Benoit REVIL-BAUDARD

Research Scientist
University of Florida
Dept. Mechanical and Aerospace Engineering
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1350 N. Poquito Rd, Shalimar, FL 32579, USA
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Nationality: French; United States Permanent Resident

EDUCATION

2006-2010	**Ph. D. in Mechanical Engineering** **Ecole Nationale Supérieure des Mines de Paris** Centre for Material Forming (CEMEF) *Dissertation Title*: *"Simulation of the mechanical behavior of titanium alloys during cold forming."* Advisor: Prof. Elisabeth Massoni	Sophia Antipolis France
2001-2006	**MS/BS in Mechanical Engineering** (Ingénieur Diplômé) **Institut National des Sciences Appliquées de Lyon (INSA Lyon)**	Lyon France

PROFESSIONAL EXPERIENCE

07/2005-12/2005	**Mechanical Engineer**, Manufacturing Development Center, SKF Sverige AB	Gothenburg Sweden
01/2006-09/2006	**Research Assistant**, Contact and Structural Mechanics Laboratory (LaMCos), INSA Lyon	Lyon France
11/2006-04/2010	**Graduate Research Assistant**, CEMEF, Ecole Nationale Supérieure des Mines de Paris	Sophia Antipolis France
06/2010-12/2010	**Postdoctoral Research Associate** Contact and Structural Mechanics Laboratory (LaMCos), INSA Lyon	Lyon France
01/2011-11/2014	**Postdoctoral Research Associate**, Dept. Mechanical and Aerospace Engineering, University of Florida, REEF (UF-REEF)	Shalimar Florida

01/2014-05/2015	**Adjunct Research Scientist**, Dept. Mechanical and Aerospace Engineering University of Florida, REEF (UF-REEF)	Shalimar Florida
05/2015-present	**Assistant Research Scientist** Dept. Mechanical and Aerospace Engineering University of Florida, REEF (UF-REEF)	Shalimar Florida

RESEARCH EXPERTISE

- Numerical Modeling of Materials and Forming Processes
- Computational Plasticity of Metallic Materials
- Modeling and Simulation of Molecular Crystals
- Dynamic Behavior of Energetic Systems
- Damage and Fragmentation of Heterogeneous Systems
- Modeling and Simulation of High-Rate Behavior of Geological Materials

PUBLICATIONS

Total Publications Summary:

- 2 books
- 1 book chapter
- 36 papers in international journals
- 24 papers in peer-reviewed proceedings of international conferences
- 32 lectures in international conferences, including 2 keynote lectures

Bibliometric: (March 2022)

ORCID ID : 0000-0001-8682-5035
Scopus : 501 citations, h-index=11
Google Scholar : 668 citations, h-index =14

Books

O. Cazacu, **B. Revil-Baudard**, N. Chandola, Plasticity-damage couplings: from single crystal to polycrystalline materials, 2019, Springer, ISBN: 978-3-319-92922-4 (581 pages)

O. Cazacu, **B. Revil-Baudard**, Plasticity of Metallic Materials: modeling and applications, 2020 , Elsevier, ISBN 9780128179840 (560 pages)

Book Co-editor

Damage and Fragmentation, Editors: D. Lambert, C. Pasiliao, B. Erzar, B. Revil-Baudard and O. Cazacu , ISTE Sciences Publishing ltd, 2019 (440 pages)

Book Chapter

G. Kleiser, **B. Revil-Baudard**, O. Cazacu. Plastic Deformation Of Pure Polycrystalline Molybdenum In Lambert, Pasiliao, Erzar, Revil-Baudard and Cazacu (Eds), *Damage and fragmentation*, ISTE Sciences Publishing ltd (2019), pp. 143-175

Papers in Peer-Reviewed Journals

1. **B. Revil-Baudard**, O. Cazacu, E. Massoni, Room-temperature plastic behavior and formability of a commercially pure titanium: Mechanical characterization, modeling, and validation. *International Journal of Solids and Structures, 228,* 2021, 111121 (16 pages).

