation, COMPUTERS & CHEMICAL ENGINEERING, 33, 2009, P.605 – 617 **Factor impact: 1.755**
8. Jara-Morante Eliana, Morar Mihaela Hilda, **Agachi Paul Serban**, Jara-Morante Eliana, *Heat integration of an industrial fluid catalytic cracking plant*, Social\_Sciences\_Citation, STUDIA UNIVERSITATIS BABES-BOLYAI CHEMIA, LIV, 1, 2009, P.69 – 80 **Factor impact: 0.00**
9. Barabas Reka, **Agachi Paul Serban**, Pop Alexandru, Bogya Erzsebet Sara, Dejeu Valentina Roxana, *Mathematical Modeling for the Crystallization Process of Hydroxyapatite Obtained by Precipitation in Aqueous Solution*, Social\_Sciences\_Citation, STUDIA UNIVERSITATIS BABES-BOLYAI CHEMIA, 3, 2009, P.61 – 69 **Factor impact: 0.00**
10. Barabas Reka, **Agachi Paul Serban**, Pop Alexandru, Bogya Erzsebet Sara, Dejeu Valentina Roxana, *Kinetic studies for the transformation process of beta-whitlockite in hydroxyapatite*, Social\_Sciences\_Citation, REVISTA DE CHIMIE, 12, 2009, P.1251 – 1253 **Factor impact: 0.284**
11. Morar Mihaela Hilda, **Agachi Paul Serban**, *The development of a mpc controller for a heat integrated fluid catalytic cracking plant*, Social\_Sciences\_Citation, STUDIA UNIVERSITATIS BABES-BOLYAI CHEMIA, LIV, 4, 2009, P.43 – 54 **Factor impact: 0.00**
12. Botar-Jid Claudiu Cristian, **Agachi Paul Serban**, Fissore Davide, *Comparison of reverse flow and counter-current reactors in the case of selective catalytic reduction of NOx*, Social\_Sciences\_Citation, COMPUTERS & CHEMICAL ENGINEERING, 33 (3), 2009, P.782 – 787 **Factor impact: 1.755**
13. Botar-Jid Claudiu Cristian, **Agachi Paul Serban**, Avramenko Yuri, Kraslawski Andrzej, *Case-based selection of a model of a reverse flow reactor*, Social\_Sciences\_Citation, CHEMICAL ENGINEERING AND PROCESSING, In press, 2009, P.1 – 14 **Factor impact: 1.518**
14. Cristea Vasile Mircea, Imre-Lucaci Arpad, Sipos Anca, Bratfalean Dorina, **Agachi Paul Serban**, *Artificial Neural Networks Used for the Simulation of the Batch Fermentation Bioreactor*, Social\_Sciences\_Citation, STUDIA UNIVERSITATIS BABES-BOLYAI CHEMIA, 4, 2009, P.87 – 95 **Factor impact: 0.00**
15. Ani Elisabeta Cristina, **Agachi Paul Serban**, *Hydrogen-Oxygen PEM Fuel Cells simplified model based behaviour prediction*, Social\_Sciences\_Citation, REVUE ROUMAINE DE CHIMIE, 53(5), 2008, P.357 – 362 **Factor impact: 0.284**
16. Bratfalean Dorina, **Agachi Paul Serban**, Cristea Vasile Mircea, Irimie Florin-Dan, *Improvement of sunflower oil extraction by modeling and simulation*, Social\_Sciences\_Citation, REVUE ROUMAINE DE CHIMIE, 9, 2008, P.881 – 888 **Factor impact: 0.284**
17. Botar-Jid Claudiu Cristian, **Agachi Paul Serban**, Fissore Davide, *Comparison of Reverse Flow and Counter-current Reactors in the Case of Selective Catalytic Reduction of NOx*, Social\_Sciences\_Citation, COMPUTERS & CHEMICAL ENGINEERING, Volume 24, 2008, P.1 – 23 **Factor impact: 1.755**
18. Cristea Vasile Mircea, **Agachi Paul Serban**, *Comparison Between Different Control Approaches of the UOP Fluid Catalytic Cracking Unit*, Social\_Sciences\_Citation, REVISTA DE CHIMIE, 58, nr.4, 2007, P.406 – 409 **Factor impact: 0.389**
19. Cristea Vasile Mircea, **Agachi Paul Serban**, Toma Letitia, *Simulation and Model Predictive Control of the Fluid Catalytic Cracking Unit Using Artificial Neural Networks*, Social\_Sciences\_Citation, REVUE ROUMAINE DE CHIMIE, 52(12), 2007, P.1157 – 1166 **Factor impact: 0.284**

20. Cormos Ana Maria, **Agachi Paul Serban**, Cormos Calin-Cristian, *Modeling and simulation of carbonation process of ammoniacal brine solution in soda ash plant*, Social\_Sciences\_Citation, REVISTA DE CHIMIE, 57(2), 2006, P.130 – 137 **Factor impact: 0.389**
21. Cormos Calin-Cristian, Cormos Ana Maria, **Agachi Paul Serban**, *Modeling and simulation of ammonia recovery process in soda-ash plant*, Social\_Sciences\_Citation, REVISTA DE CHIMIE, 11, 2005, P.581 – 587 **Factor impact: 0.389**
22. Cormos Calin-Cristian, **Agachi Paul Serban**, *Modelarea si simularea extractiei pantolactonei folosind programul ChemCAD*, Social\_Sciences\_Citation, REVISTA DE CHIMIE, 7, 2005, P.100 – 106 **Factor impact: 0.389**

