PROGRAM: PLASTICITY 2016, Sheraton Kona, Jan. 3-9

Sunday, January 3, 2016

Registration 9:00 AM - 5:00 PM…….. (Room: Hualalai)

SuA-1 (14:15-16:45)	SuA-2 (14:15-17:00)	SuA-3 (14:15-16:45)	SuA-4 (14:15-16:45)
Influence of Interfaces on Extreme Environment Plastic Deformation Properties of Materials I ***(Room: Mauna Loa)***	***Exploring New Horizons for Metal Forming Research I (in honor of Dong-Yol Yang) (Room: Mauna Kea)***	***Plasticity of Granular and Geomaterials I (Room: Keauhou III)***	***Creep, Deformation, Texture, Nano and Nuclear Materials I (in honor of K.L. Murty) (Room: Keauhou IV)***
**** Leslie Lamberson & Christian Hellmich**	**** A. Keith Pilkey & Jian Cao**	**** Nico Gray & James T. Jenkins**	**** Indrajit Charit *(++)* & Blas Pedro Uberuaga**
* **Christian Hellmich, Bernhard Pichler, Mehran Shahidi** *"Interface-to-bulk upscaling: a continuum micromechanics approach"*	* **Jeong Whan Yoon, Yanshan Lou, Thomas B. Stoughton** *"anisotropic behavior in plasticity and ductile fracture of an aluminum alloy"*	* **Stefan Luding** *"Plastic flow theory with evolution of micro-structure and anisotropy"*	* **Amiya K. Mukherjee** *"Creep and superplasticity from microcrystalline to nanocrystalline scale"*
***Max A. Kaplan, G. E. Fuchs** *"Fracture of Cast Ni-base Superalloy Turbine Components and the Role of Bifilms"*	*** Jun-Seok Yoon, Ji-Woo Park, Hadi Ghiabakloo, Beom-Soo Kang** **"***Plastic deformation mechanics of 3D sheet metal forming using flexibly-reconfigurable roll-forming process***"**	***James T. Jenkins and Diego Berzi** *"Costitutive relations for steady shearing of dense granular aggregates"*	***Blas Pedro Uberuaga** *"Connecting radiation damage evolution and grain boundary microstructure"*
+ **Devendra Verma, Chandra Prakash, Vikas Tomar** *"Strain rate dependent failure of glass/epoxy interfaces at nano-microscale via nanoimpact experiments-rate dependent cohesive separation models"*	* **Jian Cao, Jacob Smith, Newell Moser, Huaqing Ren, Zixuan Zhang, Ebot Ndip-Agbor, Kornel Ehmann** **"***Formability in various forming strategies for incremental forming***"**	* **Jidong Zhao and Ning Guo** *"Alternative pathway to granular plasticity via computational multiscale modeling"*	+ **Satyam Suwas, Sahithya Kandalam, et. al.** *"High temperature deformation behavior of magnesium alloy WE43 "*
+ **Leslie Lamberson, Logan Shannahan, and Michel Barsoum** "*Dynamic fracture and damage evolution of the Ti3SiC2/TiC and Ti3SiC2/SiC composites*"			+ **Djamel Kaoumi** *"Using in-situ tem to study the response of Ni-based superalloys under tensile deformation"*
+ K. Hattar *"Investigating overlapping and harsh environments via in situ TEM"*	*** A. Keith Pilkey, Hayley Scott, Grant Bell, Andrew Sloan, and J. Doug Boyd** *"Micro-computed tomography imaging of damage evolution in advanced high strength steel sheet"*	***Nico Gray and Andrew Edwards** *"A depth-averaged μ(I)-rheology for shallow granular free-surface flows"*	**+Linjiang Chai, Baifeng Luan, Korukonda L. Murty, Qing Liu** *"Microstructural and textural evolutions of commercially pure Zr sheet rolled at room and liquid nitrogen temperatures"*
			+Randy K. Nanstad, Mikhail A. Sokolov, and Kim Wallin *"Considerations of specimen size effects in evaluation of irradiation effects in reactor pressure vessel steel"*
	+ **Namsu Park, Hoon Huh, and Sung Jun Lim** **"***Fracture-based forming limit criteria for anisotropic materials in sheet metal forming***"**	+**Hesam Askari and Ken Kamrin*** *"The origin of the resistive force theory in flowable materials"*	
	+**Francis Adzima, Tudor Balan, Pierre-Yves Manach and Laurent Tabourot** *"Comparative study of phenomenological and C.P.F.E.M. based modeling approaches in sheet metal forming : application to micro-forming processes simulations"*		
	+**Dong-Kyu Kim, Eun-Young Kim, Wan Chuck Woo, and Shi-Hoon Choi** **"***Crystal plasticity finite element modeling and ex-situ study of micromech. deform. and failure behaviors of dual phase steel***"**		

18:00 WELCOME RECEPTION/DINNER (Hawaii Lawn) includes entertainment of history of Hawaii through music and dances almost 2 hours show.

Monday, January 4, 2016

Registration 8:00 AM-5:30 PM …..……..…….……(Room: Hualalai)

MM -1 (8:30-10:15)	MM -2 (8:30-10:30)	MM -3 (8:30-10:30)	MM -4 (8:30-10:30)
Metal Forming, Hot working & Microstructural Analysis (Room: Mauna Loa)	***Exploring New Horizons for Metal Forming Research II (in honor of Dong-Yol Yang) (Room: Mauna Kea)***	***Develop. & App. of Consti. Desc. for Plast. at Various Scales (in Memory of José Grácio I (Room: Keauhou III)***	***Plasticity of Granular and Geomaterials II (Room: Keauhou IV)***
**** Thomas Stoughton & Manja Krueger**	**** Heung Nam Han & Jeong Whan Yoon(++)**	**** Kaan Inal & Barlat (**)**	**** Itai Einav (++) & Goddard (++)**
***Manja Krüger, Janett Schmelzer, Torben Baumann, Sebastian Dieck** *"Hardening Effects and deformation behavior of mechanically alloyed Vanadium-silicon materials"*	*** Toshihiko Kuwabara, Junpei Kawaguchi, and Takeo Sakurai** *"Measurement and modeling of differential hardening of a 5000 series aluminum alloy sheet and application to sheet forming simulations"*	*** Frédéric Barlat, Youngung Jeong, Carlos Tomé** *"Virtual experiments using the visco-plastic self-consistent framework to characterize anisotropic hardening behavior for sheet metal forming"*	*** Joe Goddard** *"Homogenization of granular mechanics via filters on a satake graph"*
***Junying Min, Thomas B. Stoughton, John E. Carsley, Blair E. Carlson, Jianping Lin, Xueli Gao** *"Accurate characterization of biaxial stress-strain response of sheet metal from bulge testing"*	***Sung-Tae Hong, Heung Nam Han, and Myoung-Gyu Lee** *"The effect of electric current on plastic behaviors of ferrous alloys and its automotive applications"*	***H. Garmestani, A. Tabei, S. Parvinian, Z. Pan, S.Y. Liang** *"Microstructure design of dual phase titanium alloys during machining"*	*** Ken Kamrin** *"Multi-scale and trans-phase continuum modeling of granular flows"*
***Eva-Lis Odenberger, Johan Svensson, Mikael Schill, Lluís Pérez Caro, and Mats Oldenburg** *"Modeling and simulation of a manufacturing process chain including tailor rolling, forming and welding in alloy 718"*	***Hoon Huh, Minki Kim** *"Identification of the hardening behavior of sheet metals at high strain rates considering the pre-strain"*	**+ Ji Hoon Kim, Joo-Hee Kang, Chang-Seok Oh** *"A Crystal plasticity Finite element analysis for developing a macroscopic constitutive model of polyscrystalline materials"*	***Itai Einav** *"Granular materials under extremes: the role of grainsize dynamics"*
+ Jayahari Lade and Swadesh Kumar Singh *"A comparison of part quality in high temperature forming of ASS 304 using BARLAT 3-Parameter Model"*		**+Kaan Inal, Waqas Muhammad, Abhijit P. Brahme, Jidong Kang, Raja K. Mishra** *"Experimental and numerical investigation of texture evolution and the effects of intragranular backstresses in aluminum alloys subjected to large strain cyclic simple shear"*	
	***Heung Nam Han, Moon-Jo Kim Kyu Hwan Oh and Sung-Tae Hong, and Myoung-Gyu Lee** *"Electric current-induced deformation behavior Al-Mg-Si alloy"*	**+Marko Knezevic and Milovan Zecevic** *"Predicting cyclic deformation of AA6022-T4 and DP590 using polycrystal plasticity"*	**+Thomas Barker, David Schaeffer, Patricio Bohorquez and Nico Gray** *"Well-posed and ill-posed behaviour of the μ(I)-rheology for granular flow"*
		+ Hojun Lim, Corbett C. Battaile, and Christopher R. Weinberger *"Multi-scale modeling and characterization of tantalum"*	**+ Lam Nguyen, Behzad Fatahi, and Hadi Khabbaz** *"A constitutive model for fibre reinforced cement treated clay"*

