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Centrul de Cercetari Tehnice Fundamentale si Avansate

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LISTĂ DE LUCRĂRI, PROIECTE SI CONTRACTE DE CERCETARE

1. Teza de doctorat

T1. Muntean S., *Metode Numerice pentru Determinarea Câmpurilor Tridimensionale în Rotoarele Turbinelor Francis*, elaborată și susținută la Universitatea “Politehnica” din Timișoara, Facultatea de Mecanică, conducător științific: Acad.Prof.dr.ing.doc.Dr.H.C. Ioan ANTON, 320 p., 2002. (distinsa cu Magna cum Laude)

2. Sisteme de laborator funcționale, metode de lucru avansate aplicate, capitole publicate în volume etc. (D1, D2, etc.), îndrumare publicate (I1, I2, etc.), cărți publicate (C1, C2, etc.), după caz, prin care se aduc contribuții la asigurarea și perfecționarea activităților de cercetare-dezvoltare/profesionale/didactice.

C1. Muntean S., *Analiza numerica a curgerii in turbinele hidraulice Francis*, Editura Orizonturi Universitare, (380 p.), ISBN 978-973-638-355-7, 2008.

C2. Anton L., Balint D., Baya A., Badarau R., Balasoiu V., Bej A., Milos T., **Muntean S.**, Resiga R., Stuparu A., *Mecanica Fluidelor, Masini Hidraulice si Actionari. Aplicatii de Calcul*, Editura Orizonturi Universitare, (262 p.), ISBN: 973-638-076-9, 2004.

C3. Resiga R., **Muntean S.**, Bernad S., Balint D., Balint I., *Metode moderne de calcul paralel pentru simularea curgerii fluidelor*. Editura Orizonturi Universitare, (296 p.), ISBN 973-638-064-5, 2003.

D1. Muntean S., Bosioc A.I., Szakal R.A., Vékás L., Susan-Resiga R.F., Hydrodynamic investigations in a swirl generator using a magneto-rheological brake. In da Silva L.F.M. (Ed.), *Advanced Structured Materials*, 65, 209-218. Springer, ISBN: 978-3-319-50783-5, 2017.

D2. Bosioc A.I., Beja T.E., **Muntean S.**, Borbáth I., Vékás L. Experimental investigations of Magneto-Rheological Fluids in air and water used for brakes and clutches. In da Silva L.F.M. (Ed.), *Advanced Structured Materials*, 65, 197-207, Springer, ISBN 978-3-319-50783-5, 2017.

D3. Pasca N., Marsavita L., Negru R., **Muntean S.**, Estimation of the Stress Intensity Factor for 3D Cracked T – Joint. In: Jármay K., Farkas J. (eds) *Design, Fabrication and Economy of Metal Structures*, pp. 273-280. Springer ISBN: 978-3-642-36690-1, 2013.

D4. Susan-Resiga R., **Muntean S.**, Decelerated Swirling Flow Control in the Discharge Cone of Francis Turbines. In: Xu J., Wu Y., Zhang Y., Zhang J. (eds) *Fluid Machinery and Fluid Mechanics*, pp. 89-96. Springer ISBN: 978-3-540-89748-4, 2009.

D5. Susan-Resiga R., **Muntean S.**, Baya A., Anton L.E., Milos T., Stuparu A., *Chapter 3. Mathematical and Numerical Analysis of Axisymmetric Swirling Flow*, p. 40. In Susan-Resiga R., Bernad S., Muntean S. (Editori) *Vortex Hydrodynamics and Applications*, Editura Eurostampa, Timisoara, ISBN: 978-973-687-659-2, 2007.

D6. Muntean S., Susan-Resiga R., Bosioc A., Stuparu A., Baya A., Campian V., Nedelcu D., Balint D., Safta C., Stoia M., *Chapter 5. Turbomachinery Swirling Flows*, p. 30. In Susan-Resiga R., Bernad S., Muntean S. (Editori) *Vortex Hydrodynamics and Applications*, Editura Eurostampa, Timisoara, ISBN: 978-973-687-659-2, 2007.

Volume (Editor): 9

1. Susan-Resiga R., **Muntean S.**, Bernad S., (Editori), *Proceedings of the "25th IAHR Symposium on Hydraulic Machinery and Systems*, Timisoara, 20-24 Sept. 2010, "Politehnica" University Publishing House, 2 Vols., (950 p.), ISBN 978-606-554-134-4, 2010. in Institute of Physics. Conference Series Earth and Environment Science, Issue 12, ISSN 1775-1315, 2010. (<http://iopscience.iop.org/1755-1315/12/>)
2. Susan-Resiga R., Bernad S., **Muntean S.** (Editori), *Proceedings of the "2nd IAHR International Meeting of the Workgroup on Cavitation and Dynamic Problems in Hydraulic Machinery and Systems*, Timisoara, 24-26 Oct. 2007, in Scientific Bulletin of the "Politehnica" University of Timisoara, Transactions on Mechanics, Fascicola nr. 6, Tom 52(66), (244 p.), ISSN 1224-6077, 2007. (<http://mh.mec.upt.ro/iahrwg2007/>)
3. Susan-Resiga R., Bernad S., **Muntean S.** (Editori) *Vortex Hydrodynamics and Applications*, Editura Eurostampa, (600 p.), ISBN: 978-973-687-659-2, 2007.
4. **Muntean S.**, Ruprecht A. (Editori), *Proceedings of the 3rd Romanian-German Workshop on Turbomachinery Hydrodynamics*, Editura Orizonturi Universitare, (160 p.), ISBN 978-973-638-329-8, 2007.
5. Bernad S., **Muntean S.**, Susan-Resiga R. (Editori), *Proceedings of the "3rd Workshop on Vortex Dominated Flows. Achievements and Open Problem"*, in Scientific Bulletin of the "Politehnica" University of Timisoara, Transactions on Mechanics, Fascicola nr. 3, Tom 52(66), (158 p.), ISSN 1224-6077, 2007.
6. Bernad S., **Muntean S.**, Susan-Resiga R. (Editori), *Proceedings of the 2nd Workshop on Vortex Dominated Flows Achievements and Open Problem*, in Scientific Bulletin of the "Politehnica" University of Timisoara, Romania, Transactions on Mechanics, (196 p.), ISSN 1224-6077, 2006.
7. Bernad S., **Muntean S.**, Susan-Resiga R. (Editori), *Proceedings of the Workshop on Vortex Dominated Flows Achievements and Open Problem*, in Scientific Bulletin of the "Politehnica" University of Timisoara, Romania, Transactions on Mechanics, (214 p.), ISSN 1224-6077, 2005.
8. R. Susan-Resiga, Bernad S., **Muntean S.**, Popoviciu M. (Editori), *Proceedings of the 6th International Conference on Hydraulic Machinery and Hydrodynamics*, Scientific Bulletin of the 'Politehnica' University of Timisoara, Romania, Transactions on Mechanics, Tom 49(63), Special Issue, (740 p.), ISSN 1224-6077, 2004.
9. Anton I., Resiga R., Sofonea S., Bernad S., **Muntean S.**, (Editori) *Proceedings of Workshop on Numerical Methods in Fluid Mechanics and FLUENT Applications*, Editura Orizonturi Universitare, (312 p.), ISBN 973-638-022-X, 2003.

