

Profesor Dr. Sanda Tigoiu

1. DATE PERSONALE

Numele: Sanda Tigoiu

Articolele științifice sunt publicate sub numele: **Sanda CLEJA -TIGOIU** din 1978, iar până în anul 1978 cu numele purtate anterior **Cleja, Negescu**.

Data și locul nașterii: 10 Septembrie, 1948, în București, născută CLEJA
Studii universitare în matematică, specializarea mecanica fluidelor (1966-1971), la Universitatea din București, România.

Locul de muncă: Universitatea din București, Facultatea de Matematică și Informatică, Departamentul de Matematică.

Adresa: e-mail: stigoiu@yahoo.com; tigoiu@fmi.unibuc.ro

Statut social : Căsătorită

2. STUDII:

Facultate: Universitatea din București, Facultatea de Matematică 1966-1971, Absolventă 1971.

Studii de Doctorat: Universitatea de stat Lomonosov, Moscova, Rusia, 1973-1976.

Doctor în Fizică și Matematică cu teza “Probleme la limită pentru procese elasto-plastice cu puncte unghiulare” (în limba rusă), 3 decembrie 1976, Universitatea de stat Lomonosov, Moscova, semnată cu numele **Sanda Negescu-Cleja**, conducător științific V.S. Lensky. Echivalarea diplomei de doctor în fizico-matematici a fost eliberată de Ministerul Educației și Invațământului, cu data de 1 februarie 1979.

3. POZITII DIDACTICE:

Asistent, Catedra de Mecanică, Universitatea din București, septembrie 1971 – septembrie 1981;

Lector, Catedra de Mecanică, Ecuatii și Geometrie, septembrie 1981- septembrie 1992.

Conferentiar, Catedra de Mecanică și Ecuatii, Universitatea din București, septembrie 1992-2000.

Profesor, Departamentul de Matematică, Secția de Mecanică și Ecuatii, Universitatea din București, din octombrie 2000 – octombrie 2016.

Profesor cu contract pe perioadă determinată din 1 octombrie 2016-2020

Profesor emerit al Universității din București.

Conducător de doctorat din 2002.

4. CURSURI TINUTE – ACTIVITATE DIDACTICA:

- Mecanică teoretică, Mecanica analitică și Relativistă (licență), Mecanica Solidelor , Teoria Elasticității, Introducere în Mecanica Mediilor Continue, Mecanica Mediilor Deformabile, Introducere în Mecanica Solidelor- licență ; Teoria plasticității, Reologie și

Termodinamică, Stabilitate și Metode Asimptotice în Mecanică, Mecanică neliniară - Master.

- Din 1980, în fiecare an am **condus lucrări de licență** ale studenților, începând din 1994-1995 am îndrumat **și lucrări de disertație** la Secția de studii aprofundate, anii V și VI, la Masterul de Modelare Matematică în științele naturii și știința materialelor și respectiv Masterul de Matematici financiare, **Analiză matematică și Modelare matematică**.
- **Teze de doctorat sustinute.** Sub îndrumarea mea au fost susținute teze în domeniul matematică, teze cu conținut de mecanica mediilor deformabile, de către următoarele cadre didactice : Carmen Pricina (Tarlea) (2011), Stelian Gradinaru (2011), Raisa Tichisan (Pascan) (2013), Lidia Angelica Zidaru (Iancu) (2014), Nadia Elena Andronache (Stoicuta) (2014), Livia-Elena Harabagiu (2015), Adrian Stoica (2016), Cozmin Barbu (2018).

5. DOMENIILE DE CERCETARE STIINTIFICA:

Mecanica mediilor deformabile: Probleme la limită pentru procese de deformare elasto-plastică, Modelare matematică a proceselor de prelucrare a metalelor, Modele elasto-plastice pentru materiale cu structură cristalină cu deformații finite, Modele în mecanica materialelor de tip rocă, Modele anizotrope în elasto-plasticitatea multiplicativă, Simetrie materială: materiale transversal izotrope și ortotrope, structuri twinning, Vascoplasticitate, Postulate de disipare în elasto-plasticitatea finită anizotropă; Elasto-plasticitate finită de ordinul doi, Modelarea matematică a defectelor continuu distribuite de tip dislocații, disclinații, extra-materie sau goluri, Principii de disipare: nebilanțarea energiei libere, Aplicații ale geometriei diferențiale în elasto-plasticitate, Simulare numerică. Modelarea deteriorării anizotrope a materialelor cu defecte structurale.

6. PUBLICATII STIINTIFICE (a se vedea listele atașate)

Rezultatele activității științifice au fost publicate într-un număr de peste 100 de articole științifice, în 9 cărți și capitole de carte, scrise singură sau cu colaboratori (*vezi listă publicații*). Menționez că lucrările au fost citate în aproximativ 700 de publicații, după cunoștințele parțiale pe care le dețin.

Rezultatele semnificative au fost obținute în domeniul Mecanicii mediilor continue și în special în Teoria plasticității (sub toate aspectele ei: **de la micro la macro, de la mici deformații la mari deformații, de la procese staționare la propagări de unde de șoc**) mergând de la modelare și până la formularea matematică și rezolvarea numerică a problemelor la limită sau de propagare ce apar ca naturale (multe dintre acestea având un suport real).

Subliniez faptul că rezultatele au fost publicate în reviste din topul domeniului cum ar fi:

- **International Journal of Plasticity** (6 lucrări) - **top 4 / 133;**
- **Applied Mechanics Review** (1 lucrare) – **top 5 / 133;**
- **International Journal of Engineering Science** (6 lucrări) – **top 9 / 85;**
- **International Journal of Solids and Structure** (1 lucrare) – **top 15 / 133,**
- **International Journal of Fracture** (2 lucrări) – **top 25 / 133;**
- **International Journal of Mechanical Sciences** (1 lucrare) – **top 28 / 133,**
- **European Journal of Mechanics A/Solids** (1 lucrare) – **top 29 / 133;**

toate în top 25% în domeniu (*dat după AIS*),

- **Mathematics and Mechanics of Solids** (6 lucrări);
- **International Journal of Damage Mechanics** (1 lucrare);

- **Acta Mecanica** (1 lucrare);
- **Mechanics Research Communications** (1 lucrare)
- **ZAMP** (2 lucrări);

toate aflate în prima jumătate a top-ului în domeniu (*dat după AIS*).

7. POZITII DE CERCETARE / CERCETATOR INVITAT:

- Bursă Post Doctorală, acordată de guvernul Franței, în Laboratorul de Mecanica Solidelor, Scoala Politehnică, Palaiseau- Paris, Franța, perioada noiembrie 1990 – mai 1991.
- Bursă TEMPUS – Laboratorul de Mecanica Solidelor, Institutul Politehnic, Palaiseau- Paris, Franța, (două luni) 1992.
- Activități de cercetare științifică, în colaborare cu Profesor Dr. N. D. Cristescu, Universitatea din Florida, Gainesville, Florida, SUA, 2 September- 1 October 2000.
- Activități de Cercetare la Graduate Engineering Center, Universitatea din Florida, Shalimar, SUA, 15 ianuarie- 15 martie, 2003.
- Bursă Fulbright de cercetare, Texas A&M University, College Station, Texas, SUA, octombrie 2005-aprilie 2006, tema de cercetare propusă « Comportamentul inelastic al materialelor cu neomogenități structurale de tipul dislocațiilor și structuri twinning ». Rezultatele cercetării au fost publicate în articolul menționat în lista de lucrări, [68.] **Sanda Cleja-Țigoiu**, 2009, Thermomechanics of twinning from parent to a twin with mirror image symmetry, Zangew. Math. Phys., 60, pp. 934—970.

8. MOBILITATI - PROFESOR INVITAT:

- **Mobilități didactice** Programul Erasmus-Socrates:

Universitatea Paris VI, Laboratorul de Modelare în Mecanică, Paris, Franța, 26 ianuarie - 6 februarie 2000.

Universitatea Aix en Provence, Laboratorul de Modelare în Mecanică, Marsilia, 2 mai - 7 mai, 2004.

