



+ xii **CMDS** **20 26**

At the Crosspeak of East & West

The 12th International Conference on
Coherent Multidimensional Spectroscopy
22 – 26 June 2026,
Nanyang Technological University, Singapore

Program
(updated 23rd Jun 2026)

Early Career Symposium Program

(For ECS Talk abstracts, please refer to the poster abstracts numbers, P## or Q##, in brackets)

Monday, 22nd June 2026 (Morning)

0830-0850 Registration

0850-0900 Opening Remarks

Chair: Sundar Raj Krishnaswamy

E01 (Q13) **Thanh Nhut Do**
pH-Dependent Structural Alterations in LHCII Revealed by Two-Dimensional
0900-0920 Infrared Spectroscopy

E02 (P09) **Johanna L. Hall**
0920-0940 Photosystem II Subunit Design Revealed by 2DEV Spectroscopy

E03 (P10) **Ajeet Kumar**
Ultrafast Excitation-Energy Dynamics in Intact Cells of Gemmatimonas
0940-1000 Phototrophica Probed by Two-Dimensional Electronic Spectroscopy

E04 (P12) **Caleb J. C. Jordan**
Exploring Chromophore-Environment Interactions of Metalloporphyrins in De
1000-1020 Novo Proteins

1020-1050 COFFEE

Chair: Hyunmin Jang

E05 (Q12) **Avinash Chettri**
A single GLFG repeat which serves as a model system for NuPs forms hydrogel
1050-1110 with reversible fibers

E06 (Q01) **Gerrit N. Christenson**
2D Electronic-Vibrational Spectroelectrochemistry: Vibronic Coupling in Organic
1110-1130 Mixed Conductors

E07 (Q02) **Lara Denninger**
Same Same but Different: Vibronic Coupling to Selectively Target
1130-1150 Subpopulations

E08 (P02) **Atandrita Bhattacharyya**
Multiexcitonic triplet state maintains significant singlet character throughout
1150-1210 singlet fission

1210-1340 LUNCH

Monday, 22nd June 2026 (Afternoon)

		Chair: Hoang Long Nguyen
E09 (Q18) 1340-1400	Kyle Boschen Excitonic Interactions and Dynamics in Mono- and Bi-Layer WSe ₂	
E10 (P28) 1400-1420	Gijsbert A.H. ten Hoven Fourth Order Extension of Multichromophoric FRET	
E11 (Q25) 1420-1440	Zachary Faltz New Polarization Tricks For Background Removal In Action Detection Spectroscopies	
E12 (P33) 1440-1500	De-Ran Zhang Extracting high-order signals in two-dimensional spectroscopy via the mouse-tracking algorithm	
1500-1530	COFFEE	
1530-1700	Panel Sharing Session: Amber Krummel, Pavel Malý, Yin Song, and Michal Maj	
1730-1900	DINNER	

CMDS2026 Program

Tuesday, 23rd June 2026 (Morning)

0830-0840 Opening Remarks

Chair: Amber Krummel

V01 Neil Hunt

0840-0910 Combining Experimental 2D-IR with Machine Learning for Protein Analysis

C01 Jianping Wang

0910-0930 Unveiling Local Structures and Dynamics in Biomolecular and Pharmaceutical Systems by Ultrafast 2D Infrared Spectroscopy

C02 Michal Maj

0930-0950 2D IR Structural Fingerprinting of Amyloid Fibril Polymorphs

C03 Bei Ding

0950-1010 Monitoring the Active-site Response upon Photoactivation of the AppA BLUF Photoreceptor Using Two-Dimensional Infrared Spectroscopy and an N₃F Probe

S01

1010-1020 Light Conversion

1020-1050 COFFEE

Chair: Jasper Knoester

C04 Luca Bolzonello

1050-1110 Action-detected Multidimensional Spectroscopy: from fundamentals to *operando* device characterization

C05 Pavel Malý

1110-1130 Photo-thermal 2DIR and 2DES

C06 Alexei Kananenka

1130-1150 When Simple Kinetic Models are not Enough to Accurately Simulate Action-detected 2D Spectra

V02 Akihito Ishizaki

1150-1220 Two-Dimensional Fluorescence Spectroscopy with Quantum Entangled Photons and Time- and Frequency-Resolved Two-Photon Coincidence Detection

1220-1350 LUNCH

Tuesday, 23rd June 2026 (Afternoon)

