The Third Joint Conference of the

Asia-Pacific EPR/ESR Society

and

The International EPR (ESR) Society (IES)

The *University of Queensland, St. Lucia*

23 – 27 September 2018

PROGRAM AT A GLANCE

TIME	MONDAY		TIME	TUESDAY		TIME	THURSDAY	
9:00-9:35	Conference Opening (room 216)		**9:00-9:45**	PL 2 – Han (room 216)		**9:00-9:45**	PL 4 - Takui (room 216)	
9:35-10:20	PL 1 – Schiemann		**9:50-10:15**	Q. Comp/Photo 1 (216) IV 15 - Maeda	Imaging/ in vivo 1 (115) IV 16 - Swartz	**9:50-10:15**	Sensing /NV 1 (216) OR 3 - Shi	Soft matter 1 (115) IV 27 - Bagryanskaya
10:20-11:00	**Coffee (40 min)**		**10:15-10:30**	AB 7 – Nagashima	AB 8 - Li	**10:15-10:30**	AB 15 - Jiang	AB 16 - Kuzhelev
11:00-11:25	Biological 1 (216) IV 1 – Bowen	Applications (115) IV 3 - McInnes	**10:30-11:15**	**Coffee (45 min)**		**10:30:11:15**	**Coffee (45 min)**	
11:25-11:50	IV 2 – Reijerse	IV 4 - Kay	**11:15-11:40**	Q. Comp/Photo 2 (216) IV 17 - Ambe	Imaging/ in vivo 2 (115) IV 19 - Hirata	**11:15-11:40**	Sensing /NV 2 (216) IV 28 - McGuinness	Soft matter 2 (115) IV 31 - Dzyuba
11:50-12:05	AB 1 - Svistunenko	AB 3 - McKinley	**11:40-12:05**	IV 18 - Ikoma	IV 20 - Khramtsov	**11:40-12:05**	IV 29 - Jarmola	IV 32 - Smirnova
12:05-12:20	AB 2 - Smirnov A.	AB 4 - Matsuoka	**12:05-12:30**	OR 1 - Sugisaki	IV 21 - Chen	**12:05-12:30**	IV 30 - Hall	OR 4 - Krumkacheva
12:20-1:20	**Lunch (60 min)**		**12:30-1:30**	**Lunch (50 min)**		**12:30-1:30**	**Lunch (50 min)**	
1:20-1:50	KN 1 - Prisner		**1:30-2:00**	KN 3 - Smith		**1:30-2:00**	KN 8 - Ardavan	
1:55-2:20	Biological 2 (216) IV 5 – Huber	Mol. Magnetism (115) IV 7 - Veber	**2:05-2:30**	Imaging/in vivo 3 (216) IV 22 - Nakagawa	High field/ THz 1 (115) IV 23 - Zvyagin	**2:05-2:30**	Soft matter 3 (216) IV 33 - Lovett	Org. semicon. (115) IV 34 - McCamey
2:20-2:45	IV 6 – Kim	IV 8 - Rudowicz	**2:30-2:55**	OR 2 - Yasui	IV 24 - Ohta	**2:30-2:55**	OR 5 - Eisermann	IV 35 - Nakamura
2:45-3:00	AB 5 – Okamoto	AB 6 - Wang	**2:55-3:10**	AB 9 - Yang	AB 10 - Zaripov	**2:55-3:10**	AB 17 - Syryamina	AB 18 - Kobori
3:00-3:30	**Coffee (30 min)**		**3:10-4:40**	**COFFEE & POSTERS (1.5 hours)**		**3:10-3:40**	**Coffee (30 min)**	
3:30-3:55	Instr. (216) IV 9 - Blank	Bio 3 / Solar (115) IV 12 - Mino	**4:40-5:05**	High field/THz 2 (216) IV 25 - Kataev	Spintronics (115) IV 26 - Akimoto	**3:40-4:05**	Methods / Soft matter 4 (216) IV 36 - Dzikovski	
3:55-4:20	IV 10 - Pla	IV 13 - Horitani	**5:05-5:20**	AB 11 - Takahashi	AB 13 - Sato	**4:05-4:35**	KN 9 - Fedin	
4:20-4:45	IV 11 - Carmielli	IV 14 - Marumoto	**5:20-5:35**	AB 12 - Sukhanov	AB 14 - Yoshioka	**4:35-6:05**	**APES AGM**	
4:50-5:20	KN 2 - Bhat		**6:00**	**Dinner**		**6:05-6:10**	Conference Close	
5:30	**Dinner**							

TIME	WEDNESDAY (ROOM 216)
9:00-9:45	PL 3 - Wasielewski (**IES SILVER MEDAL**)
9:45-10:15	KN 4 - Furuya (**JOHN WEIL YOUNG INVESTIGATOR AWARD**)
10:15-11:00	**Coffee (45 min)**
11:00-11:30	KN 5 - Matsuki
11:30-12:00	KN 6 - Hill
12:00-12:30	KN 7 - Ruthstein
12:30-1:30	**IES AGM/ Lunch (60 min)**
1:30-6:30	Free afternoon
7:00	**Conference Dinner**

Plenary (PL): 45 min - 4 talks
Keynote (KN): 30 min - 9 talks
Invited (IV): 25 min - 36 talks
Oral (OR): 25 min - 5 talks
Abstract (AB): 15 min - 18 talks

POSTERS: 24

IES committee meeting on Tuesday evening with dinner (6:00 pm)

APES committee meeting on Tuesday lunch time (12:30-1:30 pm, CAI board room, level 5)

Welcome Address

On behalf of the Australian EPR community it is our pleasure to welcome you all to Brisbane for the Third Joint Conference of the Asia-Pacific EPR/ESR Society and the International EPR Society. We would sincerely like to thank all participants and sponsors for supporting this meeting and our two societies.

APES2018 is the eleventh meeting of our society and the second time it has been held in Australia (Cairns 2008). All APES countries are represented at the meeting presenting their exciting research, a demonstration of the strength of our expanding community. This year we are joined by members of the international EPR society from Germany, Israel, Poland, Switzerland, the United Kingdom and the United States of America. This is the third joint meeting of the two societies, further strengthening ties and fostering collaboration on a global scale.

The APES-IES conference is this year held at the University of Queensland (UQ), one of Australia's leading research and teaching institutions. It strives for excellence through the creation, preservation, transfer and application of knowledge. For more than a century, it has educated and worked with outstanding people to deliver knowledge leadership for a better world. The University's main campus at St Lucia is set on a magnificent 114-hectare site bounded by the Brisbane River, and only seven kilometres from the Brisbane CBD. The campus fans out from a 1930s, heritage-listed sandstone Cloister enclosing the Great Court. The Prentice Building (# 42 – campus map), where the conference will take place, accommodates the University's Information Technology Service and Property and Facilities Division and is the site of the main data centre on the St Lucia Campus.

While there are fast buses with regular services to the campus, for interstate and international visitors staying in Brisbane City, the most enjoyable way to arrive at the campus is by the CityCat ferry service. Brisbane City Council CityCat services operate along the Brisbane River between Hamilton, the city and St Lucia. You can easily plan your journey to UQ using the TransLink journey planner. We provide conference delegates with a go card to travel free on public transport services for the duration of the conference. Go card is TransLink's electronic ticket to fast, easy and convenient travel and can be used on all TransLink bus, train (excluding to the airport) and ferry services in greater Brisbane, Ipswich, Sunshine Coast, and Gold Coast regions. And the all important weather forecast, ☀ every day with a temperature range 12 – 25 C.

We wish you a happy and enjoyable stay in Queensland,

Co-chairs APES-IES

Jeffrey Harmer (The University of Queensland)
Steve Bottle (Queensland University of Technology)
Nick Cox (The Australian National University)

Message from IES President

I, as the new president of the International EPR (ESR) Society (IES), am extremely grateful to the former president of IES, Profs. Hitoshi Ohta, and to the conference chairs, Jeffrey Harmer, Steven Bottle and Nick Cox, for their initiative to integrate IES again into this year APES Symposium, held at Brisbane. This initiative of joint APES/IES conferences started at the APES Meeting 2014 in Nara and is a very nice possibility for IES to become more visible and attract new EPR scientists as members.

It is my pleasure to extend a warm welcome to all participants of the meeting from all IES board members. Most of us will be present at this meeting and we are looking very much forward to exchange our ideas about future activities and initiatives of the International EPR (ESR) Society with you and listen to your suggestions, what IES should and could do for us. We hope very much to discuss with you such topics at the General Assembly of IES, which will take place Wednesday noon and were all of you are cordially invited to join and contribute.