- **Profesor invitat la :**

“L'école Central” Lyon, Departamentul de Mecanica Solidelor, Lyon, Franța, aprilie 2004.

“Université de Poitiers”, Departamentul de Mecanica Solidelor, Poitiers, Franța, iunie 2005. (A fost publicat în colaborare [64.] **Sanda Cleja-Țigoiu**, 2008, D. Fortune, C. Vallee, Torsion equation in anisotropic elasto-plastic materials with continuously distributed dislocations, *Mathematics and Mechanics of Solids*, 13(8), 667-689.)

Centrul Interdisciplinar-Lisabona, May 15 – May 30, lecții în elasto-plasticitate cu deformații finite.

9. PARTICIPĂRI CU CONFERINȚE INVITATE LA CONFERINȚE ȘI SEMINARIILE INTERNAȚIONALE

1. IUTAM Symposium on Constitutive Relations for finite deformations of Polycrystalline Metals (CRFDPM), Beijing, China, 22- 27 July 1991.

- **Two approaches to finite elasto-plasticity** (cu E. Soós)

2. MECA-MAT '91, "International Seminar on Large Plastic Deformations, Fundamentals and Applications to Metal Forming, Fontainebleau, France, 7-9 August 1991.
- **Elastic ranges versus relaxed configurations (cu E. Soós)**
3. The third International Symposium on Plasticity and its Current Applications: Anisotropy and Localization of Plastic Deformation, 12- 16 august 1991, Grenoble, France.
- **Elasto-viscoplastic constitutive equations for rock and rock-type materials at large deformations (cu N. Cristescu)**
4. International Seminar on "Geometry, Continua and Microstructure", 28- 29, 1997, Paris, France;
- **Models in multiplicative finite elasto-plasticity**
5. International Symposium "Continuum models and discrete systems", CMDS9, Istanbul, Turkey, 28 June- 3 July 1998.
- **Anisotropic Models of Multiplicative Finite Elastoplasticity**
6. International Seminar on "Geometry, Continua and Microstructure", 18-21, May 1999, Bad Herrenalb, Germany;
- **Some remarks on dissipation postulate in anisotropic elasto-plasticity**
7. Mecasalt5, 5-th Conference on the Mechanical Behavior of Salt V, Bucharest, Romania, 9-11 August, 1999;
- **Non-elastic instantaneous response in rock rheology (cu E. Medves)**
8. International Seminar on "Geometry, Continua and Microstructure", 26- 28 October 2000, Torino, Italia;
- **Anisotropic and dissipative finite elasto-plasticity**
9. The 20-th International Congress on Theoretical and Applied Mechanics, ICTAM 2000, 27 August-2 September 2000, Chicago, USA;
- **Dissipative anisotropic materials in finite elasto-plasticity**
10. International Seminar on "Geometry, Continua and Microstructure", 26- 28 September 2001, Sinaia, Romania;
- **A Model of Crystalline Materials with Dislocations**
11. International Symposium on "Problems of the Mechanics of deformable bodies", dedicated to Professor A. A. Ili'yushin, on 22-23 January 2001, at the University of Moscow, Moscow, Russia;
- **Ilyushin's postulate in finite elasto-plasticity**
12. International Seminar on "Geometry, Continua and Microstructure", 22-24 September, 2002, Belgrade, Yugoslavia;
- **Small elastic strains in finite elasto-plastic materials with continuously distributed dislocations**
13. EUROMECH- 430: Formulations and Constitutive Laws for Very large strains, 5-7, Oct. 2001, Prague, Czech Republic.
- **Large elasto-plastic deformations in anisotropic and dissipative materials**

14. International Conference on Nonsmooth/nonconvex Mechanics, with Applications in Engineering, 5-6 July, 2002, Thessalonica, Greece;
 - **Non-local effects and large elasti-plastic deformations in crystalline materials with dislocations**
15. The 6th Franco-Romanian Conference on Applied Mathematics, 2-6 September, 2002, Perpignan, France;
16. EUROMECH-45, Mechanics of Material Forces, 21-24 May, 2003, Kaiserslautern, Germany;
 - **Role of non-Riemannian plastic connection in finite elasto-plasticity with continuous distribution of dislocations**
17. NATO Advanced Research Workshop on "Continuum models and discrete systems", CMDS-10, June 30th- July 4th 2003, Shoresh, Israel;
 - **Anisotropic models of multiplicative finite elastoplasticity**
18. New Trends in Continuum Mechanics, Sept. 8-12, 2003, Constanta, Romania;
 - **Material symmetry in finite elasto-plasticity with continuum distributed dislocations**
19. Configurational Mechanics Symposium, with the 5-th EUROMECH Solid Mechanics Conference, 17-22 August 2003, Thessaloniki, Greece;
 - **Approaches to finite elasto-plasticity with dislocations**
20. Developments in Plasticity and Fracture, Centenary of M.T. Huber' criterion, 12-14 August, 2004, Crakow, Poland;
 - **Yield criteria in anisotropic finite elasto-plasticity**
21. 8th International ESAFORM Conference on Material Forming, April 27-29, 2005, Cluj Napoca, Romania;
 - **Anisotropic Elasto-plastic Model for Large Metal Forming Deformation Processes**
22. Rensselaer Polytechnic Institute, Troy, USA, 25 January 2006;
 - **Non-local Continuum Models with Dislocations for Elastic-Plastic Materials**
23. Worcester Polytechnic Institute, Worcester, USA, 27 January 2006;
 - **Anisotropic Elasto-plastic Model for Large Metal Forming Deformations**
24. Department of Mechanical Engineering, Texas A&M University, USA, 3 April 2006,
 - **Anisotropic and Dissipative Models in Finite Elasto-plasticity.**
25. The 8th Franco-Romanian Conference on Applied Mathematics, 2-6 September, 2006, Chambery, France;
 - **Model of finite elasto-plasticity with dislocations that accounts for torsion and dissipation.**
26. 10th International ESAFORM Conference on Material Forming, Zaragoza, Spain, April 17-21, 2007,
 - **Orthotropic Model for Metallic Sheets in Finite Elasto-Plasticity.**
27. International Symposium on Defect and Material Mechanics, Aussois, France, March 25-29, 2007;

- **Material forces in finite elasto-plasticity with continuously distributed dislocations**
- 28. Congresul International al matematicienilor Romani, Bucuresti, 27 iunie- 4 iulie 2007,
 - **Finite elasto-plasticity with continuously distributed dislocations.**
- 29. International Symposium on Plasticity08, Kailua-Kona, Hawaii, USA, 3-8 January, 2008;
 - **Thermomechanics of materials with structural inhomogeneities**
- 30. ESAFORM 11-th Conference, Lyon, France, April 23-25, 2008;
 - **Modeling damage in finite elasto-plasticity**
- 31. 9-eme Colloque franco-roumain de mathematiques appliquees. Brasov, Roumanie, 28 août – 2sept. 2008,
 - **Thermomechanics of materials with structural inhomogeneities.**
- 32. IUTAM-symposium on Progress in the Theory and Numerics of Configuration Mechanics, Nurnberg- Erlangen, Germany, October 20—24, 2008;
 - **Dislocations, Microforce and Micromomentum in Second Order Finite Elasto-Plasticity**
- 33. ISDMM09- 4-th International Symposium on Defect and material mechanics, University of Trento- Trento, Italy, July 6--9, 2009;
 - **Elasto-plastic materials with lattice defects modeled by second order deformations with non-zero curvature**
- 34. Complex Fluid Modelling2009, UEFISCSU Exploratory Workshop- WE 26, New Trends in Complex Fluids Modeling, 18-21 June, 2009, Bran- Romania;
 - **An Elasto-viscoplastic Model for Complex Fluid (cu V. Ţigoiu)**
- 35. ESMC2009, 7-th EUROMECH, Solid Mechanics Conference, Sept. 7--11, 2009, Instituto Superior Tecnico, Lisbon, Portugal;
 - **Strain gradient in finite elasto-plastic damaged material**
- 36. X International Conference on Computational Plasticity, COMPLAS X, Barcelona, Spain, 2--4 September 2009;
 - **Strain Gradient Effects in Finite Elasto-plastic Damaged materials (cu V. Ţigoiu)**
- 37. 13-th International ESAFORM Conference on Material Forming, Brescia, Italia, April 29. 7-9, 2010;
 - **Anisotropic and dissipative elasto-plastic materials with damaged structure**
- 38. A. Myller- Mathematical Seminar Centennial Conference, 23-26 iunie, 2010, Iasi, Romania;
 - **Strain gradient effect in finite elasto-plastic damaged materials (cu V. Ţigoiu)**
- 39. 10ème Colloque Franco-Roumain de Matématique Appliquée, Poitiers, France, 26-31 août 2010;
 - **Continuum model of lattice defects in finite elasto-plasticity;**
 - **Non-local elasto-viscoplastic models with dislocations (cu R. Paşcan)**
- 40. 18-th Conference on Applied and Industrial Mathematics, CAIM 2010, oct. 14-17, Iasi, Romania;
 - **Dislocations and Disclinations in Finite Elasto-Plasticity.**