2. **B. Revil-Baudard**, Numerical investigation into the dynamic behavior of sands. *Mechanics Research Communications,114,* 2021, 103664 (7 pages).

3. O. Cazacu, **B. Revil-Baudard**, Tension-compression asymmetry effects on the plastic response in bending: new theoretical and numerical results. *Mechanics Research Communications, 114,* 2021, p.103596 (8 pages).

4. O. Cazacu, N. Chandola, **B. Revil-Baudard**, B.H. Frodal, T. Børvik, O.S. Hopperstad, 2020. Modeling the effect of notch geometry on the deformation of a strongly anisotropic aluminum alloy. *European Journal of Mechanics-A/Solids, 82,* 2020, p.104004 (14 pages).

5. N. Chandola, O. Cazacu, **B. Revil-Baudard**, Prediction of strain distribution and four, six, or eight ears depending on single-crystal orientation using a new single crystal criterion. *International Journal of Material Forming,* 2019, 1-12.

6. N. Chandola, O. Cazacu, **B. Revil-Baudard,** Prediction of plastic anisotropy of textured polycrystalline sheets using a new single-crystal model, *Comptes Rendus de l'Academie des Sciences,* 346, 2018, 756-769.

7. **B. Revil-Baudard**, O. Cazacu, N. Chandola, Effect of the yield stresses in uniaxial tension and pure shear on the size of the plastic zone near a crack, *International Journal of Plasticity*, 102, 2018, 101-117.

8. N. Chandola, O. Cazacu, **B. Revil-Baudard**, New polycrystalline modeling as applied to textured steel sheets, *Mechanics Research Communications*, 84, 2017, 98-101.

9. N. Chandola, O. Cazacu, **B. Revil-Baudard**, Analytical expressions for the yield stress and Lankford coefficients of polycrystalline sheets based on a new single crystal model, *International Journal of Material Forming,* 11, 2018, 571-581.

10. O. Cazacu, **B. Revil-Baudard**, N. Chandola, A yield criterion for cubic single crystals. *International Journal of Solids and Structures,* 151, 2018, 9-19.

11. A. Srivastava, **B. Revil-Baudard**, O. Cazacu, and A. Needleman, A model for creep of porous crystals with cubic symmetry. *International Journal of Solids and Structures*, 110, 2017, 67-79.

12. O. Cazacu, Oana, **B. Revil-Baudard,** New analytic criterion for porous solids with pressure-insensitive matrix. *International Journal of Plasticity*, 89, 2017, 66-84.

13. G. Kleiser, B.Revil-Baudard, C.L. Pasiliao, High strain-rate plastic deformation of Molybdenum: experimental investigation, constitutive modeling and validation using impact tests. *International Journal of Impact Engineering*, 96, 2016, 116-128.

14. **B. Revil-Baudard**, O. Cazacu, P. Flater, N. Chandola, J.L. Alves, Unusual plastic deformation and damage features in titanium: Experimental tests and constitutive modeling, *Journal of the Mechanics and Physics of Solids*, 88, 2016, 100-122.

15. G. J. Kleiser, **B. Revil-Baudard**, O. Cazacu, C. L. Pasiliao, Plastic deformation of polycrystalline molybdenum: Experimental data and macroscopic model accounting for its anisotropy and tension–compression asymmetry, *International Journal of Solids and Structures*, 75–76, 2015, 287-298.

16. G. J. Kleiser, **B. Revil-Baudard**, O. Cazacu, C. L. Pasiliao, Experimental Characterization and Modeling of the Anisotropy and Tension--Compression Asymmetry of Polycrystalline Molybdenum for Strain Rates Ranging from Quasi-static to Impact, *JOM*, 67, 2015, 2635-2641.

