

# BSN Paper Sessions

ALL SPEAKERS WILL HAVE 10 MINUTES TO PRESENT THEIR PAPERS AND THEN PARTICIPATE IN A HALF HOUR PANEL DISCUSSION

Paper #	Session	Title	Authors
		<b>Session 1: Sensing for Rehabilitation</b>	
32	1	Sleeve Based Knee Angle Calculation for Rehabilitation	Maurer, Mathias W; Zrenner, Markus; Reynolds, David; Dümmler, Burkhard; Eskofier, Bjoern M
105	1	VRInsole: An Unobtrusive and Immersive Mobility Training System for Stroke Rehabilitation	Oagaz, Hawkar; Sable, Anurag; Choi, Min-Hyung; Xu, Wenyao; Lin, Feng
68	1	KneeHapp Textile: A Smart Textile System for Rehabilitation of Knee Injuries	Haladjian, Juan; Bredies, Katharina; Brügge, Bernd
62	1	BiGRA: A Preliminary Bilateral Hand Grip Coordination Rehabilitation Using Home-Based Evaluation System for Stroke Patients	Vu, Tri; Tran, Hoan; Song, Chen; Lin, Feng; Langan, Jeanne; Cavuoto, Lora; Xu, Wenyao
87	1	Upper extremity functional range of motion analysis in long-term stroke recovery using wearable motion sensors and posture cubics	Derungs, Adrian; Amft, Oliver; Schuster-Amft, Corina
7	1	Automatic Classification of Knee Rehabilitation Exercises Using a Single Inertial Sensor: a Case Study	Bevilacqua, Antonio; Huang, Bingquan; Argent, Rob; Caulfield, Brian; Kechadi, Tahar
		<b>Session 2: Gait, Motion and Activity Monitoring</b>	
107	2	Packet Loss Concealment in Wireless Networks with LSTM Sequence Predictors for Inertial Pose Tracking	Xiao, Xuesu; Zarar, Shuayb
86	2	A Novel Technique for Analysis of Postural Information with Wearable Devices	Jeyhani, Vala; Mahdiani, Shadi; Viik, Jari; Oksala, Niku; Vehkaoja, Antti
3	2	The co-contraction features the lumbar muscle in patients with and without low back pain during multi-movements	Du, Wenjing; Huihui, Li; Lei, Wang; wenmin, chen
26	2	Wearable Sensors Capture Differences in Muscle Activity and Gait Patterns During Daily Activity in Patients Recovering from ACL Reconstruction	McGinnis, Ryan S.; Redrado, Javier; Choquette, Rebecca; Beynnon, Bruce; Slauterbeck, James; Tourville, Timothy; Toth, Michael
31	2	Markerless Gait Analysis Based on a Single RGB Camera	Gu, Xiao; Deligianni, Fani; Lo, Benny; Chen, Wei; Yang, Guang-Zhong
65	2	GeriActive: Wearable App for Monitoring and Encouraging Physical Activity among Older Adults	Boateng, George; Batsis, John A.; Proctor, Patrick; Halter, Ryan; Kotz, David

