Agenda

Day 0 (November 12, 2018)
09:00-18:00 Workshop check-in (Hotel Lobby, 1st Floor)
18:00-21:00 Welcome Reception (Four Seasons, 1st Floor)

Day 1 (November 13, 2018)
08:30 – 09:00 Welcome and introductory remarks
   Chair: Min Chen

08:30 Welcome remarks
   Zhengyu Jin, Peking Union Medical College Hospital, Beijing, China
08:35 Welcome remarks
   Peter van Zijl, Johns Hopkins University, Baltimore, MD, USA
08:40 Introduction of Chinese Society of Radiology (CSR)
   Zhengyu Jin, Peking Union Medical College Hospital, Beijing, China
08:50 Introduction of Beijing CEST 2018
   Jinyuan Zhou, Johns Hopkins University, Baltimore, MD, USA

SESSION I. Overview of CEST Imaging
09:00 – 10:30
   Session Chairs: Marty Pagel, Fuhua Yan, Bin Zhao

09:00 CEST basics: Understanding the Z-spectrum (Keynote)
   Peter van Zijl, Johns Hopkins University, Baltimore, MD, USA
09:30 paraCEST agents: Opportunities and limitations (Keynote)
   Dean Sherry, University of Texas Southwestern Medical Center, Dallas, TX, USA
10:00 CEST MRI analysis methods (Keynote)
   Marty Pagel, MD Anderson Cancer Center, Houston, TX, USA
10:30 GROUP PHOTO
10:45 COFFEE BREAK

SESSION II. Sugars and CEST
11:00 – 13:00
   Session Chairs: Xavier Golay, Linda Knutsson, Qiyong Gong

11:00 CEST and spin- Lock MRI signals of glucose and glucose analogs
   Tao Jin, University of Pittsburgh, Pittsburgh, PA, USA
11:23 Dynamic glucose enhanced MRI in animals and humans
   Xiang Xu, Johns Hopkins University, Baltimore, MD, USA
11:45 GlucoCEST of glucose analogs
   Gil Navon, Tel Aviv University, Tel Aviv, Israel
12:08 Glucose-enhanced MRI: Applications in humans
   Daniel Paech, German Cancer Research Center, Heidelberg, Germany
12:30 Will GlucoCEST MRI be able to visualize cancer in humans? (Keynote)
   Xavier Golay, University College London, London, United Kingdom
13:00 – 14:00 LUNCH
13:00 – 14:00 Satellite Meetings
13:00 Philips Healthcare
13:30 GE Healthcare
SESSION III. POWER PITCH SESSION I
14:00 – 16:00
Session Chairs: Yi Zhang, Zhongliang Zu