41. *14-th ESAFORM Conference on Material Forming*, Belfast, April 27-29, 2011, U.K;
- **Elasto-plastic model with second order defect density tensor.**
42. 7-th Congress of Romanian Mathematicians June 29- July 5, 2011, Brasov, Romania;
- **Modeling anisotropic damage in elasto-plastic materials with structural defects**
43. Dynamics of Complex Fluids, May 5-7, 2011, Iasi, Romania;
- **Complex fluid with yield surface (cu V. Țigoiu)**
44. Computational Plasticity XI, Fundamental and Applications (COMPLAS), Barcelona, Spania, 7-9 September 2011;
- **Coupled effect of anisotropic materials damage and plasticity at finite deformations**
45. Second International Conference on Material Modelling (ICMM2), 31 August - 2 September 2011, Paris, Franta, incorporating the 12-th European Mechanics of Materials conference
- **Modelling lattice defects in finite elasto-plasticity**
46. The 19-th International Conference on Applied and Industrial Mathematics, September 22-25, 2011, Iasi, Romania;
- **Continuous models in elasto-plastic materials with micro-structure**
47. ESAFORM 15-th International Conference on Material Forming, Erlangen, Germany, March 14-16, 2012;
- **Elasto-plastic models with continuously distributed dislocations and disclinations**
48. *11-ème Colloque Franco-Roumain de Mathématique Appliquée*, Bucarest, Roumanie, 24-30 août 2012;
- **Modélisation des défauts structuraux en elasto-plasticité des grandes déformations**
49. International Symposium on Plasticity, Analytical, Computational, and Experimental Inelasticity in Deformable Solids, Nassau, Bahamas, 3-8 Ianuarie, 2013;
- **Modeling lattice defects in finite elasto-plasticity**
- **Slip-systems and flow patterns in viscoplastic metallic sheets with dislocations (cu R. Pașcan).**
50. ESAFORM 16-th International Conference on Material Forming, Aveiro, Prtugalia, Aprilie, 22-24, 2013;
- **Influence of dislocations on the deformability of metallic sheets (cu R. Pașcan).**
51. Computational Plasticity XII. Fundamentals and Applications, Barcelona, Spain, September 3-5, 2013;
- **Modeling anisotropic damage in elasto-plastic materials with structural defects (cu V. Țigoiu)**
52. 3rd International Conference on Material Modelling (ICMM3), incorporating the 13th European Mechanics of material Conference, Warsaw, Poland, September 8-11, 2013;
- **Dissipative Non-local Models with Dislocations in Finite Elasto-Plasticity(cu R. Pașcan)**
53. Anniversary Conference „Faculty of Science – 150 years”, Universitatea din București, Facultatea de Matematică și Informatică, August 29th – September 1st, 2013;

- **Free Energy Imbalance Principle in Finite Elasto-Plastic Damaged Materials**
54. AMS joint international meeting with Romanian Mathematical Society, Alba Iulia, Romania, Jun 27-30, 2013;
 - **Microstructure-based models for crystalline elasto-plastic materials.**
55. International Symposium on Plasticity and Damage, Free Port, Bahamas, 3-8 Ianuarie, 2014;
 - **Non-local damage coupled with dislocations and disclinations in finite elasto-plasticity;**
56. *12^{ème} Colloque Franco-Roumain de Mathématique Appliquée*, Lyon, France, 26-31 août 2014;
 - **Multi-scale models with dislocations and disclinations in finite elasto-plasticity**
57. International Symposium on Plasticity, Montego Bay, Jamaica, 4-9 Ianuarie, 2015;
 - **Non-local flow rules for dislocations and disclinations in finite elsto-plasticity (cu R. Paşcan)**
 - **Approaches to anisotropic damage in crystalline elasto-plastic materials**
58. ESAFORM 18-th International Conference on Material Forming, Graz, Autriche, April 15--17, 2015;
 - **Diffusion Effects Induced by Dislocations in Crystalline Materials Subjected to Large Strains (cu R. Paşcan)**
59. The Eighth Congress of Romanian Mathematicians, Iaşi, Romania, June 26 - July 1, 2015;
 - **Elastoplastic models with continuously distributed defects: dislocations and disclinations, for finite and small strains**
60. International Symposium on Plasticity, Hawaii, 3-9 Ianuarie, 2016;
 - **Finite Elasto-Plastic Model with Dislocations and Disclinations de Wit's Model (cu R. Paşcan)**
61. International Conference „Emerging Trends in Applied Mathematics and Mechanics ETAMM2016”, University of Perpignan, France, May 30 – June 3, 2016;
 - **Finite Elasto-plastic Models for Lattice Defects in Crystalline materials**
62. XIII-ème colloque franco-roumain de mathématiques appliquées, 25-29 août 2016.
 - **Continuous model of structural defects in finite elasto-plasticity (cu V. Ţigoiu)**
63. 22-International Conference on Plasticity, Damage and Fracture on, San Juan, Puerto Rico, 3-9 Ianuarie, 2018;
 -**Damage effects induced by grain boundary in elasto-plastic materials with microstructural defects.**
64. International Conference „Emerging Trends in Applied Mathematics and Mechanics ETAMM2016”, Krakow, Poland, June 18 – June 22, 2018;
 -**Continuous model for Micro Structural Defects in Elasto-Plastic Crystalline Materials.**
65. Colocviul Franco-Român de Matematici aplicate, ediția a XIV, Bordeaux, Franța, 27-31 august, 2018;
 -**Modèles continus élasto-plastiques pour les matériaux cristallines contenant des défauts. (cu R. Pascan, V. Ţigoiu).**

66. The ninth congress of Romanian Mathematicians, July 3, 2019, Galati, Romania.
-Mathematical models of elasto-plastic materials with micro-structural defects (finite deformations). (cu V. Țigoiu)
67. ICMM6 – 6th International Conference on Material Modelling, 26th-28th June, 2019, Lund, Sweden.
-Disclination effects on multislip flow rule in finite crystal plasticity.
68. CONGRES FRANCAIS DE MECANIQUE, France, Brest, 25-30 aout 2019.
-Extending Teodosiu's models within the finite elasto-plasticity constitutive framework.