## 2. Articole științifice publicate în ISI proceedings

1. Bratfalean Dorina, **Agachi Paul Serban**, Cristea Vasile Mircea, Cormos Ana Maria, Suharoschi Ramona, Muresan Crina, Garrido Àlex Gómez, *Normalization for cDNA microarray data of gene expression profiles from the human prostate cancer cell lines (PC3) by Pre-Processing Two-Color Data*, 19th European Symposium on Computer Aided Process Engineering, Elsevier, 978-0-444 53158-2, <http://www.escape19.org/>, 2009, P. 1-6
2. Cormos Calin-Cristian, Cormos Ana Maria, **Agachi Paul Serban**, *Evaluation of energy vectors poly-generation schemes based on solid fuel gasification processes with Carbon Capture and Storage (CCS)*, European Symposium on Computer Aided Process Engineering - ESCAPE19, Cracovia, Polonia, Elsevier B.V., Editor: J. Jezowski, J. Thullie, 978-0-444-53433-0, Elsevier, 2009, P. 1275-1280
3. Cormos Calin-Cristian, Cormos Ana Maria, **Agachi Paul Serban**, *Heat and power integration for hydrogen-fuelled Combined Cycle Gas Turbine (CCGT)*, European Symposium on Computer Aided Process Engineering - ESCAPE19, Cracovia, Polonia, Elsevier B.V., Editor: J. Jezowski, J. Thullie, 978-0-444-53433-0, Elsevier, 2009, P. 1239-1244
4. Cristea Vasile Mircea, Pop Cristian, **Agachi Paul Serban**, *Artificial Neural Networks Modelling of PID and Model Predictive Controlled Waste Water Treatment Plant Based on the Benchmark Simulation Model No.1*, European Symposium on Computer Aided Process Engineering-19, Elsevier, Editor: J. Jezowski, J. Thullie, 978-0-444-52443-0, 2009, P. 1033-1038
5. Morar Mihaela Hilda, **Agachi Paul Serban**, *Sensitivity study of a heat integrated FCC plant*, 19th European Symposium on Computer Aided Process Engineering, Elsevier, Editor: Jacek Jezowski and Jan Thullie, 978-0-444-53433-0, [www.elsevier.com](http://www.elsevier.com), 2009, P. 465-470
6. Ani Elisabeta Cristina, Wallis Steve G., Kraslawski Andrzej, **Agachi Paul Serban**, *Detailed mathematical model for pollutants transport in a natural stream.*, Computer Aided Chemical Engineering, ESCAPE 19, Elsevier, Editor: Jezowski, J., Thullie, J., ISBN: 978-0-444-53433-0, [http://www.elsevier.com/wps/find/bookseriesdescription.cws\\_home/BS\\_CCE/description](http://www.elsevier.com/wps/find/bookseriesdescription.cws_home/BS_CCE/description), 2009, P. 731-736
7. Botar-Jid Claudiu Cristian, **Agachi Paul Serban**, Clichici Simona, *Computational fluid dynamics applied to study the hemodynamics in sangvin vessels. Case study - the portal system*, 19th European Symposium on Computer Aided Process Engineering - ESCAPE 19, Elsevier, 978-0-444-53433-0, <http://www.escape19.org/>, 2009, P. 677-682
8. Ani Elisabeta Cristina, Avramenko Yuri, Kraslawski Andrzej, **Agachi Paul Serban**, *Selection of models for pollutants transport in river reaches using case based reasoning*, Computer Aided Chemical Engineering, PSE2009, Elsevier, Editor: de Brito Alves, R.M., do Nascimento, C.A.O., Chalbaud Biscaia Jr., E., ISBN: 978-0-444-53433-0, 2009, P. 537-542