Coffee/Tea

MM-5 (11:00-12:45)	MM-6 (11:00-13:30)	MM-7 (11:00-13:30)	MM-8 (11:00-13:15)
Multi-faceted Research in Materials and Mechanics I (in honor Hüseyin Sehitoglu) (Room: Mauna Loa)	***Phase Transformation I (Room: Mauna Kea)***	***From Creep Damage Mechanics to Homogenization Methods I (In honor of Nobutada Ohno) (Room: Keauhou III)***	***Microstructural Plasticity to Damage Processes under Dynamic Loading Conditions I (Room: Keauhou IV)***
**** Yanyao Jiang(++) & David L. McDowell**	**** Valery I. Levitas (++) & Jiang-Feng Nie**	**** Takeshi Iwamoto & Holm Altenbach (++)**	**** Hashem M Mourad (++) & J. R. Mayeur (++)**
***M.M. Kirka, E.A. Estrada Rodas, and R.W. Neu** *"Cyclic crystal viscoplasticity modeling of nickel-base superalloys in different aged conditions"*	***Duane D. Johnson** *"Predicting phase transformation pathways in real materials"*	***Holm Altenbach, Mykola Ievdokymov, Konstantin Naumenko, and Claus Oberste-Brandenburg** *"Constitutive model of cast iron Under thermo-mechanical loads Including fatigue damage"*	***F. L. Addessio, C. A. Bronkhorst, T. Lookman, D. W. Brown, E. K. Cerreta, C. Bolme** ***"****Single crystal phase transformations under Dynamic loading conditions"*
*** Jay D. Carroll** *"Digital image correlation for multiscale studies of plasticity"*	*** Susan P. Gentry, Anna Trump, John E. Allison, Katsuyo Thornton[*]** *"Experiments and simulations of recrystallization in plastically deformed titanium"*	***Hiroshi Okada, Satoshi Kadow*aki*, Hijiri Amano and Tetsuya Koshima** *"J-integral evaluations in the problems of finite strain elasto-plasticity and of functionally graded materials"*	*** J. E. Hammerberg, R. Ravelo, T. C. Germann and J. Milhans** *"Frictional interactions at compressed ductile metal interfaces – simulations and models"*
+ David L. McDowell *"Mesoscale modeling of metal plasticity to support durability assessment"*	*** Valery I. Levitas** *"Phase field approach to interface- and surface-induced phenomena"*	*** Fusahito Yoshida, Hiroshi Hamasaki[*] and Takeshi Uemori** *"Constitutive modeling to describe various cyclic plasticity behaviors of anisotropic sheets"*	**+ Hashem M. Mourad, Curt A. Bronkhorst, Jeeyeon N. Plohr, Ellen K. Cerreta, and Veronica Livescu** *"A study of dynamic shear localization in elasto-viscoplastic solids: Finite element simulations and experiments on 316L stainless steel"*
+ Yanyao Jiang, Qin Yu, Yin Qiong, Shuai Dong, Jian Wang *"Twinning-detwinning deformation and fatigue in magnesium alloys"*			**+Thomas R. Canfield and Theodore C. Carney** *"Multiphase strength modeling in flag"*
+ Xiao-Wu Li, Jong-Guk Yun, Ying Yan and Yan-Yao Jiang *"Thickness-dependent deformation and fracture characteristics of AL6XN super-austenitic stainless steel subjected to tensile and fatigue loads"*	*** Jian-Feng Nie** *"Shear strain in precipitation and diffusional phase transformations"*	***Takeshi Iwamoto** *"A path integral based on the configurational force and its application to evaluate dynamic fracture toughness with phase transformation in trip steel"*	**+ Liming Xiong, Ji Rigelesaiyin, Xiang Chen, Shuozhi Xu, David L. McDowell and Youping Chen** *"Quantifications of the complex dynamics of fast moving dislocations in heterogeneous materials by a concurrent atomistic-continuum method"*
			+ Duan Z. Zhang and Christopher C. Long *"Ensemble phase averaging technique and dual domain material point method for modeling ductile materials"*
	+Klaus Hackl, Philipp Junker *"Micromechanical modeling of shape memory alloys - energies and evolution"*	**+ Yusuke Kinoshita, Atsushi Matsubara, and Nobutada Ohno** *"Effects of faceting on torsional properties of boron nitride nanotubes"*	**+ Jeffrey H. Nguyen, Minta C. Akin, Paul D. Asimow, and Neil C. Holmes** *"Radiance measurement and plastic deformation on ramp loading***"**
	+Qian Yu, Amit Samanta, Josh Kacher, Christoph Gammer, Mark Asta, Daryl Chrzan, Liang Qi, Andrew Minor *"Formation of face-centered cubic phase in titanium"*	**+ Dai Okumura, Akifumi Kondo, Nobutada Ohno** *"An extended model with two scaling exponents that describe mechanical and swelling behaviors of elastomers"*	
		+Yilin Zhu, Kang G. Z. and Kan Q. H. *"A new kinematic hardening rule describing different plastic moduli in monotonic and cyclic deformations"*	

MA-1 ***(14:15-17:15)***	**MA -2** ***(14:15-17:15)***	**MA -3** ***(14:15-17:00)***	**MA -4** ***(14:15-17:15)***
Interactions between Nano and Micro-structural Evolution, & Mechanical Behavior (Room: Mauna Loa)	***Continuum mechanical and variational aspects of materials deformation (in honor of Khanh Chau Le) (Room: Mauna Kea)***	***Macroscopic and Multiscale Approach of Cyclic Plasticity I (in honor of Georges Cailletaud and Jean-Louis Chaboche) (Room: Keauhou III)***	***Plasticity of Granular and Geomaterials III (Room: Keauhou IV)***
** **Asle Zaeem (++) & Mark Horstemeyer**	** **Klaus *Hackl (++)* & Dennis M.*Kochmann (++)***	** **Lakhdar *Taleb (++)* & Tasnim Hassan *(++)***	** **Itai Einav(++) & Joe Goddard (++)**
*__Mark Horstemeyer__, **Youssef Hammi and Morgan Green** *"Process-structure-properties included in an internal state variable plasticity-damage model and its application to a car crash"*	* __Victor L. Berdichevsky__ *"Which Macroscopic Parameters Characterize Dislocation Networks?"*	* **Xiaohui Chen, __Xu Chen__** *"Ratcheting behavior of pressurized 90° elbow piping subjected to reversed in-plane bending"*	*__Hisao Hayakawa__, **and Koshiro Suzuki** *"Theory of jammed granular flow under a plane shear: a quantitative description of the divergence of viscpsity"*
* __Amy J. Clarke__, **Damien Tourret, Seth D. Imhoff, John W. Gibbs, Paul J. Gibbs, Younggil Song, Alain Karma, Neil N. Carlson, K. Fezzaa, pRad Team** *"Visualization and control of metal alloy solidification dynamics"*	* __Andrej Cherkaev__ *"Relaxation of multiwell lagrangians and structures of multiphaase optimal composites"*	*__Lakhdar Taleb__, **Clément Keller** *"Cyclic accumulation of the inelastic strain observed in 304l ss subjected to uniaxial stress control at room temperature: creep, ratcheting or fatigue damage?"*	*__Teruo Nakai__, **Hossain Md. Shahin and Hiroyuki Kyokawa** *"New description of time-dependent bahavior of geomaterials not using ordinary viscoplatic theories"*
+__Mohsen Eshraghi__ **and Sergio D. Felicelli** *"Application of lattice boltzmann method in modeling microstructural evolution"*	* __Dennis M. Kochmann__, **Yingrui Chang** *" Deformation and failure mechanisms in polycrystalline magnesium"*	*__Zihui Xia__ **and Yanxiang Zhang** *"Deformation phase diagram for coke drums under thermal-mechanical cyclic loading"*	* __Klaus Regenauer-Lieb__, **Thomas Poulet, Jie Liu, Florian Wellmann, Ali Karrech and Hui Tong Chua** *"Uncertainty in plastic flow of earth materials: from geodynamics to engineering applications"*
+__Sergio D. Felicelli__ **and Mohsen Eshraghi** *"Large-scale simulations of dendritic solidification"*			
+__Daniel Schwen__ **and Michael R. Tonks** *"Phase field mechanics coupling using modular free energies in the MOOSE finite element framework"*	***Robert Kießling, Ralf Landgraf, Robert Scherzer, __Jörn Ihlemann__** *"Material modelling based on directly connected rheological elements in nonlinear continuum mechanics"*	* **Ahmed Zouaghi, Adriana Soveja, Farhad Rezaï-aria, Thomas Pottier, Mohammed Cheikh and __Vincent Velay__** *"Multi-scale surface modeling of the nonlinear mechanical behaviour of AISI H11 hot work tool steel"*	*__Thomas Weinhart__ *"Rheological modelling of granular flows –From discrete particles to continuum fields"*
+ __N. Abdolrahim__, **A. J. Vattré, K. Kolluri, and M. J. Demkowicz** *"Computational prediction of semi-coherent interfaces using reduced order models"*	***__Bob Svendsen__** *"Discrete and coarse-grained continuum thermodynamic models for dislocation networks"*	+ __Shang-Lin Zhang__, **Fu-Zhen Xuan, Su-Juan Guo, Peng Zhao** *"Effect of anelastic recovery on the cyclic plastic behavior of 9% Cr ferrite steel under creep-fatigue conditions"*	*__Takahiro Hatano__ *"Granular friction and earthquake faults"*
+__Sasan Nouranian__ *"A modified embedded-atom method potential for organic And organometallic material systems"*		+ __De-Long Wu__, **Fu-Zhen Xuan, Su-Juan Guo, Peng Zhao** *"Viscoplastic constitutive modeling of 9-12% Cr steel under high temperature strain cycling condition"*	
+**K.S. McReynolds, Q. Sherman and __P.W. Voorhees__** *"Computational materials science:from atoms to microstructure"*	+ __Christian B. Silbermann__, **Jörn Ihlemann*** *"Prediction of self-organized dislocation patterns with continuum dislocation theory"*	+ __Han Jiang__, **Chengkai Jiang, Jianwei Zhang, and Guozheng Kang** *"Constitutive Model for Amorphous Glassy Polymers with Consideration of its Microstructure: Cohesional Entanglement"*	+__Qi-Zhi Zhu__, **Shuang-Shuang Yuan*, and Lun-Yang Zhao** *"A new Griffith-type failure criterion for microcracked geomaterials"*
* __Mohsen Asle Zaeem__, **Ebrahim Asadi, Sasan Nouranian, and Michael I. Baskes** *"Molecular dynamics simulations and phase field crystal modeling of solidification and grain growth"*	+ __Klaus Hackl__, **Christina Günther, Dennis M. Kochmann** *"Rate-independent versus viscous evolution of dislocation microstructures"*		+ __François Guillard__, **Yoël Forterre, Olivier Pouliquen** *"Drag and lift forces in granular flows"*

* 30 minutes key-note lecture, + 15 minutes invited presentation ** Chairs ++ Symposium Organi

Tuesday, Jan. 5, 2016

Registration 8:00 AM-5:00 PM …..…….……..…….…….(Room: Hualalai)