	Chair: Tom Oliver
V02 1350-1420	Tobias Brixner Isolating Multi-Particle Correlations in Time and Space
C07 1420-1440	Jacob Krich Order-Separating Spectroscopies: Revealing Multi-Exciton Spectra and Dynamics
C08 1440-1500	JunWoo Kim Interaction Pathway-Selective 2DES with Undetected Photons
C09 1500-1520	Jeff Davis Accessing New Information from the Phase Evolution in CMDS Measurements
S02 1520-1530	PHASETECH
1530-1630	EQUATORIAL FRUIT FEAST & COFFEE
	Chair: Keisuke Tominaga
V04 1630-1700	Vivek Tiwari Disordered Light-harvesting Aggregates Can Host Functional Vibronic Couplings at Room Temperature
C10 1700-1720	Carlos Baiz Hydrogen-Bond Dynamics at Electrochemical Interfaces: The Role of Cosolvents
C11 1720-1740	Bogdan Dereka Dynamics of Strong Proper C–H Hydrogen Bonds
P## 1800-2000	Poster Session 1 & DINNER

Wednesday, 24th June 2026 (Morning)

		Chair: Donatas Zigmantas
V05 0830-0900	Antonieta De Sio Vibronic coupling-driven ultrafast excited state dynamics in quadrupolar molecules	
C13 0900-0920	Yuxiang Weng Quantum biological effects in photosynthesis revealed by two-dimensional electronic spectroscopy	
C14 0920-0940	Masaaki Tsubouchi Two-dimensional electronic spectroscopy of phycobiliproteins synthesized by recombinant technique	
C15 0940-1000	Hoang Long Nguyen Two-Dimensional Electronic Anisotropy to Reveal Isoenergetic Energy Transfer Dynamics in Photosynthetic Light-Harvesting Complexes	
S03 1000-1010	Few Cycle	
1010-1040	COFFEE	
		Chair: Minhaeng Cho
C16 1040-1100	Kyungwon Kwak Interchain structure around Li ⁺ ion in Solid Polymer Electrolytes	
C17 1100-1120	Nicholas Lewis Following electron transfer and confined water dynamics in Prussian Blue using electrochemical 2D IR	
C18 1120-1140	Daniel Kuroda Using Dual IR Reporters and 2DIR Spectroscopy to Map Interactions and Dynamics in Highly Heterogeneous Environments	
V06 1140-1210	Martin Zanni Are exciton dynamics in thin films representative of actual solar cells? Addressing the question using artifact-free ultrafast 2D photocurrent spectroscopy	
1210-1400	LUNCH	

Wednesday, 24th June 2026 (Afternoon)

	Chair: Vivek Tiwari
V07 1400-1430	David Jonas 2D Spectroscopy, Generalized Einstein Relations, and Spectroscopic Thermodynamics
C19 1430-1450	Jens Bredenbeck How IR Vibrational Excitation Reshapes UV/Vis Electronic Spectra
C20 1450-1510	Benjamin Fingerhut Quantitative Access to Molecular Excited State Properties of Conjugated Polyenes
C21 1510-1530	Thomas L.C. Jansen A Versatile Mapping Program for Modelling Two-Dimensional Infrared and Electronic Spectroscopy
1530-1600	COFFEE
	Chair: Thomas L.C. Jansen
C22 1600-1620	Tomáš Mančal Unified System–Bath and Light–Matter Perturbation Theory for Nonlinear Optical Response
C23 1620-1640	Garth Jones System–Bath Partitioning and Emergent Quantum Resources in 2DES
C24 1640-1700	Deependra Jadoun Using Twin-Beams for an Instantaneous Detection of Quantum Coherences in 2D Electronic Spectroscopy
C25 1700-1720	Andres Montoya-Castillo Short-lived memory in multidimensional spectra encodes full signal evolution
C36 1720-1740	Yin Song Tracking relaxation dynamics of polaritons and reservoir states in organic exciton-polaritons
Q## 1800-2000	Poster Session 2 & DINNER

Thursday, 25th June 2026 (Morning)

