

Subject Index of Volume 156

- Activated carbon
Nonaqueous electrolyte; Capacitor; Electrical double layer; Temperature dependence (Liu, P. (156) 712)
- Activated carbons
Supercapacitors; Mesophase pitch (Mora, E. (156) 719)
- Activation
Incubation; CO; Fuel cells (Xu, Z. (156) 281)
- Activation using elevated temperature and pressure
Proton-exchange membrane fuel cell; Hydrogen evolution; Hydrogen pumping; CO oxidative stripping; Incubation (Xu, Z. (156) 315)
- Air
Deposits; Gas-phase kinetics; Methane; Natural gas; Steam (Gupta, G.K. (156) 434)
- Air breathing
PEM fuel cell; Micro-fuel cell; Fuel cell modeling; Nano-pores; Natural convection (Litster, S. (156) 334)
- Air supply circuit modeling
Fuel cell system; Fuzzy controller; Particle swarm optimization (Tekin, M. (156) 57)
- Air system
PEM; Fuel cell; Optimization (Bao, C. (156) 232)
- Alkaline fuel cell
Anionic membrane; Electrocatalysts (Coutanceau, C. (156) 14)
- Alkaline fuel cells
Bipolar cell; Low pressure (Gülzow, E. (156) 1)
- Alloying electrode
Silicon/graphite composites; Lithium-ion batteries; Factor experiment (Dimov, N. (156) 567)
- All-polymer battery
Conducting polymer; Polypyrrole; Polyterthiophene (Wang, C.Y. (156) 610)
- Ammonia
Hydrogen storage; Metal hydride; Metal amide; Reactive ball milling (Leng, H.Y. (156) 166)
- Ammonia borane
Hydrogen generation; Hydrolysis; Metal catalysts; Platinum (Chandra, M. (156) 190)
- AMTEC
TIEC; Cascade; Efficiency; Optimization (Lodhi, M.A.K. (156) 685)
- Anionic membrane
Alkaline fuel cell; Electrocatalysts (Coutanceau, C. (156) 14)
- Anode
InP; GaP; Lithium-ion battery; Reversible capacity; Zinc blende structure (Satya Kishore, M.V.V.M. (156) 594)
- Anode
Silicon; Patterned wafer; Thin film; Lithium-ion rechargeable batteries; Capacity retention cycle tests (Bang, B. (156) 604)
- Anode
Solid oxide fuel cells; Solid electrolyte; Cathode; Impedance spectroscopy (Muccillo, R. (156) 455)
- Anode compartment
Direct internal reforming; MCFC; Modified reformer; Reforming reaction (Wee, J.-H. (156) 288)
- Anode gas management
Critical flow rate; PEFC system operation; Fuel cell stack and overall efficiency (Zhu, W.H. (156) 512)
- Anode products of DDMEFC
Direct dimethyl ether fuel cell (DDMEFC); Direct methanol fuel cell (DMFC); CO₂ current efficiency; Crossover (Mizutani, I. (156) 183)
- Anode-supported SOFC
Cathode/electrolyte interface; 1Ce10ScZr; Surface oxygen exchange (Wang, Z. (156) 306)
- ANOVA
PEMFC; Experimental design; Taguchi method (Wahdame, B. (156) 92)
- Basicity
Preferential oxidation; Carbon monoxide; Water vapour; Platinum–magnesium catalyst; Fuel cell (Cho, S.-H. (156) 260)
- Battery thermal effect
Lithium-ion battery; Li_{1-x}CoO₂ electrode; Li_xC₆ electrode; Peltier heat (Huang, Q. (156) 541)
- Binder
Current collector; Electroactive; Li ion mobility; Ionic conductor (Witker, D. (156) 525)
- Biomass
Dimethyl ether; Steam reforming; Fuel cells; Well-to-wheel; Hydrogen; Diesel substitute; Ethanol; Methane; Methanol; Efficiency; Greenhouse gases; Fischer–Tropsch (Semelsberger, T.A. (156) 497)
- Bipolar cell
Alkaline fuel cells; Low pressure (Gülzow, E. (156) 1)
- Bipolar plates
PEM fuel cell; Thermal management; Heat-exchanger; Chaotic advection (Lasbet, Y. (156) 114)
- Bipolar plates
PEM fuel cells; Carbon composite materials; Electrical conductivity; Low carbon loading (Blunk, R. (156) 151)