9. Botar-Jid Claudiu Cristian, **Agachi Paul Serban**, Cristea Vasile Mircea, Vasile Tudor, Badea Radu, Mircea Petre, Clichici Simona, Sfrangeu Silviu, Moldovan Remus, *CFD Simulation of the Portal Vein Blood Flow*, MediTech, Meditech, 978-3-642-04291-1, 2009, P. 1-7
10. Andreica Alina Bianca, **Agachi Paul Serban**, *Academic Research Management by Means of An Integrated Software System* , IADIS Multiconference on Computer Science and Information Systems - Informatics, Algarve Portugal, 17-23 June 2009 , IADIS Press , Editor: Hans Weghorn, Jörg Roth, Pedro Isaias, 978-972-8924-86-7, <http://www.informatics-conf.org>, 2009, P. 150-154
11. Barabas Reka, Pop Alexandru, Pop Alexandru, Dejeu Valentina Roxana, Bogya Erzsebet Sara, **Agachi Paul Serban**, Imre-Lucaci Arpad, *Application of mathematical modeling in the technology of biomaterials*, 18th European Symposium on Computer Aided Process Engineering – ESCAPE 18, Elsevier, Editor: Bertrand Braunschweig and Xavier Joulia , 978-0-444-53227-5, [books.elsevier.com](http://books.elsevier.com), 2008, P. 1-5
12. Cristea Vasile Mircea, Pop Cristian, **Agachi Paul Serban**, *Model Predictive Control of the Waste Water Treatment Plant Based on the Benchmark Simulation Model No.1-BSM1*, European Symposium on Computer Aided Process Engineering-18, Elsevier, Editor: Bertrand Braunschweig, Xavier Joulia, 978-0-444-53227-5, [www.elsevier.com](http://www.elsevier.com), 2008, P. 441-446
13. **Agachi Paul Serban**, Moraru Camelia, Mihaila Adrian-Alin, Nica Panaite , *What is new in ranking the universities in Romania? Ranking the universities from the scientific research contribution perspective*, conferinta ISI, IREG-3, Shanghai Jiao Tong University, Editor: Nian Cai Liu, Jan Sadlak, 978-0-444-53157-5, <http://ed.sjtu.edu.cn/meetings.htm>, 2007, P. 78-103
14. Cristea Vasile Mircea, **Agachi Paul Serban**, *Artificial Neural Networks Based Model Predictive Control of the Wastewater Treatment Plant*, European Symposium on Computer Aided Process Engineering-17, Elsevier, Editor: V. Plesu, P.S. Agachi, 978-0-444-53158-2, , 2007, P. 1-6
15. Cristea Vasile Mircea, **Agachi Paul Serban**, *Comparison between Different Control Approaches of the UOP Fluid Catalytic Cracking Unit*, European Symposium on Computer Aided Process Engineering-17, Elsevier, Editor: V. Plesu, P.S. Agachi, 978-0-444-53157-5, 2007, P. 847-852
16. Suharoschi Ramona, Bratfalean Dorina, Muresan Crina, **Agachi Paul Serban**, *Prediction of genistein treated PC3 gene regulatory networks underlying differential expression of cDNA microarray data*, Frontiers in Cancer Prevention Research, , American Association of Cancer Research, Editor: American Association of Cancer Research, ISSN: 1940-7629, <http://www.aacr.org/>, 2007, P. 113-113
17. Bratfalean Dorina, Irimie Florin-Dan, Cristea Vasile Mircea, **Agachi Paul Serban**, Petitprez Michel, Sarrafi Ahmad, *Evaluation of sunflower collection by genetic variability based on germination and plantlet development parameters using Artificial Neural Networks*, 17th European Symposium on Computer Aided Process Engineering, Elsevier , 978-0-444 53158-2, [http://www.ubbcluj.ro/ro/presa/files/05/Simpozion\\_International\\_de\\_Inginerie\\_de\\_Proces\\_Asiatat\\_a\\_de\\_Calculator\\_\\_ESCAPE\\_17.pdf](http://www.ubbcluj.ro/ro/presa/files/05/Simpozion_International_de_Inginerie_de_Proces_Asiatat_a_de_Calculator__ESCAPE_17.pdf), 2007, P. 1-6
18. Cormos Ana Maria, Cormos Calin-Cristian, **Agachi Paul Serban**, *Making soda ash manufacture more sustainable. A modeling study using ASPEN Plus* , 17th European Symposium on Computer Aided Process Engineering – ESCAPE17, Elsevier B.V./Ltd. , Editor: V. Plesu and P.S. Agachi , 978-0-444-53157-5, Philadelphia, 2007, P. 551-556
19. Ani Elisabeta Cristina, **Agachi Paul Serban**, *Numerical models to simulate pollution scenarios in Somes River*, European Congress of Chemical Engineering -6 (ECCE-6), EFCE Event Number 669, Elsevier, Editor: Rafiqul Gani & Kim Dam-Johansen, 978-87-91435-57-9, ECCE-6 Book of Abstracts - Volume 1, 2007, P. 999-1000

20. Bratfalean Dorina, Irimie Florin-Dan, **Agachi Paul Serban**, Cristea Vasile Mircea, *Comparative fatty acids content of sunflower seeds of Romanian inbred lines genotypes using Artificial Neural Networks*, European Congress of Chemical Engineering, -,978-87-91435-57-9/, 2007, P. 1-1
21. Raluca Roman, Zoltan Nagy, **Paul Șerban Agachi**, *First principle modeling of an industrial Fluid Catalytic Cracking – the adaptation of the model*, European Symposium on Computer Aided Process Engineering-17, Bucharest, Elsevier Science, p. 87 – 92, 2007
22. Nagy, Z.K., Roman, R., **Agachi, S.P.**, Allgoewer, F., *A real-time approach for moving horizon estimation based nonlinear model predictive control of a fluid catalytic cracking unit*, 7th World Congress of Chemica