3. Articole publicate în reviste de specialitate recunoscute (R1, R2, etc.), articole/studii publicate în volumele unor manifestări științifice internaționale recunoscute (Vi1, Vi2, etc.), brevete de invenții (B1, B2, etc.), precum și după caz, alte lucrări similare – articole/studii publicate în volumele unor manifestări științifice naționale, lucrări prezentate la diferite seminarii/expoziții etc. (E1, E2, etc).

R. Articole în reviste de specialitate (total 77)

Reviste ISI:	Nr. de lucrări:	22	Autor prim/corespondent:	3
Reviste BDI:	Nr. de lucrări:	12	Autor prim/corespondent:	2
Alte reviste:	Nr. de lucrări:	43	Autor prim/corespondent:	10

Reviste ISI

- R1. Anton A.A., **Muntean S.**, Susan-Resiga R., (2016), *SWIRL2D: An interface tracking algorithm for computing the two-dimensional swirling flows with stagnant region*, Proceedings of the Romanian Academy Series A: Mathematics, Physics, Technical Sciences, Information Sciences, Vol. 17, No. 4, pp. 366-373, Oct. – Dec. 2016, The Publishing House of the Romanian Academy, ISSN 1454-9069 (WOS: 000394189900012)
- R2. Javadi A., Bosioc A., Nilsson H., **Muntean S.**, Susan-Resiga R., (2016) *Experimental and Numerical Investigation of the Precessing Helical Vortex in a Conical Diffuser, With Rotor-Stator Interaction*, Journal of Fluids Engineering, ISSN 0098-2202, Vol. 138, No 8, Article no. 081106, Aug. 2016. (WOS: 000379589700006)

- R3. Draghici I.A., **Muntean S.** (autor correspondent), Bosioc A.I., Ginga G., Anton L.E., (2016) *Unsteady Pressure Field Analysis at Pump Inlet Equipped with a Symmetrical Suction Elbow*, Proceedings of the Romanian Academy Series A: Mathematics, Physics, Technical Sciences, Information Sciences, ISSN 1454-9069, Vol. 17, No 3, pp. 237-244, Jul. – Sep. 2016 (WOS: 000383527500007)
- R4. Ciocan T., Susan-Resiga R., **Muntean S.** (autor correspondent), (2016) *Modelling and optimization of the velocity profiles at the draft tube inlet of a Francis turbine within an operating range*, Journal of Hydraulic Research, ISSN 0022-1686, Vol. 54, No. 1, pp. 74-89, 2016 (WOS: 000370980100005)
- R5. Susan-Resiga R., **Muntean S.**, Stuparu A., Bosioc A.I., Tanasa C., Ighisan C., (2016) *A variational model for swirling flow states with stagnant region*, European Journal of Mechanics B-Fluids, ISSN 0097-7546, Vol. 55, No. 1, pp. 104-115 (WOS: 000367762900010)
- R6. Susan-Resiga R., Ighisan C., **Muntean S.**, (2015) *Mathematical Model for the Swirling Flow Ingested by the Draft Tube of Francis Turbines*, WasserWirtschaft, ISSN 0043-0978, Vol. 105, No. 1, pp. 23-27, 2015. (WOS:000354657300006)
- R7. Bedelea B., **Muntean S.**, Campean M., (2015) *Analysis of Drying Kiln Aerodynamics Based on a Full Three-Dimensional Turbulent Numerical Computation*, Drvna Industrija, ISSN 0012-6772, Vol. 67, No. 1, Pages 53-64. (WOS: 000379333100007)
- R8. **Muntean S.**, Draghici I., Ginga G., Anton L.E., Baya A., (2015) *Hydrodynamic Design of a Storage Pump Impeller using Inverse Method and Experimental Investigation of the Global Performances*, WasserWirtschaft, ISSN 0043-0978, Vol. 105, No. 1, pp. 28-32. (WOS: 000354657300007)
- R9. Ciocan T., Susan-Resiga R., **Muntean S.**, (2014) *Improving draft tube hydrodynamics over wide operating range*, Proceedings of the Romanian Academy Series A: Mathematics, Physics, Technical Sciences, Information Sciences, ISSN 1454-9069, Vol. 15, No. 2, pp. 182-190, Apr. – Jun. 2014 (WOS: 000336714400011)
- R10. Negru R., **Muntean S.**, Pasca N., Marsavina L., (2014) *Failure assessment of the shaft of a pumped storage unit*, Fatigue and Fracture of Engineering Materials and Structures, ISSN 1460-2695, Vol. 37, No. 7, pp. 807-820 (WOS: 000337593700012)
- R11. Moisa I.G., Susan-Resiga R., **Muntean S.**, (2013) *Pump inducer optimization based on cavitation criterion*, Proceedings of the Romanian Academy Series A: Mathematics, Physics, Technical Sciences, Information Sciences, ISSN 1454-9069, Vol. 14, No. 4, pp. 317-325, Oct. – Dec. 2013 (WOS:000328441500008)
- R12. Anton A., Cretu V., Ruprecht A., **Muntean S.**, (2013) *Traffic Replay Compression (TRC): a highly efficient method for handling parallel numerical simulation data*, Proceedings of the Romanian Academy Series A: Mathematics, Physics, Technical Sciences, Information Sciences, ISSN 1454-9069, Vol. 14, No. 4, pp. 385-392, Oct. – Dec. 2013 (WOS:000328441500016)
- R13. Stanciu I.R., Turcin I., Muntean S., Anton L.E., (2013) *Cellular wind-power integration using remotely controlled pump hydro energy storage*, Proceedings of the Romanian Academy Series A: Mathematics, Physics, Technical Sciences, Information Sciences, ISSN 1454-9069, Vol. 14, No. 3, pp. 242-249, Jul. – Sep. 2013 (WOS:000324011200009)
- R14. Tanasa C., Susan-Resiga R.F., Muntean S., Bosioc A.I., (2013) *Flow-Feedback Method for Mitigating the Vortex Rope in Decelerated Swirling Flows*, Journal of Fluids Engineering, ISSN 0098-2202, Vol. 135, No. 6, Article no. 061304, Jun. 2013, (WOS:000326103300011)
- R15. Negru R., **Muntean S.**, Marsavina L., Susan-Resiga R., Pasca N., (2012) *Computation of stress distribution in a Francis turbine runner induced by fluid flow*, Computational Material Science, Vol. 64, pp: 253-259. DOI: <http://dx.doi.org/10.1016/j.commatsci.2012.05.073> (WOS: 000337593700012)
- R16. Bosioc A.I., Susan-Resiga R., **Muntean S.**, Tănasă C., (2012) *Unsteady Pressure Analysis of a Swirling Flow with Vortex Rope and Axial Water Injection in a Discharge Cone*, Journal of Fluids Engineering Trans. ASME, Vol. 134, No. 8, Paper no. 081104. DOI: 10.1115/1.4007074. (WOS:000314759800004)
- R17. Stanciu R.I., Ginga G., **Muntean S.**, Anton L.E., (2012) *Low-Speed-Small-Load Direct Torque Control Ripples Filtering*, Proceedings of the Romanian Academy, Series A: Mathematics, Physics, Technical Sciences, Information Science, Vol. 13, No 2, pp: 125-132, The Publishing House of the Romanian Academy, ISSN 1454-8267. (WOS: 000305318700006)