The IES John Weil Award for young scientists and the IES Silver Medal in Chemistry will be awarded at this conference. I am very happy to present the John Weil Award of the IES to Sunsuke C. Furuya (RIKEN, Japan), a promising young rising star in the field of quantum effects of strongly correlated magnetic materials. The Silver Medal in Chemistry of the IES goes to Michael R. Wasielewski (Nordwestern University, U.S.A.), a leading scientist in the field of spin-chemistry of light-driven charge transfer and transport processes in molecules and materials for solar energy conversion, optoelectronics and spintronics. I am very much looking forward to their prize lectures as well as to the lectures and poster presentations of all participants.

Looking at the program, I see an exciting mixture of EPR topics, covering all the different fields of EPR spectroscopy and imaging nowadays, at the forefront of applications in the field of physics, chemistry, biology and medicine, material science and nanotechnology. The program and the size of the conference will very much encourage interaction and discussion among young scientists and well-established scientists from the various fields.

I wish all of us a stimulating conference with exciting lectures, challenging questions, interesting new methods and applications, extended discussions during the poster sessions and elsewhere and look very much look forward to meet all of you in Brisbane.

Best regards

(Thomas Prisner)

CONFERENCE CO-CHAIRS

Jeffrey Harmer - Centre for Advanced Imaging, The University of Queensland
Steven Bottle - Science and Engineering Faculty, Queensland University of Technology
Nick Cox - Science, Environment, Health and Medicine, The Australia National University

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Bruker Corporation is the global market and technology leader in analytical magnetic resonance instruments including NMR, preclinical MRI and EPR. The Bruker BioSpin Group of companies develop, manufacture and supply technology to research establishments, commercial enterprises and multi-national corporations across countless industries and fields of expertise. Bruker is the world's leading supplier of electron paramagnetic resonance spectrometer (EPR) systems. Our product lines include the research EPR product line ELEXSYS™, the compact EPR product lines EMXplus™ and EMXmicro™, the desktop routine product line EMXnano™ and the quality control product line e-scan™.

Superconducting magnets for resonance applications must adhere to strict homogeneity, stability and persistence requirements. Cryogenic Ltd has decades of experience in the development of these magnets and is a leading supplier of systems for EPR, NMR, MRI and a wide range of other applications.

At Avanti Polar Lipids, Inc., our mission is to be known around the world as the leading manufacturer and supplier of the highest purity lipids for research and pharmaceutical product development. To accomplish our mission, Avanti uses only the finest precursors and reagents. Our highly trained staff utilize proven methods and procedures to ensure the quality of our final product.

Magnettech has installed more than 500 bench top ESR spectrometers (MiniScope series) at top-notch Universities, Research Institutes and Industries around the globe. In 2014 Magnettech became a part of Freiberg Instruments (Germany). With a team of young and dynamic Researchers, Engineers and Software programmers, Freiberg Instruments is one of the leading industry experts in providing solutions in the fields of advanced Metrology, Automation, Software development and more. The new "one company" structure concentrates on our high competences in ESR/EPR technology. The recently relhttp://www.magnettech.deeased MiniScope MS 5000X bench top ESR/EPR spectrometer with a frequency range of 9.2 to 9.8 GHz is one of novel technological achievements by our vibrant team.

Clin-EPR is a company that has been developed to facilitate the development of in vivo EPR by enabling technology developed at Dartmouth (and elsewhere) to become available for purchase. The personnel have been involved in the development and applications of the EPR instrumentation at Dartmouth. We have designed and manufactured and support the only existing clinical instruments (L-Band). Clinical applications include both dosimetry and oximetry. Our instruments are located in the USA (2 sites), Korea (2 sites), Japan, Belgium, and France. We also can provide preclinical variants of the clinical instruments, specialized resonators, clinically compatible software etc. Our instruments provide the best available sensitivity for in vivo measurements at L-Band.

The University of Queensland (UQ) is one of Australia's top research-intensive universities. UQ is consistently awarded the maximum five-star rating for research grants and research intensity in the Good Universities Guide, with the University's reputation for research excellence underpinned by its 55th global ranking in the Academic Ranking of World Universities, the most influential global university ranking.
In 2018, UQ again topped the nation in the prestigious Nature Index, which rates institutions and countries according to the number and quality of research publications. UQ continually builds on its global reputation in key areas of national and international significance such as energy, sustainability, water, health, food security and social equity through an emphasis on high-quality, interdisciplinary global collaboration with public and private organisations. Learn more: www.research.uq.edu.au

Venues

The **Welcome Reception**, on Sunday 23rd September 2018, will be held in the Advanced Engineering Building (49), the University of Queensland, St Lucia Campus. See map on 2nd next page or https://maps.uq.edu.au/st-lucia/search/AEB/location/658.

The **Conference** will be held in the Prentice Building (building 42), the University of Queensland, St Lucia Campus. See map on 2nd next page or https://maps.uq.edu.au/st-lucia/search/prentice%20building/location/94. Lectures are in 42-216 and 42-212.

Catering

Morning and Afternoon Tea: severed in the Foyer room of the Prentice Building

Lunch: Monday - Alumni Court Marquee
Tuesday - Alumni Court Marquee
Wednesday - Foyer room of the Prentice Building (42-L2 Foyer)
Thursday - Foyer room of the Prentice Building (42-L2 Foyer)

Dinner: Monday: Alumni Court Marquee
Tuesday: Saint Lucy Caffe E Cucina (The Tennis Centre Blair Drive, St Lucia, the University of Queensland)
Wednesday: Conference dinner (you must purchase a ticket during registration for this event)

Sponsor Displays

Many thanks to our sponsors for support! Sponsor booths will be set-up in the foyer room of the Prentice Building for the duration of the conference

Poster Session

The poster session will be held in the Prentice Building, room 42-212. Posters should be A0 in size

Speaker Information

Please allow time for questions

Abstract (AB): 12 min. presentation and 3 minute discussion
Oral (OR): 20 min. presentation and 5 minute discussion
Invited (IV): 20 min. presentation and 5 minute discussion
Keynote (KN): 25 min. presentation and 5 minute discussion
Plenary (AB): 40 min. presentation and 5 minute discussion

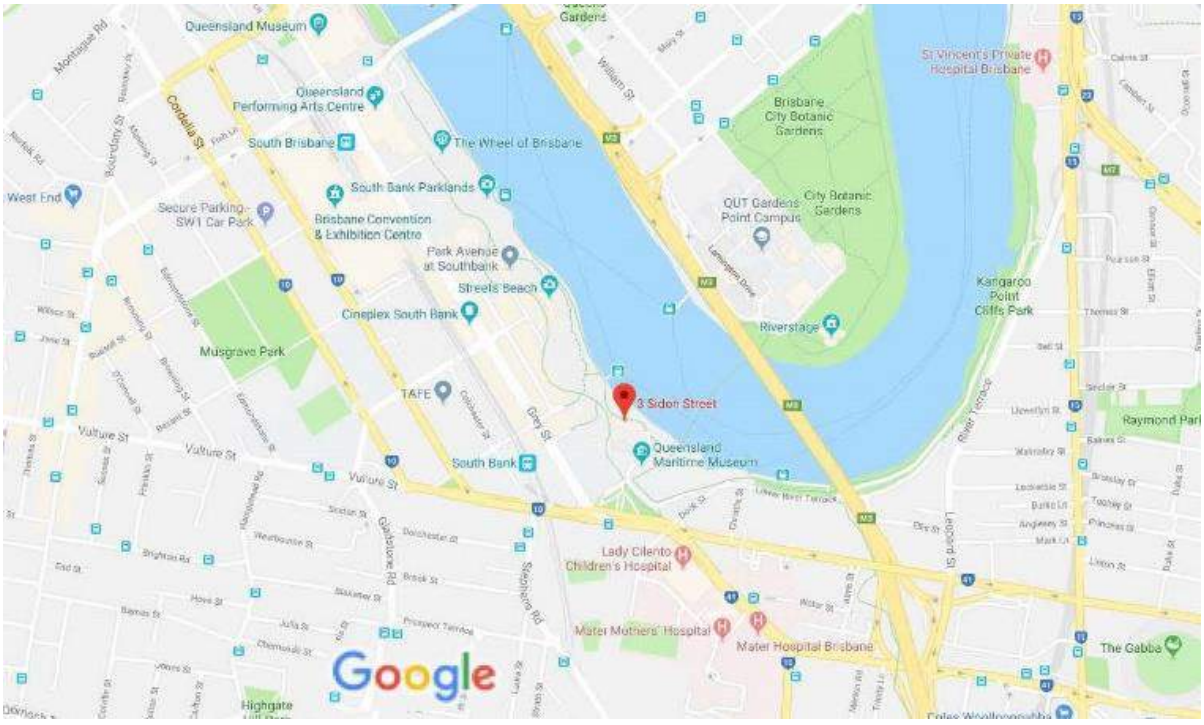
Transport

Delegates registered for the conference will be supplied with a free Go Card, providing free transport around Brisbane on the public transport network for the duration of the conference (excluding to the airport). To plan a journey with your Go Card use https://jp.translink.com.au/plan-your-journey/journey-planner

