

CURRICULUM VITAE

Jeremy D. Seidt

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EDUCATION

Ph.D., Mechanical Engineering, The Ohio State University, March, 2010

Concentrations: Plastic deformation and fracture of ductile metals, experimental mechanics

Dissertation Title: *Plastic Deformation and Ductile Fracture of 2024-T351 Aluminum under Various Loading Conditions*

Advisor: Professor Amos Gilat

M.S., Aeronautical and Astronautical Engineering, The Ohio State University, June, 2001

Concentrations: Vibration-based fatigue, experimental mechanics

Thesis Title: *Development of a Novel Vibration Based High Cycle Fatigue Test Method*

Advisor: Professor Mo-How (Herman) Shen

B.S., Aeronautical and Astronautical Engineering, The Ohio State University, June, 1999

EXPERIENCE

Research Associate Professor, September 2019 – Present

The Ohio State University, Department of Mechanical and Aerospace Engineering

Adjunct Assistant Professor, September 2017 – Present

The Ohio State University, Restorative Science and Prosthodontics, College of Dentistry

Research Scientist, July 2011 – August 2019

The Ohio State University, Department of Mechanical and Aerospace Engineering

Post-Doctoral Researcher, April 2010 – June 2011

The Ohio State University, Department of Mechanical and Aerospace Engineering

Graduate Research Associate, September 2006 – March 2010

The Ohio State University, Department of Mechanical Engineering

Research Scientist, June 2003 – August 2006

Battelle Memorial Institute, Energetic Systems and Security Technology Product Line

Researcher, June 2001 – June 2003

Battelle Memorial Institute, Energetic Systems and Security Technology Product Line

Graduate Research Associate, September 1999 – June 2001
The Ohio State University, Department of Aeronautical and Astronautical Engineering

RESEARCH INTERESTS

- Experimental mechanics
- High strain rate material testing using the split Hopkinson (Kolsky) Bar apparatus
- Intermediate strain rate testing
- Impact dynamics
- Response of structures to explosive blast loading
- Three dimensional digital image correlation for shape and deformation measurements
- High speed photography and dynamic optical deformation measurement techniques
- The effect of stress state on ductile fracture of metals
- Biomechanics of dental implants
- Mechanical behavior of dental materials
- Constitutive modeling of anisotropic materials
- Numerical simulations of impact and blast events using LS-DYNA, a transient dynamic finite element code
- Mine safety systems

SELECTED RESEARCH GRANTS

Development of a Dynamic Impact Experiment for Mouthguard Performance Assessment, Sponsor: The Ohio State University College of Dentistry Seed Grant, Collaboration with Debbie Mendel (PI) and Burak Yilmaz, January 2020, Budget: \$17,654.

Dynamic Testing of Hexcel 8552 Neat Resin, Sponsor: NASA GRC, September 2019, Budget: \$40,000.

Quasistatic and Dynamic Fracture Testing of Sheet Steel, Sponsor: General Motors, August 2019, Collaboration with Amos Gilat (PI), Budget: \$93,500.

Dynamic Material Fracture Tests of Gen3 Steels, Sponsor: General Motors, August 2019, Collaboration with Amos Gilat (PI), Budget: \$59,250.

Dynamic Tensile Testing of Mig Weld Seams Using a Drop Tower Apparatus, Sponsor: Fiat Chrysler, October 2018, Collaboration with Amos Gilat (PI), Budget: \$29,200.

PWA 1215 (Ti6-4 Forging) Fracture and Variable Strain Rate Testing, Sponsor: Pratt & Whitney, May 2018, Collaboration with Amos Gilat (PI), Budget: \$54,400.

AMS 4312 (Aluminum) Fracture and Variable Strain Rate Testing, Sponsor: Pratt & Whitney, May 2018, Collaboration with Amos Gilat (PI), Budget: \$54,400.

Inflator Steel Testing for Material Model Development, Sponsor: Takata, December 2017, Collaboration with Amos Gilat (PI), Budget: \$21,000.

Axial Crush Testing of Double-Hat Spot Weld Assemblies, Sponsor: Aleris, October 2017, Collaboration with Amos Gilat (PI), Budget: \$7,000.

