AT-A-GLANCE (MON/TUE/WED)

DAY	DATE	FROM	TO	WHAT	WHO and WHERE
SUN	Sep. 16	3.00	6.00	Executive Committee Mtng	Committee
MON	Sep. 17	8.00	8.20	Opening Remarks	Chairs, Dean O'Donnell, Senator Cantwell
AM		8.20	9.10	Keynote 1	*Al Miller, Boeing 787 Technology Integration*
		9.10	9.25	Break	-
		9.25	11.30	Morning Sessions	6 Concurrent Sessions, 5 papers per session
		11.30	1.00	Lunch (not provided)	-
PM		1.00	1.50	Keynote 2	*John Quinlivan, Boeing vice-president ret'd*
		2.00	3.40	Afternoon Sessions	6 Concurrent Sessions, 4 papers per session
		3.55	4.10	Break	-
		4.10	5.50	Afternoon Sessions	6 Concurrent Sessions, 4 papers per session
		6.30	9.00	Reception	Burke Museum
				State of the Society	ASC President
TUE	Sep. 18	8.10	8.20	Opening Remarks	Chairs
AM		8.20	9.10	Keynote 3	*Tia Benson-Tolle, AFRL*
		9.10	9.25	Break	-
		9.25	11.30	Morning Sessions	7 Concurrent Sessions, 5 papers per session
		11.30	1.00	Lunch (not provided)	-
PM		1.00	1.50	Keynote 4	*Jim Shaw & Antony Dodworth, Bentley Motors*
		2.00	4.05	Afternoon Sessions	7 Concurrent Sessions, 5 papers per session
		4.05	4.15	Break	-
		4.15	5.05	Tech Division	Meetings
		6.00	9.00	Banquet and Awards	HUB
				Banquet Speaker	*Mike Lavelle, Museum of Flight Historian*
WED	Sep. 19	8.10	8.20	Opening Remarks	Chairs
AM		8.20	9.10	Keynote 5	*Joe Wilding, Adam Aircraft*
		9.10	9.25	Break	-
		9.25	11.30	Morning Sessions	7 Concurrent Sessions, 5 papers per session
		11.30	1.00	Lunch (not provided)	-
PM		1.00	1.50	Keynote 6	*Les Lee, AFOSR*
		2.00	4.05	Afternoon Sessions	7 Concurrent Sessions, 5 papers per session
		4.05	4.20	Break	-
		4.20	5.10	Keynote 7	*Kyle Indermuehle, ABAQUS*
		6.00	8.00	Social	Free appetizers and drinks together

TECHNICAL TRACKS (MON/TUE/WED)

	HONORARY SESSIONS	ANALYSIS	PROCESSING & MANUFACTURING	DAMAGE TOLERANCE AND BONDING	NANO COMPOSITES	NEW TECHNOLOGIES	AFOSR WORKSHOP
	1 - HUB Auditorium	2 - HUB209A	3 - HUB200C	4 - HUB108	5 - HUB309	6 - HUB310	7 - HUB106B
MONDAY	*Armanios - O'Brien Symposium*	*Whitney - Laminate Analysis*	*Mallick - Characterization*	*Schoeppner/ Razi - Damage Tolerance*	*Maguire/ Zhong - Nanocomposites*	*Taya/ Hahn - Multifunctional*	X
9.25 AM	O'Brien Symposium	Laminate Analysis	Characterization	Damage Tolerance	Nano	Multifunctional	x
9.50 AM	O'Brien Symposium	Laminate Analysis	Characterization	Damage Tolerance	Nano	Multifunctional	x
10.15 AM	O'Brien Symposium	Laminate Analysis	Characterization	Damage Tolerance	Nano	Multifunctional	x
10.40 AM	O'Brien Symposium	Laminate Analysis	Characterization	Damage Tolerance	Nano	Multifunctional	x
11.05 AM	O'Brien Symposium	Laminate Analysis	Characterization	Damage Tolerance	Nano	Multifunctional	x
	1 - HUB Auditorium	2 - HUB209A	3 - HUB200C	4 - HUB108	5 - HUB309	6 - HUB310	7 - HUB106B
MONDAY	*Ilcewicz*	*Weckner/ Xu - Laminate Analysis*	*Koussios- Hybrid Laminates*	*Vizzini - Damage Tolerance*	*Maguire/ Sangari - Nanocomposite Foam*	*Gama - Health Monitoring*	X
2.00 PM	Evolution Panel	Laminate Analysis	Hybrid Laminates	Damage Tolerance	Foam	Health Monitoring	x
2.25 PM	Evolution Panel	Laminate Analysis	Hybrid Laminates	Damage Tolerance	Foam	Health Monitoring	x
2.50 PM	Evolution Panel	Laminate Analysis	Hybrid Laminates	Damage Tolerance	Foam	Health Monitoring	x
3.15 PM	Evolution Panel	Laminate Analysis	Hybrid Laminates	Damage Tolerance	Foam	Health Monitoring	x
	1 - HUB Auditorium	2 - HUB209A	3 - HUB200C	4 - HUB108	5 - HUB309	6 - HUB310	7 - HUB106B
MONDAY	*Avery*	*Albers/ Gawandi - Laminate Analysis*	*Loos - Characterization*	*Bakis/ Kim - Bonded Joints*	*Liu - Foam*	*Ochoa - Bioapplications*	X
4.10 PM	Challenges Panel	Laminate Analysis	Processing	Bonded Joints	Foam	Bio-applications	x
4.35 PM	Challenges Panel	Laminate Analysis	Processing	Bonded Joints	Foam	Bio-applications	x
5.00 PM	Challenges Panel	Laminate Analysis	Processing	Bonded Joints	Foam	Bio-applications	x
5.25 PM	Challenges Panel	Laminate Analysis	Processing	Bonded Joints	Foam	Bio-applications	x

