

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 Multiplex 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 Hydrogels 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 NOE(-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, Shannxi, 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

13:00 Siemens Healthineers

13:30 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

Moriel 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 B_0 field (7T and 9.4T)

Moritz Zaiss, Max Planck Institute for Biological Cybernetics, Tübingen, 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