Publications List – Dr. Elad Priel

Peer reviewed journals

1. B. Mittleman, M. Ben-Haroush, I. Aloush, L. Mordechay, **E. Priel**, "Bonding of Al6061 by hot compression forming: A computational and experimental study of interface conditions at bonded surfaces", Materials, 14: 3589, 2021.
2. **E. Priel**, N.U. Navi ,B. Mittleman, N. Trabelsi, M. Levi, S. Kalabukhov, S. Hayun, "Cold forming of Al-TiB2 composites fabricated by SPS: A computational experimental study", Materials Vol 13(16) 2020.
3. **E. Priel**, T. Priel, I. Solodkin, T. Wainstock, Y. Perez, A. Harlev, A. Zeadna, N. Steiner, E. Levitas, I. Har Vardi, "Zona Pellucida shear modulus a possible novel non-invasive method to assist in embryo selection during in-vitro fertilization treatment", Scientific Reports (10), 2020.
4. M. Aizenstein, **E. Priel**, S. Hayun, "Effect of pre-deformation and B2 morphology on the mechanical properties of Al0.5CoCrFeNi HEA", Materials Science and Engineering A, Vol (788), 2020.
5. B. Mittleman, G.M. Guttmann, **E. Priel**, "A computational analysis of thermo-mechanical fields in hot roll bonding of aluminum validated by experiments", Journal of Minerals, Metals and Materials Society, Vol 72, pp:718-728, 2019.
6. **E. Priel**, B. Mittelman, N. Trabelsi, Y. Cohen, Y. Koptiar, R. Padan, "A computational study of equal channel angular pressing of molybdenum validated by experiments", Journal of materials processing technology, Vol 264, pp:469-485, 2019.
7. B. Mittelman, **E. Priel**, Nissim U.Navi, "A computational and experimental study of ring compression tests: Thermo mechanical fields and their relation to friction conditions", Journal of Manufacturing and Materials Processing, Vol (2), pp: 83, 2018.
8. **E. Priel**, B. Mittelman, S. Haroush, A. Turgeman, R. Shneck and Y. Gelbstein, "Estimation of yield and ultimate stress using the Small Punch Test method applied to non-standard specimens: A computational study validated by experiments", International Journal of Mechanical Sciences, Vol (135) pp:484-498, 2018.
9. **E. Priel**, Z. Ungarish, N.U. Navi, "Co-extrusion of a Mg/Al Composite Billet: A Computational Study Validated by Experiments", Journal of Materials Processing Technology, Vol (236) pp: 103-113, 2016.
10. **E. Priel**, S. Haroush, A. Busiba, D. Moreno, I. Silverman, A. Turgeman, R. Shneck, Y. Gelbstein, " Estimation of the mechanical properties of SS-316L thin foils by small punch testing and finite element analysis", Materials & Design, Vol (83) pp: 75-84, 2015.
11. **E. Priel**, "The mechanical response of the human artery: A high order p-FE computational study", SCE-science 4, 2014.
12. **E. Priel** and Z. Yosibash, "Artery active mechanical response: High order finite element implementation and investigation", Computer Methods in Applied Mechanics and Engineering, Vol (237-240) pp: 51-66, 2012.
13. **E. Priel** and Z. Yosibash, "The coupled passive active mechanical response of a slightly compressible artery investigated by p-FEM's", IAACM Newsletter 2012.
14. Z. Yosibash and **E. Priel**, "p-FEMs for hyperelastic anisotropic nearly incompressible materials under finite deformations with applications to arteries simulation", International Journal of Numerical Methods in Engineering, Vol (88) pp: 1152-1174, 2011.
15. **E. Priel** and Z. Yosibash and D. Leguilon, "Failure initiation at a blunt V-notch tip under mixed mode loading", International Journal of Fracture, Vol (149) pp:143-173, 2008.
16. **E. Priel**, A. Bussiba, I. Gilad, Z. Yosibash,"Mixed mode failure criteria for brittle elastic V-notched structures", International Journal of Fracture, Vol (144) pp: 247-265, 2007.