L-Angle Composite Testing, Sponsor: Honda R&D Americas, June 2017, Collaboration with Amos Gilat (PI), Budget: \$7,750.

Battery Electrode Mechanical Property Testing, Sponsor: National Renewable Energy Laboratory, November 2016, Collaboration with Amos Gilat (PI), Budget: \$77,500.

Tension Testing of HDPE at Intermediate Strain Rates, Sponsor: Ford Motor Company, June 2016, Collaboration with Amos Gilat (PI), Budget: \$3,000.

Mechanical Characterization of Heat Affected Zone (HAZ), Sponsor: Chrysler, April 2016, Collaboration with Amos Gilat (PI), Budget: \$98,840.

Mechanical Characterization of SMC Materials in Tension and Compression at Various Strain Rates, Sponsor: Honda R&D Americas, March 2016, Collaboration with Amos Gilat (PI), Budget: \$402,720.

Mechanical Testing of QP1180, TRIP1180 and MS1700 High Strength Steels, Sponsor: Tesla Motors, March 2016, Collaboration with Amos Gilat (PI), Budget: \$25,650.

Ti-6-4 Plate Strain to Failure and Variable Strain Rate Tensile Testing, Sponsor: Pratt & Whitney, September 2015, Collaboration with Amos Gilat (PI), Budget: \$17,800.

Mechanical Characterization of Ductibor Steel, Sponsor: Chrysler, September 2015, Collaboration with Amos Gilat (PI), Budget: \$15,050.

Biomechanical Analysis of Monolithic Zirconia Dental Implant Cantilevered Frameworks, Sponsor: OSU College of Dentistry Clinical Scholar's Pilot Grant Program, July 2015, Collaboration with Burak Yilmaz (PI), Ed McGlumphy and William Brantley, Budget: \$14,370.

Mechanical Testing of Adhesive, Sponsor: Honda R&D Americas, May 2015, Collaboration with Amos Gilat (PI), Budget: \$36,250.

Ti-6-4 Side Pressed Billet Strain to Failure and Variable Strain Rate Tensile Testing, Sponsor: Pratt & Whitney, May 2015, Collaboration with Amos Gilat (PI), Budget: \$20,200.

Tension Testing of Four Packaging Materials at Various Strain Rates, Sponsor: Procter & Gamble, April 2015, Collaboration with Amos Gilat (PI), Budget: \$77,600.

Mechanical Testing of Aluminum Sheet and Extrusion, Sponsor: Honda R&D Americas, March 2015, Collaboration with Amos Gilat (PI), Budget: \$64,500.

Mechanical Characterization of Four Aluminum Sheet Metals, Sponsor: Chrysler, November 2014, Collaboration with Amos Gilat (PI), Budget: \$43,000.

Comparison of Resin Nano-Ceramic and All-Ceramic Dental Implant Crowns under Loading, Sponsor: OSU College of Dentistry Clinical Scholar's Pilot Grant Program, November 2014, Collaboration with Burak Yilmaz (PI), Ed McGlumphy, and Nancy Clelland, Budget: \$24,750.

Dynamic Tensile Characterization of Polypropylene, Sponsor: Exxon Mobil Chemical Company, November 2014, Collaboration with Amos Gilat (PI), Budget: \$12,640.

Mechanical Characterization of Dual Phase High Strength Steels, Sponsor: Chrysler, May 2014, Collaboration with Amos Gilat (PI), Budget: \$102,250.

Quasi-static Testing of Aluminum Extruded Alloys: Six Materials, Sponsor: General Motors Company, January 2014, Collaboration with Amos Gilat (PI), Budget: \$105,600.

Characterization of Magnesium in Tension and Shear, U.S. Automotive Materials Partnership (USAMP), August 2013, Collaboration with Amos Gilat (PI), Budget: \$6,300.

Validating FSI Simulations in LS-DYNA: Roof Panel Oil-Canning and Undercarriage Water Shock, Sponsor: Honda R&D Americas, April 2013, Collaboration with Amos Gilat (PI), Budget: \$400,000.

Fuel Port Testing, Sponsor: Ford Motor Company, April 2013, Collaboration with Amos Gilat (PI), \$2,800.