<b>Session 3: Physiological Monitoring Using BSN</b>			
72	3	An Ergonomic Wearable Core Body Temperature Sensor	Atallah, Louis; Ciuhu, Calina; Bongers, Edwin; Paulussen, Igor; Noordergraaf, Gerrit Jan; Blom, Toon; Wang, Chao
70	3	Motion Artifact Mitigation for Wearable Pulse Oximetry	Williamson, James; Patel, Tejash; Singh, Ninoshka; Siegel, Andrew; Telfer, Brian; Trebicka, Ray; Welsh, Brendon; Hoyt, Reed
99	3	Toward Closed-Loop Transcutaneous Vagus Nerve Stimulation using Peripheral Cardiovascular Physiological Biomarkers: A Proof-of-Concept Study	Gurel, Nil Zeynep; Shandhi, Md. Mobashir Hasan; Bremner, Douglas; Vaccarino, Viola; Ladd, Stacy; Shallenberger, Lucy; Shah, Amit; Inan, Omer
80	3	Non-Invasive Bladder Volume Sensing for Neurogenic Bladder Dysfunction Management	Fong, Daniel; Gupta, Prashant; Velazquez Alcantar, Alejandro; Kurzrock, Eric; Ghiasi, Soheil
91	3	Tomographic Probe for Perfusion Analysis in Deep Layer Tissue	Berthelot, Melissa; Lo, Benny; Yang, Guang-Zhong
5	3	Exploring Electrodermal Activity in Water-Immersed Subjects	Posada-Quintero, Hugo Fernando; Chon, Ki
<b>Session 4: Wellness and Sports Applications</b>			
97	4	Impact of Different Pre-Sleep Phone Use Patterns on Sleep Quality	Vhaduri, Sudip; Poellabauer, Christian
48	4	Promoting Relaxation Using Virtual Reality, Olfactory Interfaces and Wearable EEG	Amores Fernandez, Judith; Richer, Robert; Zhao, Nan; Eskofier, Bjoern M; Maes, Pattie
94	4	Unobtrusive and Wearable Landing Momentum Estimation in Ski Jumping with Inertial-Magnetic Sensors	Groh, Benjamin H.; Fritz, Julian; Deininger, Martin; Schwameder, Hermann; Eskofier, Bjoern M
38	4	Kinematic parameter evaluation for the purpose of a wearable running shoe recommendation	Zrenner, Markus; Ullrich, Martin; Zobel, Pascal; Jensen, Ulf; Laser, Felix; Groh, Benjamin H.; Dümler, Burkhard; Eskofier, Bjoern M
74	4	Food Volume Estimation for Quantifying Dietary Intake with a Wearable Camera	Gao, Anqi; Lo, Po Wen; Lo, Benny
79	4	A Personalized Sensor Support Tool for the Training of Mindful Walking	Pryss, Rüdiger; Reichert, Manfred; John, Dennis; Frank, Julian; Schlee, Winfried; Probst, Thomas
<b>Session 5: Machine Learning and Signal Processing for BSN</b>			
81	5	Toward Continuous Visual Field Assessment Using Head-Mounted Sensing Devices	MA, YUCHAO; Aminikhanghahi, Samaneh; Wilhelm, Shane; Thorsen, Wesley; Coleman, Evan; Ghasemzadeh, Hassan
11	5	A novel method of identifying motor primitives using wavelet decomposition	Popov, Anton; Olesh, Erienne V.; yakovenko, Sergiy; Gritsenko, Valeriya
96	5	A Robust User Interface for IoT using Context-aware Bayesian Fusion	Wu, Jian; Grimsley, Reese; Jafari, Roozbeh
66	5	An Artificial Neural Network Framework for Lower Limb Motion Signal Estimation with Foot-Mounted Inertial Sensors	Sun, Yingnan; Yang, Guang-Zhong; Lo, Benny