14:00 Power pitches
14:00 Reproducibility study of CEST MRI using real-time motion and shim navigated CEST sequence Gizeaddis Simegn, University of Cape Town, Cape Town, South Africa
14:04 Creatine and phosphocreatine mapping of mouse skeletal muscle by a polynomial and Lorentzian line-shape fitting CEST method Lin Chen, F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Research Institute, Baltimore, MD, United States
14:08 In vivo proton exchange rate of healthy human brains quantified with omega plot Mehran Shaghaghi, University of Illinois at Chicago, Chicago, IL, United States
14:12 Optimized dualCEST-MRI for imaging of endogenous bulk mobile proteins in the human brain Johannes Breitling, German Cancer Research Center (DKFZ), Heidelberg, Germany
14:16 Improved Fat-Water Separation Using Multipeak Reconstruction for Suppression of Lipid Artifacts in Chemical Exchange Saturation Transfer (CEST) Imaging Yu Zhao, East China Normal University, Shanghai, China
14:20 FullHD CEST imaging in the human brain at 7T Jan-Eric Meissner, German Cancer Research Center (DKFZ), Heidelberg, Germany
14:24 Comparison of Different CEST Metrics for Brain Tumor Grading Ruibin Liu, Zhejiang University, Hangzhou, Zhejiang, China
14:28 Chemical Exchange Saturation Transfer (CEST) Imaging of Phosphocreatine in the Muscle at 15.2T Julius Chung, Center for Neuroscience Imaging Research, Suwon, Korea
14:32 Proton Exchange Rate, Volume Fraction, T1, and T2 MR Fingerprinting using an Optimized Acquisition Schedule and a Deep RecOnstruction NEtwork (DRONE) Or Perlman, Massachusetts General Hospital and Harvard Medical School, Charlestown, MA, United States
14:36 Ultrafast multi-slice Chemical Exchange Saturation Transfer Imaging Jizhou Cai, Xiamen University, Xiamen, Fujian, China
14:40 Multicolor metabolic quantitative CEST (mmqCEST): high resolution imaging of brain metabolites Vitaliy Khlebnikov, University Medical Center Utrecht, Utrecht, the Netherlands
14:44 Temperature mapping of fat tissues by Z-Spectrum Imaging Alessandro Scotti, University of Illinois at Chicago, Chicago, IL, United States
14:48 Monitoring the Degradation of Implanted Hydrgels using CEST MRI Wei Zhu, Johns Hopkins University, Baltimore, MD, United States
14:52 CEST MRI of brain inflammation using an aspirin metabolite as contrast agent Xiaolei Song, Johns Hopkins University, Baltimore, MD, United States
14:56 Acidosis imaging of skeletal muscles by chemical exchange saturation transfer (CEST) imaging Dennis Hwang, Academia Sincia, Taipei, Chinese Taipei
15:00 Combining GlucoCEST and pH imaging for an improved characterization of tumor metabolism Dario Longo, University of Torino, Torino, Italy

15:04 Poster presentation & Coffee
SESSION IV. CEST in Neurology

16:00 – 18:00
Session Chairs: Ravinder Reddy, Moritz Zaiss, Chunmei Li

16:00 GluCEST MRI and glutamatergic system dysregulation (Keynote)
Ravinder Reddy, University of Pennsylvania, Philadelphia, PA, USA

16:30 Machine learning with protein-based MRI for predicting IDH1/2 mutation status in diffuse gliomas
Shanshan Jiang, Johns Hopkins University, Baltimore, MD, USA

16:53 CEST imaging of Parkinson’s disease
Chunmei Li, Beijing Hospital, Beijing, China

17:15 CrCEST in the study of creatine metabolism kinetics in Peripheral Arterial Disease
(Proffered paper)
Helen Sporkin, University of Virginia, Charlottesville, Virginia, USA

17:38 Dynamic glucose-enhanced imaging of mouse brain with Alzheimer’s disease at 3T MRI
(Proffered paper)
Jianpan Huang, City University of Hong Kong, Hong Kong, China

18:00 – 20:00 DINNER (Zi Yun Grand Ballroom, 2nd Floor)

Day 2 (November 14, 2018)

08:15 – 08:30 Award Announcement
Zhengyu Jin, Min Chen, Dairong Cao, Jingliang Cheng, Wen Shen, Meiyun Wang, Yongqiang Yu

SESSION V. CEST in Oncology

08:30 – 10:30
Session Chairs: Osamu Togao, Zhibo Wen, Xuening Zhang

08:30 APTw imaging in cancer clinical practice
Osamu Togao, Kyushu University, Fukuoka, Japan

08:50 Predicting response to antiangiogenic treatment for recurrent GBM using APTw MR imaging: Initial experience
Zhibo Wen, Zhujiang Hospital, Guangzhou, China

09:10 APTw imaging of brain tumors: Added value
Sung Soo Ahn, Yonsei University College of Medicine, Seoul, Korea

09:30 NOEI(-1.6ppm) imaging in brain tumor
Zhongliang Zu, Vanderbilt University, Nashville, TN, USA