Characterization of Aluminum Sheet, Aluminum Extrusion and Aluminum Casting, Sponsor: Chrysler, February 2013, Collaboration with Amos Gilat (PI), Budget: \$77,950.

Mechanical Characterization of Three High Strength Steel Materials, Sponsor: Chrysler, April 2012, Collaboration with Amos Gilat (PI), Budget: \$33,600.

PUBLICATIONS

Refereed Journal Articles

1. Vazquez-Fernandez, N.I., Soares, G.C., Smith, J.L., Seidt, J.D., Isakov, M., Gilat, A., Kuokkala, V.T., Hokka, M. "Adiabatic heating of austenitic stainless steels at different strain rates", *Journal of Dynamic Behavior of Materials*, Vol. 5, No. 3, 2019 pp 221-229.
2. Mizumoto, R.M., Yilmaz, B., McGlumphy, E.A., Seidt, J., Johnston, W.M., "Accuracy of Different Scanning Techniques and Scan Bodies for Complete-Arch Implant-Supported Prostheses", *The Journal of Prosthetic Dentistry*, Vol. 123, 2019, pp 96-104.

3. Gilat, A., Seidt, J.D., Matrka, T.A., Gardner, K. A., “A New Device for Tensile and Compressive Testing at Intermediate Strain Rates”, Article Accepted and Published Online by *Experimental Mechanics*, Vol. 59, No. 5, 2019, pp 725-731.
4. Sherzer, G.L., Marianchick, E., Cohen, R., Seidt, J., Gal, E., “Lateral Displacement Measurement Device for Concrete Specimens Having Non-Cylindrical Cross Section”, *Journal of Materials in Civil Engineering*, Vol. 31, No. 11, 2019.
5. Sutton, M.A., Gilat, A., Seidt, J., Rajan, S., Kidane, A., “Full Field Deformation Measurements in Tensile Kolsky Bar Experiments: Studies and Detailed Analysis of the Early Time History” *Journal of Dynamic Behavior of Materials*, Vol. 4, No. 1, 2018, pp. 95-113.
6. Yilmaz, B., Alp, G., Seidt, J., Johnston, W.M., Vitter, R., McGlumphy, E.A., “Fracture Analysis of CAD-CAM High-Density Polymers Used for Interim Implant-Supported Fixed, Cantilevered Prostheses”, *The Journal of Prosthetic Dentistry*, Vol. 120, No. 1, 2018, pp. 79-84.
7. Rebeeah, H.A., Yilmaz, B., Seidt, J.D., McGlumphy, E., Clelland, N., Brantley, W., “Comparison of 3D Displacements of Screw-Retained Zirconia Implant Crowns into Implants with Different Internal Connections with Respect to Screw Tightening”, *The Journal of Prosthetic Dentistry*, Vol. 119, No. 1, 2018, pp. 132-137.
8. Yilmaz, B., Hashemzadeh, S., Seidt, J.D., Clelland, N.L., “Displacement Comparison of CAD-CAM Titanium and Zirconia Abutments to Implants with Different Conical Connections”, *Journal of Prosthodontic Research*, Vol. 62, No. 2, 2018, pp. 200-203.
9. Alshahrani, F.A., Yilmaz, B., Seidt, J.D., McGlumphy E.A., Brantley, W.A., “A Load-to-Fracture and Strain Analysis of Monolithic Zirconia Cantilevered Frameworks”, *The Journal of Prosthetic Dentistry*, Vol. 118, No. 6, 2017, pp. 752-758.
10. Salaita, L.G., Yilmaz, B., Seidt, J.D., Clelland, N.L., Chien, H.-H., McGlumphy, E.A., “Strain Analysis of 9 Different Abutments for Cement-Retained Crowns on an Internal Hexagonal Implant”, *The Journal of Prosthetic Dentistry*, Vol. 118, No. 2, 2017, pp166-171.
11. Gilmore, P., Sundaresan, V.-B., Smith, J., Seidt, J., Hehr, A., Dapino, M., “Design and Characterization of a Synthetic Jet Actuator-Based Fluid Atomization Device”, *Journal of Intelligent Material Systems and Structures*, Vol. 28, No. 17, 2017, pp. 2307-2316.
12. Mascarenhas, F., Yilmaz, B., McGlumphy, E., Clelland, N., Seidt, J., “Load to Failure of Different Zirconia Implant Abutments with Titanium Components”, *The Journal of Prosthetic Dentistry*, Vol. 117, No. 6, 2017, pp. 749-754.