17. N. Chandola, R. A. Lebensohn, O. Cazacu, **B. Revil-Baudard**, R.K. Mishra, F. Barlat, Combined effects of anisotropy and tension-compression asymmetry on the torsional response of AZ31 Mg, *International Journal of Solids and Structures*,28, 2015, 190–200

18. **B. Revil-Baudard**, N. Chandola, O. Cazacu, Correlation between Swift effects and tension-compression asymmetry in various polycrystalline materials, *Journal of Mechanics and Physics of Solids*., 70, 2014, 104-115

19. **B. Revil-Baudard**, O. Cazacu, New three-dimensional strain-rate potential for isotropic porous metals, *Int. J. Plasticity*, 60, 2014, 101-117.

20. O. Cazacu, J.L. Alves, **B. Revil-Baudard**, C. Pasiliao, A new approach of ductile damage, Annals of the University of Bucharest (mathematical series),6, 2015, 59-82.

21. O. Cazacu, J.L. Alves, **B. Revil-Baudard**, C. Pasiliao, Unusual damage characteristics of metallic materials with matrix displaying strength differential effects, Annals of the University of Bucharest (mathematical series),5, 2014, 219-244.

22. **B. Revil-Baudard**, O. Cazacu, P. Flater, G. Kleiser, Plastic deformation of high-purity a-titanium: model development and validation using the Taylor cylinder impact test, *Mechanics of Materials*, 80, 2015, 264–275

23. O. Cazacu, **B. Revil-Baudard**, New three-dimensional plastic potentials for porous solids with von Mises matrix, *Comptes Rendus de l'Academie des Sciences*, 343, 2015, 77-94

24. O. Cazacu, N. Chandola, J.L. Alves, **B. Revil-Baudard**, Importance of the consideration of the specificities of local plastic deformation on the response of porous solids with Tresca matrix, *European Journal of Mechanics - A/Solids*, 47, 194-205.

25. **B. Revil-Baudard**, O. Cazacu, Role of the plastic flow of the matrix on yielding and void evolution of porous solids: comparison between the theoretical response of porous solids with Tresca and von Mises matrices, *Mechanics Research Communications*, 56, 2014, 69-75.

26. J.L. Alves, **B. Revil-Baudard**, O. Cazacu, Importance of the coupling between the sign of the mean stress and the third-invariant on the rate of void growth and collapse in porous solids with von Mises matrix. *Modelling and Simulation in Materials Science and Engineering*, 22(2), 2014, 025005 (18 pages).

27. O. Cazacu, **B. Revil-Baudard**, N. Chandola, D. Kondo, New analytical criterion for porous solids with Tresca matrix under axisymmetric loadings, *International Journal of Solids and Structures*, 51, 2014, 861-874.

28. O. Cazacu, **B. Revil-Baudard**, F. Barlat, New interpretation of cyclic Swift effects, *European Journal of Mechanics - A/Solids*, 44, 2014, 82-90.

29. O. Cazacu, **B. Revil-Baudard**, R.A. Lebensohn, M. Garajeu, On the combined effect of pressure and third invariant on yielding of porous solids with von Mises matrix, *Journal of Applied Mechanics*, Vol. 80 , 2013, 064501 (5 pages)

30. **B. Revil-Baudard**, O. Cazacu, S. Thuillier, E. Maire, Effect of stress triaxiality on porosity evolution in notched bars: quantitative comparison between a recent dilatational model and X-ray tomography data, *Mechanics Research Communications*, 50, 2013, 77-82.

31. O. Cazacu, **B. Revil-Baudard**, F. Barlat, New interpretation of monotonic Swift effects: Role of tension–compression asymmetry, *Mechanics of Materials*, 57, 2013, 42-52.

32. M. Knezevic, R. A. Lebensohn, O. Cazacu, **B. Revil-Baudard**, G. Proust, S. C. Vogel, M. E. Nixon, Modeling bending of α-titanium with embedded polycrystal plasticity in implicit finite elements, *Materials Science and Engineering: A*, 564, 2013, 116-126.

33. **B. Revil-Baudard**, O. Cazacu, On the effect of the matrix tension–compression asymmetry on damage evolution in porous plastic solids, *European Journal of Mechanics - A/Solids*, 37, 2013, 35-44.