17. Z. Yosibash and **E. Priel** and D. Leguillon, "A failure criterion for brittle elastic materials under mixed mode loading", International Journal of Fracture, Vol (141) pp:291-312, 2006.

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18. **E. Priel**, Z. Yosibash, "The mechanical response of the human coronary artery: simulation by high order finite element methods", Conference proceedings CMBE, GMU, USA. pp:371-374, 2011.

Oral presentations

19. A. Farkash, S. Haroush, S. Hayun, **E. Priel**, "The influence of reinforcement-matrix interface bonding on AMCs effective elastic mechanical properties: A computational study, ISCM-47 2019, BGU, Israel.
20. **E. Priel**, B. Mittleman, N. Trabelsi, N.U. Navi, N. Bitton, O. Rahamim, S. Haroush, S. Hayun, N. Frage, "The mechanical response and failure of Al-TiB2 composites produced by spark plasma sintering: A computational study validated by experiments", CFRAC-2019, Braunschweig, Germany.
21. **E. Priel**, T. Priel, Y. Perez, A. Harlev, N. Steiner, E, Levitus, I. Har-Vardi, "A computational study of human oocyte Zona Pellucida mechanics: Can oocyte mechanics be used as a predictor for embryo implantation potential?", ICME 2018, BGU, Israel.
22. **E. Priel**, B. Mittleman, N. Trabelsi, N. Navi, N. Bitton, O. Rahamim, S. Haroush, S. Hayun, N. Frage, "The mechanical response and failure of Al-TiB2 composites produced by spark plasma sintering: A multi scale computational study", WCCM-2018, New-York, USA (Keynote lecture).
23. B. Mittleman, G. Guttmann, **E. Priel**, "A computational study of Aluminum Roll Bonding validated by experiments", TIME2018, Haifa, Israel.
24. Y. Kohptiar, Y. Cohen, R. Padan, I. Gutman, N. Trabelsi, B. Mittelman, **E. Priel**, "Equal Channel Angular Pressing of Molybdenum", TIME2018, Haifa, Israel.
25. I. Har-Vardi, T. Priel, Y. Perez, A. Harlev, A. Zeadna, N. Steiner, E. Levitas, **E. Priel**,"Human oocyte Zona Pellucida mechanics as a predictor factor for embryo implantation potential", Israeli Research Conference on Human Fertillity, AYALA-2018, Tel-Aviv, Israel.
26. **E. Priel**, B. mittelman, N. Trabelsi, Y. Cohen, Y. Koptiar, R. Padan, "A computational study of Equal Channel Angular Pressing validated by experiments", ISCAM-44, 2018, BGU, Israel.
27. **E. Priel**, Z. Ungarish, N.U. Navi, "Co-extrusion of a Mg/Al composite billet: A computational study validated by experiments", COMPLAS 2017, Barcelona, Spain.
28. B. Mittelman, **E. Priel**, N.U. Navi, "Investigation of friction conditions in metal forming processes: A computational study validated by ring compression tests and extrusion experiments", COMPLAS 2017, Barcelona, Spain.
29. **E. Priel**, B.Mittelman, S. Haroush, "A computational and experimental study of the small punch test method applied to non-standard SS-316L metallic foils", ISCM-42 2017, Technion, Israel.
30. **E. Priel**, S. Haroush, "A computational and experimental study of the small punch test method applied to non-standard SS-316L metallic foils", ICME 2016, Technion, Israel.
31. B. Mittelman, **E. Priel**, N.U. Navi, "Investigation of friction conditions in metal forming processes: A computational study validated by ring compression tests", ICME 2016, Technion, Israel.
32. B. Mittelman, **E. Priel**, N.U. Navi, "Characterization of friction conditions in metal forming processes utilizing finite element analysis and ring compression tests", ISCM-41 2016, SCE, Israel.
33. **E. Priel**, T. Priel, I. Har-Vardi, "The mechanical response of the human oocyte: A computational case study conducted in a clinical setting", ICCM 16 2016 UC-Berkely, USA.
34. Z. Yosibash, N. Omer, S. Shannon, B. Mittelman, **E. Priel**, "When 3-D Edge Singularities in Linear Elasticity Meet the Real World", 8th Singular Days 2016, Nancy, France.