09:50 APTw MRI for predicting histological grade of hepatocellular carcinoma: Comparison with diffusion-weighted imaging (Proffered paper)
Yue Lin, Beijing Hospital, Beijing, China

10:10 Z-spectral modeling for CEST-MRI of bladder cancer (Proffered paper)
Xunan Huang, Xidian University, Xi’an, Shanxi, China

10:30 COFFEE BREAK
SESSION VI. Responsive CEST contrast agents

10:50 – 13:00
Session Chairs: Silvio Aime, Jeff Bulte, Huadan Xue

10:50  Lipo-/cell-CEST: Enhanced sensitivity for new applications (Keynote)
Silvio Aime, University of Torino, Torino, Italy

11:20  Highly sensitive CEST MR molecular imaging using natural dextrans
Guanshu Liu, Johns Hopkins University, Baltimore, MD, USA

11:40  Evaluations of tumor models with acidoCEST MRI
Rachel High, University of Arizona, Tucson, AZ, USA, USA

12:00  CEST imaging of hydrogel-based therapy
Kannie Chan, City University of Hong Kong, Hong Kong, China

12:20  Hyper-CEST for molecular imaging and lung MRI
Xin Zhou, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, Hubei, China

12:40  A positive contrast chemical exchange experiment using refocused acquisition of chemical exchange transferred excitation (RACETE) (Proffered paper)
Fabian Tobias Gutjahr, University of Würzburg, Würzburg, Germany

13:00 – 14:00 LUNCH

13:00 – 14:00 Satellite Meetings
Siemens Healthineers
Bayer Healthcare Company Limited

SESSION VII. POWER-PITCH SESSION II

14:00 – 16:00
Session Chairs: Kejia Cai, Shanshan Jiang

14:00  Power pitches

14:00  APT weighted MRI as an effective imaging protocol to predict clinical outcome after acute ischemic stroke
Guisen Lin, Medical College of Shantou University, Shantou, Guangdong, China

14:04  Progressive Registration for Dynamic Salicylate Enhancement (DSE) Image in Chemical Exchange Saturation Transfer (CEST) MRI
Chongxue Bie, Northwest University, Xi’an, Shannxi, China

14:08  Quantitative assessment of CEST effect using a Gaussian-Lorentzian hybrid algorithm (GLHA) for Z spectra-fitting
Lihong Zhang, Northwest University, Xi’an, Shannxi, China

14:12  Development of Myo-Inositol and Lactate Chemical Exchange Saturation Transfer (MILAC-CEST) MRI for Glioma Grading
Laurie J. Rich, University of Pennsylvania, Philadelphia, PA, United States

14:16  Assessing Response to Therapy Using Simultaneous PET/MRI in Preclinical Model of Pancreatic Cancer
Joshua M. Goldenberg, UT MD Anderson Cancer Center, Houston, TX, United States

14:20  CEST MRI as new imaging biomarker for acute kidney injury
Jing Liu, Guizhou Medical University, Guiyang, Guizhou, China
14:24 Studies of Chemical Exchange Saturation Transfer on 1.5 T Clinical MRI Scanner  
Yonggui Yang, The Second Affiliated Hospital of Xiamen Medical College, Xiamen, Fujian, China
14:28 Amide proton transfer imaging in amyotrophic lateral sclerosis patients  
Zhuozhi Dai, Medical College of Shantou University, Shantou, Guangdong, China
14:32 Amide Proton Transfer-Weighted MRI Signal as a Surrogate Biomarker of Ischemic Stroke Recovery in Patients with Supportive Treatment  
Lu Yu, Beijing Hospital, Beijing, China
14:36 Chemical Exchange Saturation Transfer MR Imaging of Malignant and Benign Head and Neck Tumors at 3.0T  
Lu Yu, Beijing Hospital, Beijing, China
14:40 Artifacts in dynamic CEST MRI due to motion and field shifts  
Moritz Zaiss, Max-Planck Institute of biological cybernetics, Tübingen, Germany
14:44 Investigation of Anterior Cingulate Cortex APT values in patients with obsessive-compulsive disorder  
Yan Li, Ruijin Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China
14:48 Prediction Grades and association with Ki-67 proliferation status in meningioma using Amide proton transfer-weighted MRI  
Hao Yu, Zhujiang Hospital of Southern Medical University, Guangzhou, Guangdong, China
14:52 The Histogram Analysis of Amide Proton Transfer-Weighted (APTw) Imaging for Differential Diagnosis of Prostate Cancer  
Yue Lin, Beijing Hospital, National Center of Gerontology, Beijing, China
14:56 Amide Proton Transfer Imaging of the Recurrent Malignant Gliomas: Possible Feasibility Assessing Chemotherapy Response  
Qihong Rui, Zhujiang Hospital of Southern Medical University, Guangzhou, Guangdong, China