		Chair: Maxim Pchenitnikov
V08 0830-0900	Minhaeng Cho Orbital Angular Momentum-Resolved Nonlinear Spectroscopy with Vortex Beams	
C26 0900-0920	James Lloyd-Hughes CMDS of Vibrational Correlations in Layered Organic-Inorganic Perovskites	
C27 0920-0940	Rohan Singh Frequency-Resolved Quantitative Lineshape Analysis in Two-Dimensional Coherent Spectroscopy	
C28 0940-1000	Donghai Li Revealing Ultrafast Excited-State Dynamics of Quantum Dots by 25 kHz Shot-to-Shot Phase-Cycling 2DES	
1000-1030	COFFEE	
		Chair: Jianping Wang
V09 1030-1100	Peter Hamm 2D-IR spectroscopy with a missing <i>i</i> : Universal Structure in the Relaxation of Photoactive Proteins	
C29 1100-1120	Amber Krummel Bridging Molecular and Macroscopic Timescales: 2D IR Imaging of Copper Redox Dynamics in Ionic Liquids	
C30 1120-1140	Sean Garrett-Roe CO ₂ Jumps Through Polymerized Ionic Liquids	
C31 1140-1200	Yung Sam Kim 2D IR Study of Conformational Thermodynamics (ΔH and ΔS) and Fermi Resonance in the <i>syn</i> - and <i>anti</i> -Isomers of Acetic Acid in Acetonitrile	
C32 1200-1220	Paul Donaldson Salt-pellet 2D-IR spectroscopy: a helping hand for vibrational spectroscopy of inorganic solids?	
1220-1400	LUNCH	

Thursday, 25th June 2026 (Afternoon)

	Chair: Steve Meech
V10 1400-1430	Hong-Guang Duan Correlating Wave-Packet Dynamics with Structural Evolution Using Ultrafast Spectroscopic and Diffractive Methods
C33 1430-1450	Donatas Zigmantas Polarization-controlled 2DES for extracting Q-band relaxation in chlorophyll <i>a</i>
C34 1450-1510	Giovanni Bressan Conformational Switching Modulates Excited-State Pathways in a Cofacial Perylene Dimer
1530-1900	CONFERENCE EXCURSION: Singapore River and Marina Bay Cruise.
1900-2130	CONFERENCE BANQUET: Permata Singapore. Nusantara Cuisine, in a historic mansion in Kampung Glam, Singapore.

Friday, 26th June 2026 (Morning)

	Chair: Antonietta De Sio
C35 0900-0920	Qiang Shi Open quantum system approach to dynamics and spectroscopy for strong light-molecule interaction
C37 0920-0940	Daniel Timmer Ultrafast collective multimode Rabi oscillations in an open cavity probed by 2DES
C38 0940-1000	Kevin Kubarych Correlating Vibrational Dynamics with Vibrational Strong Coupling Reaction Modification

1000-1030 COFFEE

	Chair: Jeff Davis
V11 1030-1100	Maxim Pchenitnikov Excitons in the Making: Tracking Self-Assembly by 2DES
C39 1100-1120	Tõnu Pullerits Operando CMDS of Carrier Cooling in Perovskite Solar Cells
C40 1120-1140	Navendu Mondal Unravelling the Origin of Ultrafast Vibronic coupling in Hybrid Perovskite Nanosystems

1140-1200 Poster Awards & Closing Remarks

1200-1330 LUNCH

	Post-conference Excursion. Short Hike up Bukit Timah, Singapore's highest point. 1600hrs Bus from NEC to Bukit Timah Nature Reserve 1600hrs Bus from Genting Hotel Jurong to Bukit Timah Nature Reserve Afternoon ~1830hrs Somewhere in the Bukit Timah area for dinner.
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POSTER SESSION I

Tuesday, 23rd June 2026 (Evening)

P01	Sundar Raj Krishnaswamy In Situ 2DES of Hierarchical Supramolecular Self-Assembly
P02	Atandrita Bhattacharyya Multiexcitonic Triplet State Maintains Significant Singlet Character Throughout Singlet Fission
P03	Alexey Kuevda Trimming Excitonic Landscape with Light
P04	Indranil Roy Anisotropic Quantum Beats Report Room Temperature Functional Vibronic Couplings in LHAs
P05	Rishabh Tripathi Excitation-Intensity-Driven Quantum Pathway Control in Two-Dimensional Coherent Spectroscopy
P06	Imran Mustapha A Kinetic Monte Carlo Study of Equilibration, Anisotropy Decay, Exciton-Exciton Annihilation and First Passage Dynamics in Photosynthetic Antenna Complexes
P07	Dominik Bäuerle New Insights on Dynamics in Chlorophyll-f Containing Far-red Photosystem I
P08	Junhua Zhou Non-Monotonic Temperature Dependence of Energy Transfer in a Photosynthetic Antenna Complex
P09	Johanna Hall Photosystem II Subunit Design Revealed by 2DEV Spectroscopy
P10	Ajeet Kumar (Poster Exhibited at Q04) Ultrafast Energy Transfer in Intact Gemmatimonas Phototrophica Probed by 2D Electronic Spectroscopy
P11	Mengyuan Cui Excitonic Energy Transfer in Red Algal Photosystem I Reveals an Evolutionary Bridge between Cyanobacteria and Plants
P12	Caleb Jordan Exploring Chromophore-Environment Interactions of Metalloporphyrins in <i>De Novo</i> Proteins