- Bond Graph
Energy approach; Modeling; PEM fuel cell; Experimental validation (Saisset, R. (156) 100)
- Capacitor
Activated carbon; Nonaqueous electrolyte; Electrical double layer; Temperature dependence (Liu, P. (156) 712)
- Capacity retention cycle tests
Silicon; Patterned wafer; Thin film; Anode; Lithium-ion rechargeable batteries (Bang, B. (156) 604)
- Capillary pressure
Hydrophilic; Hydrophobic; Porosity; Cathode; Water management (Gostick, J.T. (156) 375)
- Carbon
Direct methanol fuel cell; Platinum; Methanol electro-oxidation (Choi, J.-S. (156) 466)
- Carbon black
Natural graphite; Synthetic graphite; Expanded graphite; PUREBLACK® Carbon; Desulco® and Acheson processes (Wissler, M. (156) 142)

- Carbon cloth electrode
Electrochemical capacitors; Supercapacitors; Self-discharge; Float-current (Niu, J. (156) 725)
- Carbon components
Proton-exchange membrane fuel cells; Catalyst support; Direct carbon fuel cell (Dicks, A.L. (156) 128)
- Carbon composite materials
PEM fuel cells; Bipolar plates; Electrical conductivity; Low carbon loading (Blunk, R. (156) 151)
- Carbon monoxide
Preferential oxidation; Water vapour; Basicity; Platinum–magnesium catalyst; Fuel cell (Cho, S.-H. (156) 260)
- Cascade
TIEC; AMTEC; Efficiency; Optimization (Lodhi, M.A.K. (156) 685)
- Catalyst
Molybdenum carbide; Reforming; Hydrogen; Fuel cell (Cheekatamarla, P.K. (156) 520)
- Catalyst coating
Miniaturized-reformer; Silicon technology; Hydrogen generation (Kwon, O.J. (156) 253)
- Catalyst support
Proton-exchange membrane fuel cells; Carbon components; Direct carbon fuel cell (Dicks, A.L. (156) 128)
- Cathode
Hydrophilic; Hydrophobic; Porosity; Capillary pressure; Water management (Gostick, J.T. (156) 375)
- Cathode
Primary alkaline battery; Electrolytic manganese dioxide; Mathematical model; Perturbation methods (Johansen, J.F. (156) 645)
- Cathode
Solid oxide fuel cells; Solid electrolyte; Anode; Impedance spectroscopy (Muccillo, R. (156) 455)
- Cathode material
Organic–inorganic nanocomposite; PEDOT-nanoribbons; MoS₂; Lithium batteries (Murugan, A.V. (156) 615)
- Cathode/electrolyte interface
Anode-supported SOFC; 1Ce10ScZr; Surface oxygen exchange (Wang, Z. (156) 306)
- Cathodes
SOFC; LSCF; LSM (Tietz, F. (156) 20)
- Cathodic interlayers
Microstructure; SOFC; Sol–gel (Fontaine, M.L. (156) 33)
- 1Ce10ScZr
Anode-supported SOFC; Cathode/electrolyte interface; Surface oxygen exchange (Wang, Z. (156) 306)
- CeO₂-modified PtRu/C catalysts
X-ray diffraction; X-ray photoelectron spectroscopy; Voltammetry; Methanol oxidation (Guo, J.W. (156) 345)
- Ceramic filler
Gel-type polymer electrolyte; Mixed lithium salts; Lithium-ion polymer battery (Yang, C.-M. (156) 574)
- Chaotic advection
PEM fuel cell; Bipolar plates; Thermal management; Heat-exchanger (Lasbet, Y. (156) 114)
- Characterization
Fuel cell; Simulation (Schott, P. (156) 85)
- Chemical synthesis
Non-noble electrocatalysts; Oxygen reduction; PEM fuel cells (Zhang, L. (156) 171)
- CHP model
SOFC stack; Computer experimental analysis; Factorial design (Cali, M. (156) 400)
- Chromia-forming alloy
Electrical resistivity; Oxidation; SOFC interconnect; MOCVD; Screen-printing (Cabouro, G. (156) 39)
- CO
Activation; Incubation; Fuel cells (Xu, Z. (156) 281)
- CO oxidative stripping
