

# List of publications

– Mircea Bîrsan –

## **a) Articles selected by the author as the most relevant for the scientific achievements obtained after receiving the Ph.D. title :**

1. M. Bîrsan – On the theory of elastic shells made from a material with voids, *International Journal of Solids and Structures*, vol. 43 (2006), 3106-3123.

2. M. Bîrsan – On a thermodynamic theory of porous Cosserat elastic shells, *Journal of Thermal Stresses*, vol. 29 (2006), 879-899.

3. M. Bîrsan – On the bending equations for elastic plates with voids, *Mathematics and Mechanics of Solids*, vol. 12 (2007), 40-57.

4. M. Bîrsan – On the theory of loaded general cylindrical Cosserat elastic shells, *International Journal of Solids and Structures*, vol. 44 (2007), 7399-7419.

5. M. Bîrsan – Inequalities of Korn's type and existence results in the theory of Cosserat elastic shells, *Journal of Elasticity*, vol. 90 (2008), 227-239.

6. M. Bîrsan – Thermal stresses in cylindrical Cosserat elastic shells, *European Journal of Mechanics A/Solids*, vol. 28 (2009), 94-101.

7. M. Bîrsan – On Saint-Venant's problem for anisotropic, inhomogeneous, cylindrical Cosserat elastic shells, *International Journal of Engineering Science*, vol. 47 (2009), 21-38.

8. M. Bîrsan, H. Altenbach – A mathematical study of the linear theory for orthotropic elastic simple shells, *Mathematical Methods in the Applied Sciences*, vol. 33 (2010), 1399-1413.

9. M. Bîrsan, H. Altenbach – On the theory of porous elastic rods, *International Journal of Solids and Structures*, vol. 48 (2011), 910-924.

10. M. Bîrsan, H. Altenbach, T. Sadowski, V. Eremeyev, D. Pietras – Deformation analysis of functionally graded beams by the direct approach, *Composites Part B: Engineering*, vol. 43 (2012), 1315-1328.

**b) Ph.D. Thesis :**

M. Bîrsan – Study of the deformation of some elastic solids with microstructure (in Romanian), Faculty of Mathematics, University “A.I. Cuza” of Iași, scientific supervisor Prof. Dr. D. Ieșan.

**c) Books and chapters in books :**

1. M. Bîrsan – Deformation of Porous Elastic Plates: A Mathematical Study (in Romanian). Publisher: Editura Matrix Rom, Bucharest, 2007, 131 pp.
2. M. Bîrsan – Linear Cosserat Elastic Shells: Mathematical Theory and Applications. Publisher: Editura Matrix Rom, Bucharest, 2009, 230 pp.
3. M. Bîrsan, H. Altenbach – Analysis of the deformation of multi-layered orthotropic cylindrical elastic shells using the direct approach.  
In: H. Altenbach, V.A. Eremeyev (Eds.), Shell-like Structures, Advanced Structured Materials, vol. 15, Springer-Verlag, Berlin Heidelberg, pp. 29-52 (Chapter 3), 2011.

**d) Articles published in journals from the main scientific stream:**

1. M. Bîrsan – A bending theory of porous thermoelastic plates, Journal of Thermal Stresses, vol. 26 (2003), 67-90.
2. M. Bîrsan – The solution of Saint-Venant’s problem in the theory of Cosserat shells, Journal of Elasticity, vol. 74 (2004), 185-214.
3. M. Bîrsan – Saint-Venant’s problem for Cosserat shells with voids, International Journal of Solids and Structures, vol. 42 (2005), 2033-2057.
4. M. Bîrsan – Minimum energy characterizations for the solution of Saint-Venant’s problem in the theory of shells, Journal of Elasticity, vol. 81 (2005), 179-204.
5. M. Bîrsan – Several results in the dynamic theory of thermoelastic Cosserat shells with voids, Mechanics Research Communications, vol. 33 (2006), 157-176.

6. M. Bîrsan – On the theory of elastic shells made from a material with voids, *International Journal of Solids and Structures*, vol. 43 (2006), 3106-3123.
7. M. Bîrsan – On a thermodynamic theory of porous Cosserat elastic shells, *Journal of Thermal Stresses*, vol. 29 (2006), 879-899.
8. M. Bîrsan – On the bending equations for elastic plates with voids, *Mathematics and Mechanics of Solids*, vol. 12 (2007), 40-57.
9. M. Bîrsan – On Saint-Venant’s principle in the theory of Cosserat elastic shells, *International Journal of Engineering Science*, vol. 45 (2007), 187-198.
10. M. Bîrsan – On the theory of loaded general cylindrical Cosserat elastic shells, *International Journal of Solids and Structures*, vol. 44 (2007), 7399-7419.
11. M. Bîrsan – On the dynamic deformation of porous Cosserat linear-thermoelastic shells, *ZAMM – Zeitschrift für Angewandte Mathematik und Mechanik*, vol. 88 (2008), 74-78.
12. M. Bîrsan – Inequalities of Korn’s type and existence results in the theory of Cosserat elastic shells, *Journal of Elasticity*, vol. 90 (2008), 227-239.
13. M. Bîrsan – Thermal stresses in cylindrical Cosserat elastic shells, *European Journal of Mechanics A/Solids*, vol. 28 (2009), 94-101.
14. M. Bîrsan – On Saint-Venant’s problem for anisotropic, inhomogeneous, cylindrical Cosserat elastic shells, *International Journal of Engineering Science*, vol. 47 (2009), 21-38.
15. M. Bîrsan – On the problems of Almansi and Michell for anisotropic Cosserat elastic shells, *Archives of Mechanics*, vol. 61 (2009), 195-227.
16. M. Bîrsan – Thermal stresses in anisotropic cylindrical elastic shells, *Mathematical Methods in the Applied Sciences*, vol. 33 (2010), 799-810.
17. M. Bîrsan, H. Altenbach – A mathematical study of the linear theory for orthotropic elastic simple shells, *Mathematical Methods in the Applied Sciences*, vol. 33 (2010), 1399-1413.
18. M. Bîrsan, H. Altenbach – On the dynamical theory of thermoelastic simple shells, *ZAMM – Zeitschrift für Angewandte Mathematik und Mechanik*, vol. 91 (2011) 443-457.

