

PROGRAM

Monday, August 22, 2011

09:00	Opening
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E. Beyer (Dean of the Faculty of Mechanical Engineering of Technische Universität Dresden - TUD)

B. Voit (Chief Scientific Officer of the Leibniz Institute of Polymer Research Dresden - IPF)

G. Heinrich (Conference chairman – IPF and TUD)

U. Wagenknecht (Conference chairman – IPF)

09:50 R. Rothern 23

P Filler technology and markets past, present, and future

Room: Hörsaal 4

Chair: U. Wagenknecht

10:40 Break

11:10 F. Leroux 30

K *Monitoring interfacial interaction between polymer chains and filler using layered double hydroxide platelets*

Room: Hörsaal 4

Chair: A. Leuteritz

Nanocomposites		Processing and Applications	Fillers in Elastomers
Room: Hörsaal 4 Chair: A. Leuteritz		Room: 401 Chair: I. Kühnert	Room: 403 Chair: G. Heinrich
11:50	 M. Fermeglia, P. Posocco, R. Toth, D. Romero , F. Santese, S. Pricl <i>Chemistry and shape effects in polymer based nanocomposites: A multiscale modeling study</i>		65
	 J. Wortberg, J. Dörner <i>Optimisation of electrical conductivity of injection moulded bipolar plates by surface treatment</i>		112
	 I. Chodak , J. Krajči <i>Characterization of structure of reinforcing filler physical network via electrical conductivity of the composite</i>		45

12:10	B. Eriman, O. Aksoy, N. Uyanik	66
	<i>Polyethylene nanocomposites: Comparison of the Halpin-Tsai micromechanical calculation with the experimental results</i>	
	J. Fragner, W. Michaeli, Ch. Hopmann	113
	<i>Injection moulding of highly filled soft magnetic compounds for the production of complex electric/electronic (micro-) parts</i>	
	K. Bruening, K. Schneider, G. Heinrich	46
	<i>Filler-related phenomena in elastomers under mechanical load studied by X-Ray scattering</i>	

12:30 Lunch and Poster Session

14:10	C. Heinle, D. Drummer	31
K	<i>Simulating the anisotropic thermal conductivity of injection moulded filled polymers</i>	
	Room: Hörsaal 4	Chair: I. Kühnert

Nanocomposites		Processing and Applications	Fillers in Elastomers
Room: Hörsaal 4 Chair: G. Camino		Room: 401 Chair: I. Kühnert	Room: 403 Chair: M. Klüppel
14:50	P. J. Purohit, D. Wang, G. Heinrich, A. Schönhals	67	
	<i>Structure property relationships of nanocomposites based on polyolefins and layered double hydroxide</i>		
	M. Weber, R. Stark, M. Blinzler	114	
	<i>Influence of mineral fillers on the scratch resistance of ABS/PA 6-alloys</i>		
	J.-N. Munsch, C. Wrana, B. Haidar	47	
	<i>On the difference in adsorption behavior of HNBR's solution on silica and carbon black</i>		
15:10	H. Moustafa, M. F. Vallat, S. Duquesne, B. Haidar	68	
	<i>Effect of degree of adhesion on the fire resistance of multilayer assembly based on EPDM-g-maleic anhydride/organoargiles nanocomposite</i>		
	F. Ranft, D. Drummer	115	
	<i>Effects of masterbatch dilution in injection moulding machines on the morphology and electrical properties of polyamide/multi-walled carbon nanotubes composites</i>		
	J. L. Valentin, I. Mora-Barrantes, M.A. Lopez-Manchado, P. Sotta, D. Long, K. Saalwächter	48	
	<i>New insights in characterization of filler-elastomer interface by using solid-state ¹H low-field NMR spectroscopy</i>		

15:30	D. Wang , A. Leuteritz, U. Wagenknecht, G. Heinrich	69
	<i>Synthesis of functional nanoscale layered double hydroxide (LDH) via single step and effect of LDH on the flammability of polylactic acid (PLA)</i>	
	F. Nanni , G. C. Cardarilli, F. Madau, L. Di Nunzio, M. Valentini, R. Fazzolari, G. Gusmano	116
	<i>Design, manufacturing and testing of self-monitoring MWCNT and CB loaded polymeric films and respective electronic wireless data acquisition system</i>	
	S. Mihara, R. N. Datta, W. K. Dierkes , J. W. M. Noordermeer, N. Amino, Y. Ishikawa, Shoutaro Nishitsuji, and M. Takenaka	49
	<i>Ultra small-angle X-ray scattering study of flocculation in silica filled rubber</i>	
15:50	Break	
16:20	J. Labuschagne	32
K	<i>LDH as functional filler for different polymer matrices</i>	
	Room: Hörsaal 4	Chair: F. Leroux