35. **E. Priel**, Z. Yosibash, "On the p-prediction method for non-linear hyperelastic problems in the framework of p-FEMs", HOFIEM 2016, Jerusalem, Israel.
36. **E. Priel**, N.U. Navi, "Evolution of thermo-mechanical fields in hot hollow extrusion of aluminum: A computational study validated by experiments", IMEC 17 2016, Bar-Ilan University, Israel.
37. **E. Priel**, T. Priel, I. Har-Vardi, "The mechanical response of the human oocyte: A computational study conducted in a clinical setting", ISCM-39 2015, Technion, Israel.
38. Z. Ungarish, **E. Priel**, M.H. Mintz, N.U. Navi, "Co-extrusion of an aluminum Magnesium Composite Billet: Investigation of Material Flow and Interface Interaction", the 33th Israeli Conference on mechanical Engineering 2015, Tel-Aviv, Israel.
39. **E. Priel**, N.U. Navi, "Hot Hollow extrusion of aluminum: A computational study validated by experiments", the 33th Israeli Conference on mechanical Engineering 2015, Tel-Aviv, Israel.
40. S. Ifargan, O. Beeri, E. Sabatani, Z. Barkay, **E. Priel**, N. Eliaz, "Hydrogen effect on precipitation hardened stainless steel in different thermo-mechanical condictions", NACE 2014, Kfar Maccabia, Ramat-Gan, Israel.
41. **E. Priel**, Z. Ungarish, N.U. Navi, "Extrusion cladding of magnesium by aluminum: A computational study validated by experiments", ABAQUS users conference 2014, Ramat-Gan, Israel.
42. **E. Priel**, Z. Ungarish, N.U. Navi, " Extrusion cladding of magnesium by aluminum: A computational study validated by experiments", ISCM-37 2014, , TAU, Israel.
43. **E. Priel**, "The effect of tissue compressibility on the coupled passive-active mechanical response of artery walls: A high order p-version finite element study", WCCM 2014, Barcelona, Spain.
44. **E. Priel**, O. Shadot, D. Cohen, E. Kahana,"Investigation of AA-6063 ring expansion and fragmentation at high strain rates: Finite element analysis validated by experimental observation", ISCM-34 2013, TAU, Israel.
45. **E. Priel**, Z. Yosibash, "The coupled passive-active mechanical response of a slightly compressible artery investigated by p-FEMs", ECCOMAS 2012, Vienna, Austria.
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47. **E. Priel**, Z. Yosibash, "Investigation of passive arterial mechanical response by high order finite element methods", Mathematical methods in System Biology 2010, TAU, Israel.
48. **E. Priel**, Z. Yosibash, "Analytical and numerical investigation of the response of anisotropic hyperelastic materials", ISTAM 2009, TAU, Israel.
49. **E. Priel**, Z. Yosibash, "Failure of blunt V-nocthed brittle structures", Invited lecture, Mechanical Engineering department - Paris 6 University, 2008, Paris, France.
50. **E. Priel**, Z. Yosibash, "Failure criteria in brittle elastic structures under mixed mode loading: p-FEMs & Experiments", HOFEM 2007, Herrsching, Germany.
51. **E. Priel**, Z. Yosibash, "Predicting mechanical failure of V-notched components subject to mixed mode loading", 5th Singular days conference, Luminy, France.
52. **E. Priel**, Z. Yosibash, "Brittle failure initiation in a V-notch tip under mixed mode loading", ISTAM 2006, TAU, Israel.
53. **E. Priel**, Z. Yosibash, "Mixed mode failure initiation at a V-notch tip", ISCM-21, BGU, Israel.