- R18. Susan-Resiga R., **Muntean S.**, Anton. I., Avellan F., (2011), *Mathematical modelling of swirling flow in hydraulic turbines for the full operating range*, Applied Mathematical Modelling, Vol. 35, No 10, DOI: 10.1016/j.apm.2011.03.052 4759-4773. (WOS:000292176200007)
- R19. Tanasa C., Bosioc A., **Muntean S.**, Susan-Resiga R., (2011), *Flow-feedback control technique for vortex rope mitigation from conical diffuser of hydraulic turbines draft tube*, Proceedings of the Romanian Academy, Series A: Mathematics, Physics, Technical Sciences, Information Science, Vol. 12, No 2, pp: 125-132, The Publishing House of the Romanian Academy, ISSN 1454-8267. (WOS:000291510700007)
- R20 Bosioc A.I., Tanasa C., **Muntean S.**, Susan-Resiga R., (2010), *Pressure recovery improvement in a conical diffuser with swirling flow using water jet injection*, Proceedings of the Romanian Academy, Series A: Mathematics, Physics, Technical Sciences, Information Science, Vol. 11, No 3, pp: 245-252, The Publishing House of the Romanian Academy, ISSN 1454-8267. (WOS:000208624600008)
- R21 Susan-Resiga R., **Muntean S.**, Hasmatuchi V., Anton. I., Avellan F., (2010), *Analysis and Prevention of Vortex Breakdown in the Simplified Discharge Cone of a Francis Turbine*, Journal of Fluids Engineering Trans. ASME, Vol. 132, Issue 5. DOI: 10.1115/1.4001486. (WOS:000277744700002)
- R22. Bernad S., Susan-Resiga R., **Muntean S.**, Anton I., (2007) *Cavitation phenomena in hydraulic valves. Numerical modelling*, Proceedings of the Romanian Academy Series A: Mathematics, Physics, Technical Sciences, Information Sciences, ISSN 1454-9069, Vol. 8, No. 2, pp: 151-160, May – Aug. 2007 (WOS: 000255027200010)

Reviste BDI

- R23. Tănasă C., **Muntean S.**, Bosioc A., Susan-Resiga R., Ciocan T., (2016) *Influence of the air admission on the unsteady pressure field in a decelerated swirling flow*, UPB Scientific Bulletin, Series D: Mechanical Engineering, Vol. 78, No. 3, 2016, pp: 161 - 170 (Scopus Database)
- R24. Drăghici I., Bosioc A.I., **Muntean S.**, Anton L.E., (2014) *Experimental investigation of the non-uniform inflow generated by the symmetrical section elbow of a large pump*, UPB Scientific Bulletin, Series D: Mechanical Engineering, Vol. 76, No. 3, pp: 207-214. (Scopus Database)
- R25. **Muntean S.**, Susan-Resiga R., Câmpian V.C., Dumbravă C., Cuzmoș A., (2014) *In situ unsteady pressure measurements on the draft tube cone of the Francis turbine with air injection over an extended operating range*, UPB Scientific Bulletin, Series D: Mechanical Engineering, Vol. 6, No. 3, pp: 173-180. (Scopus Database)
- R26. Dragomirescu F.I., Susan-Resiga R., **Muntean S.**, (2013) *Proper Orthogonal Decomposition Method in Swirling Flows Applications*, PAMM, Vol. 13, pp: 441-442. (Scopus Database)
- R27. Bernad S.I., Susan-Resiga R., **Muntean S.**, (2012) *Two-phase cavitating flow in turbomachines*, Research Journal of Applied Sciences, Engineering and Technology, Vol. 4, No. 22, pp: 4685 - 4695. (Scopus Database)
- R28. Ginga G., Anton L.E., Baya A., **Muntean S.**, (2012) *Numerical analysis of the 3D flow in the suction elbow and impeller of a storage pump*, U.P.B. Scientific Bulletin, Series D: Mechanical Engineering, Vol. 74, No. 1, pp: 43-50 (Scopus Database)
- R29. Petit O., Bosioc A.I., Nilsson H., **Muntean S.**, Susan-Resiga R.F., (2011), *Unsteady Simulations of the Flow in a Swirl Generator using OpenFOAM*, International Journal of Fluid Machinery and Systems, Vol. 4, No. 1, January-March 2011. DOI: 10.5293/IJFMS.2011.4.1.199 pp. 199- 208.
- R30. Tanasa C. Bosioc A., Susan-Resiga R., **Muntean S.**, (2011), *Flow-feedback for pressure fluctuation mitigation and pressure recovery improvement in a conical diffuser with swirl*, International Journal of Fluid Machinery and Systems, Vol. 4, No. 1, January-March 2011. DOI: 10.5293/IJFMS.2011.4.1.047 pp. 47- 56.
- R31. Stuparu A., Susan-Resiga R., Anton L.E., **Muntean S.**, (2011), *A new approach in numerical assessment of the cavitation behaviour of centrifugal pumps*, International Journal of Fluid Machinery and Systems, Vol. 4, No. 1, January-March 2011. DOI: 10.5293/IJFMS.2011.4.1.104 pp. 104-113.
- R32. **Muntean S.**, Ninaci I., Susan-Resiga R., Baya A., Anton I., (2010) *Numerical Analysis of the Flow in the Old Francis Runner in order to Define the Refurbishment Strategy*, UPB Scientific Bulletin, Series D: Mechanical Engineering, Vol. 72, No. 1, pp: 117-124. (Scopus Database)
- R33. Dunca G., Muntean S., Isbășoiu E.C., (2010) *3D numerical analysis of the impeller - Stator interaction into a storage pump*, UPB Scientific Bulletin, Series D: Mechanical Engineering, Vol. 72, No. 1, pp: 149 – 156. (Scopus Database)