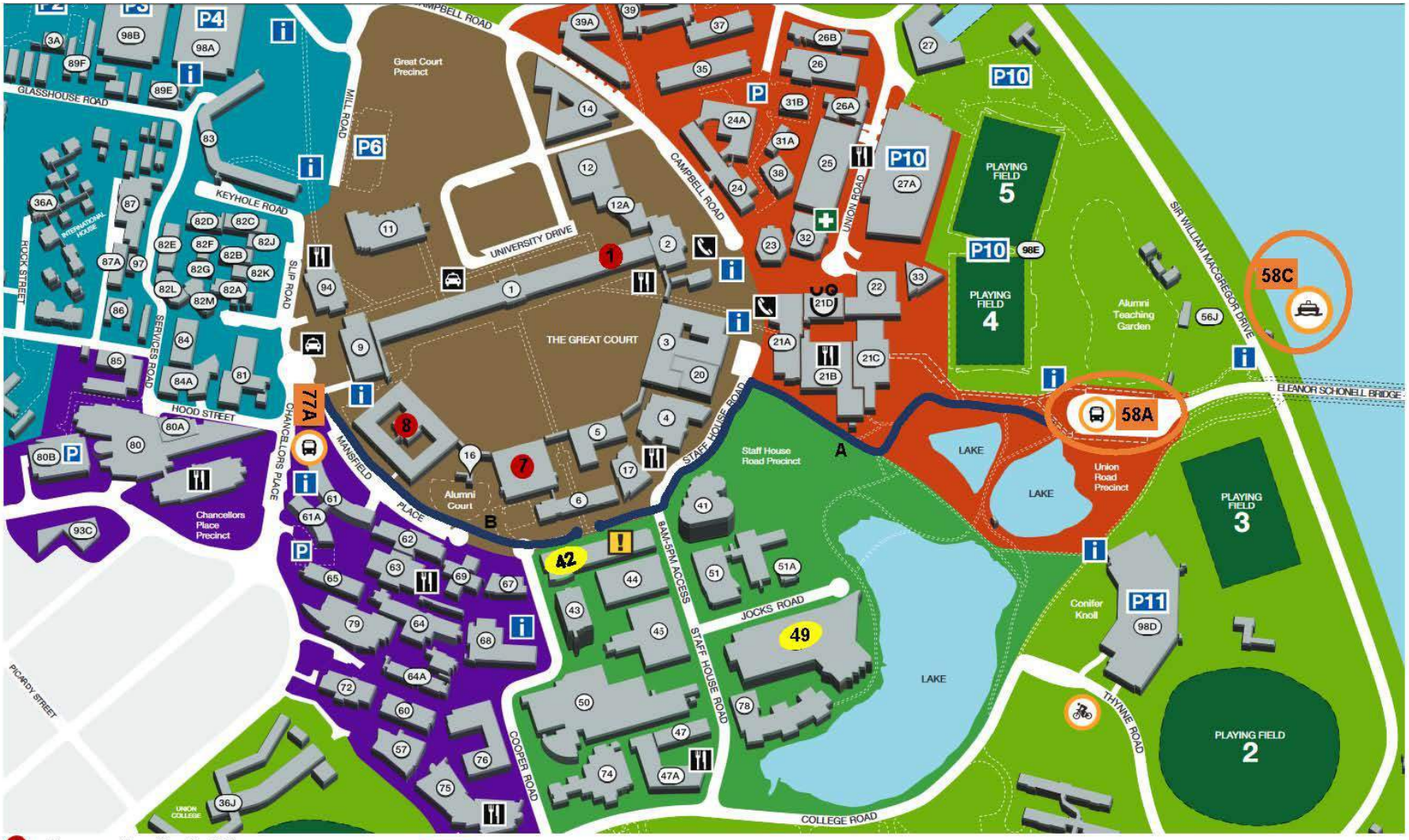
Taxis – Yellow Cabs (131 924) and Black and White Cabs (131 008)

Conference Dinner

Venue	Popolo Italian Kitchen and Bar (http://popolodining.com/)
Time	7.00 pm. Wednesday 26th September
Dress	Smart Casual
Where	3 Siddon Street River Quay, South Brisbane, 4101 (Note: Entry is from the riverside walkway "Clem Jones Promenade")
Directions	Popolo Restaurant is an easy walk from most of the city hotels. Either walk down George Street past the Queensland Parliament House and through the grounds of QUT (open to the public), then across the Goodwill walking bridge, angle back towards the water's edge and follow the path to the restaurant. Alternatively walk on the southern bank of the river after crossing the Victoria (traffic and pedestrian) bridge, turning left and following the water's edge heading downstream until you see the restaurant. There is also a very convenient Ferry stop (South Bank 3 Ferry Terminal) located only a few metres from the venue.



UQ Map – The Conference Venue Locations are marked in Yellow



1 Forgan Smith Building
7 Parnell Building
8 Goddard Building
42 Prentice Building
49 Advanced Engineering Building

58A UQ Lakes Bus Stop
58C City Cat, UQ St Lucia ferry terminal
77A Chancellors Place Bus Stop

A Way from 58A and 58C to Prentice Building
B Way from 77A to Prentice Building
! In All Emergencies: Phone Security 33653333

TIME	MONDAY 24th SEPTEMBER 2018 – Prentice Building, St Lucia, the University of Queensland	
9:00-9:35	Conference Opening and housekeeping **(room 216: Chair Jeffrey Harmer, Nick Cox, Steven Bottle)** Czesław Rudowicz, Elena Bagryanskaya, Hitoshi Ohta, The Asia-Pacific EPR/ESR Society reaching maturity at 20th+ Anniversary	
9:35-10:20	PL 1 – Olav Schiemann (80) PELDOR with Microsecond Time Resolution	
10:20-11:00	**Coffee (40 min)**	
11:00-11:25	**Biological 1 (room 216: Chair Masaki Horitani)** IV 1 - Alice Bowen, Nicole Erlenbach, Philipp van Os, Regina Schuldais, Jörn Plackmeyer, Mariaguilia Dal Farra, Sabine Richert, Charles Larmine, Marilena Di Valentin, Christiane Timmel, Snorri Sigurdsson and Thomas Prisner (83) Correlations in Pulsed Dipolar Electron Spin Resonance Spectroscopy	**Applications (room 115: Chair Aharon Blank)** IV 3 - Eric McInnes (18) NOx mitigation in Metal Organics Frameworks (MOFs) followed by EPR
11:25-11:50	IV 2 – Ed Reijerse (91) Electronic Structure of the [FeFe]Hydrogenase active site as studied by Magnetic Resonance (NMR & EPR)	IV 4 - Christopher Kay (21) Room Temperature, Solid State Masers
11:50-12:05	AB 1 – Dima Svistunenko, Jacob Pullin and Neethu Salam (46) Deciphering Bacterioferritin Free Radical EPR spectrum: Are We Really Seeing a Tryptophan radical?	AB 3 - Allan McKinley, Duncan Wild and Hearne Thomas (51) Matrix Isolation EPR Studies of MgCH, MgN, and ZnN Radicals
12:05-12:20	AB 2- Alex Smirnov (38) Tips, Tricks, and Techniques: Spin-labelling EPR of Membrane Proteins	AB 4 - Hideto Matsuoka, Hiroki Matsui, Olav Schiemann and Kenji Sugisaki (54) Time-resolved EPR, Optical, and Quantum Chemical Studies of pi-conjugated phenazine derivatives
12:20-1:20	**Lunch (60 min)**	
1:20-1:50	KN 1 - Thomas Prisner (85) Dipolar EPR Spectroscopy with Broadband Shaped MW pulses **(room 216: Chair Louise Brown)**	