19. M. Bîrsan, H. Altenbach – On the theory of porous elastic rods, *International Journal of Solids and Structures*, vol. 48 (2011), 910-924.
20. M. Bîrsan, H. Altenbach – Theory of thin thermoelastic rods made of porous materials, *Archive of Applied Mechanics*, vol. 81 (2011), 1365-1391.
21. M. Bîrsan, H. Altenbach – The Korn-type inequality in a Cosserat model for thin thermoelastic porous rods, *Meccanica*, vol. 47 (2012), 789-794.
22. M. Bîrsan, H. Altenbach, T. Sadowski, V. Eremeyev, D. Pietras – Deformation analysis of functionally graded beams by the direct approach, *Composites Part B: Engineering*, vol. 43 (2012), 1315-1328.

**e) Papers published in the proceedings of the main international conferences in the field :**

1. M. Bîrsan – Extension, bending and torsion of cylindrical Cosserat shells made from a porous elastic material, *Proceedings of the 3<sup>rd</sup> European Conference on Computational Mechanics* (2006), 18 pagini.
2. M. Bîrsan – On the use of Korn's type inequalities in the existence theory for Cosserat elastic surfaces with voids. In: *Applied Analysis and Differential Equations* (Eds. O. Carja, I.I. Vrabie), World Scientific, Singapore, 2007, 11-20.
3. M. Bîrsan – Principle of Saint-Venant for porous Cosserat elastic shells, *Proceedings of the 3<sup>rd</sup> International Conference on Structural Engineering, Mechanics and Computation* (2007), Millpress Science, Dordrecht, 309-310.
4. M. Bîrsan – On a problem of thermal stresses in the theory of Cosserat elastic shells with voids. In: *Proceedings of IUTAM Symposium on Relations of Shells, Plate, Beam, and 3D Models* (Eds. G. Jaiani, P. Podio-Guidugli), Springer Science + Business Media B.V., 2008, 67-76.
5. M. Bîrsan, H. Altenbach – Continuous dependence and instability in the linear theory of elastic shells In: *Shells Structures: Theory and Applications*, vol. 2 (Eds. W. Pietraszkiewicz, I. Kreja), Taylor and Francis, London, 2010, 55-58.
6. M. Bîrsan, H. Altenbach - On the theory of orthotropic porous elastic rods, *Proceedings of Applied Mathematics and Mechanics (PAMM)*, vol. 10 (2010), 143-144.

**f) Other papers :**

1. M. Bîrsan – On a theory of porous thermoelastic shells, *Analele Științifice ale Universității “A.I. Cuza” Iași, Ser. Matematică*, vol. 46 (2000), 111-130.
2. M. Bîrsan – Existence and uniqueness of weak solutions in the linear theory of elastic shells with voids, *Libertas Mathematica*, vol. 20 (2000), 95-105.
3. M. Bîrsan – On the bending of plates in the theory of elastic materials with voids, *Analele Științifice ale Universității “A.I. Cuza” Iași, Ser. Matematică*, vol. 49 (2003), 61-76.
4. M. Bîrsan – Some theorems in the bending theory of porous thermoelastic plates, *Analele Științifice ale Universității “A.I. Cuza” Iași, Ser. Matematică*, vol. 50 (2004), 305-314.
5. M. Bîrsan – Transient and steady-state solutions for porous thermoelastic plates, *Analele Științifice ale Universității “A.I. Cuza” Iași, Ser. Matematică*, vol. 52 (2006), 159-176.
6. M. Bîrsan – On a problem of Truesdell for anisotropic elastic shells, *Analele Științifice ale Universității “A.I. Cuza” Iași, Ser. Matematică*, vol. 57 (2011), 91-110.
7. M. Bîrsan, T. Bîrsan – An inequality of Cauchy-Schwarz type with application in the theory of elastic rods, *Libertas Mathematica*, vol. 31 (2011), 123-126.
8. M. Bîrsan, P. Neff – On the equations of geometrically nonlinear elastic plates with rotational degrees of freedom, *Annals Academy Romanian Scientists, Series Mathematics Applications*, vol. 4 (2012), 97-104.