T M-1 (8:30-10:30)	T M-2 (8:30-10:30)	T M-3 (8:30-10:15)	T M-4 (8:30-10:15)
Influence of Interfaces on Extreme Environment Plastic Deformation Properties of Materials I ***(Room: Mauna Loa)***	***Shear Bands and Other Localizations (Room: Mauna Kea)***	***Metallic Glasses (Room: Keauhou III)***	***Shear and phase transformation mechanisms and their effect on mechanical behavior I (Room: Keauhou IV)***
**** Vikas Tomar(++)& Christian Hellmich**	**** Paul Van Houtte & Stelios Kyriakides**	**** Robert Maass & Dongchan Jang**	****P. D.Wu (++) & M. R. Daymond**
* **Wayne Chen** *"Real-time x-ray visualization of dynamic deformation and microstructure evolution in metallic materials under impact loading "*	***Nabil Bassim and S. Boakye-Yiadom** *"A comparative study of mechanisms of formation of adiabatic shear bands in a bcc meat (steel) and an fcc metal (pure copper)"*	***Dongchan Jang** *"Plasticity of nano-sized metallic glasses"*	* **Xu-Sheng Yang, Yun-Jiang Wang, Guo-Yong Wang, Hui-Ru Zhai, L. H. Dai, and Tong-Yi Zhang** *"Stress relaxation behaviors in nanostructured copper"*
***Kalpana S. Katti, Dinesh R. Katt** *"Interfacial mechanics in biological nanocomposites"*	* **Nathan Bechle and Stelios Kyriakides** *"Evolution of localized deformation in niti under biaxial stress states part I "*	* **Paulo S Branicio, Sara Adibi , Zhendong Sha, Yong-Wei Zhang, Shailendra P Joshi** *"From localized shear banding to homogeneous flow in nanoglasses"*	***Zishun Liu.Jianying Hu, Yunxing Li, Yuhao He** *"A new constitutive model of shape memory polymer and the novel pattern transformation of shape memory polymer periodic cellular structures"*
+Timothy J. Rupert *"Formation and toughening effects of amorphous interfacial phases"*	**+Nathan Bechle and Stelios Kyriakides** *"Evolution of localized deformation in niti under biaxial stress states part II"*	***Robert Maass** *"Cavitation and internal stresses during shear-banding of metallic glasses"*	+**M. R. Daymond, H. Abdolvand, Marta Majkut, Jette Oddershede, Jonathan P. Wright** *"3-D stress development in parent and twin pairs of a hcp polycrystal: synchrotron x-ray diffraction and crystal plasticity fem"*
+ **Justin Wilkerson and Thao Nguyen** *"An atomistically-informed kinetic model for dislocation emission from interfaces"*	+**Junying Min, Thomas B. Stoughton, John E. Carsley and Jianping Lin** *"Advanced issues in forming limits Part I: neck expansion theory and onset of localized necking"*		+ **H. Qiao and P.D. Wu** *"Numerical simulation of twin nucleation, propagation and growth in magnesium crystals"*
+ **Dinesh R Katti, Kalpana S. Katti** *"Role of interfaces in mechanics of oil shale geological nanocomposites"*	+ **Henryk Paul, MagdalenaM. Miszczyk and Julian H. Driver** *"Micro- and macro- scaleshear banding in C{112}<111> - oriented single crystals of fcc metals"*	+ **Yongjiang Huang, YuLung Chiu, Jianfei Sun** *"Deformation behaviors of bulk metallic glasses during cyclic nanoindentation tests"*	+ **Yue Fan, Takuya Iwashita, and Takeshi Egami** *"Thermally activated deformation mechanism in glasses"*
+ S.J. Fensin, S. M. Valone, E. K. Cerreta, G. T. Gray III *"Nucleation and evolution of dynamic damage at bimetal interfaces using molecular dynamics"*	+ **Henryk Paul, and Magdalena M. Miszczyk** *"Mechanism of macroscopic shear bands formation in polycrystalline copper pre-deformed by ECAP and subsequently plane strain compressed"*		

Coffee/Tea

TM-5 (11:00-13:00)	TM-6 (11:00-13:30)	TM-7 (11:00-13:30)	TM-8 (11:00-13:15)
Mechanical response and structural evolution in materials for purpose of plasticity design (Room: Mauna Loa)	***Creep, Deformation, Texture, Nano and Nuclear Materials II (in honor of K.L. Murty) (Room: Mauna Kea)***	***Multiscale modeling and characterization in structural materials I (Room: Keauhou III)***	***Micromechanics-based Approaches for Inelastic Deformation of Solids (Room: Keauhou IV)***
**** Ya-Fang Guo & H.L.Duan(++)**	**** I. Dutta & Gary S. Was**	**** Motomichi Koyama & Ikumu Watanabe (++)**	**** Sushil Mishara (S) & Ruth Schwaiger**
***X.Z. Xiao, D.K. Song, H. J. Chu, H.L. Duan** *"Mechanical behaviors of irradiated fcc nanocrystals and polycrystals with nanotwins"*	***Gary S. Was, Michael D. McMurtrey, Kale Stephenson, Drew Johnson, Ian Robertson, Diana Farkas** *"The importance of radiation and deformation in environmentally assisted fracture"*	*** Ikumu Watanabe** *"Characterization of strength-ductility relationship with finite element analysis of periodic microstructure"*	***Dhriti Bhattacharyya** *"Measurement of mechanical property changes in ion irradiated materials at the micron- and sub-micron scale"*
*** Xing-Long,Ye and Hai-Jun, Jin** *"Development of high-strength nanoporous metals by dealloying"*	*** M.E. Kassner, K. Smith and C.S. Campbell** *"Low temperature creep in pure metals and alloys"*	***João Quinta da Fonseca and Fabio di Goacchino** *"Deformation patterns in polycrystalline deformation: a comparison between experimental and crystal plasticity modelling results"*	***Atarzyna Kowalczyk-Gajewska and Karol Frydrych** *"Micromechanical modeling of microstructure evolution in metals of high specific strength"*
*** Lei Zhou, Ya-Fang Guo** *"Tensile and compressive deformation behaviors of $\{\bar{1}011\}\langle 10\bar{1}2\rangle$ nanotwinned magnesium "*	**+ Stuart A. Maloy, C. Sun, O. Anderoglu, T.A. Saleh, G.R. Odette, M. J. Konstantinović, L. Malerba** *"Interstitial effects on radiation hardening in ferritic steels"* **+I. Dutta, M. Liu, L. Meinshausen and T. K. Lee** *"Interfacial sliding under multi-physics loads and impact in 3d electronic devices"*	***Motomichi Koyama, Cemal Cem Tasan, Asif Bashir, Tatsuya Nagashima, Michael Rohwerder, Eiji Akiyama, Dierk Raabe, Kaneaki Tsuzaki** *"Multi-scale analysis on hydrogen-assisted damage evolution in fe-ni-c austenite/martensite dual phase steel"*	***Zhao-Ping Luo, Guang-Ping Zhang, Ruth Schwaiger** *"Deformation behavior and microstructural changes of Cu/Au and Cu/Cr multilayers under sliding contact"*
+ Lihong Liang, Yueguang Wei *"Increased plasticity and decreased damage of thin coating systems"*	**+ Hongsuk Lee, Yang Zhang, Vikas Tomar** *"Understanding grain boundary embrittlement and its correlation with polycrystalline tungsten fracture-correlations with high temperature mesoscale fracture experiments"*	**+ S. Poulsen and Peter W. Voorhees** *"A verified phase field model for phase transformations in Ni-Al-Cr alloys"*	**+ O. Castelnau, M. Bornert, E. Bosso, …… J.S. Micha, V. Michel, H. Palancher, E. Plancher, R. Quey, O. Robach, N. Rupin, J. Stodolna, A. Tanguy, O. Ulrich, F. Zhang** *"Stress field at the micron scale measured by in situ laue microdiffraction and hr-ebsd techniques:recent developments"*
+Xiaozhi Tang, Yafang Guo, Yue Fan, Sidney Yip, and Bilge Yildiz *"Simulation of flow stress variation in bcc Fe induced by thermally activated mechanisms at low strain rates"*	**+ C. Sun, N. Mara, S. A. Maloy** *"Mechanical response of nickel-based superalloy Rene N_4 under extreme irradiation conditions"*	**+Shingo Ozaki, Toshio Osada, and Wataru Nakao** *"Constitutive equation for isotropic damage-healing behavior in self-healing ceramic materials"*	**+Jambeswar Sahu, Sushil Mishara, Shanta Chacrabarty, Marrapu Bhargav** *"Microstructure and size effect in tensile testing of ss304 foils"*
		+Kensuke Nagai, João Quinta da Fonseca *"Measurement of slip distrtibution during reverse loading of a ferritic steel"*	**+Reeju Pokharel, Ricardo A. Lebensohn, Robert M. Suter, Anthony D. Rollett** *"3D measured microstructure based crystal plasticity modeling of grain scale deformation in polycrystalline copper"*

T A-1 *(14:15-17:30)*	T A-2 *(14:15-17:30)*	T A-3 *(14:15-16:15)*	T A-4 *(14:15-17:45)*
Computational Plasticity (Room: Mauna Loa)	***Interface and Surface-Dominated Plasticity, Fracture, and Fatigue in Metals I (Room: Mauna Kea)***	***Dislocations & In-situ Measurements I (Room: Keauhou III)***	***Physical metallurgy mechanisms of deformation texture evolution I (in honor of Werner Skrotzki) (Room: Keauhou IV)***
**** Priya Vashishta & A.H.W. Ngan**	**** Jason R. Trelewicz (++) & Brad L. Boyce**	**** Tarek M. Hatem & Bjørn Holmedal**	**** Satyam Suwas (++) & Irene J.Beyerlein**
* **A.H.W. Ngan and H.S. Leung** *"Dynamics of full dislocation-density functions from coarse-graining discrete dislocation density-vector fields"*	***Brad L. Boyce, Timothy A. Furnish** *"Detecting abnormal grain growth during fatigue of nanocrystalline Ni-Fe"*	***Bjørn Holmedal** *"On the relation between mean free slip length and work hardening of metals"*	***I. Samajdar, A.K. Revelly, K.V. Mani, D. Srivastava, R. Tewari and G.K. Dey** *"Radiation damage in zirconium: A microstructural perspective"*
***B P Gautham, A K Singh, Sreedhar Reddy* and K A Padmanabhan** *"Microstructural engineering and multi-scale through-process modeling for use of ICME (integrated computational materials engineering) in industry"*	***Christopher A. Schuh, Zachary C. Cordero** *"Processing design considerations for nanocrystalline alloys prepared by severe plastic straining"*	**+Daniel Caillard** *"Solid solution hardening and dynamic strain ageing in Fe-X alloys (X = C, Si, Ni, Al, Cr)"* **+Giacomo Po, Markus Lazar, et. al.** *"Singularity-free dislocation dynamics in anisotropic gradient elasticity"*	* **Irene J. Beyerlein** *"Effect of bi-phase interfaces on texture evolution in nanolaminates fabricated by severe plastic deformation"*
***Priya Vashishta, Adarsh Shekhar, et. al.** *"Self-healing materials and damage from shock induced nanobubble collapse: reactive molecular dynamics simulations"*	***T.R. Bieler, M.A. Crimp, C.J. Boehlert, P. Eisenlohr, et. al.** *"Combined modeling and experiments to identify the influence of grain neighbors on heterogeneous deformation"*	**+Bernard L. Ennis; Enrique Jimenez-Melero and Peter D. Lee** *"In situ study of the effect of segregation and banding on the mechanically induced transformation in multiphase steel"* **+Hesam Askari and Hussein Zbib** *"A continuum dislocation dynamics framework for plasticity of polycrystalline materials"*	***R. Chulist, M.J. Szczerba and M. Faryna** *"In-situ investigation on the martensitic transformation in Ni-Mn-Ga alloys"*
***James Belak** *"Preparing for the future of computing: bridging scales within the exascale materials co-design center"*	***Jason R. Trelewicz and Bin Cheng** *"The synergistic role of grain boundaries and amorphous-crystalline interfaces in the deformation of metallic nanolaminates"*	**+Salma I. Salah , Tarek M. Hatem, et. al.** *"Defects evolution for high efficiency third generation photovoltaic cells"* **+E-Wen Huang and Jien-Wei Yeh** *"Transition of plastic behavior from room to elevated temperatures of a cocrfemnni high entropy alloy"*	**+ Satyam Suwas, Radhakrishnan Madhavan** *"Stacking fault energy and texture evolution in nanocrystalline materials"* **+Tamás Ungár, Bertalan Jóni** *"Dislocation structure in texture components"*
+ Mohamed Shehata, Tarek M. Hatem, Michael Haselkorn *"Experimetnal study of build orientation in direct metal laser sinetering of 17-4ph stainlesssteel"*	**+ Jin Yu Zhang, G. Liu, J. Sun** *"Size-dependent He-irradiated tolerance and plastic deformation of crystalline/amorphous Cu/Cu-Zr nanolaminates"*		**+Zuzanka Trojanová and Pavel Lukáč** *"Effect of nanoparticles on mechanical and physical properties of magnesium"*
+ Sung-Woo Moon and Youssef M.A. Hashash *"Learning of material response using evolutionary inverse analysis techniques"*	**+ Suveen N. Mathaudhu, Hao Zhou, et. al** *"Interfacial segregation phenomena in Mg-Gd-Y-(Ag)-Zr alloys"*		**+Qingsheng Zhang** *"Effect of shear deformation on recrystallization of AA3003 alloy"*
*** Yihui Pan, Zheng Zhong** *"Modeling the healing phenomenon in elastic-plastic elastomers considering healing kinetics"*	**+ D.L. Medlin, K. Hattar, J. et. al.** *"Defect character at grain boundary facet junctions: a combined hrstem and atomistic modeling study"* **+Tim M. Smith, Bryan D. Esser, et. al** *"Diffusion processes during shearing events in ni-base superalloys at intermediate temperatures"*		**+Christian Haase, Oliver Kremer, et. al.** *"Microstructure and texture evolution in a TWIP steel during ecap and annealing"* **+Yusuke Onuki, Shun Fujieda, Sigeru Suzuki, and Hiroshi Fukutomi** *"Enhancement of magnetostrictive properties of polycrystalline Fe-Ga alloys by high-temperature deformation process"*
	+Allison M. Beese, Beth E. Carroll, Zhuqing Wang *"Effect of local microstructure on plasticity behavior of additive manufactured titanium and steel alloys"*		