10. GRANTURI DE CERCETARE:

- Membru în World Bank Grant, No.195 D, Director Acad. L. Dragos, “The development of theoretical and applicative directions in the frame of master and doctoral studies in mechanics field: mathematical modeling and numerical calculus in fluid and solid mechanics,” 1999-2001.
- Director de Grant (A.N.S.T.I.) “Plasticitate finită anizotropă cu aplicații la materiale compozite”. No. 5229/1999; No. 6058/2000; continuare/2001.
- Membru în Grant (C.N.C.S.I.S.), Director Conf. Dr. V. Țigoiu: “Mișcări complexe ale fluidelor newtoniene. Mișcări cu suprafață liberă”, 2003, 2004.
- Director de Grant (C.N.C.S.I.S.) “Modele Matematice și Calcul Numeric în studiul influenței vitezelor mari de deformare în Mecanica Mediilor Continue”. No. 41022/2003, 33379/2004
- Membru în colectivul Grant-ului CERES, No. 4-187/2004, cu coordonator principal Institutul de Matematica, în care facultatea este partener, Director de grant Prof. Dr. Serban Stratila.
- Director de Grant CEEEX, CERES, 2- CEEEx06-11-12/25.07.2006 “Modalare matematică în mecanica mediilor continue. Aplicații în știința materialelor”, durata 2006-2008.
- Membru în Grant CEEEX: RELANSIM-No. 163/20.07.2006 – Director Prof. Dr. D. Banabic- Univ. Tehnica Cluj-Napoca, „Platforma integrată pentru simularea proceselor de deformare în fabricația virtuală”, durata 2006-2008.
- Director Grant C.N.C.S.I.S.: IDEI program, Proiecte de Cercetare Exploratorie, Contract No. 1248/2008. Efecte vâscoase și plastice în materiale cu comportament ne-elastic supuse la deformații finite, din 1 iulie 2009, durata 3 ani.
- Director în parteneriat, Grant C.N.C.S.I.S.: IDEI program, Proiecte de Cercetare Exploratorie, Contract No. 100/2009, Director Prof. Dr. D. Banabic- Univ. Tehnică Cluj-Napoca. Modelarea Continuă - de la Micro la Macro Scară - a Materialelor Avansate În Fabricatia Virtuală.
- Membru în Grant CNCS – UEFISCDI, proiect number PN-II-ID-PCE-2011-3-052 “Computational methods for inverse problems associated with solids subject to mechanical and thermal loads”, durata 2011-2014 (inițială), prelungit până în 2016. Director grant Liviu Marin, Institutul de Mecanică a Solidelor.

- Mentor, perioada 2014/2015, pentru Dr. Raisa Pascan, grant POSDRU/159/1.5/S/137750, Proiectul - "Doctoral and Postdoctoral programs support for increased competitiveness in Exact Sciences research" cofinanced by the European Social Found within the Sectorial Operational Program Human Resources Development 2007-2013.
- Membru în Grant CNCS – UEFISCDI, project number PN-III-ID-P4-PCE-2016-0083, 106/12.07-2017-31.12.2019 "Computational Methods for Some Inverse Problems in Solid Mechanics", durata Director grant Liviu Marin.

11. ACTIVITATI ADMINISTRATIVE

- Membru în **Comisia de punctaje și promovări**, Facultatea de Matematică și Informatică, Universitatea din București, din 2005.
- Membru în **Comisia de contestații** a Ministerului Educației Naționale, din 2005-2011.
- Membru în **Comisia CNADTCU** de Matematică a Ministerului Educației 2012-2016.
- Evaluator propuneri de granturi științifice pentru Qatar National Research Fund (QNRF) în cadrul finanțării de programme, National Priorities Research Program (NPRP) din 2012.

12. COMITETE EDITORIALE

- Membru în Editorial Bord al jurnalului internațional **Mathematics and Mechanics of Solids**, din 2012.
- Membru în comitetul de redacție al revistei naționale: **Bulletin Mathématique de la Société de Sciences Mathématiques de Roumanie**.
- Membru în Editorial Board al revistei **Romanian Journal of Technical Sciences - Applied Mechanics** (formerly Revue Roumaine des Sciences Techniques Série de Mécanique Appliquée), din 2011.
- Membru în Editorial Board al revistei **ROMAI Journal** (Romanian Society of Applied and Industrial Mathematics), din 2010.

13. MEMBRU în SOCIETATI PROFESIONALE și STIINTIFICE

- **Membru ales** în Comitetul Științific al ESAFORM- European Scientific Association for Material Forming, 2006—2010.
- **Membru** în GAMM - International Association of Applied Mathematics and Mechanics.
- **Membru** în Societatea de Științe Matematice din Romania.
- **Secretar științific (ales)** al Romanian Society of Rheology 2009-2012.

14. MEMBRU în COMITETE DE ORGANIZARE și COMITETE STIINTIFICE la CONFERINTE INTERNATIONALE

- Membru în comitetul de organizare a celui de al 5-lea: "International Seminar on Geometry, Continua and Microstructures", Septembrie 26-28 2001, Sinaia, Romania;

- Membru în comitetul științific al Secțiunii – “*Mechanics and Applied Mathematics*” la al 6-lea Congres al Matematicienilor Romani, București, 28 iunie – 4 iulie, 2007;
- **Coorganizator** (cu Prof. Dr. Marius Cocou, Université Aix-Marseille, Franța) a Sesiunii Speciale: “*Methodes Mathematiques en Mecanique des Solides*”, la Colocviul „10ème Colloque Franco-Roumain de Mathématiques Appliquées”, 26-31 aout, 2010, Poitiers, France;
- Membru în comitetul științific al Secțiunii – “*Mechanics and Applied Mathematics*” la al 7-lea Congres al Matematicienilor Romani, Brașov, 29 iunie – 5 iulie, 2011;
- Membru în comitetul științific al Secțiunii – “*Mechanics, Numerical Analysis, Mathematical Models in Sciences*” la al 8-lea Congres al Matematicienilor Romani, Iași, 26 iunie – 1 iulie, 2015;
- Organizator al mini-simpozionului M12 - Mechanics of materials with microstructural defects: approaches and related problems, la Conferința internațională ETAMM- Emerging Trends in Applied Mathematics and Mechanics, University of Perpignan, Via Domitia, Franța, 30 mai-3 iunie 2016.
- Organizator al mini-simpozionului M10 - Mechanics of materials with microstructural defects: approaches and related problems, la Conferința internațională ETAMM- Emerging Trends in Applied Mathematics and Mechanics, University of Krakow, Poland, 18 iunie-22 iunie 2018.

15. VARIA

- **Directorul** Centrului de cercetare „Mecanica Mediilor Continue”, Universitatea din București, cu începere din 2006 până în 2017;
- **Organizator** (în colaborare cu Conf. Dr. V. Tigoiu) al seminarului științific intitulat “Mecanica Mediilor Deformabile”, din 2000- prezent, Departamentul de Matematică, Facultatea de Matematică și Informatică, Universitatea din București în colaborare cu IMAR- Secția de Mecanică;
- **Profesor coordonator, organizator de seminarii științifice studentești:** Mișcări vâscometrice cu aplicații (colaborare cu Prof. Dr. E. Soos): 1981- 1982, 1982- 1983; Fundamentele Mecanicii (colaborare cu Prof. Dr. E. Soos): 1989- 1990; Principii Variaționale în Mecanică (colaborare cu Prof. Dr. I. Rosca) 1984- 1985 , 1985- 1986; . Elasto-plasticitate finită: 1993- 1994, Modelare matematică în mecanica mediilor deformabile (2008-2009).
- **Referent** pentru: International Journal of Plasticity, International Journal of Solids and Structures, ZAMM, Journal of the Mechanics and Physics of Solids, Continuum Mechanics and Thermodynamics, Computational Material Science, International Journal of Non-Linear Mechanics, International Journal of Mechanical Science, Revue Roumaine de Mathématiques Pures et Appliquées, Mathematical Reports, Modelling and Simulation in Materials Science and Engineering, International Journal of Computational Science and Engineering, Editura Academiei.

16. PREMII:

Premiul: Academiei Romane “Spiru Haret” pe 2000, pentru activitatea de cercetare științifică în domeniul Elasto-Plasticității Neliniare.

Special Issue: Dedicated to Professor Sanda Cleja-Țigoiu, MMS-Mathematics and Mechanics of Solids, Volume 25 Number 6 June 2020

LISTA ARTICOLELOR ȘTIINȚIFICE ȘI CĂRȚILOR (CAPITOLE DE CARTE)

*Articolele științifice au fost semnate cu numele Sanda CLEJA ȚIGOIU, începând cu 1978. Până în 1978 cu numele purtate anterior Cleja, Negescu.