Proton-exchange membrane fuel cell; Activation using elevated temperature and pressure; Hydrogen evolution; Hydrogen pumping; Incubation (Xu, Z. (156) 315)
- CO₂ current efficiency
Direct dimethyl ether fuel cell (DDMEFC); Direct methanol fuel cell (DMFC); Crossover; Anode products of DDMEFC (Mizutani, I. (156) 183)
- CO₂ sequestration
Hydrogen; Methane reforming; Dry ice; Heat integration; Power integration (Posada, A. (156) 480)
- Cobalt oxides
Electrodeposition; Glycine; Fuel cells; MCFC cathode coating (Mansour, C. (156) 23)
- Cogeneration of heat and power
Fuel processor; Fuel cell system; Modelling; Natural gas; PEMFC (Hubert, C.-E. (156) 64)
- Composite polymer electrolyte
Molecular sieves; ZSM-5; Ionic conductivity; Electrochemical properties (Xi, J. (156) 581)
- Compression
GDL; Performance (Escribano, S. (156) 8)
- Computational study
Proton exchange membrane fuel cell; Water transport (Um, S. (156) 211)
- Computer experimental analysis
SOFC stack; CHP model; Factorial design (Cali, M. (156) 400)
- Conducting polymer
All-polymer battery; Polypyrrole; Polyterthiophene (Wang, C.Y. (156) 610)
- Conductivity
Electrolyte; 3-Methyl-2-oxazolidinone; Lithium battery; DSC (Gzara, L. (156) 634)
- Control
Energy management; FC applications (Valero, I. (156) 50)
- Cost optimisation
Solid oxide fuel cell; Power converter; Micro-CHP (Hawkes, A.D. (156) 321)
- Critical flow rate
Anode gas management; PEFC system operation; Fuel cell stack and overall efficiency (Zhu, W.H. (156) 512)
- Cross-linking
Proton conductivity; Polymer electrolyte; Polyvinyl alcohol; Poly-2-acrylamide-2-methyl propane sulfonic acid (Hamaya, T. (156) 311)
- Crossover
Direct dimethyl ether fuel cell (DDMEFC); Direct methanol fuel cell (DMFC); CO₂ current efficiency; Anode products of DDMEFC (Mizutani, I. (156) 183)
- Current collector
Electroactive; Binder; Li ion mobility; Ionic conductor (Witker, D. (156) 525)
- Cyclic voltammetry
H_{upd}; Platinum; Underpotential deposition of hydrogen (Reiner, A. (156) 28)
- Cycling
Lithium ion batteries; Model (Santhanagopalan, S. (156) 620)
- Decomposition
Lithium ion battery; Water content; LiPF₆; Electrolyte; Kinetics (Kawamura, T. (156) 547)
- Decomposition kinetics
Lithium-ion battery; Electrolyte salt; Thermal stability; Thermal analysis (Lu, Z. (156) 555)
- Degradation of materials
Solid oxide fuel cell; System identification (Haschka, M. (156) 71)
- Deposits
Gas-phase kinetics; Methane; Natural gas; Steam; Air (Gupta, G.K. (156) 434)
- Design of experiments
PEM fuel cell; Factorial design; Interaction; Fuel cell design (Guvelioglu, G.H. (156) 424)

- Desulco[®] and Acheson processes
 Natural graphite; Synthetic graphite; Expanded graphite; Carbon black; PUREBLACK[®] Carbon (Wissler, M. (156) 142)
- Diesel substitute
 Dimethyl ether; Steam reforming; Fuel cells; Well-to-wheel; Hydrogen; Ethanol; Methane; Methanol; Efficiency; Greenhouse gases; Biomass; Fischer–Tropsch (Semelsberger, T.A. (156) 497)
- Diffusion
 EMD; Porosity; ‘Spring-back’; Impedance (Qu, D. (156) 692)
- Dimethyl ether
 Steam reforming; Fuel cells; Well-to-wheel; Hydrogen; Diesel substitute; Ethanol; Methane; Methanol; Efficiency; Greenhouse gases; Biomass; Fischer–Tropsch (Semelsberger, T.A. (156) 497)
- Direct carbon fuel cell
 Proton-exchange membrane fuel cells; Carbon components; Catalyst support (Dicks, A.L. (156) 128)