P13	Matteo Bruschi Multi-Exciton Processes in Ultrafast Nonlinear Optical Spectroscopy
P14	Jeswin Sunny Multiple Quantum Coherences of Electronic States and Vibrational Modes in Cyanocobalamin
P15	Alina Bach Energy Transfer in a Vibronically Coupled System: Transient Anisotropy of Chlorophyll c
P16	Nelson Kim Soon Ong Revealing Anti-Correlated Vibrational Coherences in Zinc Phthalocyanine via Polarization-Resolved Two-Dimensional Electronic Spectroscopy
P17	Maria Francesca Cherchi Selective Q-Band Excitation Modulates Exciton–Exciton Annihilation in H ₂ TPPS J-Aggregates
P18	Vittoria Burigana Substitution and Environmental Effects on Ultrafast Relaxation Dynamics of Red-absorbing Squaraines
P19	Ramandeep Kaur Two-Dimensional Electronic Spectroscopy of a System with a Double-Well Excited-State Potential
P20	Jinhyuk Ma Probing Quantum Indeterminacy in Ultrafast Excited State Intramolecular Proton Transfer
P21	Stephen Meech Remote Control of Fluorescent Protein Photoswitching
P22	Amitav Sahu Solvent-Driven Spectral Diffusion in IR-125 Probed by Full and Reduced Fluorescence-Detected 2DES
P23	Michal Ptacek Ultrafast Non-Adiabatic Dissipative Energy Dynamics of Porphyrins: from Explicit to Implicit Model
P24	Ting-Chien Ho Using Polarization Dependent 2D Electronic Spectroscopy to Reveal Hidden Vibronic Mixing in Photosynthetic Systems: A Theoretical Perspective
P25	Dario Baldon 2D-ES Analysis of Colloidal Plexcitonic Nanohybrids
P26	Sankaran Ramesh Plasmon-Exciton Hybridization and Helicity-Controlled Ultrafast Dynamics in Chiral Plexcitons

P27	Stephanie C. Gonzalez Migoni Coarse-Graining F-2DES: Back in Action
P28	Gijsbert ten Hoven Fourth Order Extension of Multichromophoric FRET
P29	Kennet Rueda Espinosa Theory and Simulations of Fluorescence-Detected Two-Dimensional Electronic Spectroscopy
P30	Sayan Ghosh Prominent Signatures of Energy Transfer in Action-Detected Spectra of a Photosynthetic Protein
P31	Muyi Zhang Ultrabroadband Fluorescence-Detected 2DES with Dual Rapid-Scanning Interferometers
P32	Jacob Higgins Directly Observing Many-Body Correlations with Two-Dimensional Electronic X-Ray Spectroscopy
P33	Deran Zhang Extracting High-Order Signals in Two-Dimensional Spectroscopy via the Mouse-Tracking Algorithm
P34	Valentina Shumakova Generation of Few-Cycle Pulses from Industrial Grade Yb:Laser Through Cascaded Post-Compression
P35	Dasol Im Spatially Resolving Energy Transfer in Carbon Nanotube Films with Ultrafast 2D Confocal Microscopy
P36	Jiading Zou Two-Dimensional Ultraviolet Spectroscopy with Conventional Optics
P37	Bhaskar De CNN-Based Full Lineshape Analysis in Two-Dimensional Coherent Spectroscopy
P38	Sachin Prasad Incorporating population-to-population, coherence-to-population, and coherence-to-coherence conversion processes in the response function expressions for multi-level systems in four-wave mixing experiments
P39	Chenlin Ma Multiple Davydov Ansatz for accurate system-bath dynamics in the presence of multiple baths with differing temperatures

POSTER SESSION II

Wednesday, 24th June 2026 (Evening)