13. George, J., Pydimarry, K., Seidt, J., Rieske, K., “Ductile Fracture Prediction of Automotive Suspension Components, *SAE International Journal of Engines*, Vol. 10, No. 2, 2017, pp. 280-286.
14. Seidt, J.D., Kuokkala, V.-T., Smith, J., Gilat, A., “Synchronous Full-Field Strain and Temperature Measurement in Tensile Tests at Low, Intermediate and High Strain Rates”, *Experimental Mechanics*, Vol. 57, No. 2, 2017 pp. 219-229.
15. Seidt, J.D., Pereira, J.M., Gilat, A., “Influence of Fabrication Method on Tensile Response of Split Hopkinson Bar-Sized Specimens”, *Journal of Testing and Evaluation*, Vol. 43, No. 6, 2015, pp. 1563-1573.
16. Hammer, J.T., Liutkus, T.J., Seidt, J.D., Gilat, A., “Using Digital Image Correlation (DIC) in Dynamic Punch Tests”, *Experimental Mechanics*, Vol. 55, No. 1, 2015, pp. 201-210.
17. Yilmaz, B., Salaita, L.G., Seidt, J.D., Clelland, N.L., McGlumphy, E.A., “Load to Failure of Different Titanium Abutments for an Internal Hexagon Implant”, *The Journal of Prosthetic Dentistry*, Vol. 114, No. 4, 2015, pp. 513-516.
18. Yilmaz, B., Gilbert, A.B., Seidt, J.D., McGlumphy, E.A., Clelland, N.L., “Displacement of Implant Abutments Following Initial and Repeated Torqueing”, *The International Journal of Oral and Maxillofacial Implants*, Vol. 30, No. 5, 2015, pp 1011-1018.
19. Gilbert, A.B., Yilmaz, B., Seidt, J.D., McGlumphy, E.A., Clelland, N.L., Chien, H.-H., “Three-Dimensional Displacement of Nine Different Abutments for an Implant with an Internal Hexagon Platform”, *The International Journal of Oral and Maxillofacial Implants*, Vol. 30, No. 4, 2015, pp 781-788.
20. Yilmaz, B., Salaita, L.G., Seidt, J.D., McGlumphy, E.A., Clelland, N.L., “Load to Failure of Different Zirconia Abutments for an Internal Hexagon Implant”, *The Journal of Prosthetic Dentistry*, Vol. 114, No. 3, 2015, pp. 373-377.
21. Yilmaz, B., Seidt, J.D., Clelland, N.L., “Displacement of Screw-Retained Splinted and Nonsplinted Restorations into Implants with Conical Internal Connections”, *The International Journal of Oral and Maxillofacial Implants*, Vol. 29, No. 6, 2014, pp 1289-1292.
22. McGlumphy, K.C., Mendel, D.A., Yilmaz, B., Seidt, J.D., “Pilot Study of 3D Image Correlation Photogrammetry to Assess Strain and Deformation of Mouthguard Materials”, *Dental Traumatology*, Vol. 30, No. 3, 2014, pp 236-239.
23. Seidt, J.D., Pereira, J.M., Gilat, A., Revilock, D.M., Nandwana, K., “Ballistic Impact of Anisotropic 2024 Aluminum Sheet and Plate”, *International Journal of Impact Engineering*, Vol. 62, 2013, pp. 27-34.