- Direct dimethyl ether fuel cell (DDMEFC)
 Direct methanol fuel cell (DMFC); CO₂ current efficiency; Crossover; Anode products of DDMEFC (Mizutani, I. (156) 183)
- Direct ethanol fuel cells
 Ethanol oxidation; Sol–gel; Metal oxide catalysts (Calegaro, M.L. (156) 300)
- Direct internal reforming
 MCFC; Modified reformer; Anode compartment; Reforming reaction (Wee, J.-H. (156) 288)
- Direct methanol fuel cell
 Platinum; Carbon; Methanol electro-oxidation (Choi, J.-S. (156) 466)
- Direct methanol fuel cell (DMFC)
 Direct dimethyl ether fuel cell (DDMEFC); CO₂ current efficiency; Crossover; Anode products of DDMEFC (Mizutani, I. (156) 183)
- Direct methanol fuel cells
 Polymer electrolyte membranes; Water transport; Methanol transport; Pulse gradient spin-echo nuclear magnetic resonance diffusion (Jayakody, J.R.P. (156) 195)
- Direct methanol fuel cells
 Polymer electrolyte pore-filled membranes; Polystyrene sulfonic acid; Porous poly(vinylidene fluoride) films; Simultaneous irradiation grafting (Nasef, M.M. (156) 200)
- Disorder
 Nickel hydroxide; Precipitation conditions; Non-uniform broadening; Phase selection (Ramesh, T.N. (156) 655)
- Dry ice
 Hydrogen; Methane reforming; Heat integration; Power integration; CO₂ sequestration (Posada, A. (156) 480)
- DSC
 Electrolyte; 3-Methyl-2-oxazolidinone; Lithium battery; Conductivity (Gzara, L. (156) 634)
- Dynamic
 Fuel cell; Ramping; Ultra capacitor; Load following (Meacham, J.R. (156) 472)
- Dynamic fuel cell modelling
 High-frequency transformer; Multi-stack; PEFC; Simulation (Garnier, J. (156) 108)
- Dynamic hydrogen electrode
 Reference electrode; Proton exchange membrane fuel cell (Siroma, Z. (156) 284)
- Dynamic response
 PEM; Fuel cells; Membrane electrode assembly; Electric vehicle; Overshoot (Shimpalee, S. (156) 355, 369)
- Efficiency
 Dimethyl ether; Steam reforming; Fuel cells; Well-to-wheel; Hydrogen; Diesel substitute; Ethanol; Methane; Methanol; Greenhouse gases; Biomass; Fischer–Tropsch (Semelsberger, T.A. (156) 497)
- Efficiency
 TIEC; AMTEC; Cascade; Optimization (Lodhi, M.A.K. (156) 685)
- Electric vehicle
 PEM; Fuel cells; Membrane electrode assembly; Dynamic response; Overshoot (Shimpalee, S. (156) 355, 369)
- Electrical conductivity
 PEM fuel cells; Bipolar plates; Carbon composite materials; Low carbon loading (Blunk, R. (156) 151)
- Electrical double layer
 Activated carbon; Nonaqueous electrolyte; Capacitor; Temperature dependence (Liu, P. (156) 712)
- Electrical resistivity
 Chromia-forming alloy; Oxidation; SOFC interconnect; MOCVD; Screen-printing (Cabouro, G. (156) 39)
- Electroactive
 Current collector; Binder; Li ion mobility; Ionic conductor (Witker, D. (156) 525)
- Electrocatalysts
 Alkaline fuel cell; Anionic membrane (Coutanceau, C. (156) 14)
- Electrochemical capacitors
 Supercapacitors; Carbon cloth electrode; Self-discharge; Float-current (Niu, J. (156) 725)
- Electrochemical capacitors
 Internal resistance; Spiral-wound structure (Zheng, J.P. (156) 748)
- Electrochemical capacitors
 Porous materials; Sol–gel; V₂O₅ (Reddy, R.N. (156) 700)
- Electrochemical properties
 Composite polymer electrolyte; Molecular sieves; ZSM-5; Ionic conductivity (Xi, J. (156) 581)
- Electrochemical stability
 Gel polymer electrolyte; Ionic conductivity; Lithium salt (Aoki, T. (156) 589)
- Electrochemical supercapacitor