CĂRȚI (capitole de carte)

- [1.] Sanda Cleja-Țigoiu, N. Cristescu, 1985, Teoria plasticității cu aplicații la prelucrarea metalelor, Editura Universității din București, 360p.
- [2.] Sanda Cleja-Țigoiu, V. Țigoiu, 1998, Reologie și Termodinamică, Partea I. Reologie, Editura Universității din București, 240p.
- [3.] Sanda Cleja-Țigoiu, V. Țigoiu, 2017, Reologie, Editura Universității din București, Editura Universității din București, 280p.
- [4.] I. Paraschiv-Munteanu, Sanda Cleja-Țigoiu, E. Soos, 2001, Plasticitate cu aplicații în geomecanică, Editura Universității din București, 300p.
- [5.] Sanda Cleja-Țigoiu, V. Țigoiu (Eds), 2002, Geometry, Continua and Microstructures, Proceedings of the 5-th International Seminar on Geometry, Continua and Microstructures, Sinaia, Romania, September 2001, Romanian Academy Press, Bucharest 2002.
- [6.] A. Carabineanu, S. Cleja-Țigoiu, S. Ion, D. Marinescu, G. Marinocchi, I. Paraschiv-Munteanu, I. Roșca, V. Țigoiu, 2002, Current topics in continuum mechanics, Ed. Acad. L. Dragoș, Romanian Academy Press, Bucharest 2002.
- [7.] A. Carabineanu, C. Cipu, S. Cleja-Țigoiu, D. Ionescu, I. Oprea, R. Stavre, V. Țigoiu, 2006, Current topics in continuum mechanics, Ed. Acad. L. Dragoș, Ed. of the vol. V. Țigoiu, Romanian Academy Press, Bucharest 2006.
- [8.] **Capitol de carte, Chapter 3: Sanda Cleja-Țigoiu**, Raisa Pașcan, Nadia Stoicuta, Numerical approach to some problems in elasto-plasticity, pp. 53-99, in Inverse Problems and Computational Mechanics, Vol. 1 (eds. L. Marin, L. Munteanu, V. Chiroiu), Editura Academiei, Bucuresti, 2011.
- [9] **Capitol de carte, Chapter 6: Sanda Cleja-Țigoiu**: Anisotropic Damage in Elasto-plastic Materials with Structural Defects, pp 301-351. In Multiscale modelling in sheet metal forming, Ed. D. Banabic, Springer, 2016.
- [10] Sanda Cleja-Țigoiu, Finite Elasto-Plastic Models for Lattice Defects in Crystalline Materials, Capitol in "Mathematical Modelling in Solid Mechanics", Proceedings of the International Conference „Emerging Trends in Applied Mathematics and Mechanics ETAMM2016”, University of Perpignan, France, May 30 – June 3, 2016, eds. Francesco dell’Isola, Mircea Sofonea, David Steigman, Springer, 2017, 43-58.
- [11] Sanda Cleja-Țigoiu, Evolution equation defects in finite elasto-plasticity, Chapter 9,

Memoriam G.A. Maugin, ed. Altenbach Holm, pp. 183-205, 2018.

[12] **Sanda Cleja-Țigoiu, Victor Țigoiu**, Continuous model of structural defects in finite elasto-plasticity, pp.1-73, Editions Universitaires Europeennes, 2017.

Teza Doctorat: Probleme la limită pentru procese elasto-plastice cu puncte unghiulare (în limba rusă), 3 decembrie 1976, Universitatea de stat Lomonosov, Moscova, semnată cu numele anterior **Sanda Negescu-Cleja**, conducator științific V.S. Lensky.

ARTICOLE STIINTIFICE

[105] **Sanda Cleja-Țigoiu, Victor Țigoiu**, 2020, Rheological model for rock-type materials under large deformations, *Mechanics Research Communications* (accepted June 2020), volume dedicated to the memory of Professor N.D. Cristescu.

[104] **Sanda Cleja-Țigoiu**, 2020, Disclinations and GND tensor effects on the multislip flow rule in crystal plasticity, *Mathematics and Mechanics of Solids*, 25 (8), 1643 – 1676.

[103] **Sanda Cleja-Țigoiu**, R. Pașcan, V. Țigoiu, 2019, Disclination based model of grain boundary in crystalline materials with microstructural defects, *International Journal of Plasticity*, 114, 227-251, 2019.

[102] **Sanda Cleja-Țigoiu, Nadia Elena Stoicuța**, 2019, Variational inequality in classical plasticity. Applications to Armstrong-Frederick elasto-plastic model, *Computers and Mathematics with Applications*, 77 (11), 2953-2970, 2019.

[101] **Sanda Cleja-Țigoiu**, Elasto-plastic finite deformation models for anisotropic damage, *Ro. J. Techn. Sci. -Appl. Mechanics*, 63, 1-22, Bucharest, 2017

[100] **Sanda Cleja-Țigoiu**, R. Pașcan, Finite Elasto-Plastic Model with Dislocations and Disclinations versus de Wit's Model, *The 22th International Symposium on Plasticity and its Current Applications*, *Advancements in Theoretical and Applied Plasticity*, Ed. Akhtar S. Khan, 3-9 ianuarie 2016. *Keauhou Bay, Hawaii*, ISBN: 978-0-9911654-7-6

[99] **Sanda Cleja-Țigoiu**, R. Pașcan, V. Țigoiu, 2016, Interplay between continuous dislocations and disclinations in elasto-plasticity, *International Journal of Plasticity*, 79, 68-110.

[98] Raisa Pașcan, **Sanda Cleja-Țigoiu**, 2015, Diffusion Effects Induced by Dislocations in Crystalline Materials Subjected to Large Strains, *Key Engineering Materials*, vol 651-653, 89-95, Trans. Tech. Publications, Switzerland, doi: 10.4028/www.scientific.net/KEM.651-653.89.

[97] **Sanda Cleja-Țigoiu**, 2015, Multi-slip and non-local evolution equations in finite elasto-plastic materials with dislocations. *Romanian Journal of Technical Sciences - Applied Mechanics* (formerly *Revue Roumaine des Sciences Techniques Série de Mécanique Appliquée*), 60 (1-2), 137--167.

[96] Raisa Pașcan, **Sanda Cleja-Țigoiu**, 2015, Continuous defects: dislocations and disclinations in finite elasto-plasticity with initial dislocations heterogeneities, *INCAS BULLETIN*, 7(4), 15-22, DOI: 10.13111/2066-8201.2015.7.4X

[95] **Sanda Cleja-Țigoiu, Victor Țigoiu**, 2014, Constitutive models and variational formulations in finite and classical elasto-plasticity, *Annals of the University of Bucharest*, 5 (LXIII) , 259--278.