* 30 mins. key-note lect., + 15 mins. inv. Present. ** Chairs ++ Symposium Organizer

Wednesday, January 6, 2016

Registration 8:00 AM-5:00 PM …..……..…….…….(Room: Hualalai)

WM-1 (8:30-10:00)	WM-2 (8:30-10:00)	WM-3 (8:30-10:00)	WM-4 (8:30-10:15)
Plasticity of Granular and Geomaterials IV (Room: Mauna Loa)	***Shear and phase transformation mechanisms and their effect on mechanical behavior II (Room: Mauna Kea)***	***Mechanisms of Deformation Twinning & Hydrogen Embrittlement and their Effects on Strain Hardening and Yield (Room: Keauhou III)***	***Macroscopic and Multiscale Approach of Cyclic Plasticity II (in honor of Georges Cailletaud and Jean-Louis Chaboche) (Room: Keauhou IV)***
**** Jim N.Mcelwaine & Jianfu Shao**	**** Jian Wang (++) & L.H. Dai**	**** H. Miura & Thorsten Halle**	**** David L.McDowell & I. Doghri**
***Manolis Veveakis, Martin Lesueur, Mustafa Sari, Thomas Poulet** *"The localization of deformation in temperature-sensitive viscoplastic materials"*	***L.H. Dai, S.L. Cai, G.G. Ye** *"Shear banding in high speed machining of metals"*	***Thorsten Halle, Martin Ecke, Markus Wilke, Sebastian Hütter, Manja Krüger** *"Experimental and molecular dynamics studies on twin formation mechanisms in Bcc iron"*	***I. Doghri, M.I. EL Ghezal, L. Adam** *"Constitutive modeling of homogeneous and heterogeneous thermoplastic polymers under small and large deformations"*
***David Littlefield , Bradley Martin** *"Validation and calibration of a constitutive model for concrete"*	**+Ruiyu Wu, Yao Shen, Peidong Wu** *"The Effectiveness of Taylor-type polycrystal plasticity model on predicting shear band development and the role of geometrical softening in the development of shear bands"*	**+Armin Abedini, Cliff Butcher, Michael Worswick, Tim Skszek** *"Experimental investigations of plasticity and fracture of a rare-earth magnesium alloy sheet"*	***Christian Motz, Anas Ghailane, Mohammad Zamanzade and Daniel Weygand** *"Dislocation interaction and damage evolution at grain boundaries studied by cyclic loading of bi-crystalline micro samples"*
	+ Nan Li, Satyesh K. Yadav, Xiang-Yang Liu, Richad G. Hoagland, Natha A. Mara1, Amit Misra, Jian Wang *"Designing high fracture toughness nanocomposites via in situ TEM approach"*	**+Ran Liu, Yi Wang, Ying Liu, De Liang Yin, Jing Tao Wang** *"Texture-independent intrinsic hall-petch relationship in a Mg-3Al-Zn alloy"*	
***Jim N. Mcelwaine and Neil J. Balmforth** *"plastic failure of granular material in a drum"*	**+Q Zhou , F Wang, P Huang** *"Length-scale-dependent strengthening mechanism of Cu/X (X=Ru, W) multilayer thin films: effect of structure transformation"*	**+ H. Miura and M. Kobayashi** *"Microstructure and mechanical properties of ultrafine grained magnesium alloys multi-directionally forged under decreasing temperature conditions"*	**+David L. McDowell** *"Top-down and bottom-up microstructure-sensitive modeling of inelasticity"*
	+ Haijian Chu, Yuheng Zhang, Jie Liu, Jian Wang *"Elastic response due to core spreading of interface dislocation in anisotropic bimaterials"*		**+Céline Gérard, Jonathan Cormier, Djamel Missoum-Benziane+, Nikolay Osipov** *"Impact of microstructure evolutions on the stress/strain distribution at grain boundaries in Ni-based superalloys"*
+James Baker, Thomas Barker and Nico Gray *"A two-dimensional depth-averaged μ(I)-rheology for granular chute flows"*			**+Gustavo M. Castelluccio, David L. McDowell, Ting Zhu, and Clint B. Geller** *"Mesoscale- and environment-sensitive cyclic crystal plasticity"*

Coffee/Tea

WM-5 (11:00-13:30)	WM-6 (11:00-13:30)	WM-7 (11:00-13:30)	WM-8 (11:00-13:15)
Physical metallurgy mechanisms of deformation texture evolution II (in honor of Werner Skrotzki) (Room: Mauna Loa)	***Computational Plasticity (Room: Mauna Kea)***	***Dynamic Material Behavior, Modeling, and Fracture I (Room: Keauhou III)***	***Develop. & App. of Consti. Desc. for Plast. At Various Scales II (in Memory of José Grácio) (Room: Keauhou IV)***
**** T. Al-Samman & Leo A.I. Kestens**	**** Seid Koric & Elena Cherkaev**	**** Michael J. Cox & Shane C. Schumacher**	**** C.N. Tome (++) & Laurent Capolungo**
*** Laszlo Toth, C.F. Gu, B. Beausir, J.J. Fundenberger, M. Hoffman** "Polycrystal behavior in the limiting stage of grain fragmentation in severe plastic deformation**"**	*** Elena Cherkaev** *"Multiscale structure of optimally designed viscoelastic composites"*	*** Christopher T. Key, Bryan M. Love,and Shane C. Schumacher** *"Implementation of a finite deformation hyperelastic-plastic composite material model within a shock physics hydrocode"*	*** P. Hora, M. Gorji, Ch. Raemy** *"New concepts for prediction of fracture limits in thin sheet and bulk metal forming"*
***Leo A.I. Kestens, Linsey Lapeire, Jurij Sidor, Patricia Verleysen, Kim Verbeken** *"Macro shear-band textures in cryogenically rolled copper"*	*** Ke-Shi Zhang, Wolfgang Brocks** *"Fatigue life prediction of an FCC metal at different temperatures"*	**+ Cyril Bolis, D. Counilh, D. Savale** *"Testing the strength law of molybdenum using an explosive driven rayleigh-Taylor experiment"*	**+L.Capolungo, H. Wang, B. Clausen, I.J. Beyerlein, J. Wang, C.N. Tomé** ***"Stress and strain relaxation in magnesium AZ31 rolled plate: in-situ neutron measurement and elastic viscoplastic polycrystal modeling"***
		+ Michael J. Cox, Alexander. J. Worley, Paul A. Hooper, and John P. Dear *"Mechanical behaviour of Al 6061-T6 over the quasi-static to dynamic strain rate range"*	**+ Kengo Yoshida** *"Prediction of failure in AZ31 sheet under biaxial loadings"*
+ Weimin Mao *"Stress equilibrium of Taylor principles for plastic deformation of metal polycrystals and corresponding texture prediction "*	*** Anthony Gravouil, YanCheng Zhang, Ye Lu, Nawfal Blal, Alain Combescure** *"Efficient hyper reduced-order model(HROM) for 3d thermo-elasto-plastic simulations"*	**+ Thomas Tancogne-Dejeaun , and Dirk Mohr** *"Development of al-made truss-lattice materials with stable microstructures"*	**+ Takahiro Mori, Toshihiko Kuwabara, Mineo Asano, Yoichi Ueno, and Naoyuki Uema** *"Hole expansion simulation of a 6000 series aluminum alloy sheet considering differential hardening"*
+T. Al-Samman, I. Basu, K.D. Molodov *"Magnesium alloy design for lightweight applications: current challenges and future trends"*		**+ Xinghua Yu, Rui Cao, Jian Chen, Paul Crooker and Zhili Feng** *"A constitutive model for dynamic strain hardening of stainless steel and nickel alloys"*	**+C.N. Tomé, W. Wen E. Rauch, G. Vincze, F. Barlat** *"Strain path changes in steel and magnesium: experiments and simulation using a dislocation-based model"*
+Ping Yang, Louwen Zhang, Li Meng, and Weimin Mao *"Influence of rolling reduction on {100} transformation texture in an electrical steel"*	*** Seid Koric, Fereshteh A Sabet, Ouli Jin and Iwona M. Jasiuk** *"Direct numerical simulation of bone plasticity and strength"*	**+ Song Zhenfei, Fan Zhijian, Xiao Dawu** *"Dislocation density based analyses of plastic deformation of 2024 alloy at various strain rates and temperatures"*	*** Ricardo A. Lebensohn and Alan Needleman** *"Numerical implementation of non-local polycrystal plasticity using Fast Fourier Transforms"*
+Paul Van Houtte *"Deformation texture prediction: modelling shear-type strain heterogeneities by means of rotational flow patterns"*			
*** Werner Skrotzki, Paul Chekhonin, Juliane Scharnweber** *"Microstructure and texture formation in laminated metallic sheets "*	*** Arash Yavari** *"The twist-fit problem: finite torsional and shear eigenstrains in nonlinear elastic solids"*		**+Juan Liao, Xin Xue, Gabriela Vincze, Myoung Gyu Lee, Frederic Barlat, A. B. Pereira** *"Path-dependent modeling for accurate twist springback in complex channel forming process"*
	+ Gang Lu *"Multiscale modeling of hydrogen embrittlement of metals"*		

