



## **Editorial Note**

### **“Proceedings of Wagga 2016”**

#### **The 40th Annual Condensed Matter and Materials Meeting**

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**Editor: Anton Tadich**

The 40th Annual Condensed Matter and Materials Meeting was held at Charles Sturt University, Wagga Wagga, NSW from 2 - 5 February, 2016. There were 116 attendees, including international visitors from Scotland, China, Taiwan and New Zealand. A total of 10 invited and 29 contributed oral papers were presented during the two and one half days of scientific sessions. There were also two sessions with a total of 70 poster presentations. All presenters were invited to submit a manuscript (six pages for invited papers and four for contributed papers) for publication in the conference proceedings. Each manuscript was refereed by at least two anonymous reviewers who worked to a set of guidelines made available by the editor. Each accepted publication therefore satisfies the requirements for classification as a refereed conference publication (E1). The organizers would like to thank the reviewers for their time and effort in reviewing manuscripts, which resulted in 9 papers being accepted for publication. The accepted manuscripts are available at the on-line publication section of the Australian Institute of Physics national web site (<http://www.aip.org.au/>).

**Organising committee:** Anton Tadich, Helen Brand, Dominique Appadoo, Trevor Finlayson, Michel James

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November 2016



## 2016 : OVERALL TIMETABLE

### **Tuesday 2<sup>nd</sup> February**

16:00 – 18:00	Registration desk open <i>Conference bar open</i>
18:00 – 19:30	<i>Dinner</i>
19:00 -	Posters WP1- WP33 to be mounted
19:30 – 21:00	<i>Wine Tasting</i>

### **Wednesday 3<sup>rd</sup> February**

07:30 – 08:45	<i>Breakfast</i>
08:45 – 09:00	Conference opening
09:00 – 10:30	Oral Session: WM1 – WM4
10:30 – 11:00	<i>Morning tea</i>
11:00 – 12:30	Oral Session: WN1 – WN5
12:30 – 14:00	<i>Lunch</i>
14:00 – 15:30	Oral Session: WA1 – WA4
15:30 – 16:00	Poster Slam
16:00 – 18:00	Poster Session: WP1 – WP33 <i>Afternoon Tea</i> <i>Conference bar open</i>
18:00 -	Posters: TP1 – TP37 to be mounted
18:30 – 22:00	<i>Wagga 2016 Conference Dinner</i>

### **Thursday 4<sup>th</sup> February**

07:30 – 08:45	<i>Breakfast</i>
08:45 – 10:30	Oral Session: TM1 – TM6
10:30 – 11:00	<i>Morning tea</i>
11:00 – 12:30	Oral Session: TN1 – TN5
12:30 – 14:00	<i>Lunch</i>
14:00 – 15:30	Oral Session: TA1 – TA5
15:30 – 16:00	Poster Slam
16:00 – 18:00	Poster Session: TP1 – TP37 <i>Afternoon Tea</i> <i>Conference bar open</i>
18:00 – 19:30	<i>Dinner</i>
19:30 – 22:00	Trivia Quiz (Lindsay Davis Cup)

### **Friday 5<sup>th</sup> February**

07:30 – 08:45	<i>Breakfast</i>
08:45 – 10:30	Oral Session: FM1 – FM6
10:30 – 11:00	<i>Morning tea</i>
11:00 – 12:15	Oral Session: FN1 – FN4
12:15 – 12:30	Awards and Closing
12:30 –	<i>Lunch</i>



## Wagga Wagga 2016 : PROGRAM DETAILS

### Tuesday 2<sup>nd</sup> February

16:00 –	Registration desk open
16:00 – 18:00	Welcome reception
18:00 – 19:30	Dinner
19:30 – 21:00	Wine Tasting