- [94] **Sanda Cleja-Țigoiu**, 2014, Dislocations and disclinations: continuously distributed defects in crystalline materials elasto-plastic models, *Archive of Applied Mechanics*, 84, 1293—1306.
- [93] **Sanda Cleja-Țigoiu**, 2014, Elasto-viscoplastic models with non-Schmid law and non-local evolution of dislocations in Crystal lattice, *Technische Mechanik*, 34 (3-4), 190-204
- [92] **Sanda Cleja-Țigoiu**, Raisa Pașcan, 2014, Slip systems and flow patterns in viscoplastic metallic sheets with dislocations, *International Journal of Plasticity*, 61, 64—93.
- [91] **Sanda Cleja-Țigoiu**, Nadia Elena Stoicuta, 2014, Revised Simo algorithms for plane stress state, *Applied Mathematics and Computation*, 237, 730--751.
- [90] **Sanda Cleja-Țigoiu**, V. Țigoiu, 2013, Modeling anisotropic damage in elasto-plastic materials with structural defects. In: *Computational Plasticity XII. Fundamentals and Applications*. Oñate, E., Owen, D.R.J., Peric, D., Suarez, B. (eds.), pp. 453--463. CIMNE, Barcelona.
- [89] **Sanda Cleja-Țigoiu**, Nadia Elena Stoicuta, Olimpiu Stoicuta, 2013, Numerical algorithms for solving the elasto-plastic problem with mixed hardening, *Romaian Journal of Technical Sciences - Applied Mechanics (formerly Revue Roumaine des Sciences Techniques Série de Mécanique Appliquée)*, 58, 241--272.
- [88] **Sanda Cleja-Țigoiu**, Victor Țigoiu, Different approaches to model the structural defects in elasto-plasticity, *Annals of the University of Bucharest (mathematical series)*, 4 (LXII), no.1, 2013.
- [87] **Sanda Cleja-Țigoiu**, Modelling lattice defects in finite elasto-plasticity, *The 19th International Symposium on Plasticity, Plasticity and its Current Applications*, Analytical, Computational, and Experimental Inelasticity in Deformable Solids, Ed. Akhtar S. Khan, 3-8 ianuarie 2013. Nassau, Bahamas ISBN: 0-9659463-4-2.pp1-3.
- [86] **Sanda Cleja-Țigoiu**, Raisa Pașcan, 2013, Influence of dislocations on the deformability of the sheets, vol. 554—556, 1353, 99—109, *Trans. Tech. Publications, Switzerland*, doi: 10.4028/www.scientific.net/KEM.554-557.99
- [85] **Sanda Cleja-Țigoiu**, Raisa Pașcan, 2013, Non-local elasto-viscoplastic models with dislocations and non-Schmid effect, 2013, *Discrete and Continuous Dynamical Systems Series S*, vol.6, No.6, December 2013, 1621—1639; doi:10.3934/dcdss.2013.6xx.
- [84] **Sanda Cleja-Țigoiu**, Lidia Iancu, 2013, Orientational anisotropy and strength differential effect in orthotropic elasto-plastic materials, *International Journal of Plasticity*, 47, 80-110.
- [83] **Sanda Cleja-Țigoiu** and Raisa Pașcan, 2013, Non-local elasto-viscoplastic models with dislocations in finite elasto-plasticity. Part II: Influence of dislocations in crystal plasticity, 2013, *Mathematics and Mechanics of Solids*, 18, 373—396, DOI: 10.1177/1081286512439060
- [82] **Sanda Cleja-Țigoiu**, 2013. Non-local elasto-viscoplastic models with dislocations in finite elasto-plasticity. Part I: Constitutive framework, 2013, *Mathematics and Mechanics of Solids*, 18, 349--372.
- [81] **Sanda Cleja-Țigoiu**, 2012, Elasto-plastic model with continuously distributed dislocations and disclinations, *The 14th International ESAFORM Conference on Material Forming*, Belfast, U.K., 27-29 aprilie 2012. *Key Engineering Materials Vols 504-506 (2012)*, *Trans. Tech. Publications, Switzerland*, doi 10.4028/www.scientific.net/KEM.504-506.125, pp 125-130.
- [80] **Sanda Cleja-Țigoiu**, Andaluza Matei, 2012, Rate boundary value problems and variational inequalities in rate-independent finite elasto-plasticity, *Mathematics and Mechanics of Solids*, 17 (6), 557—586.

- [79] **Sanda Cleja-Țigoiu**, Raisa Pașcan, Nadia Stoicuta, 2011, Numerical approach to some problems in elasto-plasticity, In: **Inverse Problems and Computational Mechanics**, Vol. 1 (eds. L. Marin, L. Munteanu, V. Chiroiu), Ed. Academiei, Bucuresti, Chapter 3, pp. 53-99, 2011.
- [78] **Sanda Cleja-Țigoiu**, 2011, Elasto-plastic model with second order defect density tensor, *4-th ESAFORM Conference on Material Forming*, Belfast, U.K., April 27-29, 2011, G.B., on **AIP Conference Proceedings**, vol. 1353, The *14-th ESAFORM Conference on Material Forming*, Esaform 2011, 1505-1510
- [77] **Sanda Cleja-Țigoiu**, 2011, Elasto-plastic materials with lattice defects modeled by second order deformations with non-zero curvature, pp. 61-75, In **Recent Progress in the Mechanics of Defects**, Eds. D. Bigoni, L.C. Deseri, Springer 2011.
- [76] **Sanda Cleja-Țigoiu**, Lidia Iancu, 2011, Orientational anisotropy and plastic spin in finite elasto-plasticity, *International Journal of Solids and Structures* 48, 939—952.
- [75] **Sanda Cleja-Țigoiu**, Victor Țigoiu, 2011, Strain gradient effect in finite elasto-plastic damaged materials, *International Journal of Damage Mechanics* 20 (4), 484—514.
- [74] **Sanda Cleja-Țigoiu**, 2010, Elasto-plastic materials with lattice defects modeled by second order deformations with non-zero curvature, *International Journal of Fracture*, vol. 166, no. 1-2, pp. 61-75, 2010.
- [73] **Sanda Cleja-Țigoiu**, Nadia Stoicuta, Olimpiu Stoicuta, 2010, Analysis and Numerical Approach to Unidimensional Elasto-Plastic Problem with Mixed hardening, *ROMAI Journal*, 7, 2010.
- [72] **Sanda Cleja-Țigoiu**, 2010, Dislocations and disclinations in finite elasto-plasticity. *ROMAI Journal*, 7, 2010.
- [71] **Sanda Cleja-Țigoiu**, 2010, Anisotropic and dissipative elasto-plastic materials with damaged structure, Proceedings, The 13-th International Esaform Conference on Material Forming (CD Conference Proceedings, Springer), Brescia/Italy, April 7-9, Springer.
- [70] **Sanda Cleja-Țigoiu**, 2009. Non-local Approache to Finite Elasto-plastic materials with damaged structure, in *Computational Plasticity X, Fundamentals and Applications*, Barcelona, Spain, 2--4 September 2009, pp4. Deposito legal: B-35149-2009, ISBN: 978-84-96736-69-6
- [69] **Sanda Cleja-Țigoiu**, V. Țigoiu. 2009, Strain Gradient Effect on Elasto-plastic Damaged Materials at large Deformations, in *ESMC2009, Book of Abstract, Mini-Symposia*, J. Ambrosio, M.T. Silva (Eds.), Proceedings of the 7-th EUROMECH, Solid Mechanics Conference, Sept. 7--11, 2009, Instituto Superior Tecnico, Lisbon, Portugal, APMTAC, 153—154
- [68.] **Sanda Cleja-Țigoiu**, 2009, Thermomechanics of twinning from parent to a twin with mirror image symmstry, *Zangew. Math. Phys.*, 60, 934—970.
- [67.] **Sanda Cleja-Țigoiu**, 2009, Dislocations, Microforce and Micromomentum in Second Order Finite Elasto-Plasticity, in *IUTAM Symp. Progress in the Theory and Numerics of Configurational Mechanics*, Erlangen, Germany 2008, Ed. P. Steinmann, Springer, 83-94.
- [66] **Sanda Cleja-Țigoiu**, V. Țigoiu. 2009. An Elasto-viscoplastic Model for Complex Fluid, in *New Trends in Complex Fluids Modeling*, CFM2009 proceedings, C. Balan, D. Broboana, R. Kadar, C.M. Balan (Eds.), 42—44.
- [65.] **Sanda Cleja-Țigoiu**, 2008, O. Cazacu, V. Țigoiu, Dynamic expansion of a spherical cavity within a rate-dependent compressible porous material, *International Journal of Plasticity*, 24, 775—803.