### 3. Articole științifice indexate în BDI (din lista CNCSIS)

1. Ostace George - Simion, Cristea Vasile Mircea, **Agachi Paul Serban**, *Model Predictive Control of the Wastewater Treatment Plant Based on the Benchmark Simulation Model No.1-BSM1 with Reactive Secondary Settler*, BULETINUL UNIVERSITATII PETROL-GAZE DIN PLOIESTI SERIA TEHNICA, Categ CNCSIS B+, Vol. LXI No. 3, 2009, P.133 - 139
2. Botar-Jid Claudiu Cristian, **Agachi Paul Serban**, Clichici Simona, *Computational fluid dynamics applied to study the hemodynamics in sangvin vessels. Case study - the portal system.*, ScienceDirect, <http://www.sciencedirect.com/>, Computer Aided Chemical Engineering, 2009, P.677-682
3. Cristea Vasile Mircea, Nagy Zoltan Kalman, **Agachi Paul Serban**, *Simulation of an industrial complex FCCU. Part I: Building the model and validation*, Chemical Abstracts, -, Studia Universitatis Seria Chemia, 2007, P.31-39
4. Cristea Vasile Mircea, Nagy Zoltan Kalman, **Agachi Paul Serban**, *Simulation of an Industrial Complex FCCU. Part II: Study of the process dynamic behavior.*, Chemical Abstracts, -, Studia Universitatis Seria Chemia, nr.2, 2007, P.39-47
5. Cristea Vasile Mircea, Nagy Zoltan Kalman, **Agachi Paul Serban**, *Model Predictive Control (Linear and Nonlinear) of a Complex FCCU*, Chemical Abstracts, -, Studia Universitatis Seria Chemia, nr 2, 2007, P.85-93
6. **Agachi Paul Serban**, *Multiple Employment Issues at Babes-Bolyai University in Cluj-Napoca, Romania, A Case Study*, Higher Education in Europe, Vol.31, no.3, p. 309-315, 2006
7. Cormos Ana Maria, Cristea Vasile Mircea, Cormos Calin-Cristian, **Agachi Paul Serban**, *Simulation of the rotary limekiln and lime cooler*, Chemical Abstract, -, STUDIA Universitatis Babes-Bolyai, CHEMIA, LII (2), 2007, P.50-60
8. Cristea Vasile Mircea, **Agachi Paul Serban**, *Comparison between Different Control Approaches of the UOP Fluid Catalytic Cracking Unit*, Elsevier, Thomson, Computer-Aided Chemical Engineering, nr. 24, 2007, P.847-852
9. Bratfalean Dorina, Irimie Florin-Dan, **Agachi Paul Serban**, *Determination of fatty acids and total lipids content in oilseeds of sunflower genotypes grown in Romania*, STUDIA UNIVERSITATIS BABES-BOLYAI. CHEMIA, Categ CNCSIS B+, 2, 2007, P.1 – 6
10. **Agachi Paul Serban**, Moraru Camelia, Mihaila Adrian-Alin, *Ierarhizarea universitatilor din Romania din punct de vedere al activitatii de cercetare stiintifica*, REVISTA DE POLITICA STIINTEI SI SCIENTOMETRIE, Categ CNCSIS B, V, nr.4, 2007, P.154 – 170
11. Cristea Vasile Mircea, **Agachi Paul Serban**, *Nonlinear Model Predictive Control of the Wastewater Treatment Plant*, Elsevier, Thomson, Computer Aided Chemical Engineering, nr. 21B, 2006, P.1365-1370

12. Roman Raluca, Nagy Zoltan Kalman, Cristea Vasile Mircea, **Agachi Paul Serban**, Allgöwer Frank, *Catalytic Cracking Process Control*, BDI, , Oil and Gasses University Journal, 2006, P.54-59
13. Botar-Jid Claudiu Cristian, **Agachi Paul Serban**, *Study of NOx reduction in counter-current chromatographic reactor*, IEEE, <http://ieeexplore.ieee.org/>, Automation, Quality and Testing, Robotics, 2006 IEEE International Conference on, 2006, P.102-106
14. Botar-Jid Claudiu Cristian, **Agachi Paul Serban**, Fissore Davide, *Comparison of reverse flow and counter-current reactors in case of selective catalytic reduction of Nox*, Elsevier, <http://www.sciencedirect.com/>, Computer Aided Chemical Engineering, 2007, P.1331-1336
15. Cormos Ana Maria, Cormos Calin-Cristian, **Agachi Paul Serban**, *Modeling and simulation of the ammonia absorption process in sodium chloride solution using CHEMCAD* , Chemical Abstracts, STUDIA UNIVERSITATIS BABES-BOLYAI, CHEMIA, LI, 2 , 2006, P.215-222
16. Roman Raluca, Nagy Zoltan Kalman, Allgöwer Frank, **Agachi Paul Serban**, *First principles modeling and nonlinear optimization based estimation and control of a fluid catalytic cracking unit* , BDI,Studia Universitatis Babes-Bolyai Seria Journal , 2005, P.115-125
17. Cormos Calin-Cristian, Cormos Ana Maria, **Agachi Paul Serban**, *Modeling and simulation of the carbonation process of ammoniacal brine using ChemCAD*, Chemical Abstracts, [www.cas.org](http://www.cas.org), Studia Universitatis, Babes-Bolyai, Chem. L(1), 2005, P.277-288
18. Cristea Vasile Mircea, Imre-Lucaci Arpad, **Agachi Paul Serban**, Nagy Zoltan Kalman, *E-tools for education and research in chemical engineering*, BULETINUL STIINTIFIC AL UNIVERSITATII POLITEHNICA DIN TIMISOARA, ROMANIA, SERIA CHIMIE SI INGINERIA MEDIULUI/ CHEMICAL BULL OF POLITEHNICA UNIVERSITY OF TIMISOARA, ROMANIA, SERIES OF CHEMISTRY AND ENVIRONMENTAL ENGINEERING, Categ CNCSIS B+, 50(64), 2005, P.14 – 17
19. Tasoti Valentina, **Agachi Paul Serban**, *General framework for Matlab implementation of state-space modeling (SSM) approach used for the investigation of the reaction mechanisms at electrodes*, BDI, , Studia, 2005, P.135-142
20. Cormos Calin-Cristian, Cormos Ana Maria, **Agachi Paul Serban**, *Modeling and simulation of the scrubbing unit waste incineration plant*, Chemical Abstracts, [www.cas.org](http://www.cas.org), Studia Universitatis, Babes-Bolyai, Chem. L(1), 2005, P.289-296
21. Cristea Vasile Mircea, Agachi Paul Serban, *Neural Networks Applications in Chemistry and Chemical Engineering*, Chemical Abstracts, Studia Universitatis Babes-Bolyai, L, 2, 2005, P.65-72
22. **Agachi Paul Serban**, Moraru Camelia, Nica Panaite , *Ierarhizarea universitatilor din Romania, Metodologie de aplicare* , REVISTA DE POLITICA STIINTEI SI SCIENTOMETRIE, Categ CNCSIS B, 3 , 2005, P.178 – 189
23. Imre-Lucaci Arpad, **Agachi Paul Serban**, Cristea Vasile Mircea, Dragan Simion, Ghirisan Adina Lucretia, Stoian Ioan, Ghiran Ovidiu, Capatana Dorina, *Monitoring system for air pollution generated by industrial plants with wireless components*, STUDIA UNIVERSITATIS BABES-BOLYAI. CHEMIA, Categ CNCSIS B+, 50, 2005, P.14 – 20
24. **Paul Serban Agachi**, Computer Aided Process Engineering, Proceedings of the Romanian Academy, Series A, Volume 6, No.1, p.85-90, 2005