	HONORARY SESSIONS	ANALYSIS	PROCESSING & MANUFACTURING	DAMAGE TOLERANCE AND BONDING	NANO COMPOSITES	NEW TECHNOLOGIES	AFOSR WORKSHOP
	1 - HUB Auditorium	2 - HUB209A	3 - HUB200C	4 - HUB108	5 - HUB309	6 - HUB310	7 - HUB106B
TUESDAY	*Takeda - O'Brien Symposium*	*Rassaian/ Xiao - Advanced Analysis*	*Browne - Applications*	*Graves/ Stickler - Bonded Joints*	*Koo - Nanocomposites*	*Nairn - Wood Composites*	*AFOSR*
9.25 AM	O'Brien Symposium	Advanced Analysis	Applications	Bonded Joints	Nano	Wood Composites	WKSHP
9.50 AM	O'Brien Symposium	Advanced Analysis	Applications	Bonded Joints	Nano	Wood Composites	WKSHP
10.15 AM	O'Brien Symposium	Advanced Analysis	Applications	Bonded Joints	Nano	Wood Composites	WKSHP
10.40 AM	O'Brien Symposium	Advanced Analysis	Applications	Bonded Joints	Nano	Wood Composites	WKSHP
11.05 AM	O'Brien Symposium	Advanced Analysis	Applications	Bonded Joints	Nano	Wood Composites	WKSHP
	1 - HUB Auditorium	2 - HUB209A	3 - HUB200C	4 - HUB108	5 - HUB309	6 - HUB310	7 - HUB106B
TUESDAY	*Krueger/ Ratcliffe O'Brien Symposium*	*Hamada - Crashworthiness*	*McCarville - Thermoplastics*	*Graves/ Hockings - Bonded Repairs*	*Ko - Nanocomposites*	*Holbery - Natural/bio composites*	*AFOSR*
2.00 PM	O'Brien Symposium	Crashworthiness	Thermoplastics	Bonded Repair	Nano	Natural/Biocomposites	WKSHP
2.25 PM	O'Brien Symposium	Crashworthiness	Thermoplastics	Bonded Repair	Nano	Natural/Biocomposites	WKSHP
2.50 PM	O'Brien Symposium	Crashworthiness	Thermoplastics	Bonded Repair	Nano	Natural/Biocomposites	WKSHP
3.15 PM	O'Brien Symposium	Crashworthiness	Thermoplastics	Bonded Repair	Nano	Natural/Biocomposites	WKSHP
3.40 PM	O'Brien Symposium	Crashworthiness	Thermoplastics	Bonded Repair	Nano	Natural/Biocomposites	WKSHP

	HONORARY SESSIONS	ANALYSIS	PROCESSING & MANUFACTURING	DAMAGE TOLERANCE AND BONDING	NANO COMPOSITES	NEW TECHNOLOGIES	AFOSR WORKSHOP
	1 - HUB Auditorium	2 - HUB209A	3 - HUB200C	4 - HUB108	5 - HUB309	6 - HUB310	7 - HUB106B
WEDNESDAY	*Richey/ Lin - Education*	*Sankar - Laminate Analysis*	*Wisnom - Characterization*	*Graves/ Hart-Smith - Bonded Repair*	*Sun - Nanocomposites*	*Holbery - Natural/bio composites*	*AFOSR*
9.25 AM	Education	Laminate Analysis	Processing	Bonded Repair	Nano	Natural/Biocomposites	WKSHP
9.50 AM	Education	Laminate Analysis	Processing	Bonded Repair	Nano	Natural/Biocomposites	WKSHP
10.15 AM	Education	Laminate Analysis	Processing	Bonded Repair	Nano	Natural/Biocomposites	WKSHP
10.40 AM	Education	Laminate Analysis	Processing	Bonded Repair	Nano	Natural/Biocomposites	WKSHP
11.05 AM	Education	Laminate Analysis	Processing	Bonded Repair	Nano	Natural/Biocomposites	WKSHP
	1 - HUB Auditorium	2 - HUB209A	3 - HUB200C	4 - HUB108	5 - HUB309	6 - HUB310	7 - HUB106B
WEDNESDAY	*Richey/ Hyer - Education*	*Xiao - Laminate Analysis*	*Brunner - Hybrid Laminates*	*N/A*	*N/A*	*Gibson - New Material Forms*	*AFOSR*
2.00 PM	Education	Laminate Analysis	Hybrid Laminates	-	-	New material forms	WKSHP
2.25 PM	Education	Laminate Analysis	Hybrid Laminates	-	-	New material forms	WKSHP
2.50 PM	Education	Laminate Analysis	Hybrid Laminates	-	-	New material forms	WKSHP
3.15 PM	Education	Laminate Analysis	Hybrid Laminates	-	-	New material forms	WKSHP
3.40 PM	Education	Laminate Analysis	Hybrid Laminates	-	-	New material forms	WKSHP

DETAILED TECHNICAL PROGRAM (MONDAY)

	HONORARY SESSIONS	ANALYSIS & LAMINATE	PROCESSING AND MANUFACTURING	DAMAGE TOLERANCE, BONDED JOINTS AND REPAIRS	NANOCOMPOSITES	NEW TECHNOLOGIES	AFOSR WORKSHOP
	1 - HUB Auditorium	**2 - HUB209A**	**3 - HUB200C**	**4 - HUB108**	**5 - HUB309**	**6 - HUB310**	**7 - HUB106B**
MONDAY	***Armanios - O'Brien Symposium***	***Whitney - Laminate Analysis***	***Mallick - Characterization***	***Schoeppner/ Razi - Damage Tolerance***	***Maguire/ Zhong - Nanocomposites***	***Taya/ Hahn - Multifunctional***	**X**