- [64.] **Sanda Cleja-Țigoiu**, 2008, D. Fortune, C. Vallee, Torsion equation in anisotropic elasto-plastic materials with continuously distributed dislocations, *Mathematics and Mechanics of Solids*, 13(8), 667-689.
- [63.] **Sanda Cleja-Țigoiu**, 2007, Material forces in finite elasto- plasticity with continuously distributed dislocations, *International Journal of Fracture*, 147, 67-81.
- [62.] **Sanda Cleja-Țigoiu**, 2007, Anisotropic Elasto-plastic Model for Large Metal Forming Deformation Processes, Modeling and Experiments in Material Forming, *International Journal of Forming Processes*, 10 (1) 2007, 67-87.
- [61.] **Sanda Cleja-Țigoiu**, 2005, Role of the non-Riemannian Plastic Connection in Finite Elasto-Plasticity with Continuous Distribution of Dislocations, in **Mechanics of material forces**, Eds. P. Steinmann, G.A. Maugin (Advances in Mechanics and Mathematics, **11**, Eds. D. Gao, R. Ogden) , Spriger, 141-148.
- [60.] **Sanda Cleja-Țigoiu**, 2005, Yield conditions in finite elasto-plasticity, *Archives of Mechanics*, 57 (2-3), Warszawa 81-102.
- [59.] **Sanda Cleja-Țigoiu**, 2005, Anisotropic Elasto-plastic Model for Large Metal Forming Deformation Processes, Modeling and Experiments in Material Forming, **Proc. of the 8-th Esaform Conf. on Material Forming**, 27-29 April 2005, Cluj-Napoca, Romania, The Publishing House of the Romanian Academy, II, 351-354.
- [58.] **Sanda Cleja-Țigoiu** , 2005, Material Symmetry in Finite Elasto-Plasticity with Continuum Distributed Dislocations, in **New Trends in Continuum Mechanics**, Conf. Proc. Constanta (Romania), September 2003, Ed. M. Mihailescu-Suliciu, Theta, Bucharest 2005, 81-90.
- [57.] **Sanda Cleja-Țigoiu**, 2004, Elasto-plastic models of crystalline materials with dislocations based on the configurations with torsion, in **Continuum Models and Discrete Systems**, Eds. D.J. Bergmann, E. Inan, Kluwer Academic Press, 215-220 .
- [56.] **Sanda Cleja-Țigoiu**, 2004, Approaches to finite elasto-plasticity Elasto-plastic models of crystalline materials with dislocations, in Proc. of the Configurational Mechanics, 2003, Thessaloniki, Greece, **Configurational Mechanics**, Eds. V.K.Kalpakides, G.A. Maugin, Balkema Publ., 107-118.
- [55.] **Sanda Cleja-Țigoiu**, 2003, Elasto-plastic materials with dislocations, under finite deformation and small elastic strains, *Buletin Stiintific- Univ. din Pitesti, Seria Matematică și Informatica*, 9, 105-110.
- [54.] **Sanda Cleja-Țigoiu**, R.Rosca, 2003, Introduction to matlab Using a Theoretical Mechanics. Study Case., in **Proc. of the 2003 American Society for Engng.** Ed. Annual Conference & Exposition, session 2793, 6 pag.
- [53.] **Sanda Cleja-Țigoiu**, 2003, Dissipative nature of the plastic deformation in anisotropic elasto-plasticity, *Mathematics and Mechanics of Solids*, 8 (6), 575--614.
- [52.] **Sanda Cleja-Țigoiu**, 2003, Consequences of the dissipative restrictions in finite anisotropic elasto-plasticity, *International Journal of Plasticity*, 19 (11), 1917--1964.
- [51.] **Sanda Cleja-Țigoiu**, 2002, Small elastic strains in finite elasto-plastic materials with continuously distributed dislocations, *Theoretical and Applied Mechanics*, 28-29, Yugoslav Society of Mechanics, Belgrade, 93--112.
- [50.] **Sanda Cleja-Țigoiu**, 2002, Non-linear effects and large elasto-plastic deformations in crystalline materials with dislocations, in **Nonsmooth/Nonconvex Mechanics, with application**

- in engineering**, Proc. of the International Conference in memoria P.D. Panagiotopoulos, Tessaloniki, July 2002, Greece, Ed. C.C. Baniotopoulos, Ed. Zitti, 127-134.
- [49.] **Sanda Cleja-Țigoiu**, 2002, Couple stresses and non-Riemannian plastic connection in finite elasto-plasticity, *ZAMP*, 39, 996--1013.
- [48.] **Sanda Cleja-Țigoiu**, 2002, Large Elasto-plastic deformations in anisotropic and dissipative materials, Proc. EUROMECH- 430, 5-7 October 2001, Praga, Czech Republic, in Formulations and Constitutive Laws for very large strains, Ed.J. Plešek, 13-26.
- [47.] **Sanda Cleja-Țigoiu**, 2002, A model of crystalline materials with dislocations, in **Proceedings of the 5-th Interantional Seminar Geometry, Continua and Microstructures**, Sinaia, Romania, September 2001, Eds. S. Cleja-Țigoiu, V. Țigoiu, Ed. Academy, Bucharest, 19-30.
- [46.] **Sanda Cleja-Țigoiu**, 2002, Evolutia anizotropiei plastice in elasto-plasticitatea finita, *Analele Univ. Ovidius- Constanta*, 21-26.
- [45.] **Sanda Cleja-Țigoiu**, E. Medves, 2002, Non-elastic instantaneous response in rock rheology, Mecasalt5, The in Basic and applied Salt Mechanics, **Proc. of the 5-th Conf. on the Mechanical Behavior of Salt V**, Bucharest, Romania, August 9-11, 1999, A.A. Balkema Publishers Lisse/Abingdon/Exton (pa)/Tokyo, 223-236.
- [44.] **Sanda Cleja-Țigoiu**, 2001, Elasto-plastic composite with reinforced fibres under finite deformations, in Lucrarile a XXIX- sesiune de Comunicari st. cu participare int.: TEHNOLOGII MEDERNE IN SECOLUL XXI- Academia Tehnica Militara, Bucuresti 15- 16 noiembrie, CD-ROM, ISBN 973-8290-27-9, 219- 224.
- [43.] **Sanda Cleja-Țigoiu**, 2001, Ilyushin's postulate in finite anisotropic elasto- plasticity, **Proceedings of the International Scientific Symposium on problems of the mechanics of deformable bodies**, dedicated to the 90-th anniversary of A.A. Ilyushin, Moscow, January 22-23, 2001, Elasticity and Anelasticity, Moscow University, 147-152.
- [42.] **Sanda Cleja-Țigoiu**, 2001, Dissipation postulate on C--cycles in finite elasto-plasticity, *Rev. Roum. Math. Pures Appl.*, 46, 2-3, 245- 255.
- [41.] **Sanda Cleja-Țigoiu**, 2000, Anisotropic and dissipative finite elasto- plastic composite, *Rendiconti del Seminario matematico dell'Universita et Politecnico di Torino*, 58, 1 , 69- 82.
- [40.] **Sanda Cleja-Țigoiu**, 2000, Orthotropic Sigma- Models in finite elasto-pasticity, *Rev. Roum. Math. Pures Appl.*, 45, 2, 219-227.
- [39.] **Sanda Cleja-Țigoiu**, 2000, Anisotropic finite elasto-plasticity, *Buletin stiintific, Universitatea Tehnica a Moldovei*, Chisinau, 2000, 27- 33 (in romanian).
- [38.] **Sanda Cleja-Țigoiu**, 2000, Some remarks on dissipation postulate in anisotropic finite elasto-plasticity, *Technische Mechanik*, 20, 189- 201.
- [37.] **Sanda Cleja-Țigoiu**, 2000, Nonlinear elasto-pastic deformations of transversely isotropic materials and plastic spin, *International Journal of Engineering Science*, 38, 737- 773.
- [36.] **Sanda Cleja-Țigoiu**, 1998, Anisotropic models in multiplicative finite elasto- plasticity, in **Continuum models and discret systems**, Editors E. Inan and K.Markov, Word Scientific, Singapore, New Jersey, London, Hong Kong, 437- 444.
- [35.] **Sanda Cleja-Țigoiu**, G.A. Maugin, Eshelby's stress tensors in finite elasto-plasticity, *Acta Mechanica*, 2000,139, 231- 249.