WA-1 *(14:15-16:45)*	WA-2 *(14:15-16:45)*	WA-3 *(14:15-16:45)*	WA-4 *(14:15-16:30)*
Nanoscale to Micron Grain Size Materials & Severe Plastic Deformation I (Room: Mauna Loa)	***Exploring New Horizons for Metal Forming Research III (in honor of Dong-Yol Yang) (Room: Keauhou III)***	***Multi-faceted Research in Materials and Mechanics II (in honor Hüseyin Sehitoglu) (Room: Mauna Kea)***	***From Creep Damage Mechanics to Homo-genization Methods II (In honor of Nobutada Ohno) (Room: Keauhou IV)***
**** Gwénaëlle Proust & Antonia Antoniou**	**** Thomas B.Stoughton & Myoung-Gyu Lee**	**** Zhe-Feng Zhang & R.W.Neu (++)**	**** Tetsuya Matsuda (++) & Shoji Imatani**
* **Antonia Antoniou** *"Synthesis, mechanical properties and applications of hierarchical nanoporous metals"*	* **Myoung-Gyu Lee, Jeong-Yeon Lee, et. al.** *"Development of advanced anisotropic material models for metal forming applications"*	* **Peter Müllner** *"Orthogonal shear processes in shape memory alloys"*	* **Shoji Imatani** *"Microscopic deformation of force chain in skeletal structures "*
* **Andrea Bachmaier, Reinhard Pippan and Christian Motz** *"Strain-induced mechanical mixing of immiscible alloys using severe plastic deformation: mechanical properties and thermal stability"*	***Heon Young Kim, Dae-Young Kim, Chung An Lee, Myoung-Guy Lee, and Ngoc-Trung Nguyen** *"Failure prediction of magnesium alloy sheet based on micro-mechanical void model incorporating asymmetric plasticity constitutive law"*	* **Ibrahim Karaman, E. Dogan, M. W. Vaughan, S. Wang, G. Proust** *"Microstructural design of mg alloys through low temperature deformation processing and simulation"*	* **Kenjiro Terada, Seishiro Matsubara** *"A Viscoelastic-viscoplastic combined model for thermoplasatic resins "*
* **Roberto Ballarini** *"Structural testing at the micro and nano scales:breaking invisible specimens with zero force"*	* **Junying Min, Thomas B. Stoughton, John E. Carsley and Jianping Lin** *"Advanced issues in forming limits Part II: reconciliation of measurements of localized necking limits"*	**+Zhe-Feng Zhang, Lin-Lin LI, et. al** *"Grain boundary and twin boundary: stronger or weaker to resist fatigue cracking?"*	**+ Mayu Muramatsu, Kenjiro Terada and Tatsuya Kawada** *"Mechanical simulation considering the evolution of microstructure in the ferroelastic material LSCF"*
		+ **B. J. Blankenau, H. Sehitoglu, E. Ertekin** *"Prediction of entropy changes in shape memory alloy phase transitions from first principles: applications to magnetocaloric and elastocaloric cooling and refrigeration"*	+ **Yuki Onishi** *"Performance of smoothed finite element methods with tetrahedral elements in large deformation elasto-plastic analysis"*
* **Shaohua Chen, Yin Yao, Yaochi Wei** *"A new theory for nanomaterials"*	+**Gustavo Capilla González, Hiroki Hasegawa, et. al.** *"Determination of uniaxial large-strain workhardening of high strength steel sheets from in-plane stretch bending test"*	**+R. Liu, X. H. An, Z. J. Zhang, P. Zhang and Z. F. Zhang** *"Improving tensile and fatigue properties of Cu alloys through controlling their deformation mechanisms"*	+ **Masakazu Kudo, Junichi Takahashi, Toshiharu Yamamoto,Makoto Uchida, and Yoshihiro Tomita** *"Multiscale modeling approch about degradation of mechanical properties for polymeric materials"*
	+ **S. J. Lim, H. Huh, Y. Lou, I. J. Park, H. W. Kim** *"Modified lou-huh ductile fracture criterion of sheet metals at a wide range of strain rates "*	+ **Xiaobo Yu, Chris Wallbrink and Qianchu Liu** *"Softening and re-hardening of 7075 aluminium alloys under variable amplitude loads"*	+ **Isamu Riku and Koji Mimura** *"Computational modeling of double network hydrogel "*
+ **Chenlu Meng, Zizhao Huang, Xiaoyu Mei, Weiping Hu** *" The thermal influence on dynamic strain aging of ultrafine grained Al-Mg alloy"*	+ **Soo Sik Han, Tea Ho Kim, Kwang Geun Chin** *"A feasibility study on application of TWIP steel to hybrid car fuel tank with Fe analysis"*	+**Antonios Kontsos** *"Microstructure-sensitive fatigue via multiscale experimental mechanics and multimodal characterization"*	+ **Yoshinobu Shimamura, Kazuyuki Kobayashi, Takao Koyama, Asumi Sugimura and Masahiro Arai** *"Application of homogenizing method for analyzing damped vibration of composite plates"*
* **Gwénaëlle Proust, Delphine Retraint, et. al.** *"Microstructural characterization of a cobalt-chromium-molybdenum alloy subjected to surface mechanical attrition treatment"*	+ **Geunsu Joo and Hoon Huh** *"An improved device for the tension/compression test at intermediate strain rates"*	* **Jian Wang, Nan Li, Carlos N Tome, Amit Misra, Scott X Mao** *"Pure-shuffle mechanisms of localized shear deformation"*	

17:00-17:50 Khan International Medal/Award Plenary Lecture (Cailletaud; *Room: Keauhou III & IV*)**
……Carlos Tome, *"Recent advances in modeling the constitutive response of aggregates: the importance of introducing probabilistic distributions"*

* 30 minutes key-note lecture, + 15 minutes invited presentation ** Chairs ++ Symposium Organizer

Thursday, January 7, 2016

Registration 8:00 AM-5:00 PM …..……..……..……..…….(Room: Hualalai)

ThM-1 (8:30-10:15)	ThM-2 (8:30-10:15)	ThM-3 (8:30-10:30)	ThM-4 (8:30-10:30)
Dislocations & In-situ Measurements II (Room: Mauna Loa)	***Crystal Plasticity I (Room: Mauna Kea)***	***Hot Working, Metal Forming, Fracture & Microstructural Analysis (Room: Keauhou III)***	***Creep, Deformation, Texture, Nano and Nuclear Materials III (in honor of K.L. Murty)*** (Room: ***Keauhou IV***)
**** Daniel Caillard & Krishnaswamy Ravi-Chandar**	**** C.Y.Sun & Eduardo Bittencourt**	**** Alexander Staroselsky & Todd Leonhardt**	**** Gary S. Was & Rajiv S. Mishra**
* **Klaus-Dieter Liss** *"In-situ diffraction studies related to thermo-mechanical processes"*	* **Yoshiteru Aoyagi** *"Multiscale crystal plasticity simulation on yield surface of ultrafine-grained metal"*	* **Todd Leonhardt,Sean Agnew, and James Ciulik** *"Alteringthe texture of molybdenum tubing by thermo-mechanical processing"*	* **Rajiv S. Mishra, Nilesh Kumar, Mageshwari Komarasamy** *"Effect of lattice strain on plasticity of complex concentrated alloys"*
* **Bennett C. Larson and Anter El-Azab** *"Submicron resolution 3d x-ray microscopy and dislocation dynamics study of geometrically necessary dislocation densities anddislocation cell structures in deformed cu"*	+ **Eduardo Bittencourt and Prabhat K. Agnihotri** *"A comparison between dynamic discrete dislocation and higher-order crystal plasticity in the indentation of a single crystal"* + **C.Y. Sun, N. Guo, M.W. Fu, X.R. Guo** *"Crystal plasticity modeling of slip, twinning induced plastic deformation based on dislocation density for TWIP steel"*	* **Andreas Stark, Marcus Rackel, Aristide Tchouaha Tankoua, Michael Oehring, Lars Lottermoser, Norbert Schell, Andreas Schreyer, and Florian Pyczak** *"Texture evolution in multiphase titanium aluminide alloys during hot-forming – an in situ synchrotron radiation study"*	* **N.A. Mara, B. Eftink, J. Wang, J. Carpenter, A. Misra, I.J. Beyerlein** *"Interface facilitated deformation in bimetallic nanolayered composites"*
* **Andrew J Gross, Krishnaswamy Ravi-Chandar** *"On the deformation and failure of al 6061-t6 at low triaxiality evaluated through in situ microscopy"*	**+Jian Liu & Akhtar S. Khan** *"Deformation and modeling in aluminum single crystal at low to high strain rates"* + **Xu Zhang and Fulin Shang** *"Second-order work and strain burst in single-crystalline micropillar plasticity "*	* **Dieter Siegele, Johannes Tlatlik** *"Assessment of fracture probability under thermal transient loading - local approach modeling and experimental validation"*	**+M. R. Daymond, L. Balogh, F. Long, Q. Wang, Z. Yao** *"Quantifying defects: comparison between TEM and diffraction line profile analysis"* + **Suveen N. Mathaudhu** *"Fighting entropy: strategies for retention of nanostructured material performance"*
+ **Lin Gu** *"Direct observation of local lattice distortion in electrode materials for lithium-ion batteries by aberration-corrected electron microscopy"*	+ **Magdalena M. Miszczyk, Henryk Paul, Julian H. Driver** *"Plastic flow instabilities formation in nominally stable {110}<001>-oriented copper single crystal"*	* **Alexander Staroselsky, Thomas J. Martin, Robert Barth, and Robert Hutchinson** *"The Influence of thermal transient rates on coated turbine parts life expectancy"*	+ **Jie Lian** *"Response of nanostructured ceramics upon intense radiations"*
			+ **Sven C. Vogel, Donald W. Brown, Bjorn Clausen, John D. Yeager, and Darby Jon Luscher** *"Temperature-dependent crystallographic properties and texture evolution of high explosive powder during compaction"*