R34. Susan-Resiga R., **Muntean S.**, Stein P., Avellan F., (2009), *Axi-symmetric Swirling Flow Simulation of the Draft Tube Vortex in Francis Turbines at Partial Discharge*, International Journal of Fluid Machinery and Systems Vol. 2, No. 4, October-December 2009. Paper number 009028S (JSTAGE database)

Alte reviste

R35. **Muntean S.**, Susan-Resiga R., Goede E., Baya A., Terzi R., Tîrși C., (2016) *Scenarios for refurbishment of a hydropower plant equipped with Francis turbines*, Renewable Energy and Environmental Sustainability, Vol. 1, No. 30, pp: 1- 6.

R36. **Muntean S.**, Baya A., Susan-Resiga R., Anton I., (2009) *Numerical Flow Analysis into a Francis Turbine Runner with Medium Specific Speed at Off-Design Operating Conditions*, Acta Technica Napocensis, Series: Applied Mathematics and Mechanics, No. 52, vol. II. ISSN 1221-5872 pp. 325 – 334

R37. Baya A., Bosioc A., **Muntean S.**, Susan-Resiga R., (2009) *Experimental Investigations of the Vortex Rope into a Simplified Draft Tube and its Flow Control*, Acta Technica Napocensis, Series: Applied Mathematics and Mechanics, No. 52, vol. II,. ISSN 1221-5872 pp. 249 -257

R38. Bosioc A., Susan-Resiga R., **Muntean S.**, (2008) *Unsteady Pressure Measurements in Conical Diffuser with Swirling Flow*. In Georgescu A.-M., Georgescu S.-C., Bernad S. (eds.), Proceedings of the 4th Workshop on Vortex Dominated Flows, "Scientific Bulletin of the Politehnica University of Timisoara", Tom 53(67) Fascicola 3, September 12-13, Bucharest, Romania, 2008. (ISSN 1224-6077) p. 81 - 88.

R39. Stuparu A., **Muntean S.**, Baya A., Anton L.E., (2008) *3D Numerical Investigation of Flow through the Centrifugal Pump with Double Flux*. In Georgescu A.-M., Georgescu S.-C., Bernad S. (eds.), Proceedings of the 4th Workshop on Vortex Dominated Flows, "Scientific Bulletin of the Politehnica University of Timisoara", Tom 53(67) Fascicola 3, September 12-13, Bucharest, Romania, 2008. (ISSN 1224-6077) p. 75 - 80.

R40. Bobar M., Zsembinski S., **Muntean S.**, Nedelcu D., (2008), *Hydrodynamic Design of a New Francis Turbine with High Specific Speed*. In Balasoiu V., Popoviciu M.O., Bordeasu I., Milos T., Vasilescu M. (eds.), Proceedings of the International Conference on Hydraulic Machinery and Equipments HME2008, Special Issue of the "Scientific Bulletin of the Politehnica University of Timisoara", October 16-17, Timisoara, Romania, 2008. (ISSN 1224-6077) p. 109 - 114.

R41. **Muntean S.**, Susan-Resiga R., Bosioc A., Bernad S., Anton I., (2007), *Water jet control technique for swirling flows in Francis turbines diffuser*, Universitatea Politehnica Bucuresti Scientific Bulletin, Series C, Vol. 69, No.4, pp: 665-672.

R42. Baya A., Bosioc A., Stuparu A., **Muntean S.**, Susan-Resiga R., Milos T., Anton L.E., (2007), *Development a New Test Rig for Analysis and Control of Swirling Flows*, Universitatea Politehnica Bucuresti Scientific Bulletin, Series C, Vol. 69, No.4, pp: 673-680.

R43. Susan-Resiga R., **Muntean S.**, Bosioc A., Stuparu A., Milos T., Baya A., Bernad S., Anton L.E., (2007), *Swirling Flow Apparatus and Test Rig for Flow Control in Hydraulic Turbines Discharge Cone*, Scientific Bulletin of the "Politehnica" University of Timisoara, Transactions on Mechanics, Tom 52(66), No 6, pp: 203 - 216, ISSN 1224-6077.

R44. Kirschner O., **Muntean S.**, Susan-Resiga R., Ruprecht A., (2007), *Swirling Flow in a Straight Cone Draft Tube: Axi-symmetric Flow Analysis and Comparison with Circumferentially Averaged PIV Measurements*, Scientific Bulletin of the "Politehnica" University of Timisoara, Transactions on Mechanics, Tom 52(66), No 6, pp: 185 - 196, ISSN 1224-6077.

R45. Susan-Resiga R., **Muntean S.**, Hasmatuchi V., Bernad S., (2007), *Development of a swirling flow control technique for Francis turbines operated at partial discharge*, Scientific Bulletin of the "Politehnica" University of Timisoara, Transactions on Mechanics, Tom 52(66), No 3, pp: 1 - 12, ISSN 1224-6077.

R46. Bernad S., **Muntean S.**, Resiga R., Anton I., (2006), *Numerical analysis of the cavitating flows*, Proceedings of the Romanian Academy, Series A: Mathematics, Physics, Technical Sciences, Information Science, Vol.7, No 1, pp: 33-45, 2006, The Publishing House of the Romanian Academy, ISSN 1454-8267.

R47. Susan-Resiga R., **Muntean S.**, Bernad S., Frunza T., Balint D., (2006), *Thin Hydrofoil cascade design and numerical flow analysis, Part I – Design*, Proceedings of the Romanian Academy, Series A: Mathematics, Physics, Technical Sciences, Information Science, Vol. 7, No 2, pp: 117-126, The Publishing House of the Romanian Academy, ISSN 1454-8267.