24. Seidt, J.D., Gilat, A., "Plastic Deformation of 2024-T351 Aluminum Plate over a Wide Range of Loading Conditions", *International Journal of Structures and Solids*, Vol. 50, No. 10, 2013, pp. 1781-1790.
25. Yilmaz, B., Seidt, J.D., McGlumphy E.A., Clelland, N.L., "Displacement of Screw-Retained Single Crowns into Implants with Conical Internal Connections", *The International Journal of Oral and Maxillofacial Implants*, Vol. 28, No. 3, 2013, pp 803-806.
26. Yilmaz, B., Mess, J., Seidt, J.D., Clelland, N.L., "Strain Comparisons for Splinted and Nonsplinted Cement-Retained Crowns", *International Journal of Prosthodontics*, Vol. 26, No. 3, 2013, pp 235-238.
27. Clelland, N.L., Yilmaz, B., Seidt, J.D., "Three-Dimensional Image Correlation Analyses for Strains Generated by Cement and Screw-Retained Implant Prostheses", *Clinical Implant Dentistry and Related Research*, Vol. 15, No. 2, 2013, pp 271-282.
28. Hokka, M., Kokkonen, J., Seidt, J., Matrka, T., Gilat, A., Kuokkala, V.-T., "High Strain Rate Torsion Properties of Ultrafine-Grained Aluminum," *Experimental Mechanics*, Vol. 52, No. 2, 2012, pp. 195-203.
29. Yilmaz, B., Seidt, J., McGlumphy, E.A., Clelland, N., "Comparisons of Strains for Splinted and Nonsplinted Screw-Retained Prostheses on Short Implants," *International Journal of Oral and Maxillofacial Implants*, Vol. 26, No. 6, 2011, pp 1176-1182.
30. Clelland, N.L., Seidt, J., Daroz, L.G., McGlumphy, E.A., "Comparison of Strains for Splinted and Nonsplinted Implant Prostheses Using Three-Dimensional Digital Image Correlation," *International Journal of Oral and Maxillofacial Implants*, Vol. 25, No. 5, 2010, pp. 953-959.
31. George, T.J., Seidt, J., Shen, M.-H., Nicholas, T., Cross, C.J., "Development of a Novel Vibration-Based Fatigue Testing Methodology," *International Journal of Fatigue*, Vol. 26, No. 5, 2004, pp. 477-486.

Refereed Conference Papers

1. Isakov, I., Seidt, J., Östman, K., Gilat, A., Kuokkala, V.-T., "Characterization of a Ferritic Stainless Sheet Steel in Simple Shear and Uniaxial Tension at Different Strain Rates," *Proceedings of the ASME 2011 International Mechanical Engineering Congress and Exposition*, Denver, CO, November 2011.
2. Gilat A., Seidt, J., "Dynamic Punch Test," *Proceedings of the 9th International Conference on the Mechanical and Physical Behaviour of Materials under Dynamic Loading*, Brussels, Belgium, September 2009.

3. Gilat, A., Seidt, J., “Dynamic Punch Testing of 2024-T351 Aluminum,” *Proceedings of the 16th Biennial International conference of the APS Topical Group on Shock Compression of Condensed Matter*, Nashville, TN, June/July 2009.
4. Seidt, J., Trott, B.D., “Design of a Blast Chamber for Repeated Use,” *Proceedings of the ASME Pressure Vessels and Piping Conference (PVP2005)*, Denver, CO, July 2005.

Non-Refereed Conference Papers

1. Spulak, N., Lowe, R., Seidt, J., Gilat, A., “Failure testing under in-plane biaxial tension and out-of-plane compression”, *Proceedings of the 2019 Annual Conference and Exposition on Experimental and Applied Mechanics*, Reno, NV, June, 2019.
2. Smith, J.L., Seidt, J.D., Gilat, A., “Full-field determination of the Taylor-Quinney coefficient in tension tests of Ti-6Al-4V at strain rates up to 7000 s^{-1} ”, *Proceedings of the 2019 Annual Conference and Exposition on Experimental and Applied Mechanics*, Reno, NV, June, 2019.
3. Deshpande, Y., Yang, P., Seidt, J., Gilat, A., “Dynamic mechanical response of T800/F3900 composite under tensile and compressive loading”, *Proceedings of the 2019 Annual Conference and Exposition on Experimental and Applied Mechanics*, Reno, NV, June, 2019.
4. Smith, B., Gilat, A., Seidt, J., “Full-field mechanical and thermal strain-rate dependence of CFRP laminates, *Proceedings of the 2019 Annual Conference and Exposition on Experimental and Applied Mechanics*, Reno, NV, June, 2019.
5. Gilat, A., Seidt, J.D., “Compression, Tension and Shear Testing of Fibrous Composite with the Split Hopkinson Bar Technique”, *Proceedings of the 12th International DYMAT Conference*, Arcachon, France, September 2018.
6. Smith, J.L., Seidt, J.D., Gilat, A., “Full Field Determination of the Taylor-Quinney Coefficient in Tension Tests of Ti-6Al-4V at strain rates up to 7000 s^{-1} ”, *Proceedings of the 2018 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Greenville, SC, June 2018.
7. Spulak, N., Lowe, R., Seidt, J., Gilat, A., “Failure Testing under In-Plane Biaxial Tension and Out-of-Plane Compression”, *Proceedings of the 2018 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Greenville, SC, June 2018.
8. Deshpande, Y., Yang, P., Seidt, J., Gilat, A., “Dynamic Mechanical Response of T800/F3900 Composite under Tensile and Compressive Loading”, *Proceedings of the 2018 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Greenville, SC, June 2018.