### Wednesday 3<sup>rd</sup> February

08:45 – 09:00	<b>Opening : Anton Tadich, Australian Synchrotron</b>
09:00 – 10:30	<b>WM Chairperson : Garry McIntyre, ANSTO</b>
09:00 – 09:30	WM1 The Australian Synchrotron in 2015 – Turning Bright Ideas into Brilliant Outcomes <i>Michael James, Australian Synchrotron</i> <i>INVITED</i>
09:30 – 09:45	WM2 Reactions of dihalogenated 3,4-ethylenedioxythiophenes on metal surfaces <i>Jennifer Macleod, Queensland University of Technology</i>
09:45 – 10:00	WM3 Developing cryogenic high-pressure techniques on the WISH neutron diffractometer. <i>Chris Ridley, University of Edinburgh</i>
10:00 – 10:30	WM4 Crystalline self-stratification in polymer thin films <i>Eliot Gann, Australian Synchrotron</i> <i>INVITED</i>
10:30 – 11:00	<b>Morning tea</b>
11:00 – 12:30	<b>WN Chairperson : Patrick Tung, UNSW</b>
11:00 – 11:30	WN1 Quantitative Femtosecond Charge Transfer Dynamics at Organic/Electrode Interfaces Studied by Core-Hole Clock Spectroscopy <i>Dongchen Qi, La Trobe University</i> <i>INVITED</i>
11:30 - 11:45	WN2 Unconventional Molecular Weight Dependence of Charge Transport in a High Mobility <i>n</i> -type Semiconducting Polymer <i>Masrur Nahid, Monash University</i>
11:45 - 12:00	WN3 An Approach to Degradation Mechanisms using Numerical Model Fitting in Thermally Activated Delayed Fluorescence (TADF) Organic Light Emitting Diodes (OLEDs) <i>Tadahiko Hirai, CSIRO</i>
12:00 – 12:15	WN4 In situ characterisation of calcium carbonate prenucleation clusters around the solubility limit using Small Angle X-ray Scattering. <i>Jonathan Avaro, Southern Cross University</i>





10:15 – 10:30	TM6	Development of Hydrophilic Materials for Nanofiltration Membrane Achieving Dual Resistance to Fouling and Chlorine <i>Xi Quan Chen, Harbin Institute of Technology, China</i>
<b>10:30 – 11:00</b>		<b>Morning tea</b>
<b>11:00 – 12:30</b>	TN	<b>Chairperson : <i>Gail Iles, ANSTO</i></b>
11:00 – 11:30	TN1	Atomic-scale understanding of CO <sub>2</sub> adsorption processes in metal-organic framework (MOF) materials using neutron scattering and ab initio calculations <i>Josie Auckett, ANSTO</i> <span style="float: right;"><i>INVITED</i></span>
11:30 - 11:45	TN2	Crystallographic and magnetic structure study in SrCoO <sub>3-x</sub> by high resolution X-ray and neutron powder diffraction <i>Fenfen Chang, University of New South Wales, Kensington</i>
11:45 - 12:00	TN3	Hydrates under pressure – new insights from sulfuric acid hydrates <i>Helen Maynard - Casely, ANSTO</i>
12:00 – 12:15	TN4	Inelastic neutron scattering as a means for determining the magnetic exchange interactions in the frustrated quantum spin chain, Linarite. <i>Kirrily Rule, ANSTO</i>
12:15 – 12:30	TN5	An investigation of magnetic structure and spin reorientation in Cr and Mn doped rare earth ferrites using neutron powder diffraction <i>Xinzhi Liu, ANSTO</i>
<b>12:30 – 14:00</b>		<b>Lunch</b>
<b>14:00 – 15:30</b>	TA	<b>Chairperson : <i>Helen Maynard-Casely, ANSTO</i></b>
14:00 – 14:30	TA1	X-radiation in health and disease: Novel approaches to the study of disease processes and therapy <i>Damian Myers, University of Melbourne</i> <span style="float: right;"><i>INVITED</i></span>
14:30 – 14:45	TA2	Investigation of Targeting Capabilities of Peptide-conjugated Endocannabinoid-based lipid Nanoassemblies in the Treatment of Arthritis <i>Nicola Barrie, CSIRO</i>
14:45 – 15:00	TA3	Sodium for securing future renewable energy supply <i>Manickam Minakshi, Murdoch University</i>
15:00 – 15:15	TA4	Bi(III)-containing lanthanum germanium apatite-type oxide ion conductors and their structure-property relationships <i>Matthew Tate, ANSTO</i>
15:15 – 15:30	TA5	Low temperature effect of lithium diffusion in 18650-type MNC battery <i>Chun-ming Wu, National Synchrotron Radiation Research Centre, Taiwan</i>
<b>15:30 – 16:00</b>		<b>Poster Slam</b>
<b>16:00 – 18:00</b>		<b>Poster Session TP1 – TP37</b>