- [34.] **Sanda Cleja-Țigoiu**, 1999, Models in multiplicative finite elasto- plasticity, in G.A. Maugin, Geometry, **Continua & Microstructure**, Collection "Travaux en cours", 60, Hermann, Editeurs des sciences et des arts, Paris, 75- 87.
- [33.] **Sanda Cleja-Țigoiu**, 1996, Bifurcations of homogeneous deformation of the bar in finite elasto- plasticity, *European Journal of Mechanics A/ Solids*, 15, 5, 761- 786.
- [32.] **Sanda Cleja-Țigoiu**, 1994, On the bifurcations of the homogeneous deformations in finite elasto- plasticity, A XVIII-a Conferinta de mrcanica solidelor, Buletin vol. 1, Constanta, 1994, Academia Navala Mircea cel Batran, Universitatea Bucuresti, Universitatea "Ovidius" Constanta, 39- 47.
- [31.] **Sanda Cleja-Țigoiu**, 1994, Strain formulation in elasto- plasticity of materials with relaxed configurations, *International Journal Engineering Science*, 32, No.12, p.1981- 1995.
- [30.] **Sanda Cleja-Țigoiu** , 1993, Role of the evolution equations in finite plasticity, **Proc. of first Conference of Applied and Industrial Mathematics**, Oradea, September 3- 5, 1993. Eds. T. Maghiar, A. Georgescu, Gh.S. Nadiu, T. Leuca, D. Pasca, 249- 255.
- [29.] **Sanda Cleja-Țigoiu**, E. Soos, 1993, Elastic range versus relaxed configurations, in **Large Plastic Deformations. Fundamental Aspects and Applications to Metal forming**, Editors C. Teodosiu, J. L. Raphanel, F. Sidoroff., A.A. Balkema/ Rotterdam/ Brookfield}, p.287- 294, ISBN 90-5410-317-5.
- [28.] **Sanda Cleja-Țigoiu** , E. Medves, 1992, The mathematical modeling of the geomechanic mechanism for the failure in the influence zone of the mining excavation, in *Lucrarile Simpozionului Sesiunii de Comunicari Stiintifice - IPROMIN Bucuresti*, februarie 114- 124.
- [27.] **Sanda Cleja-Țigoiu**, E. Soos, 1991, Two approaches to the finite elasto-plasticity, **Proceedings of IUTAM-Symp. on Constitutive Relations for Finite Deformations of Polycrystalline Metals (CRFDPM)**, July 22- 25, 1991, Springer- Verlag and Peking University, Press , Editors R. Wang, C. Drucker, 14- 24.
- [26.] **Sanda Cleja-Țigoiu**, 1991, Elasto- viscoplastic constitutive equations for rock- type materials at large deformations, **International Journal Engineering Science**, 29., 12, 171-180.
- [25.] **Sanda Cleja-Țigoiu** , E. Soos , 1991, Elastic range and relaxed configuration in rate-independent plasticity. I. Connection between the two models, *Revue Roumaine des Sciences Techniques, serie de Mécanique Appliquée*, 34. 5-6, 317- 327.
- [24.] **Sanda Cleja-Țigoiu**, E. Soos, 1991, Elastic range and relaxed configuration in rate-independent plasticity. I. Basic assumptions, *Revue Roumaine des Sciences Techniques, serie de Mécanique Appliquée*, 34, 3-4, 1991, pp.153- 169.
- [23.] **Sanda Cleja-Țigoiu**, E. Soos, 1990, Elasto- plastic models with relaxed configurations and internal state variables, *Applied Mechanics Review*, 1990, 43 .7, 131- 151.
- [22.] **Sanda Cleja-Țigoiu**, 1990, Large elasto-plastic deformations of materials with relaxed configurations -II. Role of the complementary plastic factor, *International Journal Engineering Science*, 28(4), 273- 284.
- [21.] **Sanda Cleja-Țigoiu**, 1990, Large elasto-plastic deformations of materials with relaxed configurations-I. Constitutive assumptions, *International Journal Engineering Science* 28(3), 171-180.
- [20.] **Sanda Cleja-Țigoiu**, E. Soos, 1989, Material symmetry of elastoplastic materials with relaxed configurations, *Rev. Roum. Math. Pures Appl.* 34. 6, p.513- 521.

- [19.] E. Medves, D. Fota, N. Cristescu, S.Țigoiu, 1989, Marirea gradului de adaptabilitate a sustinerii miniere mecanizate utilizate in minele de carbuni, *Revista Mine, Petrol si Gaze*, 40, 4, 158- 167.
- [18.] Sanda Cleja-Țigoiu, E. Soos, 1989, Relaxed Configurations and Elastic Range in Elasto-Plastic Models, in **Recent Advances in Engineering Science**. A Symp. dedicated to A. Cemal Eringen, 20-22 June, 1988, Berkeley, California, Eds. S.L. Koh, C.G. Speziale; Springer-Verlag, Berlin Heidelberg, New York, London, Paris, Tokyo, 246- 255, 1989, ISBN 3-540-50721-3.
- [17.] Sanda Cleja-Țigoiu, E. Soos, 1988, Elastoplastic Models with relaxed Configurations and Internal State Variables, Preprint series in Mathematics, INCREST, Bucuresti, Nr.68, 1- 125.
- [16.] Sanda Cleja-Țigoiu, 1985, Constitutive equation of the Bingham's type for hardening materials, in Theory of Plasticity.. [1985], 196- 200.
- [15.] Sanda Cleja-Țigoiu, N. Cristescu, 1985, A Flow Analysis of a Rigid- Viscoplastic Body Through an Annular Orifice, *International Journal of Mechanical Science*, 27, 5, 1985, 291- 391.
- [14.] Sanda Cleja-Țigoiu, 1985, On thermoelasto- viscoplastic behaviour of the Bodies, *Lucrarile Conferintei nationale de Mecanica Solidelor*, Timisoara.
- [13.] Sanda Cleja-Țigoiu, 1983, On the Isotropy in Thermoelastoviscoplasticity, Preprint series in Mathematics, INCREST, Bucuresti, Nr.63, p.1- 41.
- [12.] Sanda Cleja-Țigoiu, N. Cristescu, 1982, Hote Tube Extrusion, Proceeding of the International Conference on Numerical Methods in Industrial forming Processes- 12- 16 July 1982, University College of Swansea, Singleton Park, Swancea U.K., 311- 320.
- [11.] Sanda Cleja-Țigoiu, 1985, On the variational principles for rigid- viscoplastic materials in Theory of Plasticity with application to metal forming [1985], 215- 230.
- [10.] Sanda Cleja-Țigoiu, N. Cristescu, 1981, Tube sinking, *Revue Roumaine des Sciences Techniques, serie de Mécanique Appliquée*, 26, 3, 1981, 433-448.
- [9.] Sanda Cleja-Țigoiu, Note on the Prandtl- Meyer fan, *Studii si Cercetari Matematice*, 32, 6, 1980, p.625- 630.
- [8.] Sanda Cleja, N. Cristescu, 1979, Influence of the drawing speed on the optimum shape of the floating plug, *Revue Roumaine des Sciences Techniques, série de Mécanique Appliquée*, 24, 3, 357-377.
- [7.] N. Cristescu, O. Cuida, Sanda Țigoiu, C. Cristescu, 1979, On the geometry optimization of the floating plug, *Lucrari ICEM*, 1979, (in Romanian) p.385- 391.
- [6.] Sanda Cleja, N. Cristescu, 1979, New trends in tube and Bar processing, in **Metal Forming plasticity IUTAM- Symp.** Tutzing/ Germany, August 28- September 3, 1978, Ed. H. Lippmann, Spriger- Verlag- Berlin- Heidelberg- Ney-York, p.139- 157, ISBN 3-540-09429-6.
- [5.] Sanda Negescu-Cleja, 1978, On the uniqueness theorem for broken-lines elasto- plastic processes, *Prikladnaia Matematika i Mexanika*, 42, 2, p.377-383.
- [4.] Sanda Negescu-Cleja, 1977, On the realizations of the two broken-lines elasto- plastic processes, *Vestnik Moskovskova Universiteta, Matematika i Mehanica*, nr.6, p.112-116
- [3.] Sanda Negescu-Cleja 1976, On the existence theorem for elasto-plastic processes with angular point, *V.I.N.I.T.I.*, Nr.3, 506.
- [2.] Sanda Negescu-Cleja, 1976, On the constitutive relations between the stress and strain tensors for the broken-line deformation processes, (in Russian), *Vestnik Moskovskova Universiteta, Matematika i Mehanica*, series 1, nr.4, 1976, p.97- 100.

[1.] Sanda Cleja-Negescu, 1973, On the general theorems for mass variable systems, *Studii si Cercetari Matematice*, 25, 4, p.485-499.

București, 1 februarie 2020

Profesor doctor
Sanda Cleja-Tigoiu