Nanocomposites	Processing and Applications	Fillers in Elastomers
Room: Hörsaal 4 Chair: F. Leroux	Room: 401 Chair: I. Kühnert	Room: 403 Chair: W. Dierkes
17:00	S. Rooj , A. Das, K. W. Stöckelhuber, J. Meinel, U. Reuter, G. Heinrich	70
	<i>Fatty acid assisted dispersion of organoclay and simultaneous preparation of highly exfoliated natural rubber-clay nanocomposites</i>	
	L. Fambri , D. Lorenzi, M. Buccella, G. Giacomelli, L. Comperatore	117
	<i>Preparation of nanofilled polyamides for spinning and drawing</i>	
	R. Pérez-Aparicio , A. Vieyres, M. Schiewek, K. Saalwächter, H. Schneider, O. Sanseau, D. Long, P. Sotta	50
	<i>Study of polymer dynamics and network effects on filled elastomer nanocomposites by means of low-field ¹H NMR experiments</i>	
17:20	E. Acikalin , O. Atıcı	71
	<i>Preparation of linear waterborne polyurethane montmorillonite clay nanocomposites and effect of clay on UV degradation</i>	
	W. Michaeli, Ch. Hopmann, F. Puch	118
	<i>Influence of the processing conditions on the morphology and the mechanical properties of polyamide 6-carbon fiber-carbon nano tube-compounds</i>	
	H.H. Le , K. Oßwald, S. Ilisch, H.-J. Radusch	51
	<i>Phase specific filler distribution in binary and ternary rubber blends: Theoretical prediction and experimental determination</i>	

Tuesday, August 23, 2011

09:00 P	R. H. Schuster <i>Organic fillers for elastomers</i> Room: Hörsaal 4 Chair: G. Heinrich	24
09:50 P	L. S. Schadler <i>Polymer nanocomposites: To improve properties globally, think locally</i> Room: Hörsaal 4 Chair: S. Kaskel	25
10:40	Break	
11:10 K	M. Klüppel <i>Fillers in elastomers</i> Room: Hörsaal 4 Chair: G. Heinrich	33

Nanocomposites

Room: Hörsaal 4
Chair: A. Leuteritz

Filler Modification, Interfaces and Interphases

Room: 401
Chair: C. M. Liauw

Fillers in Elastomers

Room: 403
Chair: S. Ilisch

11:50	R. Sonnier , L. Ferry, J.M. Lopez-Cuesta, S. Petigny <i>Thermal degradation and flammability of polyamide 11 filled with nanoboehmite</i>	72
	N. Yousefi , I. Ghamarian, R. Bagheri <i>Effect of surface modification on processability and toughening of highly-filled polypropylene/barium sulfate sound insulating composites</i>	37
	H. Kreyenschulte , S. Richter, T. Götze, G. Heinrich <i>The influence of an ionic liquid in carbon black filled elastomers</i>	52
12:10	M. H. Kothmann , J. Krämer, F. Wolff-Fabris, V. Altstädt, U. Kühner, C. von Lossow, P. Gröppel <i>Mechanical, thermal and electrical properties of nanoparticle modified epoxy resin after thermal ageing</i>	73
	K.W. Stöckelhuber , A.S. Svistkov, A.G. Pelevin, G. Heinrich <i>Modification and characterization of silica filler surfaces and its effect on large scale mechanics of styrene butadiene rubber composites</i>	38
	O. Jaudouin , J.-J. Robin, D. Perrin, R. Sonnier, P. Ienny, R. Léger, J.-M. Lopez Cuesta <i>Incorporation of organomodified layer silicates in thermoplastic elastomers in order to improve tear strength</i>	53

12:30 Lunch and Poster Session

14:10 K K. Menzer, M. Ganß, **R. Weidisch**, B. K. Satapathy, P. Pötschke, 34
D. Jehnichen