9. Gardner, K.A., Seidt, J.D., Gilat, A., “Water Shock Experiments on Automotive Underbody Panels”, *Proceedings of the 2017 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Indianapolis, IN, June 2017.
10. Smith, J.L., Kuokkala, V.-T., Seidt, J.D., Gilat, A., “Internal Heat Generation in Tension Tests of AISI 316 Using Full-Field Temperature and Strain Measurements”, *Proceedings of the 2017 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Indianapolis, IN, June 2017.
11. Smith, J.L., Kuokkala, V.-T., Seidt, J.D., Gilat, A., “Full-Field Temperature and Strain Measurement in Dynamic Tension Tests on SS 304”, *Proceedings of the 2016 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Orlando, FL, June 2016.
12. Yang, P., Seidt, J.D., Gilat, A., “Mechanical Response of T800/F3900 Composite at Various Strain Rates”, *Proceedings of the 2016 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Orlando, FL, June 2016.
13. Gardner, K.A., Seidt, J.D., Gilat, A., “Validating FSI Simulations in LS-DYNA 971 R7”, *Proceedings of the 2015 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Costa Mesa, CA, June 2015.
14. Ressa, A., Liutkus, T., Seidt, J.D., Gilat, A., “Time Dependent Response of Inconel 718”, *Proceedings of the 2015 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Costa Mesa, CA, June 2015.
15. Smith, J., Seidt, J.D., Gilat, A., “Thermal Deformation Analysis of an Aluminum Alloy Utilizing 3D DIC”, *Proceedings of the 2015 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Costa Mesa, CA, June 2015.
16. Hammer, J.T., Liutkus, T.J., Seidt, J.D., Gilat, A., “DIC in Dynamic Punch Testing”, *Proceedings of the 2014 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Greenville, SC, June 2014.
17. Hammer, J.T., Seidt, J.D., Gilat, A., “Strain Measurement at Temperatures up to 800 °C Utilizing Digital Image Correlation”, *Proceedings of the 2013 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Lombard, IL, June 2013.
18. Hammer, J.T., Seidt, J.D., Gilat, A., “Influence of Stress State on the Ductile Fracture of Ti-6Al-4V”, *Proceedings of the 2013 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Lombard, IL, June 2013.
19. Gardner, K.A., Seidt, J.D., Isakov, M., Gilat, A., “Characterization of Sheet Metals in Shear over a Wide Range of Strain Rates”, *Proceedings of the 2013 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Lombard, IL, June 2013.