34. **B. Revil-Baudard**, J. Yoon, J. B. Stewart, O. Cazacu, On the influence of damage evolution in an incompressible material with matrix displaying tension-compression asymmetry, *Procedia IUTAM*, Volume 3, 2012, 331-349.

35. **B. Revil-Baudard**, E. Massoni, Simulation of the Anisotropic Behavior of Titanium Alloys During Sheet Metal Forming, *International Journal of Material Forming*, 2, 2009, 73-76.

36. **B. Revil-Baudard**, E. Massoni, Simulation of titanium alloys behavior for cold forming processes of metal sheets, *Mechanics & Industry*, 11, 2010, 265-270.

Refereed Conference Publications[1]

1. **B. Revil-Baudard**, O. Cazacu, N. Chandola, Finite Element Analysis of AA 6016-T4 sheet metal forming operations using a new polycrystalline model, Proceedings of The 25th International Conference on Material Forming, 27th-29th April, 2022, Braga (Portugal) (accepted)

2. H. Godoy, **B. Revil-Baudard**, O. Cazacu, Bulging of Isotropic Materials, Proceedings of The 25th International Conference on Material Forming, 27th-29th April, 2022, Braga (Portugal) (accepted)

3. N. Chandola, O. Cazacu, **B. Revil-Baudard**, Effect of Single Crystal Orientation on Forming. Paper presented at ESAFORM 2021. 24th International Conference on Material Forming, Liège, Belgique, 2021, doi: 10.25518/esaform21.1621

4. O. Cazacu, **B. Revil-Baudard**, Recent Advances on Modeling Plastic Deformation of Textured Metals with Applications to Metal Forming. *Forming the Future*, Proceedings of the 13th International Conference on the Technology of Plasticity; July 26-31, 2020, Columbus, Ohio, USA 2020,2021, pp.2839-2851.

5. **B. Revil-Baudard**, Forming of materials with cubic crystal structure. *Procedia Manufacturing*, *47*, 2020, pp.1300-1307.

6. **B Revil-Baudard**, G Kleiser, N Chandola, O Cazacu, Plastic deformation of metallic materials during dynamic events, *Journal of Physics: Conference Series*, 1063, 2018, 012054

7. **B Revil-Baudard**, N Chandola, O Cazacu, Prediction of the torsional response of HCP metals, *Journal of Physics: Conference Series*, 1063, 2018, 012045

8. N Chandola, O Cazacu, **B Revil-Baudard**, Prediction of four, six or eight ears in drawn cups of single-crystal aluminum sheets, *Journal of Physics: Conference Series*, 1063,2018, 012055

[1] All proceedings published have been peer reviewed through processes administered by the proceedings Editors and conferences organizers. Reviews were conducted by expert referees to the professional and scientific standards expected of a proceedings journal published

9. N. Chandola, C. Pasiliao, O. Cazacu, and **B. Revil-Baudard**, New Yield Criterion for Description of Plastic Deformation of Face-Centered Cubic Single Crystals. In *Light Metals 2017*, pp. 393-398. Springer International Publishing, 2017.

10. N. Chandola, **B. Revil-Baudard**, O. Cazacu, Plastic deformation of high-purity □-titanium: model development and validation using the Taylor cylinder impact test. Proceeding of the 10th International Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes, Bristol, UK, September 4-9, 2016, AIP Conference Proceedings, 734(3), 032048

11. G. Kleiser, **B. Revil-Baudard**, O. Cazacu, C. L. Pasiliao[F], Constitutive modeling and simulation at room-temperature deformation and failure of polycrystalline Molybdenum. Proceeding of the 10th International Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes, Bristol, UK, September 4-9, 2016, AIP Conference Proceedings, 734(3), 032110

12. O. Cazacu, **B. Revil-Baudard**, N. Chandola, Constitutive modelling of plastic deformation and damage in anisotropic high purity titanium and validation using ex-situ and in-situ tomography data. Proceeding of the 10th International Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes, Bristol, UK, September 4-9, 2016, AIP Conference Proceedings, 734(3), 032052

13. **B. Revil-Baudard**, E. Massoni, Constitutive modeling of commercially pure titanium: validation using bulge tests. Proceeding of the 10th International Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes, Bristol, UK, September 4-9, 2016, AIP Conference Proceedings, 734(3), 032057

14. N. Chandola, C. L. Pasiliao, O. Cazacu, **B. Revil-Baudard**, On Modeling the Mechanical Behavior and Texture Evolution of Rolled AZ31 Mg for Complex Loadings Involving Strain Path Changes, Magnesium Technology 2016, TMS Annual Meeting and Exhibition, Nashville, TN, February 14-18, 2016.