9.25 AM	038. Composite Delamination: Reflections on nearly 30 years of coming apart at the seams (oral only) - T. Kevin O'Brien	194. Auxetic Viscoelastic Curved Sandwich Plate Designer Functionally Graded Materials Tailored To Minimize Creep Buckling Failure Probabilities - H. H. Hilton	231. Recent Developments in 3D Woven Pi Preforms - J. Goering, M. McClain	215. Predicting Compression-After-Impact Strength of Composite Sandwich Structures - P.M. Schubel, V. K. Goyal, J.I. Rome	004. Influence of Waviness on the modal vibration response of carbon nanotubes - M.S. Harrar, R.F. Gibson	123. Complex permittivity and microwave absorption of graphite nanoplate/epoxy nanocomposites - S.E. Lee, O.Y. Choi, H.T. Hahn	**X**
9.50 AM	039. Composite Delamination: Reflections on nearly 30 years of coming apart at the seams (oral only) - T. Kevin O'Brien	185. Analytical and Finite Element Solutions for Spring-in of Curved Composites - M.R. Wisnom, N. Ersoy	188. Variable-stiffness approach to the design of the skin of a composite airplane fuselage - A.W. Blom	052. Robust and Autonomous Impact Detection System for Composite Structures - R. Ikegami, A. Kumar, S. Beard, F.K. Chang	057. Effect of Carbon Nanotube Reinforcement on Carbon Fiber/Epoxy Composites - J. Cho, I. M. Daniel	150. Self-healing CFRP for high performance applications - G.J. Williams, R.S. Trask, I.P. Bond	**X**
10.15 AM	008. Assessing delamination propagation capabilities in commercial finite element codes - R. Krueger	056. Probabilistic Usage of the Multi-Factor Interaction Model - C.C. Chamis	220. Evaluation of a Highly Anticlastic Panel with Tow Overlaps - K. C. Wu, Z. Gürdal	016. Effects of arch camber and boundary condition on impact-based energy absorption - D. Liu, P. Schulz, B. Raju	064. Investigating Mechanical Behaviors of Nano-particle Reinforced Composites - J.L. Tsai, H. Hsiao	065. On the role of the current-induced heating in the impact response of electrified composites (oral only) - R. L. Sierakowski, I.Y. Telichev, O.I.	**X**
10.40 AM	013. Delamination Resistance Testing of Glass-Fiber Composite Laminates - A.J. Brunner, G.P. Terrasi	046. Stress Analysis of Thick Composite Laminates Using a Higher-Order Shear and Normal Deformable Plate Theory - D. F. Gilhooley, J. R. Xiao, M. A. McCarthy, R. C. Batra, J. W. Gillespie Jr.	078. Lamina Variability Method for Determining Laminate Basis Values - P. Shyprykevich, W. Seneviratne, J. Tomblin	040. Damage detection of CFRP using electrical resistance changes with temperature rising - K. Takahashi, A. Todoroki, A. Iwasaki, Y. Shimamura, R. Matsuzaki	200. Compressive Strength of Unidirectional GFRP Composite with Silica Nanoparticle-Enhanced Epoxy Resin - M.F. Uddin, C. T. Sun	209. Damage Resistance of an Electrified Carbon/ Epoxy Composite Multifunctional Plate - M. Miller, P. Feraboli	**X**
11.05 AM	061. Micromechanics-based simulation for the fracture of composite materials with cohesive volumetric finite-element schemes - M. Nishikawa, T. Okabe, N. Takeda	195. Failure Initiation under Transverse Loading in a Ductile Matrix Unidirectional Composite - D.C. Foster, G.P. Tandon, M. Zoghi	127. CANCELED. Interaction Between In-plane and Bending Strain in CFRP (oral only) - J. Keune, W. Sheridan	219. Damage Tolerance Analysis of Composite Laminate Structures - H. Razi	135. Nano Fluidic Thermal Management for Polymeric Composite Aero Structure - W. Zhong, S. Jana, A. Salehi-Khojin	162. Energy storage structural composites - T. Pereira, H. T. Hahn	**X**
	1 - HUB Auditorium	**2 - HUB209A**	**3 - HUB200C**	**4 - HUB108**	**5 - HUB309**	**6 - HUB310**	**7 - HUB106B**
MONDAY	***Ilcewicz***	***Weckner/ Xu - Laminate Analysis***	***Koussios- Hybrid Laminates***	***Vizzini - Damage Tolerance***	***Maguire/ Sangari - Nanocomposite Foam***	***Gama - Health Monitoring***	**X**
2.00 PM	Evolution of Aircraft Composites Panel	053. Multiaxial Strength and Stiffness Degradation of Glass/Epoxy Composite - L. Mailly, F. Wang, SS. Wang	028. Shear Properties of Carbon/Carbon Composites with Flat Braided Reinforcement - M.S. Aly-Hassan, Y. Kobayashi, A. Nakai, H. Hamada, T. Ogasawara, H. Hatta	060. Nondestructive Inspection of Composite Pipe using Step Heating Thermography - A. Badghaish, D. C. Fleming	083. Dispersion, Mechanical Properties and Raman Spectroscopy Analysis of Carbon Nanotube Reinforced Polymer Matrix Composites - A. Ramasetty, A. Haque	020. Service Life Assessment Methodology for Composites - S.S. Kessler, H.L. McManus, M. Hyer	**X**