**18:00 – 19:30**                      **Dinner**

**19:30 – 22:00**                      **Trivia Night**

## **Friday 5<sup>th</sup> February**

**08:45 – 10:30**      **FM**      **Chairperson: *Glen Stewart, UNSW Canberra***

08:45 – 09:15      FM1      A Morphotropic Phase Boundary in Samarium-modified Bismuth Ferrite Thin Films  
*Nagarajan Valanoor, University of New South Wales*                      *INVITED*

09:15 – 09:30      FM2      Reversible electrochromism, elasto-optic and thermo-optic effects in BiFeO<sub>3</sub> films  
*Daniel Sando, University of New South Wales, Kensington*

09:30 – 09:45      FM3      Effects of <sup>18</sup>O isotope substitution in multiferroic RMnO<sub>3</sub> (R=Tb, Dy)  
*Paul Graham, University of New South Wales, Kensington*

09:45 – 10:00      FM4      Growth and Properties of Strain-tuned SrCoO<sub>x</sub> (2.5 ≤ x <3) Thin Films  
*Hu Songbai, University of New South Wales, Kensington*

10:00 – 10:15      FM5      Experimental observations of grain-scale property coupling in electroceramics  
*John Daniels, University of New South Wales, Kensington*

10:15 – 10:30      FM6      Gamma irradiation effect on optical and laser damage performance of KDP crystals  
*Xiaodong Yuan, China Academy of Engineering Physics, China*

**10:30 – 11:00**                      **Morning tea**

**11:00 – 12:30**      **FN**      **Chairperson : *Claudio Cazorla, UNSW***

11:00 – 11:30      FN1      Two-dimensional Coulomb gas at negative temperature  
*Tapio Simula, Monash University*                      *INVITED*

11:30 - 11:45      FN2      Multimode photon-assisted tunnelling in superconducting quantum circuits  
*Matthew Woolley, University of New South Wales, Canberra*

11:45 - 12:00      FN3      Focusing of electrons and holes in semiconductors: from semi-classical dynamics to spintronics  
*Samuel Bladwell, University of New South Wales, Kensington*

12:00 – 12:15      FN4      Amplitude of charge density wave in cuprates  
*Yaroslav Kharkov, University of New South Wales, Kensington*

**12:15 – 12:30**                      **Awards and closing : *Anton Tadich, Australian Synchrotron***

**12:30 – 14:00**                      **Lunch**



## W 2016 : POSTER SESSIONS

### Wednesday 3<sup>rd</sup> February : WP1 - WP34

- WP1 Porosity in Ge and Si<sub>1-x</sub>Ge<sub>x</sub> Alloys Induced by Ion Implantation  
*H. Alkhalidi, F. Kremer, T. Bierschenk, J.L. Hansen, A. Nylandsted-Larsen, J.S. Williams and M.C. Ridgway*
- WP2 Synthesis and characterisation of CoMoO<sub>4</sub> nanospheres with improved supercapacitive performance  
*M. Barmi and M. Minakshi*
- WP3 Electrolytic manganese dioxide from secondary sources for energy storage  
*A. Biswal, M. Minakshi and B. Tripathy*
- WP4 Do porosity templates improve the performance of supercapacitor electrode materials?  
*S. Albohani, D. Laird and M. Minakshi*
- WP5 Multigelator organogels-mixture of gelators assembled by different driving forces  
*J. Chen and J. Li*
- WP6 In situ characterisation of calcium carbonate prenucleation clusters around the solubility limit using Small Angle X-ray Scattering technique.  
*J. Avaro and A. Rose*
- WP7 Terahertz Characterisation of 3D Printed Plastics  
*J. Colla, A. Squires and R. Lewis*
- WP8 THz Spectroscopy of Artists' Pigments, Binders and Canvas  
*A. Squires, M. Kelly and R. Lewis*
- WP9 Steels and intermetallics under extreme conditions  
*K-D. Liss, A. Shiro, R. Dippenaar, K. Akita, K. Funakoshi, M. Reid, H. Suzuki, T. Shobu, Y. Higo, H. Saitoh, S. Zhang and Y. Tomota*
- WP10 Improved Micro-CT of SiC/SiC Ceramic Matrix Composites  
*J. Thornton, M. Zonneveldt, B. Arhatari, J. A. Kimpton, M. Sesso, S. Y. Kim and C. Hall*
- WP11 Mechanical meta-materials: beyond conventional property  
*L. Wang and J. Daniels*
- WP12 Curing of large size construction for space exploitation  
*A. Kondyurin*
- WP13 Polyurethane medical implants improved by plasma immersion ion implantation  
*I. Kondyurina, B. Bao, A. Kondyurin and M. Bilek*
- WP14 In-situ diffuse scattering experiment on stress-induced ferroelastic transformation in Ti-15Nb-2.5Zr-4Sn  
*E. Obbard, R. Burkovsky, H. Wang and Y. Hao*