- R48. Susan-Resiga R., **Muntean S.**, Bernad S., Frunza T., Balint D., (2006), *Thin Hydrofoil cascade design and numerical flow analysis, Part II – Analysis*, Proceedings of the Romanian Academy, Series A: Mathematics, Physics, Technical Sciences, Information Science, Vol. 7, No 3, pp: 175-182, 2006, The Publishing House of the Romanian Academy, ISSN 1454-8267.
- R49. Susan-Resiga R.F., **Muntean S.**, Bernad S., Hasmațuchi V., Anton I., Avellan F., (2006) *Inviscid vortex breakdown in decelerated swirling flows and flow control methods*, Scientific Bulletin of the “Politehnica” University of Timisoara, Transactions on Mechanics, Tom 51(65), No 3, pp: 15 – 22. ISSN 1224-6077.
- R50. Milos T., **Muntean S.**, Stuparu A., Baya A., Susan-Resiga R., (2006), *Automated procedure for design and 3D numerical analysis of the flow through impeller*, Scientific Bulletin of the “Politehnica” University of Timisoara, Transactions on Mechanics, Tom 51(65), No 3, pp: 23 – 30. ISSN 1224-6077.
- R51. Stuparu A., **Muntean S.**, Balint D., Anton L.E., Baya A., (2007), *Numerical Analysis of Pump Hydrodynamics at Constant Speed*, Scientific Bulletin of the “Politehnica” University of Timisoara, Transactions on Mechanics, Tom 52(66), No 3, pp: 43 - 48, ISSN 1224-6077.
- R52. **Muntean S.**, Susan-Resiga R.F., Balint D., Bernad S., Anton I., (2006) *Numerical investigation of accelerated swirling flow in Kaplan turbines*, Scientific Bulletin of the “Politehnica” University of Timisoara, Transactions on Mechanics, Tom 51(65), No 3, pp: 37 - 44, ISSN 1224-6077.
- R53. Bernad S., Susan-Resiga R.F., **Muntean S.**, (2006) *Analysis of the recirculation region behind bluff bodies*, Scientific Bulletin of the “Politehnica” University of Timisoara, Transactions on Mechanics, Tom 51(65), No 3, pp: 45 - 50, ISSN 1224-6077.
- R54. Stuparu A., **Muntean S.**, Balint D., Anton L.E., Baya A., (2006), *Numerical Investigation of the Influence of the Suction Elbow over the Flow Field of a Storage Pump*, Scientific Bulletin of the “Politehnica” University of Timisoara, Transactions on Mechanics, Tom 51(65), No 3, pp: 31 – 36. ISSN 1224-6077.
- R55. Bernad S.I., Susan-Resiga R., Bernad E., **Muntean S.**, (2006) *Computational analysis of blood flow in a curved tube model*, Timișoara Medical Journal, Vol 56, Supplement 4, pp: 83-86. ISSN 1583-5251.
- R56. Sinescu C., Negrutiu M., Romanu M., Resiga R., **Muntean S.**, (2006) *The Methodology of Numerical Simulation of Two-Phase Flows (Liquid Melting – Gas) with the Separation Interface Specific for the Filling Process of the Pattern for the Framework of Fixed Partial Dentures*, Scientific Medicalinfo Journal, Vol 2, pp: 9-21. ISSN 1841-8686.
- R57. **Muntean S.**, Balint D., Resiga R., Bernad S., Anton I., (2005) *A numerical study of the 3d swirling flow upstream to the Kaplan turbine runner at off-design operating conditions*, Scientific Bulletin of the “Politehnica” University of Timisoara, Transactions on Mechanics, Tom 50(64), Special Issue, pp: 97-104, ISSN 1224-6077.
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Vi. Articole în volumele unor manifestări științifice internaționale (total 77)

Articole in volume indexate ISI	Nr. de lucrări:	31	Autor prim/corespondent:	5
Articole in volumele unor manifestari stiintifice internaționale	Nr. de lucrări:	71	Autor prim/corespondent:	17

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- Vi1. Moș D.C., **Muntean S.** (Corresponding author), Tănasă C., Bosioc A.I. and Susan-Resiga R. (2017) *Experimental Investigation of the Unsteady Pressure Field in Decelerated Swirling Flow with 74° Sharp Heel Elbow*, IOP Conference Series - Journal of Physics: Conference Series, Vol. 813, No. 1, Paper No. 012046. DOI:10.1088/1742-6596/813/1/012046

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Vn. Articole în volumele unor manifestări științifice naționale (total 14)

Articole in volumele unor manifestari stiintifice naționale	Nr. de lucrări:	14	Autor unic/prim:	5
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- Vn1. **Muntean S.**, Susan-Resiga R., Anton I., (2006) *Modeling of Weak Swirling Flow using 2D and 3D Inviscid Models*, in Proceedings of the Romanian Fluent Users Meeting, pp: 37-42, Editura Printech, ISBN 973-718-443-2.
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- Vn3. Balint D.I., **Muntean S.**, Susan-Resiga R., (2006) *Advanced CFD Analysis of the Cascade Flow Hydrodynamics*, in Proceedings of the Romanian Fluent Users Meeting, pp: 100-105, Editura Printech, ISBN 973-718-443-2.
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- Vn5. Resiga R., Bernad S., **Muntean S.**, Anton I., (2003) *Analysis and development of cavitation flow model and FLUENT implementation*, Proceedings of Workshop on Numerical Methods in Fluid Mechanics and FLUENT Applications, Editura Orizonturi Universitare, Timișoara, pp: 11-21. ISBN 973-638-022-X
- Vn6. **Muntean S.**, Resiga R., Bernad S., Anton I., (2003) *Mixing interface method for 3D turbulent flow analysis applied to Francis turbine*, Proceedings of Workshop on Numerical Methods in Fluid Mechanics and FLUENT Applications, Editura Orizonturi Universitare, Timișoara, pp. 22-36. ISBN 973-638-022-X

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- Vn8. Bernad S., Resiga R., **Muntean S.**, Anton I., (2003) *2D versus 3D flow in hydraulic poppet valves*, Proceedings of Workshop on Numerical Methods in Fluid Mechanics and FLUENT Applications, Editura Orizonturi Universitare, Timișoara, pp. 121-126. ISBN 973-638-022-X
- Vn9. Anton L., Baya A., Resiga R., Bernad S., **Muntean S.**, Stuparu A., (2003) *Numerical and experimental investigation of the flow in the pipe elbow*, Proceedings of Workshop on Numerical Methods in Fluid Mechanics and FLUENT Applications, Editura Orizonturi Universitare, Timișoara, pp. 187-194. ISBN 973-638-022-X
- Vn10. Balint D., Susan-Resiga R., **Muntean S.**, *2D versus 3D numerical simulations of ideal flows in Kaplan hydraulic turbines*. In Anton I., Resiga R., Sofonea V., Bernad S., Muntean S. (eds.) Proceedings of Workshop on Numerical Methods in Fluid Mechanics and FLUENT Applications, May 22-23 2003, Timișoara, Romania, 2003. pp. 56-63. ISBN: 973-638-022-X
- Vn11. **Muntean S.**, Susan-Resiga R., Anton I., Ancușă V., (2001) *Mixing Interface Method Applied to Threedimensional Flow through Francis Turbine*, in Proceedings of the Workshop on Numerical Simulation for Fluid Mechanics and Magnetic Liquids, Editura Orizonturi Universitare, Timisoara, pp. 25-44. ISBN: 973-8109-70-1
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Brevete (total 3)