Fracture behaviour and crack kinetics of melt-mixed MWCNT/polymer nanocomposites

Room: Hörsaal 4

Chair: M. Grenzer

Functional Fillers		Filler Modification, Interfaces and Interphases	Fillers in Elastomers
Room: Hörsaal 4 Chair: S. Kaskel		Room: 401 Chair: M. Grenzer	Room: 403 Chair: R. H. Schuster
14:50	Ch. Wilms , G. Seide, T. Gries, K. Schaefer, H. Wang, K. Doermbach, A. Pich, M. Moeller, C. Damm, W. Peukert		59
	<i>Nanoscale luminescent pigments for the coloration of polymer materials</i>		
	C. M. Liauw , R. L. Taylor, C. Maryan, E. Williams, L. J. Munro, O. Cheerarot, A. N. Wilkinson		39
	<i>Effect of triclosan on self-assembly of alkyl ammonium surfactants adsorbed within montmorillonite galleries in silicone elastomer composites</i>		
	H. Kahraman , E. Haberstroh		54
	<i>The effect of carbon black and silica fillers on the deformation induced anisotropy of the Mullins effect</i>		
15:10	J. Brendlé , M. Lacaud, V. Bounor-Legaré, M. Bahloul, S. Rigolet		60
	<i>Functional talc-like organic-inorganic hybrids prepared by sol-gel process: Characterization and dispersion into molten polypropylene</i>		
	A. Rul , L. Le Pluart, P.-J. Madec		40
	<i>Improving POSS dispersion by melt blending in polymers via chemical modification</i>		
	A. Vieyres , P. Sotta, O. Sanseau, L. Vanel, D.R. Long, P.A. Albouy		55
	<i>Tear resistance in reinforced natural rubber</i>		
15:30	M. A. Kinninmonth , C. M. Liauw, J. Verran, V. Edwards-Jones, D. Shaw		61
	<i>Nano-layered inorganic-organic hybrid materials for the controlled delivery of essential oil antimicrobials</i>		
	P. J. Nóvoa , A. T. Marques, A. G. Gibson		41
	<i>Modeling viscoelastic behaviour of microcrystalline cellulose whisker reinforced thermoset resins from dynamic mechanical spectroscopic data</i>		
	S. Ilisch , S. Thiele, K. Reincke, H.H. Le, M. Keller, U. Ferner, H.-J. Radusch, W. Grellmann		56
	<i>How do the SSBR type and a hybrid filler system influence the properties of silica-filled SSBR/BR blends?</i>		
15:50	Break		

16:20	W. Caseri	35
K	<i>Inorganic nanoparticles for the creation of optical effects in polymer composites</i>	
	Room: Hörsaal 4	Chair: S. Kaskel

	Functional Fillers	Filler Modification, Interfaces and Interphases	Fillers in Elastomers
	Room: Hörsaal 4 Chair: S. Kaskel	Room: 401 Chair: K. W. Stöckelhuber	Room: 403 Chair: R. Weidisch
17:00	G. C. Lees , C. M. Liauw, C. Bainbridge, A. A. Amilibia, R. Rother, J. Schofield, P. Sunderland, D. Thetford		62
	<i>Interphase structure-development in modified filler, compatibilised polyolefin blends</i>		
	S. Berlioz, M. Fumagalli , S. Boisseau, L. Heux		42
	<i>Solvent free method for cellulosic filler esterification and resulting nanocomposite</i>		
	W. K. Wong		57
	<i>Role of filler-matrix interaction in elastomeric vulcanizate performances</i>		
17:20	M. Omastová		63
	<i>Conducting polymers based fillers</i>		
	Y.-T. Fu, G. D. Zartman, H. Liu, L. F. Drummy, H. Heinz		43
	<i>Nanomechanics and dispersion of layered silicates in polymer matrices: Quantitative moduli, cleavage energy, and free energy of exfoliation</i>		
	C. Hintze , S. Wießner, U. Wagenknecht, G. Heinrich		58
	<i>Compounding and processing studies of rubber compounds reinforced by short aramid fibres with different surface treatments</i>		
17:40	Y. Nie , Th. Hübner		64
	<i>Surface silanization of carbon nanofillers for tailoring the properties of epoxy composites</i>		
	M. Jerabek , M. Grinschgl, Z. Major, R. W. Lang		44
	<i>Micro-mechanisms of failure in particulate filled polypropylene composites in uniaxial tension, long-term creep and fatigue</i>		

Wednesday, August 23, 2011

09:00	A. Windle	26
P	<i>Carbon nanotube composites: The prealignment approach</i>	
	Room: Hörsaal 4 Chair: P. Pötschke	
09:50	I. Manas-Zloczower	27
P	<i>Fundamentals of filler mixing in polymers</i>	
	Room: Hörsaal 4 Chair: U. Wagenknecht	
10:40	Break	