- WP15 Prodrug Amphiphile Nanoparticles of Gemcitabine and 5- Fluorouracil  
*J. Bulanadi, M. Moghaddam, A. Xue, S. Julovi, S. Bal, X. Gong and R. Smith*
- WP16 Spin-polarized single and double electron spectroscopies  
*J. Williams and S. Samarin*
- WP17 Structures of Silane SAMs on Oxide Surfaces  
*A. Magerl, H-G. Steinruck, M. Deutsch and B. Ocko*
- WP18 Biocompatible magnesium based ultrastable metallic glass (SMG) thin films  
*S. Gleason, K. Laws, J. Jiang and M. Ferry*
- WP19 Epitaxial Growth of Spinel Iron Vanadate Thin Films on Perovskite Substrate  
*D. Zhou, Y. Zhou, N. Valanoor, Q. He and Y-H. Chu*
- WP20 Fingering instability in solid state dewetting of single crystal Ni films  
*S. Jahangir, N. Valanoor, C. Thompson, G.H Kim*
- WP21 Modelling TiO<sub>2</sub> supported Au cluster photocatalyst using DFT and SCC-DFTB approaches  
*J. Li, G. Metha and S. Irle*
- WP22 Photoconductivity of nanoscale grain boundaries in two dimensional ZnO platelets  
*N. Faraji Ouch Hesar*
- WP23 A Novel method for the preparation of a monolithic alumina catalyst support  
*M. H. Amin, S. Bhargava, J. Patel and M. Mazur*
- WP24 Refractive index of graphite and graphene at wavelengths spanning the carbon K edge  
*H. Wahab, C. Jansing, H. C. Mertins, S-H Choi and H. Timmers*
- WP25 Terahertz Spectroscopic Characterizations for Graphite Nanofibers and Graphite  
*H. Zhang, J. Horvat and R. Lewis*
- WP26 Optical bistability due to nonlinear surface plasmon polaritons in graphene  
*M. Sanderson, Y. Sin Ang and C. Zhang*
- WP27 Quantitative 3D Strain Mapping in Nanodiamonds using Bragg Coherent Diffractive Imaging (BCDI)  
*M. S. Maqbool, D. Hoxley, N. Phillips, A. Stacey, J. Clark, B. Chen, D. Langley, R. Harder, E. Balaur and B. Abbey*
- WP28 The role of dielectric function for the control of coupled dipole resonances in dimers of dissimilar metallic nanorods  
*G. Fletcher, M. Cortie and M. Arnold*
- WP29 Helium ion implantation dose dependent microstructure and laser damage of sapphire  
*Z. Sui*
- WP30 Theory of controlling avalanche process of carrier in short pulse laser irradiated dielectrics  
*X. Yuan, H. Deng and X. Xu*
- WP31 Cooperative Behaviour of Physical Systems  
*T. Finlayson and J. Lashley*





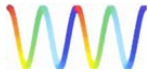
- WP32 EPR Study of a 'Capsule' Brewed Coffee and its Decaffeinated Version  
*G. Troup and S. Drew*
- WP33 An EPR Study of Tawny Ports, and Coffee Favoured Liqueurs  
*G. Troup and S. Drew*