Coffee/Tea

ThM-5 (11:00-13:15)	ThM-6 (11:00-13:00)	ThM-7 (11:00-13:00)	ThM-8 (11:00-13:15)
Multiscale modeling and characterization in structural materials II (Room: Mauna Loa)	***Plasticity of Granular and Geomaterials IV (Room: Mauna Kea)***	***Size Effects, Microstructure, Fracture & Yield Criteria & Creep Rupture (Room: Keauhou III)***	***Interface and Surface-Dominated Plasticity, Fracture, and Fatigue in Metals II (Room: Keauhou IV)***
**** Takahito Ohmura (++) & Motohiro Yuasa**	**** Richard Wan & Anthony R. Thornton**	**** William M.Scherzinger & Stefanos Papanikolaou**	**** Timothy J.Rupert(++) & Shen Dillon**
*** Douglas Stauffer, Eric Hintsala, William W. Gerberich, S.A.S Asif** *"Correlative nanomechanical measurements for complex engineered systems"*	*** Anthony R. Thornton** *"Multi-scale modelling of granular flows: from inclined planes to drums, via a volcano"*	*** Nasr Ghoniem*, Benjamin Ramirez, Giacomo Po, Can Erel, and Yinan Cui** *"Strain bursts and self-organized criticality in submicron plasticity"*	*** Guoqiang Xu, Michael J. Demkowicz** *"Brittle intergranular fracture frustrated by intermittent dislocation emission"*
*** Motohiro Yuasa, Naoki Miyazawa, Mamoru Mabuchi, and Yasumasa Chino** *"Stretch formability of Mg-Zn-X alloys (X=Ca, Sr and Ba): experimental and first-principles studies"*	*** WaiChing Sun, Kun Wang** *"A semi-implicit discrete-continuum coupling method for two-phase wetted granular solid based on the effective stress principle at finite strain"*	*** Stefanos Papanikolaou** *"Dislocation dynamics in nanopillars: strengthening and abrupt plastic event statistics "*	*** Shen Dillon, Miao Wang, Salman Arshad, and Robert Averback** *"Thermochemical biasing of solute-dislocation interactions at interfaces during severe plastic deformation"*
*** Takahito Ohmura, Ling Zhang, Takuya Suzuki, and Nobuaki Sekido** *"Advanced nano-mechanical characterization of bcc irons for better performance in structural materials"*	*** Mario Liu and Jiang Yimin** *"Granular solid hydrodynamics (GSH): from static stress and elastoplastic motion to fast dense flow"*	*** William M. Scherzinger** *"Implementation and analysis of a robust return mapping algorithm for anisotropic yield surfaces"*	**+ Leslie Lamberson, Logan Shannahan** *"Dynamic Electromechanical Response of PZT in the Morphotropic Phase Boundary"* **+ Corbett C. Battaile, Joseph E. Bishop, and Hojun Lim** *"Direct numerical simulations of grain-scale crystal plasticity in engineering components"*
+ Huaqing Ren, Jiachen Xu, and Jian Cao *"A novel method of measuring the tensile and compressive behaviour of thin metal sheet"*	*** Richard Wan, Mehdi Pouragha** *"Microstructural redundancy as a model for yielding in granular materials"*	***Zbigniew L. Kowalewski** *"Methods for creep rupture analysis – previous attempts and new challenges "*	**+D.C Bufford, W. M. Mook, and K. Hattar** *"Correlating grain orientation and grain boundary character to the failure path in nanocrystalline metals"*
+ Masahiro Kubo, Hiroshi Yoshida, Akihiro Uenishi, Yoshiaki Nakazawa, Takayuki Hama, Hirohiko Takuda *"In-situ observation of microstructure variations under biaxial tensile state of Steel sheets"*			**+ Janelle P. Wharry, Matthew J. Swenson, and Corey K. Dolph** *"Influence of irradiation particle and dose rate on strengthening mechanisms of model ods alloy"*
+ Zixuan Zhang, Huan Zhang, Huaqing Rena, Newell Mosera, Taekyung Leea, Qiang Zenga, Kornel Ehmanna, and Jian Caoa *"Springback reduction in incremental forming"*	**+ Steph J Bredenhann, Cor Kasbergen, Tom (A) Scarpas, and Kim J Jenkins** *"Modelling the behaviour of bitumen stabilised material (bsm) under repeated loading"*	**+ Johannes Knust, Malte Stonis, and Bernd-Arno Behrens** *" Feature based prediction of form filling for preform optimization of hot forging processes"*	**+Timothy J. Rupert** *"Nanocrystalline grain boundary engineering with cyclic plastic deformation"*

ThA-1 ***(14:15-17:30)***	**ThA-2** ***(14:15-17:45)***	**ThA-3*****(14:15-17:15)***	**ThA-4** ***(14:15-17:30)***
Damage & Ductile Fracture, and Crack Propagation (Room: Mauna Loa)	***The role of grain boundaries and interfaces in plast. and deform. Microstructure formation (Room: Mauna Kea)***	***Polymers, Solid Solutions (Room: Keauhou III)***	***Small Scale Plasticity and Microstructural Evolution (Room: Keauhou IV)***
**** Dirk Mohr & Florence Andrieux**	**** Sean R. Agnew (++) & Raja Mishra**	**** Leif Kari & Shaoxing Qu**	**** Jeffrey W.Kysar (++) & Christian F. Niordson (++)**
*** Florence Andrieux and Dong-Zhi Sun** *"Modeling of anisotropic deformation and failure behavior of aluminum alloys for crash simulation"*	*** Raja K. Mishra, Edward Cyr, Mohsen Mohammadi, Kaan Inal** *"Numerical modeling of formability of aluminum alloys at elevated temperatures using a thermo-elasto-viscoplastic crystal plasticity framework"*	*** Ryohei Seto, Romain Mari, Jeffrey F. Morris, Morton Denn, and Eliot Fried** *"Connections between the shear thickening and jamming of colloidal suspensions"*	*** William Gerberich, Eric Hintsala, Roberto Ballarini** *"Mechanical properties: verifiable dislocation approaches to computational atomistics"*
*** M. Coret, J. Réthoré, P. Chaudet** *"DIC and I-DIC for ductile tearing monitoring using ultra high resolution cameras and non local damage model identification"*	*** S. Saimoto, P. Van Houtte, K. Inal and M.R. Langille** *"Derivation of constitutive relations for biaxial stress states to replicate the yield locus encompassing texture and work-hardening"*	*** Shaoxing Qu** *"Tough and ductile* cyro-hydrogels*"*	*** Khanh C. Le, M. Baitsch, Tran, T.M.** *"Dislocation structure during micro-indentation"*
*** Bin Liu, Si Xiao, He-Ling Wang, Keh-Chih Hwang** *"The surface-forming energy release rate based fracture criterion for elastic-plastic crack propagation"*	*** Sean R. Agnew and Fulin Wang** *"Dislocation-twin interactions in magnesium alloy AZ31"*	*** Theo Tervoort, Coen Clarijs and Walter Caseri** *"Molecular deformation of model rubber networks"*	*** Christian F. Niordson** *"On micron scale void growth"*
*** Dirk Mohr and Stephane J.M. Marcadet** *"Critical hardening rate model to predict ductile fracture after complex loading histories"*	*** Esteban P. Busso** *"On the incorporation of environmental effects in multi-scale modelling approaches"*	*** Qianxi Yang, and Guoqiang Li** *"Temperature and rate dependent thermomechanical modeling of shape memory polymers with physics based phase evolution law "*	*** Jeffrey W. Kysar** *"On the full experimental recovery of geometrically necessary dislocation densities"*
*** J.Q. Ran, Ming W. Fu** *"Analysis and prediction of ductile fracture in micro-scaled plastic deformation by using uncoupled ductile fracture criteria"*	**+ Christopher D. Barrett, Haitham El Kadiri, Mohammed Cherkaoui** *"Measurement of disconnection mobility via generalized interfacial fault energies"*	**+ Daniel Juhre, Rathan Raghunath and Manfred Klüppel** *"A physically motivated model for filled elastomers including strain rate and amplitude dependency in finite viscoelasticity"*	*** Carl V. Thompson, Hang Z. Yu** *"The origin and effects of inelastic deformation during growth of polycrystalline thin films"*
	+K. Máthis, J. Čapek, B. Clausen, T. Krajňák, D. Nagarajan *"In-situ study of the influence of the aluminum content on twinning and dislocation slip in mg-al alloys"*	**+ Leif Kari and Rickard Österlöf** *" Viscoplasticity of filled elastomers by a modified boundary surface model and fractional derivatives"*	
+ Christian C. Roth, Borja Erice1, Keunhwan Pack ,and Dirk Mohr *"Effect of strain rate, temperature and stress state on ductile fracture initiation: experiments and localization analysis"*	**+ J-S. Lecomte, Z-Z. Shi, T. Richeton, S. Berbenni, P-A. Juan, L. Capolungo, Y. Zhang, F. Wagner** *"Micromechanical analysis of secondary extension twinning in a magnesium alloy"*	**+ Artur Rozanski, Artur Krajenta** *"Role of the amorphous phase during plastic deformation of high density polyethylene"*	**+ Hussein M. Zbib** *"A mesoscale model of plasticity: dislocation patterns, size and stochastic effects"*
+ Martin Kroon and Jonas Faleskog *" A J2-J3–dependent constitutive model for porous plasticity"*	**+K. Inal, E. Popova, A. Brahme, S.R. Agnew, R.K. Mishra** *"Numerical modeling of magnesium alloys at elevated temperatures accompanied by dynamic recrystallization "*	**+ Francisco Pires, Mohsen Mirkhalaf, Ricardo Simoes** "Continuum modelling of heterogeneous polymers"	**+ Antonios Kontsos , Konstantinos P. Baxevanakis, Michael Cabal** *"Computational modeling of microstructure-dependent strain localization in magnesium alloys"*
+ Keunhwan Pack ,and Dirk Mohr *"Domain of shell-solid equivalence to predict ductile fracture with shell elements"*	**+ Konstantin D. Molodov, Talal Al-Samman, Dmitri A. Molodov** *"On the role of extension twinning in the plasticity of magnesium*"		**+ Daniel S. Balint, B. Gurrutxaga–Lerma, D.S. Dini, A.P. Sutton** *"The mechanisms governing plastic response in aluminum at different strain rates"*
	+ Julie Lévesque, Raja Mishra and Kaan Inal *"Numerical modelling of yield potentials in magnesium alloys"*		

* 30 minutes key-note lecture, + 15 minutes invited presentation ** Chairs

++ Symposium Organizer

Friday, January 8, 2016

Registration 8:00 AM-5:00 PM …..……..…….…….(Room: Hualalai)