 Polyaniline; Potentiodynamic deposition; *p*-Toluene sulfonic acid (Girija, T.C. (156) 705)
- Electrochemical supercapacitor
 Scanning electron microscopy; Manganese oxide; Physical vapor deposition; X-ray photoelectron spectroscopy (Djurfors, B. (156) 741)
- Electrode fabrication
 Proton exchange membrane fuel cells; RF sputtering; Pt deposition (Huang, K.-L. (156) 224)
- Electrodeposition
 Cobalt oxides; Glycine; Fuel cells; MCFC cathode coating (Mansour, C. (156) 23)
- Electrokinetic energy conversion
 Generator; Pump; Figure of merit; Thermodynamic analysis (Xuan, X. (156) 677)
- Electrolyte
 3-Methyl-2-oxazolidinone; Lithium battery; Conductivity; DSC (Gzara, L. (156) 634)
- Electrolyte
 Impedance spectroscopy; Intermediate temperature SOFC; Sputtering; Thin layers (Brahim, C. (156) 45)
- Electrolyte
 Lithium ion battery; Water content; LiPF₆; Decomposition; Kinetics (Kawamura, T. (156) 547)
- Electrolyte additive
 LiBF₄; Lithium bis(oxalate)borate; Solid electrolyte interface; Low temperature performance (Zhang, S.S. (156) 629)
- Electrolyte salt
 Lithium-ion battery; Thermal stability; Decomposition kinetics; Thermal analysis (Lu, Z. (156) 555)
- Electrolytic manganese dioxide
 Primary alkaline battery; Cathode; Mathematical model; Perturbation methods (Johansen, J.F. (156) 645)
- EMD
 Porosity; Diffusion; ‘Spring-back’; Impedance (Qu, D. (156) 692)
- Energy approach
 Bond Graph; Modeling; PEM fuel cell; Experimental validation (Saisset, R. (156) 100)
- Energy management
 Control; FC applications (Valero, I. (156) 50)

- Ethanol
Dimethyl ether; Steam reforming; Fuel cells; Well-to-wheel; Hydrogen; Diesel substitute; Methane; Methanol; Efficiency; Greenhouse gases; Biomass; Fischer–Tropsch (Semelsberger, T.A. (156) 497)
- Ethanol oxidation
Sol-gel; Direct ethanol fuel cells; Metal oxide catalysts (Calegario, M.L. (156) 300)
- Expanded graphite
Natural graphite; Synthetic graphite; Carbon black; PUREBLACK® Carbon; Desulco® and Acheson processes (Wissler, M. (156) 142)
- Experimental design
PEMFC; Taguchi method; ANOVA (Wahdame, B. (156) 92)
- Experimental validation
Bond Graph; Energy approach; Modeling; PEM fuel cell (Saisset, R. (156) 100)
- Factor experiment
Silicon/graphite composites; Lithium-ion batteries; Alloying electrode (Dimov, N. (156) 567)
- Factorial design
PEM fuel cell; Design of experiments; Interaction; Fuel cell design (Guvelioglu, G.H. (156) 424)
- Factorial design
SOFC stack; CHP model; Computer experimental analysis (Cali, M. (156) 400)
- FC applications
Energy management; Control (Valero, I. (156) 50)
- Figure of merit
Electrokinetic energy conversion; Generator; Pump; Thermodynamic analysis (Xuan, X. (156) 677)
- Fischer–Tropsch
Dimethyl ether; Steam reforming; Fuel cells; Well-to-wheel; Hydrogen; Diesel substitute; Ethanol; Methane; Methanol; Efficiency; Greenhouse gases; Biomass (Semelsberger, T.A. (156) 497)
- Float-current
Electrochemical capacitors; Supercapacitors; Carbon cloth electrode; Self-discharge (Niu, J. (156) 725)
- Flooding
Proton exchange membrane fuel cell; Visualization; Flow field; Two-phase flow (Liu, X. (156) 267)
- Flow field
Proton exchange membrane fuel cell; Visualization; Two-phase flow; Flooding (Liu, X. (156) 267)
- Fuel cell
Dynamic; Ramping; Ultra capacitor; Load following (Meacham, J.R. (156) 472)