15. N. Chandola, O. Cazacu, **B. Revil-Baudard**, New model predicting the unusual buckling behavior of AZ31 Mg. Magnesium Technology 2015, TMS Annual Meeting and Exhibition, Orlando, FL, March 16-19, 2015, 153-157

16. O. Cazacu, **B. Revil-Baudard**, Nitin Chandola, J. Luis Alves, New analytical criterion for porous solids with Tresca matrix. 20th European Conference on Fracture (ECF20), Trondheim, Norway, July 1-4, 2014, Procedia Material Science, 3, 1412-1417.

17. **B. Revil-Baudard**, O. Cazacu[F], On Modeling plasticity-damage couplings in polycrystalline materials. 20th European Conference on Fracture (ECF20), Trondheim, Norway, July 1-4, 2014, Procedia Material Science, 3, 1423-1428.

18. **B. Revil-Baudard**, O. Cazacu, N. Chandola, Role of the plastic flow of the matrix on yielding and void evolution of porous solids. TMS Annual Meeting and Exhibition - EPD Congress, San Diego, CA, February 16-20, 2014 (3 pp-on CD-ROM).

19. O. Cazacu, **B. Revil-Baudard**, Plasticity-damage couplings in Titanium, Proceeding of the 9th International Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes, Melbourne, Australia, January 6-10,2014, AIP Conference Proceedings, Vol. 1567, 2013, 328-335.

20. J.L. Alves, O. Cazacu, **B. Revil-Baudard**, New criterion describing combined effects of Lode angle and sign of pressure on yielding and void evolution. In: Hora, P. (Ed.), Proceedings of IDDRG 2013, Zurich, June 2–5, 2013, 169–174, ISBN 978-3-906031-34-7.

21. **B. Revil-Baudard**, E. Massoni, Implementation of an Evolving non Quadratic Anisotropic Behaviour for the Closed Packed Material, NUMIFORM 2010: Proceedings of the 10th International Conference on Numerical Methods in Industrial Forming Processes Dedicated to Professor O. C. Zienkiewicz (1921-2009). AIP Conference Proceedings, Vol. 1252, 2010, 228-234.

22. **B. Revil-Baudard**, E. Massoni, Implementation of an Evolving Anisotropic Behaviour for the Hexagonal Closed Packed Materials, Computational plasticity X : fundamentals and applications ; proceedings of the X International Conference on Computational Plasticity - fundamentals and applications held in Barcelona, Spain, 02 - 04 September 2009

23. **B. Revil-Baudard**, E. Massoni, Simulation of titanium alloys behaviour for cold forming processes of metal sheets, Actes du *9ème Colloque National en Calcul des Structures*, Giens, Var, France, 25-29 mai 2009.

24. **B. Revil-Baudard**, E. Massoni, Simulation of the Cold Forming of commercially pure titanium, actes du Congrès Français de Mécanique 2009, 24-28 August 2009, Marseille, France.

Lectures Presented at International Conferences (Speaker)

1. **B. Revil-Baudard**, N. Chandola, O. Cazacu (**Keynote**), Prediction of the torsional response of HCP metals, 11th International Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes, Tokyo, Japan, July 30 – August 3, 2018

2. **B. Revil-Baudard**, O. Cazacu (**Keynote**), Prediction of a strong influence of the matrix tension-compression asymmetry on damage evolution, The 18th International Symposium on Plasticity & its current Applications, San Juan, Jan 2-5, 2012.