Carbon Nanotubes	Rheology of Filled Polymers	Compounding and Properties
Room: Hörsaal 4 Chair: P. Pötschke	Room: 401 Chair: M. Grenzer	Room: 403 Chair: S. Wiessner
11:10	P.-C. Ma , E. Mäder, J.-K. Kim	99
	<i>Behaviour of load transfer in functionalized CNT/polymer nanocomposites</i>	
	M. Malige , S. Corn, A. Taguet, J.-M. Lopez-Cuesta	91
	<i>Vibration analysis of the viscoelastic properties of thermoset nanocomposites (VE/MMT) and hybrid nanocomposites (VE/CTBN/MMT)</i>	
	J. Pionteck , F. Piana	79
	<i>Influence of processing conditions on the electrical properties of TPU modified by expanded graphite</i>	
11:30	K. Czaniková , M. Mičušík, I. Krupa, M. Omastová	100
	<i>Elastomeric composites containing multiwall carbon nanotubes</i>	
	M. Entezam, H.A. Khonakdar , A.A. Yousefi, S. H. Jafari, U. Wagenknecht, B. Kretzschmar	92
	<i>Influence of clay localization on melt rheological behavior of PP/PET nanocomposites</i>	
	I. Hassinger , Th. Burkhart	80
	<i>Multiple extrusion of nanocomposites and their mechanical properties</i>	
11:50	A. Fina , Z. Han, U. Gross, M. Mainil	101
	<i>Thermal conductivity of polymer (nano)composites: Promotion of particle-particle contact by their segregation in polymer blends</i>	
	P. Médéric , I. Labaume, J. Huitric, T. Aubry	93
	<i>PE/PA/clay ternary blends: Characterization and viscoelastic properties of the interphase</i>	
	W. Michaeli, Ch. Hopmann, E. Klünker	81
	<i>Reactive extrusion of silica nanocomposites based on an in-situ non-aqueous sol-gel technology</i>	

12:10	L. A. S. A. Prado , A. Kopyniecka, M. Bratychak, G. Broza, Z. Roslaniec, K. Schulte	102
	<i>Towards the development of thermoplastic elastomers polymer nanocomposites through in situ polycondensations: Challenges and achievements</i>	
	E. Gioffredi , A. Frache, G. Camino	94
	<i>SAOS techniques and polymers crystallization: Case studies</i>	
	H. Vahabi, L. Ferry, C. Longuet, G. David, J.-M. Lopez-Cuesta	82
	<i>Combination effect of POSS and RDP on flame retardancy, thermal degradation and transparency of polycarbonate</i>	
12:30	Lunch	
13:30 K	P. Cassagnau , A. Guimont, E. Beyou, P. Sonntag, G. Martin	36
	<i>Viscoelasticity of graphite oxide based suspensions in PDMS</i>	
	Room: Hörsaal 4	Chair: M. Grenzer

Carbon Nanotubes	Rheology of Filled Polymers	Compounding and Properties
Room: Hörsaal 4 Chair: J. Pionteck	Room: 401 Chair: P. Médéric	Room: 403 Chair: T. Sterzyński
14:10	B. Krause , M. Mende, P. Pötschke, G. Petzold	103
	<i>Dispersability and particle size distribution of carbon nanotubes in an aqueous surfactant dispersion</i>	
	S.C. Schulz, G. Faiella, S.T. Buschhorn, L.A.S.A. Prado , W. Bauhofer, M. Giordano, K. Schulte	95
	<i>Combined electrical and rheological properties of shear induced multiwall carbon nanotubes agglomerates in epoxy suspensions</i>	
	D. Fischer , S. Kummer J. Müller, B. Kretzschmar	83
	<i>On-line investigation of the dispersion of PP/nanoclay composites during extrusion by near infrared and ultrasonic spectroscopy</i>	
14:30	K. Subramaniam , A. Das, D. Steinhäuser, M. Klüppel, G. Heinrich	104
	<i>Ionic liquid modified MWCNTs/Polychloroprene rubber composites: Electrical and mechanical properties</i>	
	J. Donate-Robles, J. M. Martín-Martínez	96
	<i>Influence of the specific surface area of carbon black on the properties of polyurethane adhesives</i>	
	O. I. H. Dimitry , W.M. Sayed, A. L. G. Saad	84
	<i>Study of particle dispersion in poly(methyl methacrylate)/organically modified montmorillonite nanocomposites</i>	