#### 4. Alte articole științifice/capitole publicate în reviste/volume cu referenți (peer-reviewed)

1. Cormos Calin-Cristian, Cormos Ana Maria, **Agachi Paul Serban**, *Hydrogen and electricity co-production schemes based on gasification processes with carbon capture and storage*, 4-th International Conference on Clean Coal Technologies – CCT2009, Dresda, Germania, IEA Clean Coal Centre, Editor: Robert Davidson, 1-111-0, Thomson, 2009, P. 1-12
2. Ani Elisabeta Cristina, Avramenko Yuri, Kraslawski Andrzej, **Agachi Paul Serban**, *Mining of graphics for the assessment of pollution sources along the river*, CAPE Forum 2009, March, 27-28, Limerick, Ireland, -, 2009, P. 1-2
3. Barabas Reka, Bogya Erzsebet Sara, Dejeu Valentina Roxana, Csavdari Alexandra Ana, **Agachi Paul Serban**, *Characterization of structurally modified hydroxyapatites trough ionic exchange and adsorption processes*, International Conference of Physical Chemistry ROMPHYSICHEM 13 September 3 - 5, Bucharest – Romania, 2008, -, 2008, P. 1-1
4. Jara-Morante Eliana, Morar Mihaela Hilda, **Agachi Paul Serban**, *Retrofitted heat exchanger network of a FCC plant*, 18th International Congress of Chemical and Process Engineering, Prague, Orgit s.r.o., Editor: \*\*, 978-80-02-02047-9, PRES 2008, 2008, P. 1403-1404
5. Ani Elisabeta Cristina, Kraslawski Andrzej, **Agachi Paul Serban**, *Pollutant transport characterisation as a function of river characteristics and pollutant release type*, CAPE Forum 2008, Thessaloniki, Greece, 7-8 February, -, 2008, P. 27-27
6. Andreica Alina Bianca, **Agachi Paul Serban**, *Design and Implementation of An Integrated Software System for Managing Research Activities in Universities*, 7th RoEduNet International Conference - Networking for Research and Education, UT Press, Editor: Emil Cebuc, 978-973-662-393-6, IEEE Romania, 2008, P. 90-95
7. Cristea Vasile Mircea, Roman Raluca, **Agachi Paul Serban**, *Simulation of the reactor-regenerator-main fractionator Fluid Catalytic Cracking Unit using Artificial Neural Networks*, 18-th International Congress of Chemical and Process Engineering, Orgit, 978-80-02-02047-9, SCOPUS, 2008, P. 1-6
8. Botar-Jid Claudiu Cristian, **Agachi Paul Serban**, Avramenko Yuri, Kraslawski Andrzej, *Knowledge domain visualization in a specific field of research. Case study of forced unsteady state reactors*, Computer Aided Process Engineering 2008, -, 2008, P.1-2
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10. Cormos Ana Maria, Suharoschi Ramona, Bratfalean Dorina, **Agachi Paul Serban**, *Modelarea Statistica a datelor de cDNA microarray in cancerul de prostata*, Simpozionul National de Cercetare Stiintifica Medicala de Excelenta, VIASAN-CEEX 2008 (Modul I), ANCS, Academia de Stiinte Medicale, Programul National de Cercetare de Excelenta pentru Sanatate, 2008, P. 82-82
11. Barabas Reka, **Agachi Paul Serban**, Baldea Ioan, Csavdari Alexandra Ana, Bogya Erzsebet Sara, Dejeu Valentina Roxana, *Study of copper adsorption mechanism on hydroxyapatites*, 14th International Conference of Chemistry, 13-15 Nov., Cluj-Napoca, Societatea Maghiara Tehnico-Stiintifica din Transilvania, 2008, P. 131-134
12. Suharoschi Ramona, Bratfalean Dorina, **Agachi Paul Serban**, *Differential Gene Expression detection using SAM, PAM, AMDA and MATLAB statistics into the Genistein treated PC-3 prostate cancer cells*, National Symposium of Excellence Medical Research, Sibiu, National

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3. **Agachi Paul Serban**, Moraru Camelia, Pop Carmen Loredana, capitol, *Europeanisation as a strategy for succes in implementing Bologna - A Case Study from the "Babes-Bolyai" University, Cluj-Napoca, Romania*, EUA Bologna Handbook: Making Bologna Work, RAABE Academic Publishers, Berlin, Editor: Eric Froment, Jurgen Kohler, Lewis Purser, Lesley Wilson, 2006, P. 1-20
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3. **Agachi Paul Șerban**, Moraru Camelia, carte, *The World Class Universities and Ranking: Aiming beyond Status*, PRESA UNIVERSITARA CLUJEANA , CLUJ-NAPOCA, Editor: UNESCO CEPES, 2006, P. 270

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#### **11. Realizări artistice naționale și internaționale (Domeniul Arte)**

(Expoziții, spectacole, concerte, publicații, filme, înregistrări)

## **Criteriul II – Prestigiu profesional**

### **1. Citări ale articolelor ISI listate la Criteriul I**

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#### 4. Distincții, premii și alte recunoașteri naționale și internaționale