3. **B. Revil-Baudard** (invited), Numerical investigation revealing key factors associated with instabilities in granular materials during impact, XXV ICTAM The 25th International Congress of Theoretical and Applied Mechanics, August 22–27, 2021, (online)

4. **B. Revil-Baudard** (invited), Effect of the Precompaction on the Onset of Dynamic Instabilities in Sand , ASME 2020 International Mechanical Engineering Congress & Exposition, November 16 – 19, 2020. (online)

5. **B. Revil-Baudard** (invited), New Model Accounting for the Specific Symmetry of Energetic Crystals, ASME 2020 International Mechanical Engineering Congress & Exposition, November 16 – 19, 2020. (online)

6. **B. Revil-Baudard**, Forming of materials with cubic crystal structure, ESAFORM 2020, The 25th International Conference on Material Forming, Mai 4 – 6, 2020. (online)

7. **B. Revil-Baudard**, O. Cazacu (invited) Dynamic Behavior of Cohesionless Granular Materials, ASME 2019 International Mechanical Engineering Congress & Exposition, Salt Lake City (UT), November 11 – 14, 2019

8. **B. Revil-Baudard**, O. Cazacu (invited) Plasticity-damage couplings in polycrystalline materials: importance of consideration of the specificities of the plastic flow of the matrix on the mechanical response of porous solids, International Symposium on Plasticity & its current Applications, Panama City, Panama, 4-9 January, 2019.

9. **B. Revil-Baudard** (invited), Effect of the ratio between the yield stresses in uniaxial tension and pure shear on the size of the plastic zone near a crack. ASME 2018 International Mechanical Engineering Congress & Exposition, Pittsburgh, PA, 10-15 November, 2018.

10. **B Revil-Baudard** (invited), Plastic deformation of metallic materials during dynamic events, 11th International Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes, Tokyo, Japan, July 30 – August 3, 2018

11. **B. Revil-Baudard** (invited) Deformation of titanium, 10th symposium of the International Center for Applied Computational Mechanics– USA-France Symposium, Ft Walton Beach, Fl., May 17–19, 2017

12. **B Revil-Baudard** (invited), Deformation and Damage of Titanium alloys under extreme environments, Mach Conference, 2017, Annapolis, MD

13. **B. Revil-Baudard** and O. Cazacu (invited) Plastic deformation of high-purity α-titanium: model development and validation using the Taylor cylinder impact test. The 10th International Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes, Bristol, UK, September 4-9, 2016

14. **B. Revil-Baudard** and E. Massoni (invited) Constitutive modeling of commercially pure titanium: validation using bulge tests. Proceeding of the 10th International Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes, Bristol, UK, September 4-9, 2016, AIP Conference Proceedings, 734(3), 032057

15. **B. Revil-Baudard**, Modeling plasticity-damage couplings in anisotropic titanium & Validation by XCMT, XXIV ICTAM The 24th International Congress of Theoretical and Applied Mechanics, Montreal, Canada, August 22-26, 2016

16. **B Revil-Baudard** (invited), Plastic deformation and damage features in Titanium: Experimental tests, constitutive modeling and validation, Mach Conference, 2016, Annapolis, MD

17. **B. Revil-Baudard**, O. Cazacu (invited) New three dimensional strain-rate potentials for isotropic porous metals: role of the plastic flow of the matrix, The Fourth International Conference on Computational Modeling of Fracture and Failure of Materials and Structures, Paris, France, 3-5 June, 2015.

18. **B. Revil-Baudard**, E. Massoni (invited) Plastic behavior of a commercially pure titanium: mechanical testing, modeling and validation using bulge test. 1st American Congress on Computational Mechanics, Buenos Aires, 27-29 April, 2015.

19. **B.Revil-Baudard**, O. Cazacu , F. Flater, G. Kleiser, (invited) Plastic Deformation of High-Purity Alpha-Titanium: Model Development and Validation Using the Taylor Cylinder Impact Test, TMS Annual Meeting & Exhibition, Orlando, FL, 16-19 March, 2015.