20. Seidt, J.D., Pereira, J.M., Hammer, J.T., Gilat, A., "Dynamic Load Measurement of Ballistic Gelatin Impact Using an Instrumented Tube", *Proceedings of the 2012 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Costa Mesa, CA, June 2012.
21. Hammer, J.T., Yasnalkar, R.S., Seidt, J.D., Gilat, A., "Plastic Deformation of Ti-6Al-4V Plate over a Wide Range of Loading Conditions, *Proceedings of the 2012 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Costa Mesa, CA, June 2012.
22. Seidt, J., Matzka, T.A., Gilat, A., McDonald, G.B., "Tensile Behavior of Kevlar 49 Woven Fabrics over a Wide Range of Strain Rates," *Proceedings of the 2011 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Uncasville, CT, June 2011.
23. Hokka, M., Seidt, J., Matzka, T., Gilat, A., Kuokkala, V.-T., Nykanen, J., Muller, Soren, "Compression Behavior of Near-UFG AZ31 Mg-Alloy at High Strain Rates," *Proceedings of the 2010 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Indianapolis, IN, June 2010.
24. Seidt, J., Gilat A., "Experimental Investigation of the Failure Characteristics of 2024-T351 Aluminum," *Proceedings of the 2009 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Albuquerque, NM, June 2009.
25. Kokkonen, J., Kuokkala, V.-T., Seidt, J., Walker, A., Gilat, A., Olejnik, L., Rosochowski, A., "High Strain Rate Deformation Analysis of UFG Aluminum Sheet Samples," *Proceedings of the 2009 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Albuquerque, NM, June 2009.
26. Seidt, J., Gilat, A., "Characterization of 2024-T351 Aluminum for Dynamic Loading Applications," *Proceedings of the 11th International Congress and Exhibition on Experimental and Applied Mechanics*, Orlando, FL, June 2008.
27. Schmidt, T., Gilat A., Walker, A., Seidt, J., Tyson, J., "3D Image Correlation Studies of Geometry and Material Property Effects during Split Hopkinson Bar Experiments," *Proceedings of the 11th International Congress and Exhibition on Experimental and Applied Mechanics*, Orlando, FL, June 2008.
28. Seidt, J., Gilat, A., Klein, J.A., Leach, J.R., "High Strain Rate, High Temperature Constitutive and Failure Models for EOD Impact Scenarios," *Proceedings of the 2007 SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Springfield, MA, June 2007.

INVITED TALKS

1. Seidt, J. “Increasing Strain Rates and Challenging Stress States: Experimental Developments for a New Constitutive and Failure Model”, Presented for The Ohio State University Department of Mechanical and Aerospace Engineering Seminar Series, Columbus, OH, April, 2019.
2. Du Bois, P., Seidt, J. (Joint Lecture), “Joint Analytical/Experimental Constitutive and Failure Model Development”, Presented at Honda R&D Americas, Inc., Raymond, OH, October 2015.
3. Du Bois, P., Seidt, J. (Joint Lecture), “Joint Analytical/Experimental Constitutive and Failure Model Development”, Keynote lecture presented at the European LS-DYNA Conference, Würzburg, Germany, June 2015.
4. Seidt, J., “Optical Deformation Measurements in Dynamic Testing”, Keynote lecture presented at the 2nd DYMAT Student Camp, Tampere, Finland, June 2012.

CONTRIBUTED PRESENTATIONS

1. Hammer, J, Liutkus, T., Seidt, J., Gilat A., “DIC in Dynamic Punch Testing”, Presented at the 2014 SEM Annual Conference and Exposition on Experimental and Applied Mechanics, Greenville, SC, June 2014.
2. Hammer, J, Seidt, J., Gilat A., “Influence of Stress State on the Ductile Fracture of Ti-6Al-4V”, Presented at the 2013 SEM Annual Conference and Exposition on Experimental and Applied Mechanics, Lombard, IL, June 2013.
3. Hammer, J, Seidt, J., Gilat A., “Strain Measurements at Temperatures up to 800 °C Utilizing Digital Image Correlation”, Presented at the 2013 SEM Annual Conference and Exposition on Experimental and Applied Mechanics, Lombard, IL, June 2013.
4. Seidt, J., Pereira, M., Hammer, J., Gilat, A., “Dynamic Load Measurement of Ballistic Gelatin Impact Using an Instrumented Tube”, Presented at the 2012 SEM XII International Congress and Exposition on Experimental and Applied Mechanics, Costa Mesa, CA, June 2012.
5. Hammer, J., Yatnalkar, R., Seidt, J., Gilat, A., “Plastic Deformation of Ti-6Al-4V Plate over a Wide Range of Loading Conditions”, Presented at the 2012 SEM XII International Congress and Exposition on Experimental and Applied Mechanics, Costa Mesa, CA, June 2012.
6. Seidt, J., Matrka, T., Gilat, A., McDonald, G., “Tensile Behavior of Kevlar 49 Woven Fabrics over a Wide Range of Strain Rates,” Presented at the 2011 SEM Annual

Conference and Exposition on Experimental and Applied Mechanics, Uncasville, CT, June 2011.