TIME	MONDAY 24th SEPTEMBER 2018 – Prentice Building, St Lucia, the University of Queensland	
1:55-2:20	**Biological 2 (room 216: Chair Louise Brown)** IV 5 - Thomas Huber (89) Protein structure determination using paramagnetic ions	**Mol. Magnetism (room 115: Chair Hitoshi Ohta)** IV 7 - Sergey Veber, Sergey Tumanov, Michael Scheglov, Yaroslav Getmanov, Vitaly Kubarev, Oleg Shevchenko and Matvey Fedin (59) Application of free electron lasers to EPR spectroscopy of high-spin systems: pumping the spin transitions in single-molecule magnets
2:20-2:45	IV 6 - Sun Hee Kim (44) Pulse EPR Characterization of Metal-oxo Species	IV 8 - Czesław Rudowicz (87) Semiempirical and density functional theory (DFT)/ab initio modeling of zero-field splitting (ZFS) for nickel(II) complexes exhibiting very large ZFS
2:45-3:00	AB 5 - Tsubasa Okamoto, Eiji Ohmichi, Yu Saito, Takahiro Sakurai and Hitoshi Ohta (12) Pressure Effect on Zero-Field Splitting Parameter of Iron-Porphyrin Com-plexes Revealed by High-Frequency and High-Field Electron Paramagnetic Resonance	AB 6 - Hui-Dan Lou, Lei Yin and Zhenxing Wang (6) Series of Complexes Based on Quinolinic Derivative: Synthesis, Crystal Structures, HF-EPR, and Magnetic Properties
3:00-3:30	**Coffee (30 min)**	
3:30-3:55	**Instrumentation (room 216: Chair Graham Smith)** IV 9 - Aharon Blank (36) Microresonators in ESR – What are they good for?	**Biological 3 / solar (room 115: Chair Sharon Ruthstein)** IV 12 - Hiroyuki Mino, Hiroyuki Tsukuno, Kouhei Ozeki, Hiroki Nagashima, Itsuki Kobayashi and Osamu Hisatomi (26) Function of Blue Sensor Protein Photozipper Investigated by Pulsed EPR
3:55-4:20	IV 10 - Jarryd Pla (55) Spin resonance at the quantum limit using superconducting microwave resonators	IV 13 - Masaki Horitani (43) EPR Studies Reveal Mn(II)-Mn(II) Distance in the Active Site of Inorganic Pyrophosphatase from Shewanella sp. AS-11
4:20-4:45	IV 11 - Raanan Carmielli (77) In-Situ Electrochemical EPR for Real-Time Measurements of Radical Ions	IV 14 - Kazuhiro Marumoto (1) Operando Direct Observation of Charge States in Organic and Perovskite Solar Cells
4:50-5:20	KN 2 - Subray Bhat (72) Many 'Avatars' of EPR linewidth in Doped Rare-earth Manganites: from Bottle-necked Relaxation to Berezinskii-Kosterlitz-Thouless Scenario **(room 216: Chair Graham Smith)**-	
5:30	**Dinner**	

TIME	TUESDAY 25TH SEPTEMBER 2018– PRENTICE BUILDING, ST LUCIA, THE UNIVERSITY OF QUEENSLAND	
9:00-9:45	PL 2 - Songi Han (72) Integrated electron - nuclear magnetic resonance studies of DNP mechanisms **(room 216: BRUKER SESSION Chair Igor Gromov)**	
9:50-10:15	**Quantum Computing / Photo 1 (room 216: Chair Igor Gromov)** IV 15 - Nana Iwata, Masaya Sato, Kiminori Maeda and Michihiko Sugawara (64) Probing and controlling transient radical pairs by pulse magnetic field and RF field in low field regime.	**Imaging/ in vivo 1 (room 115: Chair Yoh Matsuki)** IV 16 - Harold Swartz (86) In vivo Clinical EPR: challenges and opportunities
10:15-10:30	AB 7 - Hiroki Nagashima, Shuhei Kawaoka, Seiji Akimoto, Takashi Tachikawa, Yasunori Matsui, Hiroshi Ikeda and Yasuhiro Kobori (25) Spin conversion of the singlet-fission-born multiexciton in the amorphous aggregates	AB 8 - Zhongshu Li (13) Tricarbontriphosphide Tricyclic Radicals: Synthesis, Structures, and Mechanistic Study
10:30-11:15	**Coffee (45 min)**	
11:15-11:40	**Quantum Computing / Photo 2 (room 216: Chair Matvey Fedin)** IV 17 - Christopher Ambe, Leonar Jun Gabiana, Marvin Jose Fernandez and Evelyn Creencia (82) Characterization and DFT Analyses in Titanium and Iron Modified Triamino-s-Heptazine Oligomers: Exploring Materials for Energy and Pharmaceutical Applications	**Imaging/ in vivo 2 (room 115: Chair Ann Flood)** IV 19 - Hiroshi Hirata, Denis Komarov, Yuki Ichikawa, Kumiko Yamamoto, Neil Stewart, Shingo Matsumoto, Hironobu Yasui, Igor Kirilyuk, Valery Khramtsov and Osamu Inanami (42) In vivo extracellular pH mapping of tumor using EPR imaging
11:40-12:05	IV 18 - Chika Itagoshi, Syunya Miyazaki, Tomoaki Miura, Sota Kasuya, Yusuke Wakikawa and Tadaaki Ikoma (57) Dynamic Spin Effect on Triplet Fusion of 9,10-Diphenylanthracene	IV 20 - Andrey Bobko, Benoit Driesschaert, Martin Poncelet, Artem Gorodetskii, Urikhan Sanzhaeva, Mark Tseytlin, Oxana Tseytlin, Mikhail Dikov, Timothy Eubank and Valery Khramtsov (68) Novel EPR probes and instrumentation to profile tumor microenvironment
12:05-12:30	OR 1 - Kenji Sugisaki, Satoru Yamamoto, Shigeaki Nakazawa, Kazuo Toyota, Kazunobu Sato, Daisuke Shiomi and Takeji Takui (20) Quantum Chemical Calculations of Open Shell Molecules on Quantum Computers: Efficient Construction Methods of the Open Shell Wave Functions	IV 21 - Chunyan Wu, Jiafu Chen, Shuhong Yu and Hao Yin (94) Discovery of Selenium-Nitrogen free radical and its EPR studies
12:30-1:30	**Lunch (50 min)**	

TIME	TUESDAY 25TH SEPTEMBER 2018– PRENTICE BUILDING, ST LUCIA, THE UNIVERSITY OF QUEENSLAND	
1:30-2:00	KN 3 – Graham Smith (70) Zero and Low Deadtime EPR for characterisation of fast relaxing systems **(room 216: CLIN EPR SESSION: Chair Harold Swartz)**	
2:05-2:30	**Imaging/ in vivo 3 (room 216 Chair Harold Swartz)** IV 22 - Kouichi Nakagawa (14) Melanin Related Radicals in Skin Malignancy Investigated by X-band EPR	**High Field/ THz 1 (room 115: Chair Steven Hill)** IV 23 - Sergei Zvyagin (61) High-field ESR in low-dimensional spin systems
2:30-2:55	OR 2 - Hironobu Yasui, Keita Saito, Shingo Matsumoto, Tohru Yamamori, Murali Krishna and Osamu Inanami (49) Longitudinal imaging of tumor oxygenation by pulsed ESR optimizes a metabolic-targeted therapy combined with X-irradiation in a murine squamous cell carcinoma model	IV 24 - Hitoshi Ohta, Susumu Okubo, Eiji Ohmichi, Takahiro Sakurai, Hideyuki Takahashi and Shigeo Hara (28) Multi-extreme THz ESR -the development of high pressure ESR-
2:55-3:10	AB 9 - Haijun Yang, Xixi Liang, Yong Li and Hua Fu (66) EPR Studies on Mechanism of Solvent and Ligands Effects of Copper Salts with Oxygen	AB 10 - Ruslan Zaripov and Vladislav Kataev (9) A Comparative ENDOR and ED NMR Study of the Cu(II)-bis(oxamato) Complex
3:10-4:40	**COFFEE & POSTERS (1.5 hours)**	
4:40-5:05	**High Field/THz 2 (room 216: Chair Sergey Veber)** IV 25 - Vladislav Kataev (2) Insights into the novel magnetism of 5d spin-orbit Mott insulators from sub-THz high-field ESR spectroscopy	**Spintronics (room 115: Chair Jarryd Pla)** IV 26 - Ikuko Akimoto, Hideto Matsuoka and Takao Sekiya (47) Double electron-electron resonance with arbitrary-waveform pulses: application to randomly distributed electron and hole spins in a semiconductor
5:05-5:20	AB 11 - Hideyuki Takahashi, Tsubasa Okamoto, Kento Ishimura, Shigeo Hara, Eiji Ohmichi and Hitoshi Ohta (48) Highly Sensitive and Practical Force-detected ESR Spectrometer Utilizing a Silicon Nitride Nanomembrane	AB 13 - Kazunobu Sato, Satoru Yamamoto, Taiki Shibata, Rei Hirao, Keigo Tanimoto, Kenji Sugisaki, Shigeaki Nakazawa, Elham Hosseini, Koji Maruyama, Kazuo Toyota, Daisuke Shiomi, Konstantin Ivanov, Yasushi Morita and Takeji Takui (32) Spin Manipulation by Arbitrary Microwave Excitation for Molecular Quantum Control
5:20-5:35	AB 12 - Andrei Sukhanov (3) Spin coherence and spectroscopy study of Tm^{3+} in Y_2SiO_5	AB 14 - Yoichiro Emura, Takatada Saito, Youhei Miura and Naoki Yoshioka (60) Synthesis and EPR Spectra of Selectively Deuterated Nitronyl Nitroxide Derivatives
6:00	**Dinner**	