15:00 Poster presentation & Coffee

SESSION VIII. CEST Standardization
16:00 – 18:00  
Session Chairs: Peter van Zijl, Dean Sherry, Jinyuan Zhou
16:00 An overview of CEST sequences on GE MR platform  
Bing Wu, GE Healthcare, Waukesha, USA
16:30 A review on APTw pulse sequences and experimental results on Philips MRI scanners  
Jochen Keupp, Philips Research Europe, Hamburg, Germany
17:00 A review on CEST pulse sequences and experimental results on Siemens MRI scanners  
Yi Zhang, Zhejiang University, Hangzhou, China
17:30 Clinical APTw MRI at 3T: Technique review and recommendations  
Jinyuan Zhou, Johns Hopkins University, Baltimore, MD, USA
Day 3 (November 15, 2018)

SESSION IX. Novel CEST Applications

08:30 – 10:30
Session Chairs: Moriel Vandsburger, Yi-Xiang Wang, Yining Wang

08:30  Addressing the unmet needs of non-ischemic heart disease patients using cardiac CEST as an all-in-one tool
Morial Vandsburger, University of California at Berkeley, Berkeley, CA, USA

08:50  CEST imaging of liver and intervertebral disc: looking into the future
Yi-Xiang Wang, The Chinese University of Hong Kong, Hong Kong, China

09:10  Using pH and perfusion imaging to detect progression in renal disease
Mike McMahon, Johns Hopkins University, Baltimore, MD, USA

09:30  Functional renal imaging with MRI-CEST
Dario Longo, University of Torino, Torino, Italy

09:50  Recent advances in the study of non-invasive MR pH imaging using chemical exchange
Renhua Wu, Shantou University, Guangdong, China

10:10  Furin-mediated intracellular self-assembly of olsalazine nanoparticles enhances MR imaging and tumor therapy (Proffered paper)
Yue Yuan, Johns Hopkins University, Baltimore, MD, USA

10:30  COFFEE BREAK

SESSION X. Novel CEST Methods

11:00 – 13:00
Session Chairs: Christian Farrar, Hye-Young Heo, Phillip Zhe Sun

11:00  Clinical CEST MRI studies at ultra-high B0 field (7T and 9.4T)
Moritz Zaiss, Max Planck Institute for Biological Cybernetics, Tubingen, Germany

11:20  Rapid and quantitative CEST imaging with MR fingerprinting
Christian Farrar, Massachusetts General Hospital, Charlestown, MA, USA

11:40  CEST MR Fingerprinting by subgrouping proton exchange models
Hye-Young Heo, Johns Hopkins University, Baltimore, MD, USA

12:00  Quantitative tissue pH MRI in an experimental model of acute ischemic stroke
Phillip Zhe Sun, Emory University, Atlanta, GA, USA

12:20  Fat corrected APT-CEST in the human breast (Proffered paper)
Ferdinand Zimmermann, German Cancer Research Center, Heidelberg, Germany

12:40 – 12:45  Closing remarks

12:45 – 13:30  LUNCH