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54. **E. Priel**, B. Mittelman, N. Trabelsi, N. U. Navi, O. Rahamim, S. Hayun, N. Frage, "A multiscale finite element study of the relation between particle volume fraction and effective mechanical properties of Al-TiB2 fabricated by SPS", IMEC 2018, Dead sea, Israel.
55. O. Rahamim, N. Navi, **E. Priel**, S. Kalabukhov, S. Hayun, N. Frage, "Microstructure and mechanical properties of Al-TiB2 particle reinforced composites processed by spark plasma sintering", IMEC 2018, Dead sea, Israel.

56. Z. Ungarish, **E. Priel**, N.U. Navi, "Trends in aluminum clad magnesium by extrusion", IMEC 16 2014, Technion, Israel
57. B. Mittelman, **E. Priel**, N.U. Navi, "Characterization of friction conditions utilizing the ring compression test" IMEC 17 2016, Bar-Ilan University, Israel.
58. E. Chakotay, I. Alon, G.M. Guttmann, R. Carmi, A. Cohen, **E. Priel**, Y. Snir, A. Bussiba, "Orientation and strain rate effects on the mechanical response of 2024 at different microstructures", IMEC 17 2016, Bar-Ilan University, Israel.
59. S. Ifargan, O. Beeri, **E. Priel**, Z. Barkay, N. Eliaz, "Hydrogen diffusivity in custom 645 stainless steel in different thermo-mechanical conditions", IMEC 16 2014,Technion, Israel.

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60. **E. Priel**, N. Trabelsi, B. Mittleman, N.U.Navi, "A theoretical and experimental study of plastic forming and failure of metals and composites", Final report submitted to the IAEC, May 2020, Grant Number:4300011151 (In Hebrew).
61. **E. Priel**, N. Trabelsi, B. Mittleman, N.U.Navi, "A theoretical and experimental study of plastic forming and failure of metals and composites", Second year progress report submitted to the IAEC, May 2019, Grant Number:4300011151 (In Hebrew).
62. **E. Priel**, "An experimental and computational investigation of skim mechanics", Final report submitted to the SCE research authority, August 2018, (In Hebrew).
63. **E. Priel**, N. Trabelsi, B. Mittleman, N.U.Navi, "A theoretical and experimental study of plastic forming and failure of metals and composites", First year progress report submitted to the IAEC, May 2018, Grant Number:4300011151 (In Hebrew).
64. **E. Priel**, B. Mittleman, N. Trabelsi, "Equal Channel Angular Pressing of Molybdenum: A computational study validated by experiments", Final report submitted to RAFAEL advanced defense systems, October 2017, Grant Number: 53207 (In Hebrew).
65. **E. Priel**, B. Mittleman, N. Trabelsi, "Characterization of flow curves and friction coefficients for copper and molybdenum at different temperatures", Progress report submitted to RAFAEL advanced defense systems, September 2017, Grant Number: 53207 (In Hebrew).
66. **E. Priel**, B. Mittleman, N. Trabelsi, "Influence of thermal gradients on the Equal Channel Angular Pressing of Molybdenum", Progress report submitted to RAFAEL advanced defense systems, February 2017, Grant Number: 53207 (In Hebrew).
67. **E. Priel**, B. Mittleman, N. Trabelsi, "Preliminary computational analysis of Equal Channel Angular Pressing", Progress report submitted to RAFAEL advanced defense systems, December 2016, Grant Number: 53207 (In Hebrew).
68. **E. Priel**, "A computational and experimental study on the mechanical behavior of the human Zona Pellucida", Final report submitted to the SCE research authority, August 2016 (In Hebrew).