1. Agachi Paul Serban, Premiu national, Diploma de Onoare si Medalia "Emilian Bratu", Societatea de Chimie din Romania, 2007
2. Agachi Paul Serban, Premiu national, Ordinul National "Pentru Merit" in grad de Mare Ofiter, Presedentia Romaniei, 2008

#### 5. Studenți naționali atrași (activități de coordonare științifică și didactică)

- Îndrumare lucrari de licență : 10
- Îndrumare lucrări de disertație : 10
- Doctoranzi : (lista nominală a doctoranzilor înmatriculați resp. lista nominală a tezelor susținute)

#### Doctoranzi care au susținut teza :

1. **Cormos Ana Maria**, *Modeling and Simulation of Limestone Decomposition in Vertical Lime Kiln with coke*, 2005
2. **Tasoti Valentina**, *Modeling and simulation of micro-arc oxidation electrochemical process (MAO method)* 2007
3. **Botar-Jid Claudiu Cristian**, *Mathematical modeling of gas-solid eterogenous processes with applications in depollution processes*, 2007
4. **Bratfalean Dorina**, *Contributions to the engineering of sunflower genetic expression description and to the genetic bases of the sunflower oil extraction*, 2007
5. **Roman Raluca** *Mathematical modeling and advanced control of a Fluid Catalytic Cracking process*, 2007
6. **Iancu Mihaela Hilda**, *Advanced control of the heat integrated complex plants*, 2010

#### Doctoranzi inmatriculați

Numele doctoranzilor	Data înmatriculării	Titlul tezei
ANI N. Elisabeta - Cristina	2005 01.oct.	Modelarea și simularea transportului poluanților în râurile Bazinului Someș
DEJEU V. Valentina - Roxana	2007 01.oct.	Aplicațiile modelării matematice în tehnologia biomaterialelor bazate pe apatite
GOIA E. Victoria (căș. MAXIM)	2008 01.oct.	Sisteme de conversie a energie cu captare și stocare de CO <sub>2</sub>
CÎMPEAN G. Maria (căș. MIHEȚ)	2008 01.oct.	Reducerea catalică a oxizilor de azot din gazele reziduale ale coloanei de separare a N15
OSTACE G. George - Simion	2009 01.oct.	Sisteme inovative de captare a dioxidului de carbon pentru sisteme de conversie a energiei
PĂDUREAN I.N. Anamaria	2009 01.oct.	Modelare matematică și conducerea avansată a stațiilor de epurare a apelor uzate cu funcționare continuă
VINCZE I. Agnes	2009 01.oct.	Îmbunătățirea funcționării proceselor de cracare prin modernizarea ansamblurilor reactor-regenerator
VLAD F. P. Octavian - Tiberiu	2008 01.oct.	Conducerea avansată a Stațiilor de Epurare Biologice Discontinue (SBR)

#### - Post-doctoranzi (lista nominală)

## 6. Studenți internaționali atrași (activități de coordonare științifică și didactică)

- Îndrumare lucrări de licență (număr lucrări susținute)
- Îndrumare lucrări de disertație (număr lucrări susținute)
- Doctoranzi (lista nominală a doctoranzilor înmatriculați resp. lista nominală a tezelor susținute)
- Post-doctoranzi (lista nominală)

## 7. Membru în comitetul de redacție la reviste ISI

## 8. Membru în comitetul de redacție la reviste BDI

## 9. Participări la programe/granturi de cercetare finanțate din sursă internațională (se menționează și valoarea)

## 10. Participări la programe/granturi finanțate din sursă națională (se menționează și valoarea)

### 1. Cristea Vasile Mircea, Director

*Platforma de simulare control și testare în mecatronica CONMEC.*

**Valoare:** 150.000 RON

**Autoritatea:** CEEX, MECANISME

**Membrii:** Agachi Paul Serban, Dragan Simion, Ghirisan Adina Lucretia, Imre-Lucaci Arpad, Cormos Calin-Cristian, Botar-Jid Claudiu Cristian, Bratfalean Dorina,

**Parteneri:**

- Universitatea Tehnică Cluj-Napoca
- IPA Cluj-Napoca
- IPA SA
- CERCETARE PROIECTARE SI PRODUCTIE DE ECHIPAMENTE SI INSTALUATII DE AUTOMATIZARE DIN BUCURESTI
- Fac. Mecanica, UNIVERSITATEA POLITEHNICA DIN TIMISOARA

**Anul începerii:** 2006

### 2. Cristea Vasile Mircea, Director

*Metode predictive de contracarare a efectelor poluarii accidentale a raurilor prin reglarea evoluata bazata pe modelare matematica.*

**Valoare:** 59110 RON

**Autoritatea:** CNCSIS

**Membrii:** Agachi Paul Serban, Anghel Calin Ioan, Imre-Lucaci Arpad, Roman Raluca, Bratfalean Dorina.

**Anul începerii:** 2006

### 3. Cristea Vasile Mircea, Director

*Modelare și conducere automată utilizând instrumente ale inteligenței artificiale pentru aplicații în chimie și inginerie de proces.*

**Valoare:** 300000 RON

**Autoritatea:** CNMP

**Membrii:** Agachi Paul Serban, Imre-Lucaci Arpad, Crisan Gabriela-Iudita, Ani Elisabeta Cristina, Botar-Jid Claudiu Cristian, Roman Raluca, Bratfalean Dorina

**Parteneri:**

- Catedra de Inginerie Chimică/UNIVERSITATEA TEHNICĂ GHEORGHE ASACHI din IASI
- Catedra de automatică și calculatoare, UNIVERSITATEA PETROL-GAZE DIN PLOIESTI
- Cercetare, INSTITUTUL DE INFORMATICA TEORETICA DIN IASI
- Cercetare, INSTITUTUL DE CHIMIE MACROMOLECULARA PETRU PONI DIN IASI