7. Gilat A., Seidt, J., Pereira, J.M., Revilock, D.M., Ruggeri, C.M., “Modeling Ballistic Impact of Anisotropic 2024 Aluminum Sheet and Plate,” Presented at IMPLAST 2010, the SEM 2010 Fall Conference, Providence, RI, October 2010.
8. Seidt, J., Gilat, A., “Dynamic Punch Testing of 2024-T351 Aluminum,” Presented at the 16th APS Topical Conference on Shock Compression of Condensed Matter, Nashville, TN, June 2009.
9. Seidt, J., Gilat, A., “Experimental Investigation of the Failure Characteristics of 2024-T351 Aluminum,” Presented at the 2009 SEM Annual Conference and Exposition on Experimental and Applied Mechanics, Albuquerque, NM, June 2009.
10. Seidt, J., Gilat A., “Characterization of 2024-T351 Aluminum for Dynamic Loading Applications,” Presented at the SEM 11th International Congress and Exposition on Experimental and Applied Mechanics, Orlando, FL, June 2008.
11. Seidt, J., Gilat A., Klein, J.A., Leach, J.R., “High Strain Rate, High Temperature Constitutive and Failure Models for EOD Impact Scenarios,” Presented at the 2007 SEM Annual Conference and Exposition on Experimental and Applied Mechanics, Springfield, MA, June 2007.
12. Seidt, J., Trott, B.D., “Design of a Blast Chamber for Repeated Use,” Presented at the ASME Pressure Vessels and Piping Conference (PVP 2005), Structures Under Extreme Loading Conditions, Denver, CO, July 2005.
13. Shen, M.-H., Seidt, J., George, T., Cross, C., Whaley, P.W., Nicholas, T., “Development of a Novel Method for Evaluating Material Behavior under Turbine Engine Operating Conditions, Part I: Design of Accelerated HCF Testing Procedures,” Presented at the 6th National Turbine Engine High Cycle Fatigue Conference, Jacksonville, FL, March 2001.

PATENTS

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HONORS AND AWARDS

- OSU College of Dentistry Research Paper of the Year Award in the category: Basic Research, for: Yilmaz, B., Seidt, J.D., McGlumphy E.A., Clelland, N.L., “Displacement of Screw-Retained Single Crowns into Implants with Conical Internal Connections”, *The International Journal of Oral and Maxillofacial Implants*, Vol. 28, No. 3, 2013, pp 803-806.
- Best Paper Award, Astra Tech IIS Awards 2011 in the category: Basic Research “Displacement of Screw Retained Restorations into Implants with Tapered Internal Connections”. Poster presentation at American Association of Dental Research (AADR), San Diego, 2011.
- Key Contributor Award for outstanding work in support of the US Missile Defense Agency (MDA), Battelle Memorial Institute, 2005.
- Key Contributor Award for outstanding work in support of the US Transportation Security Administration (TSA), Battelle Memorial Institute, 2003.
- Finalist, Big Ten Medal of Honor, The Ohio State University, Men’s Swimming Team, 1998.
- Academic All-Big Ten, The Ohio State University, Men’s Swimming Team, 1995, 1996, 1997, 1998.
- Varsity Letter Award, The Ohio State University, Men’s Swimming Team, 1995, 1996, 1997, 1998.

JOURNAL REFEREE

- *Environmental Technology & Innovation*
- *Materials Letters*
- *Journal of Biophotonics*
- *Journal of Materials Research and Technology*
- *Experimental Mechanics*
- *Journal of Aerospace Engineering*
- *Optics and Lasers in Engineering*
- *Journal of Testing and Evaluation*
- *Mechanics of Materials*
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- *International Journal of Mechanical Sciences*
- *Journal of Dynamic Behavior of Materials*

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