FM-1 (8:30-10:15)	FM-2 (8:30-10:30)	FM-3 (8:30-10:15)	FM-4 (8:30-10:00)
Microstructural Plasticity to Damage Processes under Dynamic Loading Conditions II (Room: Mauna Loa)	***Multi-faceted Research in Materials and Mechanics III (in honor Hüseyin Sehitoglu) (Room: Mauna Kea)***	***Multiscale Plasticity of Ultrafine-Grained Metals (Room: Keauhou III)***	***Macroscopic and Multiscale Approach of Cyclic Plasticity III (in honor of Georges Cailletaud and Jean-Louis Chaboche) (Room: Keauhou IV)***
**** C. A. Bronkhorst (++) & Franz Roters**	**** G. Z. Kang & Thomas Niendorf**	**** Osman El-Atwani & Yueguang Wei**	**** Esteban Busso (++) & Chaboche**
* **F. Roters, L. Sharma, S. Zhang, P. Shanthraj** *"Including damage modelling into crystal plasticity simulation"*	* **Philipp Krooß, Christoph Somsen, Peter M. Kadletz, Thomas Niendorf** *"The role of plasticity on functional degradation in high-temperature shape memory alloys"*	* **Yueguang Wei** *"Mechanical behavior of nanocrystalline materials accompanied by Damage and crack initiations and propagations along grain boundaries"*	* **Tasnim Hassan, Paul R. Barrett, and Raashedudddin Ahmed** *"Unified viscoplasticity model for high temperature fatigue-creep and creep responses"*
* **Somnath Ghosh, Jiahao Cheng and Raj K. Mishra** *"Physics-based crystal plasticity Fe models for predicting deformation and twinning in polycrystalline magnesium alloys"*	* **Nicholas R. Gates, Ali Fatemi and Darrell F. Socie** *"Transient constitutive behavior in materials subjected to multiaxial variable amplitude cyclic loadings: experimental results and predictions"*	+ **Hiroyuki Hagiwara, Kodai Uemori, Yoshihisa Kaneko and Makoto Uchida** *"Fabrication and hardness of electrodeposited cu-based alloy coatings having high composition gradient"*	*** Georges Cailletaud** *"Kinematic hardening revisited"*
		+ **Yanbin Wang, Julien Gasc, Norimasa Nishiyama,Tony Yu, Feng Shi, Totu Shinmei, and Tetsuo Irifune** *"High-pressure, high-temperature plastic deformation of polycrystalline diamonds using synchrotron radiation"*	
* **Douglas J. Bammann** *"Towards a consistent internal state variable theory of inelasticity"*	* **Yu C., Kang G. Z., Kan Q. H. and Zhu Y. L.** *"Rate-dependent cyclic deformation of super-elastic niti shape memory alloy: thermo-mechanical coupled and physical mechanism-based constitutive model"*	+ **Osman El-Atwani, J. Nathaniel, A. Leff, Khalid Hattar, and Mitra Taheri** *"ultrafine and nanocrystalline metals under extrme heat loading and irradiation conditions"*	+ **Jonathan Cormier, Florent Mauget, Jean-Briac le Graverend, Clara Moriconi, and José Mendez** *"Issues related to the constitutive modeling of the viscoplastic behavior of Ni-based sx superalloys under complex thermo-mechanical histories"*
		+ **Yonghao Zhao** *"Plasticity of nanostructrured materials under complex stresses"*	+ **Hai Yan,Yu** *"A mixed hardening model coupled with the transformation-induced plasticity effect"*
+**Khalil I. Elkhodary and Mohamed A. Bakr** *"Plastic bend-twist modes in dynamically deformed single crystals with embedded secondary phases"*	+ **Aaron P. Stebner, Ashley Bucsek, Garrison Hommer, Jinesh Dahal, Harshad Paranjape** *"Studying the micromechanics of martensitic phase transformations using high energy diffraction microscopy"*	+**Vinicius Aguiar de Souza, Osamu Kuwazuru, Masakazu Kobayashi and Hideyuki Toda** *"Experimental and numerical investigation on the chronology of fatigue damage in cast aluminum alloy using microtomography ct,image processing and image-based finite element analysis"*	
	+ **Feifei Fan* and Ting Zhu** *"Brittle-to-ductile transition of fracture in amorphous Li-Si alloys"*	**+Jian Liu & Akhtar S. Khan** *"Fabrication of, deformation in and modeling of nano-crystalline titanium at low to high strain rates and temperatures".*	

Coffee/Tea

FM-5 (11:00-13:15)	FM-6 (11:00-13:15)	FM-7 (11:00-13:00)	FM-8 (11:00-13:15)
Metal Forming & Computational Plasticity (Room: Mauna Loa)	***Dislocations and Grain Refinement (Room: Mauna Kea)***	***Phase Transformation II (Room: Keauhou III)***	***Develop. & App. of Consti. Desc. for Plast. at Various Scales III (in Memory of José Grácio) (Room: Keauhou IV)***
**** Johannes Richter & Kerstin Weinberg**	**** Lennart Wießner & Yang Xiang**	**** Liming Xiong (++) & Timothy C. Germann**	**** Michael Miles & David Fullwood**
* **Tim Ricken, Lukas Moj and Ingo Steinbach** *"A multi-scale/-komponent approach for thermal driven phase transition during solidification"*	* **Sanda Cleja-Tigoiu and Raisa Pascan** *"Finite elasto-plastic model with disclinations and dislocations versus de wit's model"*	*** Timothy C. Germann, Eric N. Hahn, Ramon J. Ravelo, Saryu J. Fensin, Eduardo Bringa, and Marc A. Meyers** *"Large-scale molecular dynamics studies of shocked tantalum: orientation and grain boundary influences on slip, twinning, and melt/resolidification"*	* **David Fullwood, Isaac Chelladurai, Andrew Orme, Brent Waters, Rene Kekoolani, Michael Miles** *"Machine-learning study of mesoscale factors influencing AZ31 twin formation, and related statistical models"*
* **Kerstin Weinberg** *"Simulation of material degradation and fracture by higher-order phase-field models"*	* **Yang Xiang and Shuyang Dai, David J. Srolovitz** *"Atomistic, generalized Peierls–Nabarro and analytical models for (111) twist boundaries in Al, Cu and Ni for all twist angles"*	* **Ellen Cerreta, Frank Addessio, Cindy Bolme, Curt Bronkhorst, Donald Brown, Turab Lookman, Benjamin Morrow, Paulo Rigg, and Carl Trujillo** *"The influence of texture on the dynamic phase transofrmation in ZR and TI"*	**+Philip Eyckens, Paul Van Houtte, Hans Mulder, Jerzy Gawad, Henk Vegter, Dirk Roose, Ton van den Boogaard, Albert Van Bael** *"Multi-scale crystal plasticity modelling of differential hardening in steels"* **+ Sean. R. Agnew, Jishnu. J. Bhattacharyya, Wilburn. R. Whittington, and Haitham. El Kadiri** *"Measuring and modeling the anisotropic, high strain rate deformation of al alloy, 7085, plate in various tempers"*
*** Yunping Xi, and Yao Wang** *"Composite damage mechanics and its application to distressed concrete due to freeze/thaw"*	*** Stefan Sandfeld** *"From dislocation kinematics to dislocation patterning and work hardening"*	+**Liming Xiong, Ji Rigelesaiyin , Hao Chen, Xiang Chen, Shuozhi Xu, Valery Levitas, David L. McDowelland Youping Chen** *"Concurrent atomistic-continuum simultion of interactions between dislocations and phase transformations"* + **Daniel Schneider, Andreas Reiter, Michael Selzer and Britta Nestler** *"Elasto-plastic phase-field model accounting for mechanical jump conditions during solid-state phase transformations"*	**+ Pengyang Zhao, Thaddeus Song en Low, Yunzhi Wang , Stephen R. Niezgoda** *"Fully coupled phase-field and elasto-viscoplastic fast fourier transform models for advanced mesoscale thermal-mechanical processing simulation"* **+ Jinjin Ha, Jinwoo Lee, Ji Hoon Kim, Myoung-gyu Lee, Frédéric Barlat** *"Micromechanical analysis for transient r-value behavior of ferrite-martensite dual-phase steel"*
+ Thomas Rousseau, Cecile Nouguier, and Thierry Hoc *"Finite element crystal plasticity law based on dislocation dynamics simulation: application to ultrasonic shot peening"*	+**Lennart Wießner, Thorsten Gröb, Peter Groche, Clemens Müller** *"Superposition of grain refinement and induced anisotropy for magnetic hardening"*	+**Valery Borovikov, Mikhail I. Mendelev, and Alexander H. King** *"Effects of stacking fault energy on dislocation nucleation and plastic deformation mechanisms in fcc metals"*	**+Jeong-Yeon Lee, Myoung-Gyu Lee and Frédéric Barlat** *"Quasi-static dent analyses for automotive steel sheets using advanced constitutive models"*
+ Johannes Richter, Malte Stonis, and Bernd-Arno Behrens *"Numerical and experimental investigations of thin flash generation in aluminum forging"*	+ **Qinxiang Xia, Gangfeng Xiao, Xiuquan Cheng** *"Research on deformation mechanism of cylindrical parts with nano/ultrafine grained structure based on power spinning"*	+ **Jie Wang, and Guiping Li** *"Hase field simulation of magnetization vortex in ferromagnetic nanomaterials"*	+ **Michael Miles, Yong-Chae Lim, and Zhili Feng** *"Mechanical properties and modeling of friction bit joined AA7075 and DP 980"*
Mohamed Hindy, Mohamed Hamza, Tarek M. Hatem, Dierk Raabe, Jaafar A. El-Awady *"Atomistic simulations of hydrogen and carbon diffusion and segregation in α-iron $\Sigma 3\ (111)$ grainboundaries"*	**+ Wlodzimierz Bochniak, Krzysztof Piela, Andrzej Korbel Janusz Przewoznik** *"Physical properties of aluminum processed by The kobo method"*		+ **Antti Kaijalainen, Mia Liimatainen, Vili Kesti, et. al.** *"Influence of composition and hot rolling on the subsurface microstructure and bendability of ultrahigh-strength strip"*