2.25 PM	Evolution of Aircraft Composites Panel	145. Damage and Gas Permeability Prediction in Composite Laminates with Stitch Cracks - J. Xu, B.V. Sankar	071. Fatigue damage progression in open-hole specimens of Ti/GFRP laminates - T. Kosaka, H. Nakatani, J. Ooki, K. Osaka, Y. Sawada, T. Okabe	069. Impact damage monitoring of sandwich structure by distributed strain measurement with cm-order spatial resolution - S. Minakuchi, Y. Okabe, N. Takeda	092 Interfacial Chemistry of Epoxy/ Carbon Nanotube Nanocomposites - D. Dean, M. Abdalla, K. Green	021. Pattern Recognition for Damage Classification in Composite Laminates - S.S. Kessler, P. Rani	**X**
2.50 PM	Evolution of Aircraft Composites Panel	232. Reliability of Composite Structures with Damage Growth Consideration - C.H. E. Cheung, A. V. Styuart, K. Y. Lin	116. Numerical modeling of impact damage in GLARE laminate under various impact energy - H. Seo, H. T. Hahn, J.M. Yang	197. Monitoring Anisotropic Oxidation Growth in High Temperature Polymer Matrix Composites - G. P. Tandon, W. R. Ragland, G. A. Schoeppner	163. Experimental Investigation on Mode-I Fracture Toughness of Polyurethane Foams with Nanoparticles - M.C. Saha, M.E. Kabir, S. Jeelani	074. Application of Whispering Gallery Mode Resonators in the Development of Smart Materials - N. Gupta	**X**
3.15 PM	Evolution of Aircraft Composites Panel	207. CANCELED. Effects of fiber volume fraction and interfiber orientation in electronic composite boards - A. Khalilollahi, R. L. Warley	171. Evaluation of the crack initiation and crack growth characteristics in hybrid titanium composite laminates via in situ radiography - W.S. Johnson, M. W. Hammond	006. Finite Element Design and Analysis of a Damage Prone Bonded Patch for Disbond Sensing Applications - G. Renaud, M. Martinez, D. Backman	176. High Strain Rate Properties of Nanoparticulate Syntactic Foams - S.L. Peter, P. Mylavarapu, E. Woldesenbet	075. Integration of microstructural and embedded sensor designs for structural health monitoring of composite materials - N.Q. Nguyen, N. Gupta, T. Ioppolo, M. V. Otugen	**X**
	1 - HUB Auditorium	**2 - HUB209A**	**3 - HUB200C**	**4 - HUB108**	**5 - HUB309**	**6 - HUB310**	**7 - HUB106B**
MONDAY	***Avery***	***Albers/ Gawandi - Laminate Analysis***	***Loos - Characterization***	***Bakis/ Kim - Bonded Joints***	***Liu - Foam***	***Ochoa - Bioapplications***	**X**
4.10 PM	Future Challenges of Aircraft Composites Panel	042. The role of material anisotropy in the optimal design of cylindrical composite pressure vessels - S. Koussios, A. Beukers, O. K. Bergsma	077. Evaluating the high strain rate behavior of a shear thickening fluid - A.S. Lim, S. Lopatnikov, J. Gillespie, Jr	022. Effect of Environmental Degradation on Interlaminar Strength of Carbon/Epoxy Composites: Modeling and Testing - S. Goruganthu, J. Elwell, A. Ramasetty, S. Roy, A. Haque, P. K. Dutta	072. Characterization of vinyl ester-glass micro-balloon syntactic foams for marine applications - T.C. Lin, O. Roden, N. Gupta, M. Porfiri	105. Assistive Technology Research in Occupational Therapy - A.M.V.N. Rodrigues	**X**
4.35 PM	Future Challenges of Aircraft Composites Panel	024. A valve-less pump using flexible matrix composites - H. Ghoneim	085. The influence of powder size distribution on sintering behavior - L. Sun, P. Kwon	049. Effect of Surface Preparation on Environmental Durability of Adhesive-Bonded Metallic Surfaces - P. Jadhav, D. Molligan, S. Anderson, J. Gillespie Jr, R. Hathaway	073. Damping Capacity of Syntactic Foams - O. Roden, W. Kok, N.Gupta, M. Porfiri	108. Development of Composite Material for Orthesis: Laboratory and Clinical Studies - A. M.V. N. Rodrigues, A. F. Ávila	**X**