TIME	WEDNESDAY 26TH SEPTEMBER 2018 – PRENTICE BUILDING, ST LUCIA, THE UNIVERSITY OF QUEENSLAND
9:00-9:45	PL 3 - **IES SILVER MEDAL** - Michael Wasielewski, Yilei Wu, Jordan Nelson, Jinyuan Zhang, Jiawang Zhou, Brandon Rugg, Ryan Young and Matthew Krzyaniak (35) Radical Pairs as Spin Qubit Pairs: Observing and Preserving Spin Coherences **(room 216: Chair Thomas Prisner)**
9:45-10:15	KN 4 - **JOHN WEIL YOUNG INVESTIGATOR AWARD** - Shunsuke Furuya (27) Theory of electron spin resonance in low-dimensional quantum magnets
10:15-11:00	**Coffee (45 min)**
11:00-11:30	KN 5 - Yoh Matsuki, Toshitaka Idehara, Yuki Endo, Takahiro Nemoto, Shigeo Fukui, Jagadishwar Sirigiri, Hiroto Suematsu and Toshimichi Fujiwara (75) DNP-Enhanced MAS NMR Spectroscopy at 16.4 T and 30 K –Instrumentation and Applications **(room 216: Chair Arzhang Ardavan)**
11:30-12:00	KN 6 - Stephen Hill (71) An Integrated Magnetic Resonance Investigation of Metal-Metal Bonded Systems: Potential New Routes to Single-Molecule Magnets
12:00-12:30	KN 7 - Sharon Ruthstein (19) Deciphering the cellular copper trafficking mechanism in order to develop a new generation of antibiotics
12:30-1:30	**IES AGM/ Lunch (60 min)**
1:30-6:30	Free afternoon
7:00	**Conference Dinner**

Free Afternoon - Some Suggestions of Things to do in Brisbane, at Your Own Cost and Your Own Risk!

1. Visit the city and South Bank. See what's on in Brisbane at https://www.brisbane.qld.gov.au/whats-on
2. See a koala, pat a kangaroo or emu at LONE PINE KOALA SANCTUARY, see https://www.koala.net/en-au/
3. A round of golf may be possible at St Lucia Golf Link, contact Jeffrey Harmer if you are interested. https://www.hillstonestlucia.com.au/golf/?utm_source=google&utm_medium=places&utm_campaign=stluciagolflinks.

Transport Options

Taxis – Yellow Cabs (131 924) and Black and White Cabs (131 008) OR TransLink journey planner (public transport is free with your conference Go Card): https://jp.translink.com.au/plan-your-journey/journey-planner

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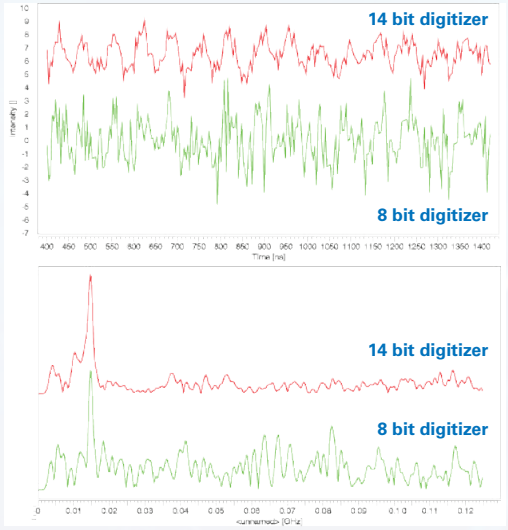

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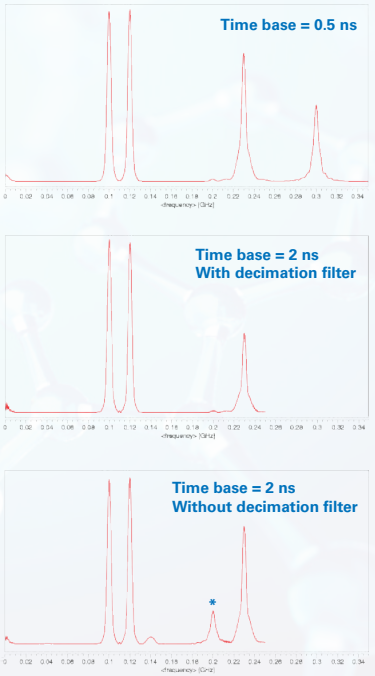

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TIME	THURSDAY 27TH SEPTEMBER 2018 – PRENTICE BUILDING, ST LUCIA, THE UNIVERSITY OF QUEENSLAND	
9:00-9:45	PL 4 - Takeji Takui, Takeshi Yamane, Kenji Sugisaki, Hideto Matsuoka, Kazunobu Sato, Kazuo Toyota and Daisuke Shiomi (50) Conventional ESR Analyses of Sizable ZFS Tensors in Metal Ionic High Spin Sys-tems in Harmony with Quantum Chemical Calculations: Applications to Some Important High Spin Metallocomplexes **(room 216: Chair Tadaaki Ikoma)**	
9:50-10:15	**Sensing /NV 1 (room 216: Chair Tadaaki Ikoma)** OR 3 - Fazhan Shi (5) Electron Spin Resonance Spectroscopy of A Single Molecule	**Soft Matter 1 (room 115: Sergei Dzuba)** IV 27 - Elena Bagryanskaya (29) Application of Trytil Radicals in Biology and Material Science
10:15-10:30	AB 15 - Shangda Jiang (1) Endohedral Fullerenes as Molecular Qubits	AB 16 - Andrei Kuzhelev, Olesya Krumkacheva, Georgiy Shevelev, Maxim Yulikov, Matvey Fedin and Elena Bagryanskaya (11) Room-Temperature Distance Measurements using RIDME and Orthogonal Spin Labels Trityl/Nitroxide
10:30:11:15	**Coffee (45 min)**	
11:15-11:40	**Sensing /NV 2 (room 216: Chair Dane McCamey)** IV 28 - Liam McGuinness (73) Nanoscale NMR spectroscopy with diamond NV centers	**Soft Matter 2 (room 115: Chair Alex Smirnov)** IV 31 - Victoria Syryamina, Ekaterina Afanasyeva and Sergei Dzyuba (39) Determination of Pair Distance Distribution in PELDOR of Spin Labels Using Monte Carlo Approach: Applications to Peptide Antibiotics and DNAs
11:40-12:05	IV 29 - Andrey Jarmola, Ilja Fescenko, Abdelghani Laraoui, Janis Smits, Nazanin Mosavian, Pauli Kehayias, Jong Seto, Lykourgos Bougas and Victor Acosta (33) Microfluidic NMR and magnetic microscopy on a diamond chip	IV 32 - Tatyana Smirnova, Erkang Ou, Maxim Voinov and Alex Smirnov (37) Electrostatics in Silica-Lipid Hybrid Structures as Studied by EPR
12:05-12:30	IV 30 - Liam Hall, Julia McCoey, David Simpson and Lloyd Hollenberg (63) Quantum Diamond Technology for Enhanced Magnetic Resonance Spectroscopy and Imaging	OR 4 - Olesya Krumkacheva, Ivan Timofeev, Larisa Politanskaya, Evgeniy Tretyakov, Elena Bagryanskaya and Matvey Fedin (22) Dipolar EPR spectroscopy of fullerene-based spin labels
12:30-1:30	**Lunch (50 min)**	