14:50	C. Gérard , G. Fontaine, S. Bourbigot	105
	<i>Carbon nanotubes: Flame retardants for epoxy resins?</i>	
	S. Richter , H. Kreyenschulte , T. Götze, M. Saphiannikova, G. Heinrich	97
	<i>Filler flocculation kinetics in the light of jamming physics: New insights in filled polymer systems using rheological and XPCS experiments</i>	
	W. Mhike, W.W. Focke, A. S. Luyt	85
	<i>Thermal and mechanical properties, as well as conductivities, of LDPE filled with paraffin wax and different grades of graphite</i>	
15:10	K. Hilarius , D. Lellinger, I. Alig, T. Villmow, S. Pegel, P. Pötschke	106
	<i>Shear dependent electrical and rheological properties of composites with combined fillers containing carbon nanotubes and carbon black</i>	
	M. M. Möwes , D. Steinhauser, M. Klüppel	98
	<i>Networking of nanoscopic fillers in polymer composites investigated by using combined impedance spectroscopy and rheological testing</i>	
	T. Yalcinyuva, G. Torunoglu Turan , N. Uyanik	86
	<i>Preparation and characterization of PET/PP blends by single screw extrusion</i>	
18:00	River boat tour with conference dinner	
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22:00		

Nanocomposites		Biofillers / Filled Biopolymers	Compounding and Properties
Room: Hörsaal 4 Chair: J. Labuschagne		Room: 401 Chair: D.-Y. Wang	Room: 403 Chair: H. Khonakdar
09:00	D. Pospiech , A. Korwitz, J. Spitzer, H. Komber, B. Kretzschmar, B. Krause, P. Pötschke, C. Pandis, E. Logakis, P. Pissis, A. Wurm, C. Schick		74
	<i>Polyester nanocomposites: In-situ synthesis and properties</i>		
	M. Morreale , G. Lo Re, R. Scaffaro, F. LaMantia		107
	<i>Performance of MATER-BI® based ecomposites</i>		
	I. Iraola-Arregui, Ch. Liauw , H. Potgieter		87
	<i>Polypropylene/fly ash composites: Effect of coupling agents on mechanical properties and matrix crystallinity</i>		
09:20	V. Maurin , J. Brendlé, C. Croutxé-Barghorn, X. Allonas, J. Bessièrès, A. Merlin		75
	<i>UV powders coatings: Towards functional wood coatings</i>		
	G. Labache , F. Chivrac, L. Le Pluart, P.-J. Madec		108
	<i>Flax fibers chemical modification to tailor fibers morphology and PLA-flax biocomposites properties</i>		
	B. Strzemiescka , A. Voelkel		88
	<i>New possibilities of studying properties of polymer composites: Usefulness of inverse gas chromatography in characterization of complex polymer composites</i>		
09:40	E. Gioffredi , J. Alongi, A. Frache		76
	<i>Influence on the joint effect among expandable graphite and layered clays on poly(ethylene terephthalate) properties</i>		
	G. Dora, G. Faludi, K. Renner, J. Móczó, B. Pukánszky		109
	<i>Effect of the structure of the lignocellulosic fiber on the deformation and failure mechanism of PLA composites</i>		
	K. Skórczewska, J. Tomaszewska, T. Sterzyński , K. Piszczek		89
	<i>Nanocomposites of poly(vinyl chloride)</i>		

10:00	I. Dobrowska, L. Fambri , A. Pegoretti, G. Ferrara	77
	<i>Perkalite organoclay for the production of nanocomposite polyethylene fibers</i>	
	J. Móczó , C. Kenyó, K. Renner, B. Pukánszky	110
	<i>Micromechanical deformation processes in natural fiber reinforced PVC composites</i>	
	A. Viretto , A. Taguet, R. Sonnier, J. Lopez-Cuesta	90
	<i>Selective dispersion of hydrated fillers in complex polymer formulations to evaluate the relationship between morphology and thermal stability-fire behavior</i>	
10:20	B. Soares , A. Sollymossy, S. Caplan, K. Dahmouche	78
	<i>Nanocomposites based on epoxy resin and hybrid materials</i>	
	G. Keledi, A. Sudár, C. Burgstaller, K. Renner , J. Móczó, B. Pukánszky	111
	<i>Deformation mechanism and impact resistance of three-component PP/wood/elastomer composites</i>	
10:40	Break	
11:10	G. Camino	28
P	<i>Thermal degradation and fire retardance of polymer nanocomposites</i>	
	Room: Hörsaal 4	Chair: D.-Y. Wang
12:00	J.-F. Gerard	29
P	<i>Solvent-free in-situ generation of inorganic fillers by reactive extrusion in thermoplastic matrix and during polymerization in a thermoset matrix</i>	
	Room: Hörsaal 4	Chair: U. Wagenknecht
12:50	Poster Awards	
13:00	Presentation EUROFILLERS 2013	
13:10	Closing and Lunch	