### **Thursday 4<sup>th</sup> February : TP1 – TP37**

- TP1 First spectrum measured on EMU, the cold-neutron backscattering spectrometer at the Bragg Institute, ANSTO  
*N. De Souza, A. Klapproth, G. Iles*
- TP2 Development of high-pressure single-crystal neutron diffraction on the Laue diffractometer, KOALA, at OPAL  
*J. Binns, G. McIntyre, K. Kamenev, S. Moggach and S. Parsons*
- TP3 Advanced Sample Environment Support for Neutron Instruments at the Bragg Institute, ANSTO  
*P. Imperia, N. Booth, G. Davidson, S. Lee, T. D'Adam and A. Manning*
- TP4 Vibrational studies using neutrons  
*A. Stampfl*
- TP5 Development of a compact X-ray source  
*E.W.J. Yap, R. Preston, J. Tickner and J. Daniels*
- TP6 Investigations of the Structural and Magnetic Phase Behaviour of  $\text{MnSb}_{2-x}\text{Ta}_x\text{O}_6$  Solid Solutions  
*H-B. Kang, F. Suzuki and T. Soehnel and*
- TP7 Low Pressure Synchrotron X-ray Powder Diffraction of  $\text{Cu}_{5-x}\text{M}_x\text{SbO}_6$  (M = Cr, Mn, W)  
*D. J. Wilson, T. Soehnel, K. Smith, H. E. A. Brand, C. Ulrich, P. Graham, F. Chang, M. Allison and N. H. Vyborna*
- TP8 Neutron diffraction study of double tungstates  $\text{Li}_2\text{M}^{\text{II}}(\text{WO}_4)_2$  (M=Co and Ni)  
*C-W. Wang, S. Karna, F. C. Chou and R. Sankar*
- TP9 Low-energy crystal-field excitations observed using inelastic Neutron Scattering  
*G. Iles, G. Stewart, R. Mole, W. Hutchison and S. Cadogan*
- TP10 Dynamical Mechanism of Phase Transitions in A-site Ferroelectric Relaxor  $(\text{Na}_{0.5}\text{Bi}_{0.5})\text{TiO}_3$   
*G. Deng, S. Danilkin, H. Zhang, P. Imperia, X. Li, X. Zhao and H. Luo*
- TP11 Kaolinite and halloysite – does octahedral  $\text{Fe}^{2+}$  introduce the extra water into halloysite?  
*J. Cashion, W. Gates, J.M. Cadogan, J. Churchman and L. Aldridge*
- TP12 An  $^{57}\text{Fe}$  Mössbauer Study of the Ordinary Chondrite meteorite Lynch-001  
*N. Elewa and S. Cadogan*



- TP13 Spin transitions in cementite  
*S. Clark*
- TP14 Non-equilibrium field theory and decay widths: a new golden rule  
*H. Scammell and O. Sushkov*
- TP15 Incommensurate magnetic order in PrNiAl<sub>4</sub>  
*R. White, W. Hutchison, M. Avdeev and K. Nishimura*
- TP16 Skyrmions and Hopfions in frustrated ferromagnets  
*Y. Kharkov, M. Mostovoy and O. Sushkov*
- TP17 The magnetic properties and magnetocaloric effect in (Mn<sub>1-x</sub>Ni<sub>x</sub>)CoGe  
*Q. Ren, W. Hutchison, J. Wang, A. Studer and S. Campbell*
- TP18 Azimuthal dependence of planar orbits in the crossed fields diamagnetic Kepler problem in silicon  
*C. Bleasdale and R. Lewis*
- TP19 Temperature and magnetic field dependent magnetization of nanoparticulate ZnFe<sub>2</sub>O<sub>4</sub> produced by mechanochemical synthesis  
*F. Nesa, X. Wang, J. Wang, S. Kennedy, S. Campbell and M. Hofmann*
- TP20 Pressure induced, reversible, fourfold enhancement of the magnetic ordering temperature in transition metal monomers  
*C. Woodall, J. Martinez Lillio, A. Prescimone, M. Misek, J. Cano, J. Faus, S. Parsons, K. Kamenev and E. Brechin*
- TP21 Physical, thermal and <sup>57</sup>Fe Mössbauer studies of Y<sub>2</sub>Fe<sub>2</sub>Si<sub>2</sub>C  
*R. Susilo, S. Cadogan, C-H. Hsu, H. lin, W. Hutchison and S. Campbell*
- TP22 Mechanism of enhancement of the electron g-factor in quantum point contacts  
*G. Vionnet and O. Sushkov*
- TP23 Towards understanding the magnetic structure of DyN, a ferromagnetic semiconductor  
*J. Evans, G. Stewart, S. Cadogan, W. Hutchison, E. Mitchell and J. Downes*
- TP24 G-factors of hole bound states in spherically symmetric potentials in cubic semiconductors  
*D. Miserev and O. Sushkov*
- TP25 A <sup>161</sup>Dy-Mössbauer spectroscopy investigation of DyCrO<sub>4</sub>  
*G. Stewart, S. Cadogan, W. Hutchison and D. Ryan*
- TP26 Spin drift in Rashba systems with tilted magnetic fields  
*S. Bladwell and O. Sushkov*
- TP27 Epitaxial (001) BiFeO<sub>3</sub> thin-films with excellent ferroelectric properties by chemical solution deposition-The role of gelation  
*Q. Zhang and N. Valanoor*
- TP28 Complex Magnetic Structure in strained nanoscale bismuth ferrite thin films  
*C. Ulrich, J. Bertinshaw, R. Maran, S. Callori, V. Ramesh, J. Cheung, S. Danilkin, S. Hu, J. Seidel and N. Valanoor*