TIME	THURSDAY 27TH SEPTEMBER 2018 – PRENTICE BUILDING, ST LUCIA, THE UNIVERSITY OF QUEENSLAND	
12:30-1:30	**Lunch (50 min)**	
1:30-2:00	KN 8 - Arzhang Ardavan (78) Electrical control of quantum spins **(room 216: Chair Elena Bagryanskaya)**	
2:05-2:30	**Soft Matter 3 (room 216: Chair Elena Bagryanskaya)** IV 33 - Janet Lovett (17) Using the Rare Earth Elements Yttrium and Gadolinium as Spin Labels	**Organic Semiconductors (room 115: Chair Liam McGuinness)** IV 34 – Dane R. McCamey, Murad J. Y. Tayebjee, Samuel N. Sanders, Amir Asadpoordarvish, Elango Kumarasamy, Neil Mallo, Jonathon Beves, Timothy W. Schmidt, Matthew Y. Sfeir, and Luis M. Campos Spin Coherence and Dynamics of Singlet Fission in Molecular Dimers
2:30-2:55	OR 5 - Jana Eisermann and Dariush Hinderberger (8) Multifrequency and pulsed EPR spectroscopy on extremely soft, self-assembled structures in solution	IV 35 - Mizue Asada, Toshikazu Nakamura and Yuka Kobayashi (24) Electronic Structure Investigation of Self-doped type Organic Conductors by High-field ESR Spectroscopy
2:55-3:10	AB 17 - Victoria Syryamina, Ekaterina Afanasyeva and Sergei Dzuba (40) Antimicrobial peptides in model membranes: channel formation and fatty acid redistribution	AB 18 - Yasuhiro Kobori, Hiroki Nagashima, Takashi Tachikawa and Hiroyuki Mino (26) Electron Spin Polarization Imaging of Photoinduced Primary Charge-Separated States in PSII
3:10-3:40	**Coffee (30 min)**	
3:40-4:05	**Methods / Soft Matter 4 (room 216: Chair Chair Eric McInnes)** IV 36 - Boris Dzikovski (76) ESR at ACERT	
4:05-4:35	KN 9 - Mikhail Ivanov, Ivan Kurganskii and Matvey Fedin (45) Nanoscale Organization in Ionic Liquids Probed by EPR Techniques	
4:35-6:05	**APES AGM (1.5 hours)**	
6:05-6:10	Conference Close	

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The Poster Session on Tuesday from 3.10 – 4.40 pm is in The Prentice Building, room 42-212. Poster size should be A0.

No	ref	Authors	Poster Title
P1	99	K. N. Anuradha and S.V.Bhat	Electron Paramagnetic Resonance Studies of Charge ordered $R_{0.5}Ca_{0.5}MnO_3$(R = Pr, Bi) Manganites
P2	65	A Ashoka, K. S. Bhagyashree and Subray Bhat	Unexpected Effectiveness of Berezinskii-Kosterlitz-Thouless Description in Understanding the EPR Linewidth Behaviour of Doped Manganites
P3	53	Louise Brown, Ehsan Kachooei, Joanna Guse and Dane McCamey	Tracking of phosphorylation triggered structural changes in cardiac troponin by pulsed (DEER) EPR
P4	62	Ulrike Cerajewski and Dariush Hinderberger	CW EPR spectroscopy temperature series – a simple, yet powerful method for assessing structure and dynamic properties of complex soft matter on the nanoscale
P5	4	Elena Golysheva and Sergey Dzuba	Low-Temperature Dynamical transitions in model membranes observed by pulsed EPR of spin labels
P6	79	Joshua Harbort and Jeffrey Harmer	RIDME and Orientation-Selective DEER to Determine Distance and Orienta-tion Between Nitroxide and Haem in Cytochrome P450
P7	58	Sugyeong Hong, Sanghun Han, Jin Kim, Mi Hee Lim and Sun Hee Kim	Insight into Working Mechanism of Chemical Regulator on Cu-Amyloid beta peptide; An EPR Study
P8	93	Ryota Shoji, Takuya Omori, Yusuke Wakikawa, Tomoaki Miura, Tadaaki Ikoma	Magnetoconductance Study on Nongeminate Recombination in Solar Cell using Poly(3-hexylthiophene) and [6,6]-Phenyl C61-butyric Acid Methyl Ester
P9	97	Martyna Judd, Elwy Abdelkader Ali, Anton Savitsky, Gottfried Otting, Nicholas Cox	EDNMR as a molecular ruler for short-range distance measurements
P10	90	Ralf Kather, Daniel Duvinage, Matthias Vogt, Jens Beckmann, Jeffrey Harmer	Insights into Acid Chemistry: Reaction of the Lewis Acid $B(C_6F_5)_3$ with $[Ph_3SbO]_2$, $Ph_2P(O)OH$ and Synthesis of 6-$Ph_2P(O)$-Ace-5-$PbCl_3$
P11	95	Jonathan D. Breeze, Enrico Salvadori, Juna Sathian, Neil McN. Alford, Rudolf Richter, Stefan Ruloff, Haakon Weidemann, Yan Fett, Johann Seibert, Matthias Marquardt and Christopher W. M. Kay	Design, Construction and Realization of a Room-Temperature, Continuous-wave Maser Based on Nitrogen-Vacancy Centres in Diamond
P12	56	Yujeong Kim, Wonwoo Nam and Sun Hee Kim	EPR Spectroscopic Investigation of a High-valent Cobalt Complex Coordinated with a TAML Ligand
P13	16	Yuta Koizumi, Yuya Ishikawa, Kenta Ohya, Shunsuke Miura, Yutaka Fujii, Akira Fukuda, Akira Matsubara, Takao Mizusaki, Soonchil Lee, Eiichi Kobayashi, Hikomitsu Kikuchi and Seitaro Mitsudo	Development of Resonators for Millimeter-wave Band ESR/NMR Double Magnetic Resonance Measurements of Thin Samples

No	ref	Authors	Poster Title
P14	96	J. Langley, M. Chrysina, Y. Kutin, J. Morton, R. Purchase, L. Tian, L. Shen, G. Han, T. Krupnik, J. -R. Shen, E. Krausz, N. Cox	High Frequency Electron Paramagnetic Resonance Characterisation of Red Algae Photosynthetic Machinery
P15	69	Alina Motygullina, Mehdi Mobli and Jeffrey Harmer	Optimizing the transformation of HYSCORE data using the maximum entropy algorithm
P16	92	Hiroki Nagashima, Shuhei Kawaoka, Seiji Akimoto, Takashi Tachikawa, Yasunori Matsui, Hiroshi Ikeda, Yasuhiro Kobori	Spin conversion of the singlet-fission-born multiexciton in the amorphous aggregates
P17	15	Kouichi Nakagawa and Chalermpong Saenjum	X-band EPR Imaging and HPLC Investigation of Pigments in Plant Seeds
P18	74	Christopher Noble, Jeffrey Harmer, Benjamin Perrett, Emma Horgan and Paul Charles	EPR Dosimetry for Measuring Very Small Fields in Modern Radiotherapy
P19	98	Tsubasa Okamoto, Eiji Ohmichi, Yu Saito, Takahiro Sakurai, Hitoshi Ohta	Pressure Effect on Zero-Field Splitting Parameter of Iron-Porphyrin Complexes Revealed by High-Frequency and High-Field Electron Paramagnetic Resonance
P20	30	Ryosuke Okuto, Eito Ohki, Takahiro Sakurai, Keigo Hijii, Hideyuki Takahashi, Eiji Ohmichi, Susumu Okubo, Hitoshi Ohta, Yoshiya Uwatoko and Hidekazu Tanaka	Development of high-field and high-pressure ESR system and application to triangular antiferromagnet $CsCuCl_3$
P21	88	Daly Paul, Anuradha K.N. and Bhat S.V.	Investigation on Magnetization and Electron Magnetic Resonance properties of $Nd_{0.65}Ca_{0.35}$ $Mn_{1-x}Zn_xO_3$(x=0, 0.1, 0.3) Nanomanganite
P22	34	Yu Saito, Yuto Koseki, Bunpei Hatano, Kazuaki Sato, Susumu Okubo, Hitoshi Ohta and Tateaki Ogata	Antioxidant Capacity Evaluation of Carotenoid Compounds against Singlet Oxygen via ESR spectroscopy under in vitro Condition
P23	41	Victoria Syryamina, Anna Matveeva and Yuri Grishin	Dielectric resonator for the ESR probehead with improved homogeneity of the microwave field
P24	7	Tongtong Xiao, Zheng-Cai Xia, and Zhenxing Wang	Controlling Electron Spin Decoherence in Nd-based Complexes *via* Symmetry Selection
P25	81	Lora Goveas, Anuradha Kn and Sv Bhat	EPR Investigation of Charge Order Destabilization in Electron Doped $Sm_{0.35}Ca_{0.65}MnO_3$ Nanomanganite
P26	84	Lora Rita Goveas, Bhagyashree K S and S V Bhat	Occurrence of Mixed Phase in $Bi_{0.5}Sr_{0.5}Mn_{0.9}Cr_{0.1}O_3$ bulk sample: Electron Paramagnetic Resonance and Magnetization Studies