95	5	A Machine Learning Approach for Gesture Recognition with a Lensless Smart Sensor System	Normani, Niccolo'; Urru, Andrea; Abraham, Lizy; Walsh, Michael; Tedesco, Salvatore; Cenedese, Angelo; Susto, Gian Antonio; O'Flynn, Brendan
22	5	Topic Models for Automated Motor Analysis in Schizophrenia Patients	Tron, Talia; Resheff, Yehezkel; Bazhmin, Mikhail; Grinshpoon, Alexander; Peled, Abraham; Weinshall, Daphna
		<b>Session 6: Cardiovascular Monitoring Using BSN</b>	
52	6	Estimation of HRV and SpO2 from Wrist-Worn Commercial Sensors for Clinical Settings	Jarchi, Delaram; Salvi, Dario; Velardo, Carmelo; Mahdi, Adam; Tarassenko, Lionel; Clifton, David
83	6	Pulse Arrival Time based Indices as Surrogates of Ankle Brachial Index for the Assessment of Peripheral Arterial Disease	Zheng, Yali; Yan, Bryan P.; Lau, James Y. W.; Poon, Carmen C. Y.
25	6	Visualization of Heart Activity in Virtual Reality: a Biofeedback Application using Wearable Sensors	Gradl, Stefan; Wirth, Markus; Zillig, Tobias; Eskofier, Bjoern M
54	6	Mitigation of Body Movement Interference in Near-Field Coherent Sensing for Heart-rate Monitoring	Hui, Xiaonan; Kan, Edwin
112	6	Measuring Fine-grained Heart-Rate using a Flexible Wearable Sensor in the Presence of Noise	Zhang, Lida; King, Zachary; Alshurafa, Nabil
57	6	Visualisation of Long-term ECG Signals Applied to Post-Intensive Care Patients	Jarchi, Delaram; Mahdi, Adam; Tarassenko, Lionel; Clifton, David
		<b>Session 7: Innovations in Sensing</b>	
90	7	Inkjet Printed Thin Film Electronic Traces on Paper for Low-Cost Body-Worn Electronic Patch Sensors	Mohapatra, Ankita; Morshed, Bashir; Shamsir, Samira; islam, syed kamrul
19	7	Characterization of a Novel Carbonized Foam Electrode for Wearable Bio-potential Recording	Chen, Hongyu; Zhao, Yuting; Mei, Zhenning; Mei, Yongfeng; Bambang Oetomo, Sidarto; Chen, Wei
104	7	WristMouse: Wearable Mouse Controller Based on Pressure Sensors	Zhang, YuFei; LIU, BIN; Liu, Zhiqiang
15	7	Wrist-worn Hand Gesture Recognition Based on Barometric Pressure Sensing	Zhu, Yuhui; Jiang, Shuo; Shull, Peter B.
60	7	Development and Evaluation of a Multimodal Sensor Motor Learning Assessment	Li, Zhengxiong; Brown, Michael; Wu, Junqi; Lin, Feng; Langan, Jeanne; Xu, Wenyaoyao
103	7	Graphene-coated Wearable Textiles for EOG-based Human Computer Interaction	Golparvar, Ata Jedari; Yapici, Murat Kaya
		<b>Session 8: Energy Efficient Design and Sensing</b>	
109	8	An Ultra-Low Resource Wearable EDA Sensor Using Wavelet Compression	Pope, Gunnar C.; MISHRA, VARUN; LEWIA, STEPHANIE; LOWENS, BYRON; Kotz, David; LORD, SARAH; Halter, Ryan
100	8	Saving Energy on Wrist-Mounted Inertial Sensors by Motion-Adaptive Duty-Cycling in Free-Living	Schiboni, Giovanni; Amft, Oliver

84	8	A Wearable and Battery-less Device for Assessing Skin Hydration Level under Direct Sunlight Exposure with Ultraviolet Index Calculation	Gil Rosa, Bruno Miguel; Yang, Guang-Zhong
24	8	Lightweight, On-Body, Wireless System for Ambulatory Voice and Ambient Noise Monitoring	Chwalek, Patrick; Mehta, Daryush; Welsh, Brendon; Wooten, Catherine; Byrd, M. Kate; Froehlich, Edward; Maurer, David; Lacirignola, Joseph; Quatieri, Thomas; Brattain, Laura
71	8	Application-Driven Dynamic Power Management for Self-Powered Vigilant Monitoring	Fan, Dawei; Lopez Ruiz, Luis Javier; Lach, John
115	8	Whole Body Human Power-Based Energy Harvesting using a Conductive Embroidered Cloth and a power aggregation circuit	Masuda, Yuichi; Noda, Akihito; Shinoda, Hiroyuki
		<b>Monday:</b>	
		Session 1- 9:35-11:05 Sensing for Rehabilitation	
		Session 2- 11:20-12:50 Gait, Motion and Activity Monitoring Using BSN	
		<b>Tuesday:</b>	
		Session 3: 11:10-12:40 Physiological Monitoring Using BSN	
		Session 4- 14:15-15:45 Wellness and Sports Applications	
		<b>Wednesday:</b>	
		Session 5- 8:50-10:20 Machine Learning and Signal Processing for BSN	
		Session 6- 13:15-14:45 Cardiovascular Monitoring Using BSN	
		Session 7- 14:50-16:20 Innovations in Sensing	
		Session 8: 16:25-18:30 Energy Efficient Design and Sensing	