20. **B. Revil-Baudard**, Micromechanical Modeling of Evolving Anisotropy in AZ31 Mg for Various Strain Paths, TMS Annual Meeting & Exhibition, Orlando, FL, 16-19 March, 2015.

21. **B. Revil-Baudard,** O. Cazacu (invited), Deformation and Damage in Titanium materials, The 21th International Symposium on Plasticity & its current Applications, Jamaica, 4-9 January 2015.

22. F. Flater, G. Kleiser, **B.Revil-Baudard**, O.Cazacu, Elastic-Viscoplastic Anisotropic Modeling of High-Purity Titanium and Validation Using the Taylor Cylinder Impact Test. ASME 2014 International Mechanical Engineering Congress & Exposition, Montreal, Canada, 14-20 November, 2014.

23. **B. Revil-Baudard**, N,Chandola, O.Cazacu Combined Effects of Anisotropy and Tension-Compression Asymmetry on the Torsional Response of AZ31 Mg, AeroMat 25, Orlando, FL, 16-19 June, 2014

24. **B. Revil-Baudard**, O. Cazacu (invited) New three dimensional strain-rate potentials for isotropic porous metals: role of the plastic flow of the matrix, The 14th European mechanics of Materials Conference, Gothenburg, Sweden, 27-29 August, 2014.

25. **Benoit Revil-Baudard**, O. Cazacu On Modeling plasticity-damage couplings in polycrystalline materials. 20th European Conference on Fracture (ECF20), Trondheim, Norway, July 1-4, 2014.

26. **B. Revil-Baudard,** O. Cazacu, Effects of Twinning on Damage Evolution in Porous Materials,2014 TMS Annual Meeting & Exhibition, San Diego, CA, 16-20 February, 2014

27. **B. Revil-Baudard,** O. Cazacu , G. Kleiser, P. Flater Experimental and Theoretical Investigation of Deformation and Damage in a-Titanium,2014 TMS Annual Meeting & Exhibition, San Diego, CA, 16-20 February, 2014.

28. **B. Revil-Baudard,** O. Cazacu (invited) Role of the plastic flow of the matrix on yielding and void evolution of porous solids, The 20th International Symposium on Plasticity & its current Applications, 2-5 January 2014.

29. **B. Revil-Baudard,** E. Massoni**,** Implementation of an Evolving Anisotropic Behaviour for the Hexagonal Closed Packed Materials, X International Conference on Computational Plasticity: Fundamentals and application, COMPLAS X, 2-4 September 2009, Barcelona, Spain.

30. **B. Revil-Baudard**, E. Massoni, Simulation of the Anisotropic Behavior of Titanium Alloys During Sheet Metal Forming, The 12th International ESAFORM Conference on Material Forming, ESAFORM 2009, University of Twente, 27-29 April 2009, Twente, The Netherlands

31. **B. Revil-Baudard**, E. Massoni, Simulation of titanium alloys behaviour for cold forming processes of metal sheets, Mechanics & Industry, 9ème colloque national en calcul des structures, 25-29 May 2009, Giens, France.

32. **B. Revil-Baudard**, E. Massoni, Simulation of the Cold Forming of commercially pure titanium, XIX Congrès Français de Mécanique, CFM09, 24-28 August 2009, Marseille, France.

RESEARCH GRANTS

2015-2021 **PI**, **US Air Force Eglin AFB**
Design of Innovative Capabilities for Testing the Dynamic Behavior at Temperatures Close to Their Melting Point
Total: $625,141

2016-2019 **Co- PI, US Army Research Office**
Uncovering the cause of ratcheting and low-cycle fatigue
Total: $392, 495; co-PI responsibility: $196,247

2018-2021 **PI, Air Force Office of Scientific Research**
New framework for constitutive modeling and numerical simulation of energetic crystals
Total: $300,440

2018-2019 **Co-PI, Southwest Research Institute**
Development and Implementation of Advanced Soil Model
Total: $100,000; co-PI responsibility: $50,000