5.00 PM	Future Challenges of Aircraft Composites Panel	054. Detecting and Analyzing Non-uniformity in Mechanical and Thermal Properties of Composite Laminates - B.P. Smarslok, C. Gogu, R.T. Haftka, P.G. Ifiu	102. A Reexamination of DMA Test Results for Carbon Fiber Composites - G. Swaminathan, K. Shivakumar	094. Effects of Gas Turbine Lubricant and Thermal Cycling on Mechanical Properties of T650/PT30 Carbon/ Cyanate Ester Composite - H. Chen, K. Shivakumar	143. Constitutive models for hydroxyapatite and carbon foam reinforced bio-resorbable polymers - D.E. Rodriguez, O.O. Ochoa, M. Hahn, H.J. Sue	109. Rehabilitation science and bioengineering: a new interface - L.F. Teixeira-Salmela, V.F. Parreira, A.M. V.N. Rodrigues	**X**
5.25 PM	Future Challenges of Aircraft Composites Panel	059. Worst case effects on thermal buckling of spatial variability in the coefficient of thermal expansion - C. Gogu, B.P. Smarslok, R.T. Haftka	084. Minimizing Camber by controlling the influence factors in powder processing of zirconia/ alumina functionally graded material - L. Sun, K. H. Park, P. Kwon	058. Mechanical Characterization of Adhesively Bonded Metallic Insert Joints in E-Glass/Vinyl Ester Balsa Core Sandwich Panels - P. Jadhav, A. Quabili, D. Molligan, S. Andersen, J. Gillespie Jr	173. Impact properties of nanoparticulate adhesively bonded composites E. Woldesenbet, S.R. Kondamadugula, S. Peter	169. Carbon Nanotube Reinforced Silk Nanocomposite Fbrils and Yarns (oral only) - M. Gandhi, J. Xiong, F. Ko	**X**

DETAILED TECHNICAL PROGRAM (TUESDAY)

	1 - HUB Auditorium	2 - HUB209A	3 - HUB200C	4 - HUB108	5 - HUB309	6 - HUB310	7 - HUB106B
TUESDAY	***Takeda - O'Brien Symposium***	***Rassaian/ Xiao - Advanced Analysis***	***Browne - Applications***	***Graves/ Stickler - Bonded Joints***	***Koo - Nanocomposites***	***Nairn - Wood Composites***	***AFOSR***
9.25 AM	193. Structural Response of Composite Truss Beams - C.A. Rojas, K.A. Syed, W. S. Chan	007. Modeling the Ballistic Penetration of Thick-Section Composites and Sandwich Structures - B.A. Gama, J.W. Gabrys	033. Process analysis and tool compensation for a composite main landing gear door G. Fernlund, A. Floyd, G. Manchur, M. Shewfeldt, M. Hudek	139. A Common Analysis Capability for Structural Repair - P.M. Cayton, R.L. Keller	151. Synthesis and characterization of conductive Fe2O3/ Polypyrrole Nanocomposites - Z. Guo, K. ShinSejong, M. Moldovan, D.P. Young, R. Kaner, H.T. Hahn	012. Damage accumulation and failure of different types of wood-panels under tensile loading - A.J. Brunner, P. Niemz, O. Walter	AFOSR Workshop
9.50 AM	011. Quantitative evaluation of facesheet/ core debonding in sandwich structures: the State of the Art (oral only) - J. G. Ratcliffe	031. A General Failure Theory for Assessing Damage in Composite Materials: The Strain Invariant Failure Theory, SIFT - Part I: Matrix Phase - J.H. Gosse, S. Christensen, Q. Yu	087. Simulation and Testing of a Carbon Composite Wing Assembly of an Ultralight Airplane - R. Sullivan, Y. Hwang, M. Rais-Rohani, T. Lacy, P. Wiwattananon, J. Simsiriwong	140. Patch Aspect Ratio and Load Attraction in Bonded Composite Repairs of Composite Structures - J. Wang	093. Multiscale, Multifunctional Composites - D. Dean	019. A new soy flour-based adhesive for making interiorly used plywood (oral only) - J. Huang, K. Li	AFOSR Workshop
10.15 AM	062. Orthotropic laminates under torsional loading: a revisit - J.M. Whitney, R.A. Brockman	032. A General Failure Theory for Assessing Damage in Composite Materials: The Strain Invariant Failure Theory, SIFT - Part II: Fiber Reinforcement Phase - J.H. Gosse, S. Christensen, Q. Yu	172. Flexible surface De-turbolator to enhance lift-to-drag ratios of airframes - S.K. Sinha	148. Accelerating Degradation in Composites and Their Adhesives - L. Smith	103. Influence of Filler/Matrix Interface on Exfoliation of Nanoclays in Epoxy Matrix - G. Swaminathan, K. Shivakumar, R. Sadler	035. Fracture Toughness of MDF and other Materials with Fiber Bridging - J.A. Nairn	AFOSR Workshop