**Anul începerii:** 2007



#### 5. Jitaru Maria, Director

*Electrocataliza reactiilor de transformare a unui poluant major, CO<sub>2</sub>, in materie organica utila :contributii fundamentale si aplicative*

**Valoare:** 1.420.000 RON,

**Autoritatea:** CNMP

**Membrii:** Rus Eleonora Maria, Moscovits Veronica, **Agachi Paul Serban**, Cormos Ana Maria, Cormos Calin-Cristian, Imre-Lucaci Arpad, Cristea Vasile Mircea, Culea Monica, Toma Mariana Liliana, Stan Marian Cristian, Cristea Victoria Cecilia, Moscovits Veronica, Rus Eleonora Maria

**Parteneri:**

- Laborator de mediu, INSTITUTUL DE CERCETARI PENTRU PRODUSE AUXILIARE ORGANICE ICPAO SA DIN MEDIAS
- Catedra de Tehnologia materialelor si Chimie, UNIVERSITATEA TEHNICA DIN CLUJ-NAPOCA

**Anul începerii:** 2008

#### 6 Opre Nicolae Adrian, Director

*Formare continua de tip "blended learning" pentru cadrele didactice universitare*

**Valoare:** 5.400.001 RON

**Autoritatea:** POS-DRU

**Membri:** **Agachi Paul Serban**, Opre Dana Elisabeta

**Parteneri:**

- UNIVERSITATEA DIN BUCURESTI (coordonator)
- UNIVERSITATEA DE VEST DIN TIMISOARA

**Anul începerii:** 2009

#### 7. Andreica Alina Bianca, Director

*Sistem electronic aplicativ integrat de educatie al Universitatii Babes-Bolyai.*

**Valoare:** 6.410.081 RON

**Autoritatea:** AM POS CCE

**Membri:** Ratiu Mircea Sabin, Stuparu Daniel, Brasoveanu Alexandru, Miu George Calin, Pop Gabriel Marius, Tarnavean Dan Florin, Ilban Raluca-Monica, Ghetie Florina Livia, Ciplea Gabriel Emil, Ciplea Carmen, Ploscariu Ioan, Dragos Radu Calin, Lakatos Istvan, Pusok Istvan, Marcus Andrei Dorin, Lazar Ioan, Parv Bazil, **Agachi Paul Serban**, Imre-Lucaci Arpad, Roth-Szamoskozi Stefan Emer, Moraru Camelia, Duma Florin Sebastian, Mocan Rodica Otilia, Cervinschi Adriana Maria.

**Anul începerii:** 2009

#### 8. Graf Rudolf, Director

*Instrument informational pentru cresterea calitatii, vizibilitatii si interdisciplinaritatii programelor doctorale ID 37486*

**Valoare:** 666.713 RON

**Autoritatea:** AMPOS DRU

**Membri:** Crisan Gabriela-Iudita, Graf Rudolf, **Agachi Paul Serban**, David Daniel, Moraru Camelia, Nitchi Ioan Stefan, Mihaila Adrian-Alin, Buchmann Robert, Pop Carmen Loredana,

**Anul începerii:** 2009

#### 11. Coordonări de programe/granturi finanțate din sursă internațională (se menționează și valoarea)

##### 1. Agachi Paul Serban, Director

*Advanced Process Engineering for Master and joint PhD Education.*

**Valoare:** 55500 CHF,

**Autoritatea:** altele internaționale

**Parteneri:**

- Electrical Engineering Department, Eidgenossische Technische Hochschule Zurich , partener .

**Anul începerii:** 2006

## **12. Coordonări de programe/granturi finanțate din sursă națională (se menționează și valoarea)**

### **1. Agachi Paul Serban, Director**

*Sisteme inovative de poli-generare vectori energetici cu captarea si stocarea CO<sub>2</sub> pe baza proceselor de co-gazeificare a carbului si resurselor energetice regenerabile (biomasa) sau a deseurilor.*

**Valoare:** 842950 RON

**Autoritatea:** CNCSIS II

**Membri:**

- Cormos Calin-Cristian
- Cormos Ana Maria

**Anul începerii:** 2009

### **2. Agachi Paul Serban, Director**

*Operarea proceselor nestationare catalitice de depoluare si integrate termic utilizand tehnici evolute de reglare*

**Valoare:** 457.954 RON,

**Autoritatea:** CEEX

**Anul începerii:** 2006

### **3. Agachi Paul Serban, Director**

*Dezvoltarea unui sistem biologic pentru intelegerea modelelor moleculare implicate in cancerul de prostata.*

**Valoare:** 100.000 RON

**Autoritatea:** CEEX

**Parteneri:**

- Facultatea de medicina veterinara, UNIVERSITATEA DE STIINTE AGRICOLE SI MEDICINA VETERINARA DIN CLUJ-NAPOCA, partener ,
- Institutul Oncologic, INSTITUTUL ONCOLOGIC ION CHIRICUTA DIN CLUJ NAPOCA, partener ,
- Catedra de bioinformatica, UNIVERSITATEA DE MEDICINA SI FARMACIE IULIU HATIEGANU DIN CLUJ-NAPOCA, partener .

