



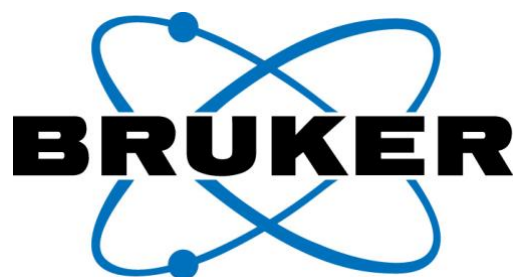
APES 2022

The 12th Asia-Pacific EPR/ESR Symposium

**November 4-7, 2022
Hangzhou, China
Zhejiang University
University of Science and Technology of China
Asia-Pacific EPR/ESR Society**



Sponsors



Welcome to APES 2022

Dear Colleagues and Friends, Ladies and Gentlemen:

It is a great pleasure for me, on behalf of the local organizing committee, warmly to welcome all participants at the 12th Asia-Pacific EPR/ESR Symposium (*APES 2022*). *APES2022* is the twelfth symposium following the successful *APES 1997* (Hong Kong, China), *APES 1999* (Hangzhou, China), *APES 2001* (Kobe, Japan), *APES 2004* (Bangalore, India), *APES 2006* (Novosibirsk, Russia), *APES 2008* (Cairns, Australia), *APES 2010* (Jeju, Korea), *APES 2012* (Beijing, China), *APES 2014* (Nara, Japan), *APES 2016* (Listyyanka, Rurria), and *APES 2018* (Brisbane, Australia). *APES 2020* has been postponed since the outbreak of COVID-19 pandemic. We are glad to launch *APES 2022* in Hangzhou, China during November 4-11, 2022. Given the pandemic of Covid-19, the symposium is an online event for international speakers and participants, a new start for Asia-Pacific EPR/ESR Society in the post-epidemic era.

APES 2022 will be an excellent event for exchanging scientific ideas with strong friendship among the participants not only from Asia-Pacific region, but also from all over the world. The main aims of our Symposia are to bring together as many EPR/ESR spectroscopists as possible and to promote and facilitate collaboration among the EPR/ESR community. *APES 2022* is intended to stimulate discussions on the forefront of research in all aspects of EPR/ESR ranging from theoretical and experimental advances in CW/Pulsed EPR, high frequency and high field EPR, ENDOR, PEDLOR/DEER, time resolved EPR, FMR, MRI, ODMR to applications in medicine, biology, chemistry, materials science and nanotechnology. We sincerely hope that the scope of the symposium will serve the interest of the EPR/ESR community, as well as the industry and the general public.

Moreover, I am particularly pleased that *APES2022* is jointly hosted by University of Science and Technology of China, and Zhejiang University. I believe that this symposium may play important roles in uniting EPR/ESR spectroscopists from all over China, promoting activities of EPR/ESR researches in China, and strengthening the academic exchange between EPR/ESR spectroscopists of China and other countries or regions.

I believe that this Symposium would be a successful event, due to efforts of all speakers and participants.

Thank you very much.



Prof. Jiangfeng Du
Chairperson of LOC, *APES2022*
President of Asia-Pacific EPR/ESR Society

Organizing Committee

International Scientific Committee

Asia-Pacific EPR/ESR Society Council

Officers:

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Immediate Past President: Prof. Elena Bagryanskaya	Russia
Secretary: Ms. Ying Rui	China
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Russia: Prof. Matvey Fedin

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Yang Liu (Institute of Chemistry, Chinese Academy of Sciences)
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Jihu Su (University of Science and Technology of China)
Xing Rong (University of Science and Technology of China)

APES 2022 Program (Beijing Time)

APES2022 in Zoom Meeting

<https://us02web.zoom.us/j/87360954158?pwd=aTFZazVqM01DY0lldVpSeE92c1diQT09>

Zoom No. : 873 6095 4158

Passwords : apes2022

14:30-18:40 (Beijing Time) Nov.4-7, 2022

Duration of Presentations:

Plenary Lectures: 30 min+10 min for discussion

Invited Lectures: 20 min+5 min for discussion

Oral Presentations: 12 min+3 min for discussion

Young Scientist Award(YSA) Lecture : 20 min

11.4 FRI: EPR in Biology Chair : Jiangfeng Du Matvey Fedin Jeffrey Harmer	11.5 SAT: Spin-based Quantum Chair : Hitoshi Ohta Xing Rong Shangda Jiang	11.6 SUN: Technology & Instruments Chair : Elena Bagryanskaya Hiroshi Hirata Subray Bhat	11.7 MON: Chemical/Molecular Magnetism Chair : Jia Yao Yong Li Jiangfeng Du
14:30-14:50 Opening Remarks	14:30-15:10 PL2 Jiangfeng Du	14:30-15:10 PL3 Gunnar Jeschke	14:30-15:10 PL5 Taeyoung Choi
14:50-15:30 PL1 Thomas Prisner	15:10-15:35 IL6 Kazunobu Sato	15:10-15:35 IL12 Xing Rong	15:10-15:35 IL16 Czeslaw Rudowicz
15:30-15:55 IL1 Peter Qin	15:35-16:00 IL7 Shangda Jiang	15:35-16:00 IL13 Haijun Yang	15:35-16:00 IL17 Shojiro Kimura
15:55-16:10 Break	16:00-16:10 Break	16:00-16:10 Break	16:00-16:10 Break
16:10-16:35 IL2 Sergei Dzuba	16:10-16:35 IL8 Michal Zalibera	16:10-16:50 PL4 Elena Bagryanskaya	16:10-16:35 IL18 Jia Yao
16:35-17:00 IL3 Jeffrey Harmer	16:35-17:00 IL9 Sergei Zvyagin	16:50-17:15 IL14 Hideo Akaba	16:35-17:00 IL19 Hiroyuki Nojiri
17:00-17:25 IL4 Fuminori Hyodo	17:00-17:25 IL10 Yasuhiro Kobori	17:15-17:35 YSA	17:00-17:25 IL20 Subray Bhat
17:25-17:45 CIQTEK Presentation	17:25-17:45 Bruker Presentation	17:35-17:45 Break	17:25-17:45 Break
17:45-18:10- IL5 Hitoshi Ohta	17:45-18:10 IL11 Kazuhiro Marumoto	17:45-18:10 IL15 Hiroshi Hirata	17:45-18:10 Closing APES Young Scientist Award Ceremony APES Excellent Oral Presentation Award Ceremony Closing Remarks
18:10-18:40 OP1-2 Hirokazu Kobayashi OP1 Matvey Fedin OP2	18:10-18:40 OP2-4 Zhiyuan Zhao OP3 Shen Zhou OP4	18:10-18:40 OP5-6 Sergey Veber OP5 M. R. Prathapachandra Kurup OP6	

Scientific Program

APES2022 in Zoom Meeting

<https://us02web.zoom.us/j/87360954158?pwd=aTFZazVqM01DY0lIdVpSeE92c1diQT09>

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November 4 (Fri) Afternoon: EPR in Biology		
14:30-14:50	Opening Remarks Jiangfeng Du (University of Science and Technology of China) Haoran Li (Zhejiang University)	
14:50-15:30	(PL-1) Thomas Prisner “New methodical approaches for EPR and DNP” (Chair: Sergei A. Dzuba)	Chair: Jiangfeng Du
15:30-15:55	(IL-1) Peter Qin “Site-Directed Spin Labeling Reveals Conformational Checkpoints Regulating CRISPR Target Discrimination”	
15:55-16:10	Break	
16:10-16:35	(IL-2) Sergei Dzuba “Double Electron-Resonance of Mono-Spin-Labeled Molecules: Study of Molecular Clustering”	Chair: Matvey Fedin
16:35-17:00	(IL-3) Jeffrey Harmer “Structural characterization of proteins using a non-natural amino acid, a new Gd ³⁺ label, and Double Electron-Electron”	
17:00-17:25	(IL-4) Fuminori Hyodo “Imaging tissue metabolism using dynamic nuclear polarization (DNP) MRI”	
17:25-17:45	CIQTEK Presentation: “Introduction to EPR spectrometers of CIQTEK” by Zhifu Shi (Technical Director of EPR)	
17:45-18:10	(IL-5) Hitoshi Ohta “Recent Developments of Multi-Extreme THz ESR”	Chair: Jeffrey Harmer
18:10-18:25	(OP-1) Hirokazu Kobayashi “ESR Study of Non-TEMPO Radicals Incorporated in Porous ZnTPT Metal-Organic Frameworks”	
18:25-18:40	(OP-2) Matvey Fedin “EPR in development of new applications of MOFs”	