10.40 AM	091. An Assessment of Fatigue Performance of Graphite/Epoxy Co-cured Composite Joints through Quasi-static Acoustic Emission Count Peaks - X. Tan, E. Armanios	218. Failure Analysis of Open-Hole Tension, Open-Hole Compression, and Pin-Loaded Composite Laminates - T.E. Tay, F. Shen, V.B.C. Tan, G. Liu, H.E. Chua	104. Process Development Issues of Glass-Carbon Hybrid Reinforced Polymer Composite Wind Turbine Blades - S. Sharma, K.K. Wetzel	155. A New Analytical Method for the Analysis of a Scarf or Multiple-Step Joint Under General Loading - C.N. Duong	177. Low Velocity Impact Properties of Nanoparticulate Syntactic Foam Composites - S.R. Kondamadugula, P. Mylavarapu, E. Woldesenbet	044. Influence of Structure on the Elastic Behavior of Engineered Strand Composites - V. Yadama	AFOSR Workshop
11.05 AM	095. Total Fatigue Life Modeling for Composite Laminates Under Mode I Loading - K. Shivakumar, H. Chen, F. Abali	224. A Review of Damage and Failure Modeling for Composites by the Peridynamic Theory - J. Xu, A. Askari, O. Weckner, H. Razi,S. Silling	229. CANCELED. Composite materials for structural landing gear components - T. Sijpkes, P. Vergouwen	206. Investigation of the certification issues for primary bonded structures - A. Rasschaert	076. Observation and direct measurement of carbon nanotube-polymer interfacial properties by in-situ SEM and TEM - F. Deng, N. Takeda, T. Ogasawara	167. Study of the PHBV/ Cellulose Whisker Nanocomposites - M. Wolcott, L. Jiang, J. Zhang, J. Holbery	AFOSR Workshop
	1 - HUB Auditorium	**2 - HUB209A**	**3 - HUB200C**	**4 - HUB108**	**5 - HUB309**	**6 - HUB310**	**7 - HUB106B**
TUESDAY	***Krueger/ Ratcliffe O'Brien Symposium***	***Hamada - Crashworthiness***	***McCarville - Thermoplastics***	***Graves/ Hockings - Bonded Repairs***	***Ko - Nanocomposites***	***Holbery - Natural/bio composites***	***AFOSR***
2.00 PM	157. Modeling failure of Z-pinned composites using ABAQUS - K. Indermuehle, S. Becz	211. Experimental an Numerical characterization of a corrugated web specimen for crashworthiness energy absorption - P. Feraboli, F. Garattoni, F. Deleo	010. Enhancing the Surface Finish of LFT Compression Molded Parts (oral only) - J. Ravine	203. Prediction and measurement of residual strains for a composite bonded joint - G.A. Schoeppner, D.H. Mollenhauer	202. Nano-modified carbon-carbon composites: processing, characterization, and performance - J. H. Koo, S. Lao, J. Lee, A. Jor, S. Jones, L. Pilato, G. Wissler, P. Luo	068. Novel High Performance Structural Bio-composites based Natural Fibers - B.R. Vijayendran, W.R. Childers, T.J. Chelwick	AFOSR Workshop
2.25 PM	170. Torsional Response of Elliptical Composite Cylinders (oral only) - W. T. Haynie, M.W. Hyer	018. Strain rate effects on the compressive behavior of composites - J.F. Acosta, K.S. Raju	034. Induction consolidation of thermoplastic composites using smart susceptors - M.R. Matsen, K.E. Peterson	001. Crack Size Prediction Methodology for Composite Patch Repairs - R. Sabesan, E. Kebadze,N. Woodward, X. Wang	213. Exploratory investigation of Electrical Alignment of Carbon Nanofibers in Liquid Epoxy - A. Sharma, C. E. Bakis, K. Wang	079. Metaheuristic methods applied to optimisation of wood-plastic composite ecodesign - A. Ndiaye, F. Michaud, P. Castéra, Ch. Fernandez	AFOSR Workshop
2.50 PM	100. Experimentation and modeling of particulate reinforced polymers - B. Boesl, B.V. Sankar	166. Modeling Energy Absorption With A Damage Mechanics Based Composite Material Model - X. Xiao	036. Study of Flow and Compressibility in the Development of Thermoplastic Matrix Composite Prepregs by Film Stacking Technique - G.S. Agarwal, G. Reyes, P.K.Mallick	180. Bondline Thickness Dependent Mixed Mode Fracture of Adhesively Joints - H. Kim, T.T. Khoo	097. Dynamic Characterization of Nylon 6,6 MWCNT Nano Composites - R. Zalani, P.R. Mantena, A. Al-Ostaz	113. Fabrication and mechanical properties of Jute/ PLA composite - N. Shikamoto, A. Ohtani, L.Y. Wei, A. Nakai	AFOSR Workshop