SPEAKER ABSTRACTS

PLENARY (PL) PRESENTATIONS	
PL 1	Olav Schiemann (80) PELDOR with Microsecond Time Resolution
PL 2	Songi Han (72) Integrated electron - nuclear magnetic resonance studies of DNP mechanisms
PL3	**IES SILVER MEDAL** - Michael Wasielewski, Yilei Wu, Jordan Nelson, Jinyuan Zhang, Jiawang Zhou, Brandon Rugg, Ryan Young and Matthew Krzyaniak (35) Radical Pairs as Spin Qubit Pairs: Observing and Preserving Spin Coherences
PL4	Takeji Takui, Takeshi Yamane, Kenji Sugisaki, Hideto Matsuoka, Kazunobu Sato, Kazuo Toyota and Daisuke Shiomi (50) Conventional ESR Analyses of Sizable ZFS Tensors in Metal Ionic High Spin Sys-tems in Harmony with Quantum Chemical Calculations: Applications to Some Important High Spin Metallocomplexes
KEYNOTE (KN) PRESENTATIONS	
KN 1	Thomas Prisner (85) Dipolar EPR Spectroscopy with Broadband Shaped MW pulses
KN 2	Subray Bhat (72) Many 'Avatars' of EPR linewidth in Doped Rare-earth Manganites: from Bottle-necked Relaxation to Berezinskii-Kosterlitz-Thouless Scenario
KN 3	Graham Smith (70) Zero and Low Deadtime EPR for characterisation of fast relaxing systems
KN 4	**JOHN WEIL YOUNG INVESTIGATOR AWARD** - Shunsuke Furuya (27) Theory of electron spin resonance in low-dimensional quantum magnets
KN 5	Yoh Matsuki, Toshitaka Idehara, Yuki Endo, Takahiro Nemoto, Shigeo Fukui, Jagadishwar Sirigiri, Hiroto Suematsu and Toshimichi Fujiwara (75) DNP-Enhanced MAS NMR Spectroscopy at 16.4 T and 30 K – Instrumentation and Applications
KN 6	Stephen Hill (71) An Integrated Magnetic Resonance Investigation of Metal-Metal Bonded Systems: Potential New Routes to Single-Molecule Magnets
KN 7	Sharon Ruthstein (19) Deciphering the cellular copper trafficking mechanism in order to develop a new generation of antibiotics
KN 8	Arzhang Ardavan (78) Electrical control of quantum spins
KN 9	Mikhail Ivanov, Ivan Kurganskii and Matvey Fedin (45) Nanoscale Organization in Ionic Liquids Probed by EPR Techniques
INVITED (IV) PRESENTATIONS	
IV 1	Alice Bowen, Nicole Erlenbach, Philipp van Os, Regina Schuldais, Jörn Plackmeyer, Mariaguilia Dal Farra, Sabine Richert, Charles Larmine, Marilena Di Valentin, Christiane Timmel, Snorri Sigurdsson and Thomas Prisner (83) Correlations in Pulsed Dipolar Electron Spin Resonance Spectroscopy
IV 2	Ed Reijerse (91) Electronic Structure of the [FeFe]Hydrogenase active site as studied by Magnetic Resonance (NMR & EPR)
IV 3	Eric McInnes (18) NOx mitigation in Metal Organics Frameworks (MOFs) followed by EPR
IV 4	Christopher Kay (21) Room Temperature, Solid State Masers
IV 5	Thomas Huber (89) Protein structure determination using paramagnetic ions
IV 6	Sun Hee Kim (44) Pulse EPR Characterization of Metal-oxo Species
IV 7	Sergey Veber, Sergey Tumanov, Michael Scheglov, Yaroslav Getmanov, Vitaly Kubarev, Oleg Shevchenko and Matvey Fedin (59) Application of free electron lasers to EPR spectroscopy of high-spin systems: pumping the spin transitions in single-molecule magnets
IV 8	Czesław Rudowicz (87) Semiempirical and density functional theory (DFT)/ab initio modeling of zero-field splitting (ZFS) for nickel(II) complexes exhibiting very large ZFS
IV 9	Aharon Blank (36) Microresonators in ESR – What are they good for?
IV 10	Jarryd Pla (55) Spin resonance at the quantum limit using superconducting microwave resonators
IV 11	Raanan Carmielli (77) In-Situ Electrochemical EPR for Real-Time Measurements of Radical Ions
IV 12	Hiroyuki Mino, Hiroyuki Tsukuno, Kouhei Ozeki, Hiroki Nagashima, Itsuki Kobayashi and Osamu Hisatomi (26) Function of Blue Sensor Protein Photozipper Investigated by Pulsed EPR
IV 13	Masaki Horitani (43) EPR Studies Reveal Mn(II)-Mn(II) Distance in the Active Site of Inorganic Pyrophosphatase from Shewanella sp. AS-11
IV 14	Kazuhiro Marumoto (1) Operando Direct Observation of Charge States in Organic and Perovskite Solar Cells
IV 15	Nana Iwata, Masaya Sato, Kiminori Maeda and Michihiko Sugawara (64) Probing and controlling transient radical pairs by pulse magnetic field and RF field in low field regime
IV 16	Harold Swartz (86) In vivo Clinical EPR: challenges and opportunities