FA-1 *(14:15-17:00)*	**FA-2** *(14:15-16:30)*	**FA-3***(14:15-17:15)*	**FA-4** *(14:15-16:45)*
From Creep Damage Mechanics to Homogenization Methods III (In honor of Nobutada Ohno) (Room: Mauna Loa)	***High Temperature Creep Deformation in Superalloys (Room: Mauna Kea)***	***Exploring New Horizons for Metal Forming Research III (in honor of Dong-Yol Yang) (Room: Keauhou III)***	***Finite Inelasticity, Viscoplasticity & Structural Applications (Room: Keauhou IV)***
**** Dai Okumura (++) & Yuichi Tadano**	**** Ankit Srivastava & le Jean-Briac le Graverend (++)**	**** Shi-Hoon Choi & A.D. Rollett**	**** Simon Wohletz & Fritz Appel**
+ **Atsushi Hosoi, Taichi Watanabe, Akira Kobiki, Masahiro Kotani, Hiroyuki Kawada** *"Evaluation of transverse crack initiation in CFRTS and CFRTP laminates under fatigue loading"*	* **Jean-Briac le Graverend, Jonathan Cormier, ……., Serge Kruch, José Mendez** *"High temperature creep deformations in Ni-based single-crystal superalloys"*	* **A.D. Rollett, M.-S. Pham, B. Gockel, E. Lieberman, S. Mandal, S. Kashyap** *"Development of physically-based constitutive models for metal forming"*	* **Fritz Appel and Roland Hoppe** *"On the origin of internal stresses in multiphase titanium aluminide alloys"*
+**Yuichi Tadano** *"Effect of rolling texture on plastic flow localization of hexagonal metal"*			
+ **Hiro Tanaka, Tofu Nakanishi, Yoji Shibutani** *"Switching of conventional and auxetic deformations of cellular structure due to boundary conditions"*	* **Enrique Galida-Nava, Leigh Connor and Cathie Rae** *"Yield stress in multi-modal nickel-base superalloys"*	* **Fuh-Kuo Chen, Tzu-Hao Hung, Cheng-Kuo Liu, Ping-Kun Lee** *"Characterizations of formability and die cooling system in the hot stamping process"*	* **Neville R. Moody, Eric Hintsala, Claire Teresi, E. David Reedy, Jr., David P. Adams, Nancy Y. Yang Daniel R. Kammler, William W. Gerberich** *"Deformation and fracture in scandium deuteride films"*
Hisashi TANIE, Takashi SUMIGAWA, and Takayuki KITAMURA *"A highly reliable semiconductor structure using a nano-spring layer"*			
+ + **Makoto Uchida and Yoshihisa Kaneko** *"Scale-dependent multiscale modeling of deformation behavior of polymer foam using rate-form second order homogenization method"*	+ **Florent Coudon, Georges Cailletaud, Jonathan Cormier, and Lionel Marcin** *"A multi-scale strategy for the numerical modeling of directionally solidified Ni-base superalloys at high temperature"*	* **Shi-Hoon Choi, Min-Seong Kim, Ji-Hyun Hwang, Mok-Young Lee** *"Microtexture development and texture softening in the weld region of friction stir welded AZ31 Mg alloy"*	* **Simon Wohletz, Peter Groche** *"Cold pressure welding – bonding mechanisms and the effect of surface treatment on the bond formation"*
+**Takamasa Yoshikawa, Tadashi Inaba, Masashi Hiroshima, Atsushi Odake** *"Experimental study of anisotropic yield mechanism of extruded AZ31 magnesium alloy Under various temperature conditions"*	+ **L. Mataveli Suave, J. Cormier, P. Villechaise, D. Bertheau , Guillaume Benoit, Georges Cailletaud** *"High temperature damage mechanisms in DS200+HF alloy"*		
+**Tomoyuki Fujii, Keiichiro Tohgo, Takahiro Omi, and Yoshinobu Shimamura** *"A micromechanics model of particle-reinforced composites with interfacial phases"*	+ **Damien Texier, Eric Andrieu, Daniel Monceau, Serge Selezneff, Arnaud Longuet** *"Brittle to ductile behavior transition of β-nialpt coated ni-based single crystal superalloy at high temperature"*	+ **N. Manopulo, J. List, M. Gorji, P. Hora** *"A non-associated flow rule based YLD2000-2d model"*	+**Stefano Coratella, Daniel Glaser, Kristina Langer, ClaudiaPolese** *"Preliminary study of distribution of plasticity in AA2024-T351 thick samples with non-uniform geometries after laser shock peening treatment"*
+ **Dai Okumura, Taiji Isomura, Nobutada Ohno** *"Effect of swelling-induced buckling and creasing on pattern transformation of polymeric membranes with a square lattice of holes"*	+ **Bing Liu, Tom Arsenlis, Dierk Raabe, Franz Roters** *"Interfacial dislocation motion in single-crystal superalloys: dislocation interactions, vacancy supersaturation, and directional coarsening"*	+**Puikei Cheng, Miguel Bessa, Xiaoming Bai, Nam Vu-Bac, and Wing Kam Liu** *"A multiscale framework for modeling Carbon fiber polymer matrix composites Incorporating a modified paraboloid yield surface"*	+ **Nick Bierwisch, Norbert Schwarzer, Peggy Heuer-Schwarzer** *"Plasticity in Industrial Surface and Coating Optimization - Examples from Automotive and Avionic Applications"*
+ **Tetsuya Matsuda, Keita Goto, Nobutada Ohno, Yusuke Kawasaki, Shintaro Miyashita** *"Negative through-the-thickness poisson's ratio of elastic-viscoplastic CFRP laminates"*	+ **Ankit Srivastava and Alan Needleman** *"Damage and size dependence in the creep life of single crystal superalloys"*	+ **Jacob Smith, Wing Kam Liu, and Jian Cao** *"A general anisotropic yield criterion for combined pressure and shear dependent materials"*	+ **Laura Ahmels, Enrico Bruder** *"A new approach to the mapping of plastic flow"*
* **Nobutada Ohno, Hirotaka Sugiyama** *"Thermomechanical cyclic plastic behavior of 304ss at large temperatue ranges"*	+ **Ionut Prisacari, Rodrigue Desmorat, Pierre Gaborit, Martin Poncelet,Arnaud Longuet, Alexandre Seror** *"Experimental analysis and modeling of the behavior of INCO718DA"*	+ **Olga I. Bylya , Paul L. Blackwell , Rudolf A. Vasin** *"Approaches for modelling the behaviour of rheologically complex materials which demonstrate flow softening"*	+ **Omar S. Es-Said** *"The effects of hydrogen charging on charpy impact of 4340 Steel"*
		* **Dong-Yol Yang** *"Innovation of flexible processing of metals as ac ompetitive manufacturing technology"*	

* 30 mins. key-note lect., + 15 mins. invited present. ** Chairs ++Symposium Organizer

18:00 ……BANQUET DINNER (Ballroom) includes Hawaian dances for entertainment.

Saturday, January 9, 2016

Registration 8:00 AM-11:30 AM …..…….…..……(Room: Hualalai)

SM-1 (8:30-11:00)	SM-2 (8:30-11:00)	SM-3 (8:30-10:30)	SM-4 (8:30-10:45)
Creep, Deformation, Texture, Nano and Nuclear Materials IV (in honor of K.L. Murty) (Room: Mauna Loa)	***Metal Forming, Damage & Fracture (Room: Mauna Kea)***	***Multi-faceted Research in Materials and Mechanics III (in honor Hüseyin Sehitoglu) (Room: Keauhou III)***	***Develop. & App. of Consti. Desc. for Plast. At Various Scales IV (in Memory of José Grácio) (Room: Keauhou IV)***
**** James C. Earthman & Shenyang Hu**	**** Hadi Pirgazi & Rajiv Shivpuri**	**** Guocai Chai & Zhirui Wang**	**** G. Vincze (++) & Yannis P. Korkolis**
***Shenyang Hu, Yulan Li, ….. and David J Senor** *"Application of mesoscale phase-field approach in modeling microstructure evolution under elastic-plastic deformation"*	*** Rajiv Shivpuri, Krishna C. Bellidega, Amanda Grow and R. Scott Hyde** *"Mechanics and fracture of inclusions in hot viscoplastic flow: application to deformation processing"*	*** Zhirui Wang** *"Experimental study of the cyclic plasticity and fatigue crack initiation of polycrystalline cu under pure compressive cyclic loading conditions"*	**+ Seong Jin Park; Yujin Seong; et. al.** *"A yield criterion for single crystal copper subjected to high strain rates for a multiscale simulation"*
			+ Panos Efthymiadis, Christophe Pinna, John R. Yates *"Crystal plasticity finite element modelling of fatigue crack nucleation in AA2024"*
+Lin Shao *"Development of radiation tolerant metallic glasses"*	**+ František Šebek, Petr Kubík, Jindřich Petruška** *"Ductile fracture test in negative stress triaxiality"*	**+ B. Li** *"Twinning with zero twinning shear"*	**+ Yannis P. Korkolis, Peter Ripley and Paul Knysh** *"Constitutive modeling and failure predictions of SS-304L microtubes"*
+Celine Hin, Thomas Danielson, and Eric Tea *"Ab initio investigation of he bubbles at the $Y_2Ti_2O_7$-Fe interface in nanostructured ferritic alloys"*	**+Hadi Pirgazi, Tuan Nguyen Minh, and Leo A.I. Kestens** *"Rotation and fragmentation of orientations in cold deformed aluminum"*	**+Fábio C. Castro, Edgar N. Mamiya, José A. Araújo** *"A multiaxial fatigue model based on combined deviatoric strain amplitudes"*	**+Jiawei Fu, Frédéric Barlat, Jin-Hwan Kim* Fabrice Pierron** *"Applying the virtual fields method to the identification of homogeneous anisotropic hardening constitutive parameters"*
+Chang-Sung Seok, Keontae Park, et. al. *"Effect of plastic zone size on elasto-plastic fracture toughness in fracture resistance test specimen"*	**+ Atsushi Matsumoto, Shunsuke Sasaki, Tatsuro Katsumura, Hiroki Ota** *"Mathematical model of deformation resistance in hot rolling process on alloy steel"*	**+ Guocai Chai and Mikael Grahk** *"Deformation and damage behaviors at twin and grain boundary in alloy 690 material during very high cycle fatigue"*	**+ Robert M. Allen , Laszlo S. Toth, Mohammed Cherkaoui, et. al** *"Slip-Twin Interactions at Interfaces in Crystal Plasticity"*
+James C. Earthman *"Compatibility of high temperature materials with radioactive non-aqueous coolants"*	**+ Yuji Hashimoto , Takatoshi Okabe , et. al.** *"Effect of hydroforming on formability and residual stress of hollow members with v-shaped cross section"*	**+ Yiliang (Leon) Liao** *"Thermal engineered laser shock peening driven nanostructures and their effects on enhanced fatigue performance"*	**+Marilena C. Butuc, Gabriela Vincze and Frederic Barlat** *"Formability of twinning–induced plasticity steels: experimental and theoretical study on the use of a dislocation density based constitutive model"*
+Ankan Guria and Indrajit Charit *"Dynamic strain aging in accident-tolerant ferritic steels"*	**+Antti Kaijalainen, Vili Kesti, et. al.** *"Microstructural investigation of strain localization, void formation and fracture mechanisms in ultrahigh-strength steel bending"*	*** Huseyin Sehitoglu, Piyas Chowdhury, Avinesh Ojha** *"Multifaceted Research in Plasticity"*	**+ Rich Davies, Aashish Rohatgi, Piyush Upadhyay Elizabeth Stephens, David Catalini** *"Formability of aluminum alloy sheet at strain rates from quasistatic to 10^4/sec"*
+ An-Chou Yeh, Yao-Jen Chang , Te-Kang Tsao , et al. *"High temperature deformation behaviours of precipitation strengthened high entropy alloys"*	**+ Lluís Pérez Caro, S. Marth, et. al.** *"Calibration of a damage and fracture model for alloy 718"*		**+ Jian Chen, Gaoqiang Chen, Xinghua Yu, Zhili Feng and Paul Crooker** *"Improved prediction of residual stresses in dissimilar welds by newly developed dynamic strain hardening constitutive relation"*
***B. Kombaiah and K.L. Murty** *"Dislocation climb, precipitation hardening and newtonian viscous deformation mechanisms of high temperature creep in an nb-modified zircaloy"*	**+Jun Song, Xiao Zhou, Daniel Marchand** *"Micromechanical origin of hydrogen trapping at grain boundaries in FCC transition metals"*		**+ Saadi A. Habib, Akhtar S. Khan, Thomas Gnäupel-Herold** *"Mechanical response and texture evolution of rare earth magnesium alloy sheet, ZEK100, at different strain rates and temperatures"*
	+Lu Feng Electro-chemo-mechanisms in electrodes: Theory and Experiments		

Coffee/Tea

* 30 minutes key-note lecture, + 15 minutes invited presentation ** Chairs ++ Symposium Organizer