**Anul începerii:** 2006

### **4. Agachi Paul Serban, Director**

*Sistem integrat de evaluare a propagrii agentilor poluanti si a impactului asupra santatii populatiei din zona (SEPOL).*

**Valoare:** 300.000 RON

**Autoritatea:** CEEX

**Parteneri:**

- Colectiv Cercetare Zaharie Moldovan, INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE PENTRU TEHNOLOGII IZOTOPICA SI MOLECULARA INCDTIM DIN CLUJ NAPOCA, partener ,
- Filiala Cluj-Napoca, IPA SA CERCETARE PROIECTARE SI PRODUCTIE DE ECHIPAMENTE SI INSTALUATII DE AUTOMATIZARE DIN BUCURESTI, partener
- Colectiv UMF, UNIVERSITATEA DE MEDICINA SI FARMACIE VICTOR BABES DIN TIMISOARA, partener .

**Anul începerii:** 2005

### **5. Agachi Paul Serban, Director**

*Modelarea matematica a procesului de reducere selectiva a NOx cu amoniac in reactoare cromatografice nestationare.*

**Valoare:** 193.576 RON

**Autoritatea:** CNCSIS

**Anul începerii:** 2006

**6. Agachi Paul Serban, Director**

*Dezvoltarea unui sistem biologic pentru intelegerea modelelor moleculare implicate in cancerul de prostat.*

**Valoare:** 100.000 RON

**Autoritatea:** CEEX

**Anul începerii:** 2006

**7. Agachi Paul Serban, Director**

*Food Safety Control prin dezvoltarea unui sistem integrat de modelare, simulare și conducere avansată a bioproceselor fermentative din industria alimentară*

**Valoare:** 2.000.000 RON

**Autoritatea:** ANCS

**Anul începerii:** 2007

**8. Agachi Paul Serban, Director**

*Sistem expert pentru prognoza neinvaziva a evolutiei afectiunilor hepatice cronice prin analiza parametrilor biologici si de hemodinamica portala. Perioada: 2008-2011. Suma aprobata:*

**Autoritatea:** CEEX-PC

**Valoare:** 500.000 RON

**Anul începerii:** 2008

**13. Profesor invitat la universitati de prestigiu, cu titlu oficial**

**Agachi Paul Serban**, Universidad Nacional Mayor de San Marcos, 2007 - 2007, Localitatea Lima, profesor invitat.

**Agachi Paul Serban**, in Universidad San Antonio Abad, 2007 - 2007, Localitatea Cuzco, profesor invitat

**Agachi Paul Serban**, in Universidad Nacional de Ingegneria, 2007 - 2007, Localitatea Lima, profesor invitat

**14. Membru în comisii profesionale relevante, cu titlu oficial**

**1. Agachi Paul Serban**, *Comisii doctorale internationale*, in University of Technology Lappeenranta, 2009, Titlu teza: Minimization of the experimental workload for the prediction of pollutants propagation in rivers., Doctorand: Cristina Elisabeta Ani, calitatea: co-advisor

**2. Agachi Paul Serban**, Membru al Comisiei Naționale de Asigurarea Calității în Învățământul Superior

**3. Agachi Paul Serban**, Membru în comisia Inginerie Chimică din Comisia 3 CNCSIS.

**4. Agachi Paul Serban**, Membru în comisia Ingineria Materialelor și Ingineria Mediului – doctorate-CNATDCU

**5. Agachi Paul Serban**, Membru al WP Computer Aided Process Engineering al **European Federation of Chemical Engineering** (2008)

**15. Conferințe invitate internaționale**

**1. Agachi Paul Serban**, *World Class University 3*, in Universitatea Jiao Tong Shanghai, 2009, Localitatea Shanghai, calitatea: conferentiar, Detalii activitate: 30 octombrie - 3 noiembrie 2009.

**2. Agachi Paul Serban**, 6<sup>th</sup> Edition of the International Symposium on Process Control – SPC 2009 1-3 Iunie.

3. **Agachi Paul Serban**, 36th International Conference of Slovak Society of Chemical Engineering, SSCHE May 25-29, 2009.

**16. Membru în comitete de organizare sau științifice ale unor conferințe internaționale**

1. **Agachi Paul Serban** , Tipul conferinței: internaționale recunoscute ISI, Conferința: European Symposium of Computer Aided Process Engineering 17, Țara: România, Orașul: București, Instituția organizatoare: Universitatea Babeș-Bolyai și Universitatea Politehnică București, Anul: 2007, Funcția: co-chairman.

### **III. Realizare remarcabilă**

Considerăm ca fiind cea mai importantă realizare științifică publicarea, în anul 2006, a cărții cu titlul „Model Based Control Case Studies in Process Engineering” la Editura WILEY-VCH Verlag GmbH&Co.KGaA, care, în același an, a obținut premiul „Claudiu Tănăsescu” oferit de către Academia Română. Prezența acesteia în numeroase biblioteci universitare din lume a contribuit semnificativ la recunoașterea internațională a grupului de cercetare. Am fost solicitați pentru organizarea unor stagii de cercetare în Universitatea Babeș-Bolyai, Cluj-Napoca, cooperare în proiecte internaționale, inclusiv o propunere de colaborare în The Seventh Framework Programme (FP7).

Pe plan individual menționez rolul de coorganizator al Conferinței CAPE Forum cu participare străină și a 17th European Symposium on Computer Aided Process Engineering (ESCAPE 17) în perioada 27-30 Mai 2007 București, România, la care au participat cercetători din 50 de țări. Lucrările prezentate au fost selectate prin peer-review internațional, din 570 de propuneri. Toate aceste realizări au crescut prestigiul grupului de cercetare, și al Catedrei de Inginerie Chimică pe plan internațional.

Data: 17.03.2010

Semnătura:

**Certific validitatea datelor prezentate**

Sef de catedră,