IV 17	Christopher Ambe, Leonar Jun Gabiana, Marvin Jose Fernandez and Evelyn Creencia (82) Characterization and DFT Analyses in Titanium and Iron Modified Triamino-s-Heptazine Oligomers: Exploring Materials for Energy and Pharmaceutical Applications
IV 18	Chika Itagoshi, Syunya Miyazaki, Tomoaki Miura, Sota Kasuya, Yusuke Wakikawa and Tadaaki Ikoma (57) Dynamic Spin Effect on Triplet Fusion of 9,10-Diphenylanthracene
IV 19	Hiroshi Hirata, Denis Komarov, Yuki Ichikawa, Kumiko Yamamoto, Neil Stewart, Shingo Matsumoto, Hironobu Yasui, Igor Kirilyuk, Valery Khramtsov and Osamu Inanami (42) In vivo extracellular pH mapping of tumor using EPR imaging
IV 20	Andrey Bobko, Benoit Driesschaert, Martin Poncelet, Artem Gorodetskii, Urikhan Sanzhaeva, Mark Tseytlin, Oxana Tseytlin, Mikhail Dikov, Timothy Eubank and Valery Khramtsov (68) Novel EPR probes and instrumentation to profile tumor microenvironment
IV 21	Chunyan Wu, Jiafu Chen, Shuhong Yu and Hao Yin (94) Discovery of Selenium-Nitrogen free radical and its EPR studies
IV 22	Kouichi Nakagawa (14) Melanin Related Radicals in Skin Malignancy Investigated by X-band EPR
IV 23	Sergei Zvyagin (61) High-field ESR in low-dimensional spin systems
IV 24	Hitoshi Ohta, Susumu Okubo, Eiji Ohmichi, Takahiro Sakurai, Hideyuki Takahashi and Shigeo Hara (28) Multi-extreme THz ESR -the development of high pressure ESR
IV 25	Vladislav Kataev (2) Insights into the novel magnetism of 5d spin-orbit Mott insulators from sub-THz high-field ESR spectroscopy
IV 26	Ikuko Akimoto, Hideto Matsuoka and Takao Sekiya (47) Double electron-electron resonance with arbitrary-waveform pulses: application to randomly distributed electron and hole spins in a semiconductor
IV 27	Elena Bagryanskaya (29) Application of Trytil Radicals in Biology and Material Science
IV 28	Liam McGuinness (73) Nanoscale NMR spectroscopy with diamond NV centers
IV 29	Andrey Jarmola, Ilja Fescenko, Abdelghani Laraoui, Janis Smits, Nazanin Mosavian, Pauli Kehayias, Jong Seto, Lykourgos Bougas and Victor Acosta (33) Microfluidic NMR and magnetic microscopy on a diamond chip
IV 30	Liam Hall, Julia McCoey, David Simpson and Lloyd Hollenberg (63) Quantum Diamond Technology for Enhanced Magnetic Resonance Spectroscopy and Imaging
IV 31	Victoria Syryamina, Ekaterina Afanasyeva and Sergei Dzyuba (39) Determination of Pair Distance Distribution in PELDOR of Spin Labels Using Monte Carlo Approach: Applications to Peptide Antibiotics and DNAs
IV 32	Tatyana Smirnova, Erkang Ou, Maxim Voinov and Alex Smirnov (37) Electrostatics in Silica-Lipid Hybrid Structures as Studied by EPR
IV 33	Janet Lovett (17) Using the Rare Earth Elements Yttrium and Gadolinium as Spin Labels
IV 34	Dane R. McCamey, Murad J. Y. Tayebjee, Samuel N. Sanders, Amir Asadpoordarvish, Elango Kumarasamy, Neil Mallo, Jonathon Beves, Timothy W. Schmidt, Matthew Y. Sfeir, and Luis M. Campos (100) Spin Coherence and Dynamics of Singlet Fission in Molecular Dimers
IV 35	Mizue Asada, Toshikazu Nakamura and Yuka Kobayashi (24) Electronic Structure Investigation of Self-doped type Organic Conductors by High-field ESR Spectroscopy
IV 36	Boris Dzikovski (76) ESR at ACERT
ORAL (OR) PRESENTATIONS	
OR 1	Kenji Sugisaki, Satoru Yamamoto, Shigeaki Nakazawa, Kazuo Toyota, Kazunobu Sato, Daisuke Shiomi and Takeji Takui (20) Quantum Chemical Calculations of Open Shell Molecules on Quantum Computers: Efficient Construction Methods of the Open Shell Wave Functions
OR 2	Hironobu Yasui, Keita Saito, Shingo Matsumoto, Tohru Yamamori, Murali Krishna and Osamu Inanami (49) Longitudinal imaging of tumor oxygenation by pulsed ESR optimizes a metabolic-targeted therapy combined with X-irradiation in a murine squamous cell carcinoma model
OR 3	Fazhan Shi (5) Electron Spin Resonance Spectroscopy of A Single Molecule
OR 4	Olesya Krumkacheva, Ivan Timofeev, Larisa Politanskaya, Evgeniy Tretyakov, Elena Bagryanskaya and Matvey Fedin (22) Dipolar EPR spectroscopy of fullerene-based spin labels
OR 5	Jana Eisermann and Dariush Hinderberger (8) Multifrequency and pulsed EPR spectroscopy on extremely soft, self-assembled structures in solution
ABSTRACT (AB) PRESENTATIONS	
AB 1	Dima Svistunenko, Jacob Pullin and Neethu Salam (46) Deciphering Bacterioferritin Free Radical EPR spectrum: Are We Really Seeing a Tryptophan radical?
AB 2	Alex Smirnov (38) Tips, Tricks, and Techniques: Spin-labelling EPR of Membrane Proteins
AB 3	Allan McKinley, Duncan Wild and Hearne Thomas (51) Matrix Isolation EPR Studies of MgCH, MgN, and ZnN Radicals

AB 4	Hideto Matsuoka, Hiroki Matsui, Olav Schiemann and Kenji Sugisaki (54) Time-resolved EPR, Optical, and Quantum Chemical Studies of pi-conjugated phenazine derivatives
AB 5	Tsubasa Okamoto, Eiji Ohmichi, Yu Saito, Takahiro Sakurai and Hitoshi Ohta (12) Pressure Effect on Zero-Field Splitting Parameter of Iron-Porphyrin Com-plexes Revealed by High-Frequency and High-Field Electron Paramagnetic Resonance
AB 6	Hui-Dan Lou, Lei Yin and Zhenxing Wang (6) Series of Complexes Based on Quinolinic Derivative: Synthesis, Crystal Structures, HF-EPR, and Magnetic Properties
AB 7	Hiroki Nagashima, Shuhei Kawaoka, Seiji Akimoto, Takashi Tachikawa, Yasunori Matsui, Hiroshi Ikeda and Yasuhiro Kobori (25) Spin conversion of the singlet-fission-born multiexciton in the amorphous aggregates
AB 8	Zhongshu Li (13) Tricarbontriphosphide Tricyclic Radicals: Synthesis, Structures, and Mechanistic Study
AB 9	Haijun Yang, Xixi Liang, Yong Li and Hua Fu (66) EPR Studies on Mechanism of Solvent and Ligands Effects of Copper Salts with Oxygen
AB 10	Ruslan Zaripov and Vladislav Kataev (9) A Comparative ENDOR and ED NMR Study of the Cu(II)-bis(oxamato) Complex
AB 11	Hideyuki Takahashi, Tsubasa Okamoto, Kento Ishimura, Shigeo Hara, Eiji Ohmichi and Hitoshi Ohta (48) Highly Sensitive and Practical Force-detected ESR Spectrometer Utilizing a Silicon Nitride Nanomembrane
AB 12	Andrei Sukhanov (3) Spin coherence and spectroscopy study of Tm^{3+} in Y_2SiO_5
AB 13	Kazunobu Sato, Satoru Yamamoto, Taiki Shibata, Rei Hirao, Keigo Tanimoto, Kenji Sugisaki, Shigeaki Nakazawa, Elham Hosseini, Koji Maruyama, Kazuo Toyota, Daisuke Shiomi, Konstantin Ivanov, Yasushi Morita and Takeji Takui (32) Spin Manipulation by Arbitrary Microwave Excitation for Molecular Quantum Control
AB 14	Yoichiro Emura, Takatada Saito, Youhei Miura and Naoki Yoshioka (60) Synthesis and EPR Spectra of Selectively Deuterated Nitronyl Nitroxide Derivatives
AB 15	Shangda Jiang (1) Endohedral Fullerenes as Molecular Qubits
AB 16	Andrei Kuzhelev, Olesya Krumkacheva, Georgiy Shevelev, Maxim Yulikov, Matvey Fedin and Elena Bagryanskaya (11) Room-Temperature Distance Measurements using RIDME and Orthogonal Spin Labels Trityl/Nitroxide
AB 17	Victoria Syryamina, Ekaterina Afanasyeva and Sergei Dzuba (40) Antimicrobial peptides in model membranes: channel formation and fatty acid redistribution
AB 18	Yasuhiro Kobori, Hiroki Nagashima, Takashi Tachikawa and Hiroyuki Mino (26) Electron Spin Polarization Imaging of Photoinduced Primary Charge-Separated States in PSII

CLIN-EPR, LLC is the

world's first and foremost provider of clinical EPR systems, equipment, methods, and support to the medical research and scientific community. Its mission is to facilitate the development of in vivo EPR by enabling this novel technology, initially developed at Dartmouth Medical School (and elsewhere), to become available via purchase. Harold M. Swartz, M.D., Ph.D., internationally recognized as the leading expert in clinical applications of EPR, is a founding member and continues to be its Scientific Director.

Clin-EPR manufactures in vivo devices suitable for numerous clinical and preclinical investigational studies, including: tooth and nail dosimetry, oximetry of tumors, oximetry for evaluating peripheral vascular disease (e.g., due to diabetes), the role of hypoxia in wound healing, radiation associated fibrosis and chemotherapy induced peripheral neuropathy, and the role of oxygen in the effectiveness of immunotherapy.

AVAILABLE EPR INSTRUMENTS

CLINICAL

Complete systems:

- Whole Body with various ergonomic interfaces (gurney, chair, etc.)
- Head system for *in vivo* tooth dosimetry for emergency triage
- Partial body (e.g., for limb)
- Automated systems for emergency dosimetry for large events (radiation triage)

Supporting instrumental components:

- Surface resonators including flexible resonators to minimize effects of pressure and motion
- Implantable resonators (under development)
- Support systems for intracavitary measurements

PRECLINICAL

- Whole body for small rodents (mice and rats)
- Whole body for large animals (same system as the clinical device)

SERVICES FOR IN VIVO EPR

Development, deployment, maintenance, and upgrades of systems and devices purchased from Clin-EPR

Development of application-specific data acquisition and processing software

Consultation on issues involving applications in human subjects

Instrumental developments such as magnets, resonators, coils, etc.

Paramagnetic materials for clinical and preclinical oximetry

Clin EPR, LLC
Lyme, N.H.

CLIN-EPR, LLC

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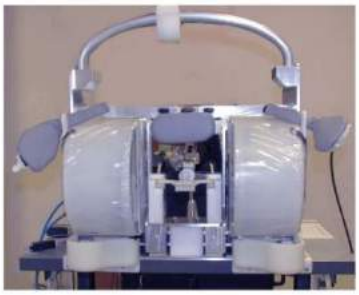

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