- B1. **Muntean S.**, Susan-Resiga R., Bosioc A.I., Constantin S.-R., Maxim D.-I., Tănasă C., Vékás L., Borbath I., Anton L.E., (2016) Equipment for Mitigating the Cavitating Effects and Flow Uniformity at the Turbopump Inlet, RO131578-A0
- B2. Susan-Resiga R., **Muntean S.**, Tănasă C., Bosioc A.I., Ciocan T., Popescu C., (2015) Equipment for Controlling Instabilities of Swirl Flow from the Conical Diffuser of Hydraulic Turbines, RO131408-A0
- B3. Susan-Resiga R., Tănasă C., Bosioc A.I., Ciocan T., Stuparu A., **Muntean S.**, (2014) Method and Equipment for Controlling the Swirling Flow through the Conical Diffuser of Hydraulic Turbines RO130075-A0 RO130075-A8
3. Proiecte de cercetare-dezvoltare (P1, P2 etc.) pe bază de contract/grant, precum și alte lucrări de cercetare-dezvoltare (F1, F2 etc.), după caz, prin care se aduc contribuții la dezvoltarea mediului educațional/cultural/economic/social etc.

Proiecte de cercetare-dezvoltare pe bază de grant (total 22)

Nr. TOTAL de proiecte:	22		
Internaționale	2	Responsabil de proiect/partner:	1
Naționale	20	Responsabil de proiect/partner:	7

- P1. Susan-Resiga R., **Muntean S.**, L. Vekas, Bica D., Bernad S., Balint D., Stuparu A., Giula G., *Turbomachinery swirling flow optimisation and control with technology of magnetorheological fluid systems*. SWISS National Science Foundation, Grant SCOPES 2006-2008, IB7320-110942/1, perioada 2006-2008.

- P2. **Muntean S. – Director proiect**, *High Performance Computing for 3D Unsteady Swirling Flow Simulation in Draft Tube*, HPC Europa project, Contract No. 506079, 2005.
- P3. Tănasă C., Ciocan T., Bosioc A., Predoiu I., Popescu C., **Muntean S. (Consultant stiintific)**, Todiru M., *Mitigating the self-induced instabilities of the decelerated swirling flow using pulsating water jet*, Project PN-II-RU-TE-2014-4-0489, Contract UPT No. 81/2015. Period: 2015-2017 (<http://mh.mec.upt.ro/RPJD-DJPR/>)
- P4. Susan-Resiga R., **Muntean S. - Director proiect in 2016**, Stuparu A., Bosioc A., Tanasa C., and others, *Self-induced instabilities of the swirling flow in hydraulic turbines far from the best efficiency regime – iTURBOSWIRL*, Project PN-II-ID-PCE-2012-4-0634, Contract UPT No. 17/2013. Period: 2013-2016 (<http://mh.mec.upt.ro/iTURBOSWIRL/>)
- P5. Vékás L., Stoian F.D., Borbath I., Zaharescu T., **Muntean S.**, Bosioc A., and others, *High magnetization magnetic nanofluids and nano-micro composite magnetizable fluids: applications in heavy duty rotating seals and magnetorheological devices - MagNanoMicroSeal*, Proiect PN-II-PT-PCCA-2011-3.2-0538, Contract ARFT No. 157/2012. Partners: Romanian Academy – Timișoara Branch – coordonator proiect, "Politehnica" University of Timișoara – partner P1, S.C. ROSEAL S.A. Odorheiul Secuiesc – partner P2, ICPE-CA Bucharest– partner P3. Period: 2012-2016. (<http://acad-tim.tm.edu.ro/magnanomicroseal/>)
- P6. **Muntean S. – Director proiect**, Susan-Resiga R., Bernad S., Bernad S., Stuparu A., Bosioc A., Tanasa C., *O nouă metodă de control a curgerilor cu vartej prin injecție de apă și feedback hidrodinamic*, Proiect CNCISIS IDEI PCE 799, Contract 688/2009, perioada 2009-20011. (<http://acad-tim.tm.edu.ro/gr-jrp/index.php?page=pce799>)
- P7. **Muntean S. – Director proiect**, Anton I., Vekas L., Bica D., Bernad S., Popa C., Jurca G., Paut V., Stepanov V., Albu S., Botezatu I., Muntean S.G., Junc A., Militaru M., CEEX-M1-C2-1185 – iSMART-flow, contract MATNANTECH no. 64/2006, *Integrarea tehnologiilor magneto-reologice speciale si al controlului avansat a curgerii in aplicatii industriale – iSMART-flow*, Parteneri: Academia Română – Filiala Timișoara – coordonator proiect, Universitatea "Politehnica" din Timișoara – partener P1, Universitatea de Vest din Timișoara – partener P2, Universitatea "Eftimie Murgu" din Reșița – partener P3, perioada 2006-2008. (<http://acad-tim.tm.edu.ro/iSMART-flow/>).
- P8. **Muntean S. - Responsabil proiect P2**, Susan-Resiga R., Bernad S, Stuparu A., Bosioc A., Anton I., PN2 – Inovare - 1047, CTEMF, contract C59/2007, *Cercetari Teoretice si Experimentale pentru realizarea unui model de turbina Francis in doemniul turatiilor specifice (ns=350-400 rpm) destinat valorificarii eficiente a potentialului hidroenergetic din diferite amenajari cu aplicatie la CHE Cindere - CTEMF*, Parteneri: S.C. HydroEngineering S.A. Resita– coordonator proeict, P1 – Universitatea „Eftimie Murgu” Resita, P2 – Academia Română – Filiala Timișoara, perioada 2007-2009. (<http://www.hydorom.com/PC2.htm>)
- P9. **Muntean S. - Responsabil proiect P3**, Bernad S, Anton I., CEEX-M1-C2-4409 - MARGAS, contract IPA X2C16/2006, *Modele și metode numerice avansate în ingineria navelor de transport gaze lichefiate - MARGAS*, Parteneri: Institutul de Cercetare Proiectare Construcții Navale ICEPRONAV Galați – coordonator proeict, P1 – Universitatea „Dunărea de Jos” Galați, P2 – Universitatea „Politehnica” din Timișoara, P3 – Academia Română – Filiala Timișoara, perioada 2006-2008. (<http://www.icepronav.ro/ceex/margas.html>)
- P10. **Muntean S. - Responsabil proiect P1**, Bernad S., Anton I., *Hidrodinamica vârtejurilor și aplicații*. Grant CNCISIS tip A Consorțiu no. 33 (Partener P1, Academia Română – Filiala Timișoara), perioada 2005-2007. (<http://mh.mec.utt.ro/accord-fluid/>)
- P11. Bernad S., **Muntean S.**, Vekas L., Bica D., Sofonea V., Bernad E., Resiga D., CEEX-M1-C2-1180 - CARDIOCOMP, contract VIASAN no: 81/2006, *Optimizarea computerizată a procesului de diagnostic, intervenție terapeutică și prognostic a bolilor cardiovasculare – CARDIOCOMP*, Parteneri: Academia Română – Filiala Timișoara – coordonator, Universitatea "Politehnica" din Timișoara – partener P1, Universitatea "Politehnica" din București – partener P2, Institutul de Boli Cardiovasculare din Timișoara – partener P3, Universitatea de Medicină și Farmacie "Victor Babeș" din Timișoara – partener P4, perioada: 2006-2008. (<http://acad-tim.tm.edu.ro/cardiocomp/>)
- P12. Bernad S., **Muntean S.**, Anton L., Baya A., Balint D., Stuparu A., CEEX-M1-C2-2566 - THARVEST, contract AMCSIT no. 192/2006, *Interinfluența turbinelor hidraulice stabilizate cu ax de rotație vertical de tip ACHARD - THARVEST*, Parteneri: Universitatea Tehnică de Construcții București – coordonator proiect, Universitatea "Politehnica" din București – partener P1,