- TP29      Nanoscale Ferroelectric domain structure of bismuth ferrite BiFeO<sub>3</sub> under different strains  
*A. Alsubaie, P. Sharma and J. Seidel*
- TP30      Generalised requirements for ferroelectric domain sharing over grain boundaries  
*S. Mantri and J. Daniels*
- TP31      Rational design of multiferroic superlattices  
*C. Cazorla*
- TP32      Positive effect of an internal depolarization field in ultrathin epitaxial ferroelectric films  
*G. Liu and N. Valanoor*
- TP33      Determining fundamental properties from diffraction: electric field induced strain and piezoelectric coefficient  
*M. Hinterstein, A. Studer and M. Hoffman*
- TP34      Diffuse X-ray Scattering: Probing the Nano-scale Disorder in the Lead-Free Piezoelectric Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub>  
*P. Tung, M. Major, J. Hudspeth and J. Daniels*
- TP35      Combinatorial synthesis of piezoelectric materials using an inkjet printer  
*F. Marlton, J. Daniels and O. Standard*
- TP36      Stress and electric-field dependence of the induced phase symmetry in BNT-xBT  
*M. J. Hossain, Z. Wang, N. Khansur, P. Tung and J. Daniels*
- TP37      Contrasting strain mechanisms in lead-free piezoelectric ceramics  
*N. H. Khansur and J. Daniels*



## Refereed Articles

- 1 H. Alkhalidi, F. Kremer, T. Bierschenk, J.L. Hansend, A. Nylandsted - Larsend, J.S. Williams and M.C. Ridgway  
**Porosity in Ge and Si<sub>1-x</sub>Ge<sub>x</sub> Alloys Induced by Ion Implantation**  
WP1
- 2 A. Biswal, M. Minakshi and B. Tripathy  
**Electrolytic Manganese Dioxide from Secondary Sources for Energy Storage**  
WP3
- 3 J. Cashion, W. Gates, J.M. Cadogan, J. Churchman and L.P. Aldridge  
**Kaolinite and Halloysite – Does Octahedral Fe<sup>2+</sup> Introduce the Extra Water into Halloysite?**  
TP11
- 4 J. Cashion  
**Commemoration of the Lives of Drs Rod Day and Gordon Troup**  
(INVITED)
- 5 S. Kashi, R. K. Gupta, N. Kao and S. N. Bhattacharya  
**Preparation and Characterization of Poly Lactide and Poly (Butylene Adipate-co-Terephthalate) Nanocomposites**  
TM5
- 6 H.-B. Kang, F. Suzuki and T. Söhnel  
**Investigations of the Structural and Magnetic Phase Behaviour of MnSb<sub>2-x</sub>Ta<sub>x</sub>O<sub>6</sub> Solid Solutions**  
TP6
- 7 D.E. Myers, A.W. Stevenson, S.W. Wilkins, T.J. O'Brien, R.J. Hicks, S.C. Mayo, A. Maksimenko, G.F. Moorhead, C.G. Ryan, S. James, M.L. Broadhead, D. Patterson, M.D de Jonge, D. Howard, D. Häusermann  
**X-Radiation in Health and Disease: Novel Approaches to the Study of Disease Processes and Therapy**  
TA1
- 8 H. Wahab, R. Haverkamp, J. M. Cadogan, H.-C. Mertins, S.-H. Choi and H. Timmers  
**NEXAFS Anisotropy of Molecular Excitations Preceding the Carbon Continuum Edge in CVD Graphene on Copper**  
TM3
- 9 H. Wahab, C. Jansing, H. C. Mertins, S-H Choi and H. Timmers  
**Refractive Index of Graphite and Graphene at Wavelengths Spanning the Carbon K-edge**  
WP24