3.15 PM	199. Elastic Response and Failure Studies of Multiwall Carbon Nanotube Twisted Yarns - T.S. Gates, G. D. Jefferson	005. Composite crash box: RTM fabrication and dynamic axial crush performance - A.L. Browne, N.L. Johnson, M.E. Botkin, and S. A. Iobst	080. Thermal mechanical testing of low density thermoplastic foam - J.C. Guzman, D.A. McCarville, D.M. Rotter	214. Effects of Thermal Conditioning on Adhesively Bonded Joint Strength (oral only) - S.H. Kiefer, K.T. Kedward	196. Thermal and Electrical Conductivity of Polymer Nano-composite Foams - X. Ren, G. Sui, K. Zhong, X. Wang, W. Li	115. Mechanical properties of GF/Jute fiber hybrid composite materials - T. Sugie, A. Nakai, H. Hamada	AFOSR Workshop
3.40 PM	216. A Double-Blind Correlation Study for the Test and Analysis of the Single Leg Bend Coupon - L. Deobald, G. Mabson, D. Graesser	230. The Fiber Fragmentation Testing Methodology: New Insights into the Statistics of Sequential Fragmentation - G.A. Holmes, W.G. McDonough, J. H. Kim	205. Development and application of butt joints in thermoplastic composite monolithic parts (oral only) - J. List	-	201. A Novel Thermal Interface Material Concept for Enhancing Through-Thickness Thermal Conductivity in Adhesive Joints - S. Ganguli, S. Sihn, A.K. Roy	014. Natural Fiber Composites in Automotive Applications: Challenges, Strategies, and Opportunities (oral only) - J.D. Holbery	AFOSR Workshop

DETAILED TECHNICAL PROGRAM (WEDNESDAY)

	1 - HUB Auditorium	2 - HUB209A	3 - HUB200C	4 - HUB108	5 - HUB309	6 - HUB310	7 - HUB106B
WEDNESDAY	***Richey/ Lin - Education***	***Sankar - Laminate Analysis***	***Wisnom - Characterization***	***Graves/ Hart-Smith - Bonded Repair***	***Sun - Nanocomposites***	***Holbery - Natural/bio composites***	***AFOSR***
9.25 AM	002. Composite Repair Technician Training: One Airline's Experience - C. Hockings	137. Unsymmetric Composite Laminates Morphing via PVDF Actuator - S. Tawfik, E. Armanios, D.S. Dancila	131. Mechanical properties of PP knit fabric/foamed PP composites - A. Odawara, A. Nakai, H. Hamada, T. Tanaka, M. Nomura	063. The Ramp Damage Checker: a New Inspection Device for Airlines - J. Kollgaard	118. Improvement in Tensile Properties of UHMWPE/Nanofiber-Epoxy Bundle Composites - S. Jana, W.H. Zhong	023. Techniques for production of cellulose nanocrystals with a narrow aspect ratio distribution (oral only) - W. Bai, J. Holbery, K. Li	AFOSR Workshop
9.50 AM	221. The OIT/Boeing Composite Certificate Program - P. Stickler, D. McCarville, N. Mead, M. Graves, S. Lee, M. Richey	025. Design of Hygrothermally Stable Laminated Composites for Optimal Extension-Twist Coupling - R.J. Cross, R.A. Haynes, E.A. Armanios	147. Fracture toughness enhancement of fly ash based ECO-CORE by glass fiber reinforcement - R. Panduranga, M. Sharpe, K. N. Shivakumar, L. Russell	186. Quantitative Infrared Thermoelastic Strain Analysis Methods for Notched Composites - R. El-Hajjar, B. Wei, S. Johnson, R. Haj-Ali	124. Molecular Dynamic Simulations of Multi-wall Carbon Nano Tube Reinforced Nylon 6,6 Nano Composites - H. Alkhateb, A. Al Ostaz, P.R. Mantena	066. Co-injection molded bamboo biopolymer composites - S. Sahoo, M. Huda, A. Nakai, M. Misra, L.T.Drzal, A.K. Mohanty, H. Hamada	AFOSR Workshop
10.15 AM	222. Materials Core Competencies for Technicians - M. Cossette, G. Fusch	051. Multi-Scale Modeling of Ballistic Impact onto Woven Fabrics - M. P. Rao, M. Keefe, B. Powers, T. Bogetti	160. Modified exit-ply delamination drill model for FRPs - S. Gururaja, M. Ramulu	168. Mathematical Singularities in 3D Composite Finite Element Analysis (oral only) - D. Buchanan, A. Ruffing	132. Development of a Carbon Nanotube Array Reinforced Composite Material with Higher Interlaminar Properties - J. L. Abot, Y. Song	067. Micro-commingled Flax-Polypropylene and Flax-Poly lactic Acid Knitted Fabric Composites - M. Duhovic, D. Bhattacharyya	AFOSR Workshop