November 5 (Sat) Afternoon: Spin-based Quantum		
14:30-15:10	(PL-2) Jiangfeng Du “Single molecule magnetic resonance spectroscopy and imaging”	Chair: Hitoshi Ohta
15:10-15:35	(IL-6) Kazunobu Sato “AWG-based ESR as spin manipulation technology for molecular spin qubits”	
15:35-16:00	(IL-7) Shangda Jiang “Spin Manipulation in Magnetic Molecules”	

16:00-16:10	Break	
16:10-16:35	(IL-8) Michal Zalibera “Giant spins in carbon cages”	Chair: Xing Rong
16:35-17:00	(IL-9) Sergei Zvyagin “Pressure-tuned magnetic interactions in a triangular-lattice quantum antiferromagnet”	
17:00-17:25	(IL-10) Yasuhiro Kobori “Spin-Entanglement Transport during Singlet Fission”	
17:25-17:45	Braker Presentation: “EPR spanning from millimeter size to millimeter wave” by Thilo Hetzke (EPR Application Scientist)	
17:45-18:10	(IL-11) Kazuhiro Marumoto “Operando Observation of Spin States and Their Correlation with Device Performance in Tin-based Perovskite Solar Cells”	Chair: Shangda Jiang
18:10-18:25	(OP-3) Zhiyuan Zhao “Surpassing the Energy Resolution Limit with a Single Spin Sensor”	
18:25-18:40	(OP-4) Shen Zhou “Quantum Computing with Multi-levelled Endohedral Fullerene Qudits”	

November 6 (Sun) Afternoon: Technology & Instruments		
13:30-14:30	APES Council Meeting (Council Members Only)	
14:30-15:10	(PL-3) Gunnar Jeschke “Mechanisms of Electron Spin Memory Loss in Glassy Frozen Samples”	Chair: Elena Bagryanskaya
15:10-15:35	(IL-12) Xing Rong “A CW / Pulsed EPR Spectrometer Operating at 94 GHz Developed in China”	
15:35-16:00	(IL-13) Haijun Yang “Construction and Applications of EPR at 6 K Ultra-low Temperature”	
16:00-16:10	Break	
16:10-16:50	(PL-4) Elena Bagryanskaya “Pulse EPR Applications of Trityl and Stable Nitroxide Radicals”	Chair: Hiroshi Hirata
16:50-17:15	(IL-14) Hideo Akaba “Development of Compact EPR Imaging System for Biological Applications”	
17:15-17:35	APES Young Scientist Award: Fei Kong “Zero-field EPR spectroscopy based on quantum sensors”	
17:35-17:45	Break	
17:45-18:10	(IL-15) Hiroshi Hirata “Overview of EPR-based extracellular pH mapping using multi-harmonic detection”	Chair: Subray Bhat
18:10-18:25	(OP-5) Sergey Veber “X-band EPR spectrometer based on MW bridge with 300 W solid-state amplifier and AWG unit”	
18:25-18:40	(OP-6) M. R. Prathapachandra Kurup “Copper(II) complex based on a thiosemicarbazone ligand: Preparation, crystal structure and EPR spectral studies”	

November 7 (Mon) Afternoon: Chemical/Molecular Magnetism		
14:30-15:10	(PL-5) Taeyoung Choi “Electron spin resonance in single atoms and molecules”	Chair: Jia Yao
15:10-15:35	(IL-16) Czeslaw Rudowicz “EMR studies of binuclear GdIII complexes complemented by ab-initio and semiempirical modelling of ZFS parameters - low and high symmetry aspects”	
15:35-16:00	(IL-17) Shojiro Kimura “Selection rules of ESR transitions in the quantum spin systems”	
16:00-16:10	Break	
16:10-16:35	(IL-18) Jia Yao “EPR Study on Solvent Restriction Effect”	Chair: Yong Li
16:35-17:00	(IL-19) Hiroyuki Nojiri “Application of THz ESR on Molecular Based Magnets”	
17:00-17:25	(IL-20) Subray Bhat “Towards Two-Dimensionality: Effect of Magnetic Field and Probing with Electron Paramagnetic Resonance”	
17:25-17:45	Break	
17:45-18:10	<p style="text-align: center;">Closing APES Young Scientist Award Ceremony APES Excellent Oral Presentation Award Ceremony Closing Remarks</p>	Chair: Jiangfeng Du



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Local Organizing Committee of APES 2022**