Academia Română – Filiala Timișoara – partener P2, perioada 2006-2008.
(<http://hidraulica.utcb.ro/tharvest/>)

- P13. Resiga R., **Muntean S.**, Bernad S., Anton L., Baya A., Balint D., Stuparu A., Hasmatuchi V., Frunza T., CEEEX-M1-C2-2297 - TEHNOMED, contract IPA no. X2C05/2006, *Hidrogazodinamica și transferul de masă la coloane de bule fine cu aplicare în tehnologii avansate de mediu - TEHNOMED*, Parteneri: INCDIE ICPE-CA – coordonator proiect, Universitatea "Politehnica" din București – partener P1, Universitatea Tehnică de Construcții București – partener P2, Universitatea "Politehnica" din Timișoara – partener P3, S.C. Institutul Național al Sticlei S.A. – partener P4, RAGC –Târgoviște – partener P5, perioada 2006-2008.
- P14. Bernad S., Resiga R., **Muntean S.**, Balint D., Frunză T., *Dezvoltarea de modele matematice și numerice pentru curgerea cavitațională bifazică cu aplicații industriale și biomedicale*. Grant CNCSIS tip A nr. 730, perioada 2005-2007.
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- P20. Susan-Resiga R., **Muntean S.**, Anton I., *Analiza Numerică a Curgerii Cuplate Tridimensionale în Distribuitorul și Rotorul Turbinelor Francis*, Grant de Cercetare al Academiei Române, GAR Nr. 81/2001.
- P21. Susan-Resiga R., **Muntean S.**, Anton I., *Analiza Numerică a Curgerii în Rețele Radiale de Profile Dispuse în Tandem*, Grant ANSTI-C, Contract Nr. 6142 / 19.10.2000
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Proiecte de cercetare-dezvoltare pe bază de contract (total 35)

Nr. TOTAL de contracte:	39		
Internaționale	5	Responsabil de contract/partner:	0
Naționale	34	Responsabil de contract/partner:	15

- P1. Resiga R., **Muntean S.**, Anton A., Ciocan T., Ighisan C., *Modelling the Two-Dimensional Swirling Flow in Francis Turbines for Optimization of Draft Tube Performances within an Operating Range. Part I: Two-Dimensional Steady Axisymmetric Swirling Flow Computation Downstream the Francis Runner*, Contract UPT no. BCI 4/2012, beneficiar Alstom Hydro, Grenoble, Franta. 2012-2013.
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- P4. Resiga R., Bernad S., **Muntean S.**, *Thermo-hydrodynamic optimization of a cooling cell with partial cross-walls*, Contract UPT nr. 16126/21.12.2005, beneficiar SIEMENS VDO Automotive, Germany, ianuarie-martie 2006.
- P5. Resiga R., Bernad S., Resiga D., **Muntean S.**, *Rheological investigations of polymer samples under controlled inert atmosphere*, Contract UPT nr. 1/1.03.2005, beneficiar: Ezus Lyon, France, martie-aprilie 2005.
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- P8. Baya A., **Muntean S. – Responsabil contract P1**, s.a., *Cercetari si experimentari privind imbunatatirea performantelor energetice si cavitationale ale turbinelor Francis 57.5 – 128.5 CHE Bradisor – Etapa 3*, Contract Nr. 174/30.12.2010, , beneficiar Hidroelectrica SA, Sucursala Hidrocentrale Ramnicu Valcea. Parteneri: Universitatea "Politehnica" din Timișoara–coordonator proiect, Academia Română – Filiala Timișoara – partener P1, 2011
- P9. **Muntean S. – Responsabil contract P1**, Bernad S., Anton I., Constantin S., *Cercetari si experimentari privind imbunatatirea performantelor energetice si cavitationale ale pompelor PRO 10-195 de la SP Jidoaia – Etapa 2*. Contract Nr. 72-113.03/05.11.2009, beneficiar Hidroelectrica SA, Sucursala Hidrocentrale Ramnicu Valcea. Parteneri: Universitatea "Politehnica" din Timișoara– coordonator proiect, Academia Română – Filiala Timișoara – partener P1.
- P10. **Muntean S. – Responsabil contract P1**, Bernad S., Anton I., Dragomirescu I., Constantin S., Bosioc A., *Cercetari si experimentari privind imbunatatirea performantelor energetice si cavitationale ale turbinelor Francis 57.5 – 128.5 CHE Bradisor – Etapa 2*. Contract Nr. 71-113.03/05.11.2009, beneficiar Hidroelectrica SA, Sucursala Hidrocentrale Ramnicu Valcea. Parteneri: Universitatea "Politehnica" din Timișoara– coordonator proiect, Academia Română – Filiala Timișoara – partener P1, Universitatea „Eftimie Murgu” Resita – partener P2, ISIM Timisoara – partener P3.
- P11. **Muntean S. – Responsabil contract P1**, Bernad S., Anton I., Constantin S., *Cercetari si experimentari privind imbunatatirea performantelor energetice si cavitationale ale pompelor PRO 10-195 de la SP Jidoaia*. Contract Nr. 97-113.03/16.10.2008, beneficiar Hidroelectrica SA, Sucursala Hidrocentrale Ramnicu Valcea. Parteneri: Universitatea "Politehnica" din Timișoara–coordonator proiect, Academia Română – Filiala Timișoara – partener P1.
- P12. **Muntean S. – Responsabil contract P1**, Bernad S., Anton I., Dragomirescu I., Constantin S., *Cercetari si experimentari privind imbunatatirea performantelor energetice si cavitationale ale turbinelor Francis 57.5 – 128.5 CHE Bradisor*. Contract Nr. 96-113.03/16.10.2008, beneficiar Hidroelectrica SA, Sucursala Hidrocentrale Ramnicu Valcea. Parteneri: Universitatea "Politehnica" din Timișoara– coordonator proiect, Academia Română – Filiala Timișoara – partener P1, Universitatea Eftimie Murgu Resita – partener P2, S.C. HydroEngineering S.A. Resita - partener P3.
- P13. **Muntean S. – Responsabil contract**, Bernad S., Resiga R., Stuparu A., Bosioc A., Baya A., Anton L., Anton I., *Studii privind analiza numerică a curgerii în traseul hidraulic al CHE Munteni ce urmărește determinarea încărcării pe paletele rotorice în punctele de funcționare în care turbina operează cel mai frecvent*, Contrac ARFT nr. 9875/30.11.2007 beneficiar S.C Hidroelectrica S.A. Sucursala Cluj, 2007.
- P14. **Muntean S. – Responsabil contract**, Campian V., Nedelcu D., Liuba G., Cuzmos A., Dumbrava C., Anton I., *Masurarea pulsatiilor de presiune in conul tubului de aspiratie, in regimuri stationare si nestationare ale turbinei Francis de la CHE Ruieni*, Contract ARFT nr. 58/04.10.2007 beneficiar S.C Hidroelectrica S.A. Sucursala Caransebes, 2007.