10.40 AM	223. Course Development: Critical Composite Maintenance and Repair Issues - C. Seaton, L. Ilcewicz, C. Davies	156. Buckling of Long Clamped Anisotropic Plates under Compression Loading - P.M. Weaver	129. Multi-Scale Analysis of Gas Diffusion in High Temperature Polymeric Matrix Composites - Y. Yu, K. Pochiraju	226. Finite Element Analysis and Test Validation of Composite Bonded Repair - J. Li, M. J. Graves, R.L. Keller	142. Statistical Analysis on Dispersion of MWCNT Reinforced Epoxy - Y. Zhou	190. Kenaf Bast Fiber Retting and Inorganic Nanoparticle Impregnation Treatment for Natural Fiber/Polymer Composites - S. Shi, S. Lee, M. Horstemever	AFOSR Workshop
11.05 AM	225. Nanotechnology education at Boeing - R. Maguire, M. Richey, V. Dang	050. Experimental Investigation of Interface Failure in a Discontinuous Sandwich Structure - A. Gawandi, J.W. Gillespie Jr.	144. A Parametric study of fracture toughness of foams with tetrakaidecahedron unit cells - J. Wang, B.V. Sankar	-	111. An Investigation on Nano-Structured Composites: Ballistic Tests - A.F. Avila, A. Duarte, L. Castro	128. Processing of PLA bio-composites for optimized properties - E.C. Lee, A.M. Harris	AFOSR Workshop
	1 - HUB Auditorium	**2 - HUB209A**	**3 - HUB200C**	**4 - HUB108**	**5 - HUB309**	**6 - HUB310**	**7 - HUB106B**
WEDNESDAY	***Richey/ Hyer - Education***	***Xiao - Laminate Analysis***	***Brunner - Hybrid Laminates***	*N/A*	*N/A*	***Gibson - New Material Forms***	***AFOSR***
2.00 PM	165. Composite Education Through Industry/Academia Partnership - K.B. Das, M.C. Richey	047. A Three-Dimensional Damage Mechanics Model for Composite Laminates under Transverse Impact Loadings - J. R. Xiao, J. W. Gillespie Jr.	158. Hole Quality In Drilling Of Titanium/Graphite Hybrid Composites In Aerospace Applications - D. Kim, M. Ramulu	*N/A*	*N/A*	030. The Effect of Fiber Orientation on the Elastic Properties of Discontinuous Fiber Composites - B.N. Nguyen, K.L. Simmons, K.I. Johnson, J.D. Holbery	AFOSR Workshop
2.25 PM	136. Composite Courses at the Boeing Company Advances Current Thinking about Continued Learning - T.K. O'Mahony, J.D. Bransford	198. Numerical simulation of the impact resistance improvement of CFRP laminates due to through-the-thickness stitching - A. Yoshimura, T. Nakao,N. Takeda	189. Bearing Strength Analysis of Hybrid Titanium Composite Laminates - J. Hundley, J-M. Yang, H.T. Hahn	*N/A*	*N/A*	015. Utilizing X-ray Computer Tomography for Discontinuous Fiber Composites (oral only) - J.D. Holbery, K.L. Simmons, K.I. Johnson, B.N. Nguyen, B.J. Tucker, B. Brendon	AFOSR Workshop
2.50 PM	086. Development of an Introductory Graduate Course in Crashworthiness - D.C. Fleming	96. Three-Dimensional Quadratic Failure Criteria for Thick Composites using the Direct Micromechanics Method - C. Stamblewski, B.V. Sankar, D. Zenkert	138. Dynamic and Quasi-Static Stab Resistance of Thermoplastic and Shear-Gel Infused Fabrics - J.B. Mayo, Jr, S. Jeelani, M.V. Hosur	*N/A*	*N/A*	208. Characterization of Discontinuous Carbon Fiber/ Epoxy system for Aerospace Applications - P. Feraboli, E. Peitso, M.J. Graves, P. B. Stickler	AFOSR Workshop
3.15 PM	043. Education regarding stress concentrations around holes in anisotropic plates - S. Koussios, A. Beukers, O. K. Bergsma	114. Characteristic of a Bamboo Bow with Hybrid Structure - Y. Hidekuma, A. Nakai, H. Yamada, K. Shibata	029. Fatigue Behavior of Notched Fiber-Metal Laminates - P. Chang, J. Yang	*N/A*	*N/A*	112. Internal structure and mechanical properties of Braided Composite Tube - A. Ohtani, A. Nakai	AFOSR Workshop
3.40 PM	204. Impact of experimental modules on the student learning in an intermediate mechanics course - N. Gupta	233. Electrospun Nano Fibers with Wool Keratin and PEO - Y. Li, J. Hu, D. El Khamy, L. Li, F. Ko	159. Analysis of Burr Height in the Drilling of Multilayer Stacks of Composite and Titanium - J. Stewart, M. Ramulu	*N/A*	*N/A*	146. Effect of Seawater on the Durability of Carbon fiber/Vinylester Composites - Ramirez, B. Acha, L. Karlsson	AFOSR Workshop