Q01	Gerrit Christenson 2D Electronic-Vibrational Spectroelectrochemistry: Vibronic Coupling in Organic Mixed Conductors
Q02	Lara Denninger Same Same but Different: Vibronic Coupling to Selectively Target Subpopulations
Q03	Joseph Davies Intra-Defect and Defect-Lattice Coupling in Diamond Revealed by Two-Dimensional Infrared Spectroscopy
Q04	Ajeet Kumar Ultrafast Energy Transfer in Intact Gemmatimonas Phototrophica Probed by 2D Electronic Spectroscopy
Q05	Helena Poulouse Tracking reaction kinetics with 2D-IR spectroscopy
Q06	Akhil Mon Ultrafast Vibrational Dynamics in Concentrated Electrolyte Solutions
Q07	Keisuke Tominaga Vibrational Population Relaxation and Spectral Diffusion of the CN Stretching Mode of [Ru(bpy)(CN) ₄]
Q08	Giorgio Scattolini Bringing the bulk to the surface: towards the application of surface enhanced 2D-IR spectroscopy for the study of solvation dynamics
Q09	BoHyeon Park Identification of Reactive Mode via Polarization Dependent Coherent Vibrational Spectroscopy
Q10	Samuel Bird Investigating Pre-Catalyst Solvation in Ionic Liquids using Ultrafast 2D-IR Spectroscopy
Q11	Timo Stern Making Proteins Transparent: Selective FEIR Spectroscopy of a Chromophore in Complex Protein Environments
Q12	Avinash Chettri A single GLFG repeat which serves as a model system for NuPs forms hydrogel with reversible fibers
Q13	Thanh Nhut Do pH-Dependent Structural Alterations in LHCII Revealed by Two-Dimensional Infrared Spectroscopy

Q14	Till Stensitzki Tracking enzymatic activity with 2D-IR spectroscopy
Q15	Riyanka Karmakar Carrier-donor Scattering Enhanced Multiple Carrier Generation at Exceptionally Low Energy Threshold
Q16	Manas Sarangi Relevance of Electron and Hole Transfer in Lead Halide Perovskite Nanocrystals on Current Conduction
Q17	EunSeo Jang Investigation of Coherent Phonon Dynamics and ASE Performance in FAPbBr ₃ with MACl Additives
Q18	Kyle Boschen Excitonic Interactions and Dynamics in Mono- and Bi-Layer WSe ₂
Q19	Yao Li Ultrafast charge generation dynamics via interfacial energetic modulation for single-component OSCs
Q20	Gi Rim Han Tracking the impact of ultrafast measurement on strongly confined perovskite nanoplatelets using asynchronous and interferometric transient absorption
Q21	Adam Alfrey Two-Dimensional Coherent Spectroscopy Provides Unambiguous Separation of Linewidths in MoSe ₂
Q22	Justin Wei Xiang Lim Investigating the Ultrafast Carrier Dynamics of 2-Dimensional Semiconductors using Time- and Energy-Resolved Photoemission Electron Microscopy
Q23	Bruno Schmidt Femtosecond Hyperspectral Source – HYPUS
Q24	Ross Milverton From Pulse Shaping to Batteries: New Approaches and Applications in 2D Raman Spectroscopy
Q25	Zac Faltz New Polarization Tricks for Background Removal in Action Detection Spectroscopies
Q26	Garth Jones SpecSuite: A toolbox for modelling ultrafast experiments
Q27	Paul Donaldson The new HiLUX-ULTRA instruments at the Central Laser Facility

Q28	Hyunmin Jang Asynchronous and Interferometric Nonlinear Spectroscopy of Indium Arsenide Nanoparticle
Q29	James Harris Probing Coupling to and Through Metal-Metal Multiple Bonds with DOVE Spectroscopy
Q30	Natalia Gray Disentangling Electronic and Vibrational Signatures via Simulated Femtosecond Coherence Spectroscopy
Q31	Junyan Sun Kramers–Kronig–Constrained Reconstruction of Optical Absorption from Interference-Dominated Transmission Spectra
Q32	Christine Chun Hui Ling Ultrafast Vibrational Dynamics of the Aqueous Adenine Radical Induced by Photodetachment
Q33	Bani Hakim Mohamed Ultrafast Vibrational Wavepacket Dynamics of Aqueous Phe-Ala
Q34	EunHo Hong Excited-State-Selective 2D Electronic Spectroscopy: A Role-Reversed Time-Dependent Perturbation Approach with Quantum Photonic States
Q35	Seyyed Jabbar Mousavi Anharmonic Phonon-Phonon Coupling in LaAlO_3 Revealed by Two-Dimensional Raman-Terahertz Spectroscopy
Q36	Luis Herrera Decoding the THz–IR–Vis Spectrum of Water
Q37	Minhyuk Lee Two-dimensional Raman-infrared Spectroscopy for Reaction Dynamics in the Electronic Ground state