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- P16. **Muntean S. – Responsabil contract P1**, Bernad S., Barbat T., Junc C., Anton I., *Studii privind comportarea și exploatarea echipamentelor hidroenergetice*, Contract UPT 120-12.02/24.08.2007, beneficiar S.C. Hidroelectrica S.A. Râmnicu -Vâlcea, 2007. Parteneri: Universitatea "Politehnica" din Timișoara – coordonator proiect, Academia Română – Filiala Timișoara– partener P1, Universitatea Tehnica de Constructii Bucuresti– partener P2, S.C. HydroEngineering S.A Reșița – subcontractant.
- P17. **Muntean S. – Responsabil contract**, Resiga R., Bernad S., Stuparu A., Bosioc A., *Simularea și analiza curgerii 3D prin rotorul relativist de mare capacitate*, Contract ARFT nr. 423/13.06.2007 beneficiar S.C. TehnoVil-Erudit, Râmnicu Vâlcea, 2007.
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- P19. Daniela Resiga, R. Resiga, S. Bernad, **S. Muntean**, *Aspecte ale comportarii plastice si elastice ale solurilor alcoxidice in timpul tranzitiei de la sol la gel*, Contract UPT nr. 343/27.10.2005, beneficiar Institutul de Chimie al Academiei Romane – Filiala Timisoara, perioada octombrie 2005.
- P20. Resiga R., Bernad S., **Muntean S.**, *Consultanta si expertiza tehnica pentru simulare numerica si analiza a curgerii cu transfer termic in echipamentele de uscare PET*, Contract UPT nr. 325/27.09.2005, beneficiar SC ZOPPAS Industries – Romania, perioada august – octombrie 2005.
- P21. Resiga R., Bernad S., Oprisa D., **Muntean S.**, *Numerical simulation of flow with heat convection and radiation for a dryer heating system*, Contract UPT nr. 320/19.09.2005, beneficiar SC ZOPPAS Industries – Romania, perioada septembrie – decembrie 2005.
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- P25. **Muntean S. – Responsabil contract**, Balint D., Bernad S., Susan-Resiga R., Anton I., *Stabilirea poziției paletelor la statorul turbinei HA Zăvideni în vederea optimizării curgerii apei prin acesta*. Contract Academia Romana nr. 90-12.02/05.05.2004, beneficiar Hidroelectrica SA, Sucursala Hidrocentrale Ramnicu Valcea.
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- P30. Bernad S., Susan-Resiga R., **Muntean S.**, Stuparu A., *Simularea numerică și analiza fenomenului curgerii 3D cu radiație și convecție naturală pentru o rezistență electrică dată.* Contract UPT nr. 44/30.03.2004, beneficiar ZOPPAS Industries – Romania.
- P31. Milos T., Anton L., Baya A., Resiga R., **Muntean S.**, Bernad S., Balint D., Stuparu A., *Analiza curgerii și optimizarea răcirii în circuitul interior de ventilație al motorului asincron cu rotorul în scurt-circuit tip TIS 1350/430-6 de 420 kW; 690 V; 215-430 rpm,* Contract UPT nr. 10/21.01.2004, beneficiar U.C.M. Reșița S.A.
- P32. Susan-Resiga R., Bernad S., **Muntean S.**, C. Catona, *Simularea numerică și analiza fenomenului curgerii 3D cu convecție naturală prin cutia termostatului ce echipează radiatoarele electrice.* Contract Nr. 1228/ 16.12.2003, beneficiar ZOPPAS Industries – Romania.
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- P35. Daniela Susan-Resiga, Susan-Resiga R., Bernad S., **Muntean S.**, *Determinarea proprietăților reologice ale țigeturilor aditivat cu polimeri,* Contract Nr. 1182/ 20.10.2003, beneficiar U.P.B. - Centrul de Cercetări Energetice și de Protecția Mediului.
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- P37. Bernad S., Susan-Resiga D., Susan-Resiga R., **Muntean S.**, Marinică O., *Determinarea proprietăților reologice de curgere ale fluidului de foraj cu microbule,* Contr. Nr. 991/2002, beneficiar ICPT Câmpina.
- P38. Bernad S., **Muntean S.**, Susan-Resiga R., *Numerical Simulation and Analysis of the Polyethylene Terephthalate Flow in 72 Cavities Hot Runner Configuration Taking into Account the Variable PET Viscosity,* Contr. Nr. 958/2002, beneficiar ZOPPAS Industries Romania.
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Timisoara,
10 mai 2017

Dr.ing. Sebastian MUNTEAN, CS I