2019-2023 **Co-PI, US Air Force Eglin AFB**
Engineering Scale Modeling for Concrete Under High-Strain Rates and Pressures
Total: $400,004; co-PI responsibility: $200,002

2022-2026 **Co-PI, US Air Force Eglin AFB**
Predictive Methods for Emerging Ordnance Technologies
Total: $2,016,593.00; co-PI responsibility: $257,301

2022-2025 **PI, US Air Force Eglin AFB**
Virtual Design and Evaluation
Total: $224,998

TEACHING

Graduate Courses

University of Florida, Department of Mechanical and Aerospace Engineering

EGM 5533	Applied Elasticity and Advanced Mechanics of Solids (core graduate engineering course, 3 credits)	2015, 2021
EGM 6671	Inelastic Materials (specialty graduate engineering course developed, 3 credits)	2017, 2018, 2022

Ecole Nationale Supérieure des Mines de Paris/CEMEF, France

Taught Recitation classes for the following graduate level courses offered in the Advanced Master's Degree Program in Materials, Processing and Modeling (2008, 2009)

- *Continuum Mechanics and Thermodynamics*
- *Manufacturing and Forming Processes*: Experimental Labs for deep-drawing and hydroforming
- *Computational Mechanics with Matlab*.

ADVISING & MENTORING

Doctoral Students

- Co-Chair for Hernan Godoy "*Modeling and simulation of the loss of stability of metallic sheets for biaxial loadings*", Dissertation, University of Florida, MAE, Defense scheduled 17 March 2022.

- External Member for Benjamin Begley "*Mechanistic investigation of spheroidization in two-phase titanium alloys: linking dislocation-interface interactions to macroscale processing*" UF MSE, Estimated Graduation, Spring 2024

Former Doctoral Student

- Elisabeth Bartlett "*Experimental characterization and modeling of High strength martensitic steels based on a new distorsional hardening model*" (supervised numerical modeling, verification, and validation), Award 2018

Postdoctoral supervision and funding

- Nitin Chandola: 2016-2022

PROFESSIONAL SERVICE

Editorial Advisory Boards

- Member of the editorial board of the "International Journal of Material Forming (IJFO) (since 2021)

Reviewer for the International Journals

- Int. J. of Plasticity;
- Eur. J. of Mechanics A/Solids
- Mechanical Research Communication
- Inter. Journal of Material Forming
- Mechanics of Materials
- Meccanica
- Applied Mathematical Modelling
- International Journal of Mechanical Sciences
- Theoretical and Applied Fracture Mechanics
- Journal of Manufacturing Science and Engineering
- Materials and Design
- Int. J. of Impact Engineering
- Material Characterization
- Material Letters
- Science and Technology of Materials

Proposal Reviewer for National Science Foundation of France and Poland

- Agence Nationale de la Recherche (ANR), France, 2017
- Foundation for Polish Science (FPS), Poland, 2016, 2018

International Conference/ Symposia Organizer

- Co-organizer, "*Anisotropic Plasticity of Textured and Microstructurally Heterogeneous Materials*", ASME-IMECE 2021 International Mechanical Engineering Congress & Exposition, November 1 – 5, 2021 (online)
- Co-organizer, "*Plasticity, Damage, and Fracture in Metallic Materials*", ASME - IMECE2020 International Mechanical Engineering Congress & Exposition, November 16 – 19, 2020 (online)
- Co-organizer – "*Symposium on plasticity, damage, and fracture*", ASME-IMECE 2019 International Mechanical Engineering Congress & Exposition, Salt Lake City, UT, November 10-15, 2019
- Co-organizer, "*Multi-scale modeling of plastic behavior of materials*", The 21th International Symposium on Plasticity & its current Applications, Jamaica, 4-9 January 2015.
- Co-organizer, "*Challenges in characterization and modelling of Titanium materials*", Numisheet 2016, The 10th International Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes, Bristol, United Kingdom, 4-9 September 2016.

Professional Membership

- Member of the Scientific board of the ICACM (International Center for Applied Computational Mechanics).
- Member of the American Society of Mechanical Engineers