- Fuel cell
Characterization; Simulation (Schott, P. (156) 85)
- Fuel cell
Modeling; PBI; Intermediate temperature (Cheddie, D. (156) 414)
- Fuel cell
Molybdenum carbide; Reforming; Hydrogen; Catalyst (Cheekatamarla, P.K. (156) 520)
- Fuel cell
PEM; Air system; Optimization (Bao, C. (156) 232)
- Fuel cell
Preferential oxidation; Carbon monoxide; Water vapour; Basicity; Platinum–magnesium catalyst (Cho, S.-H. (156) 260)
- Fuel cell
WGS reactor design; Hydrogen production (Giunta, P. (156) 489)
- Fuel cell design
PEM fuel cell; Design of experiments; Factorial design; Interaction (Guvelioglu, G.H. (156) 424)
- Fuel cell inverter
Input ripple current compensation (Shireen, W. (156) 448)
- Fuel cell modeling
PEM fuel cell; Micro-fuel cell; Nano-pores; Air breathing; Natural convection (Litster, S. (156) 334)
- Fuel cell simulation
Optimization; Multi-resolution model; PEFC (Wu, J. (156) 388)
- Fuel cell stack and overall efficiency
Critical flow rate; Anode gas management; PEFC system operation (Zhu, W.H. (156) 512)
- Fuel cell system
Cogeneration of heat and power; Fuel processor; Modelling; Natural gas; PEMFC (Hubert, C.-E. (156) 64)
- Fuel cell system
Air supply circuit modeling; Fuzzy controller; Particle swarm optimization (Tekin, M. (156) 57)
- Fuel cells
Activation; Incubation; CO (Xu, Z. (156) 281)
- Fuel cells
Cobalt oxides; Electrodeposition; Glycine; MCFC cathode coating (Mansour, C. (156) 23)
- Fuel cells
Dimethyl ether; Steam reforming; Well-to-wheel; Hydrogen; Diesel substitute; Ethanol; Methane; Methanol; Efficiency; Greenhouse gases; Biomass; Fischer–Tropsch (Semelsberger, T.A. (156) 497)
- Fuel cells
Thermal model; Nodes network (Dumercy, L. (156) 78)
- Fuel cells
PEM; Membrane electrode assembly; Electric vehicle; Dynamic response; Overshoot (Shimpalee, S. (156) 355), 369)
- Fuel processor
Cogeneration of heat and power; Fuel cell system; Modelling; Natural gas; PEMFC (Hubert, C.-E. (156) 64)
- Fuzzy controller
Fuel cell system; Air supply circuit modeling; Particle swarm optimization (Tekin, M. (156) 57)
- GaP
InP; Anode; Lithium-ion battery; Reversible capacity; Zinc blende structure (Satya Kishore, M.V.V.M. (156) 594)
- Gas diffuser layer
PEM fuel cell; Porosity; Mass transfer (Jang, J.-H. (156) 244)
- Gas-diffusion layer
Membrane electrode assembly; Non-humidified operation; Polymer electrolyte membrane fuel cell; Thin cast membranes (Vengatesan, S. (156) 294)
- Gas-phase kinetics
Deposits; Methane; Natural gas; Steam; Air (Gupta, G.K. (156) 434)
- GDL
Compression; Performance (Escribano, S. (156) 8)
- Gel polymer electrolyte
Electrochemical stability; Ionic conductivity; Lithium salt (Aoki, T. (156) 589)
- Gel-type polymer electrolyte
Mixed lithium salts; Ceramic filler; Lithium-ion polymer battery (Yang, C.-M. (156) 574)
- Generator
Electrokinetic energy conversion; Pump; Figure of merit; Thermodynamic analysis (Xuan, X. (156) 677)
- Glycine
Cobalt oxides; Electrodeposition; Fuel cells; MCFC cathode coating (Mansour, C. (156) 23)
- Greenhouse gases
Dimethyl ether; Steam reforming; Fuel cells; Well-to-wheel; Hydrogen; Diesel substitute; Ethanol; Methane; Methanol; Efficiency; Biomass; Fischer–Tropsch (Semelsberger, T.A. (156) 497)
- Heat integration
Hydrogen; Methane reforming; Dry ice; Power integration; CO₂ sequestration (Posada, A. (156) 480)
- Heat-exchanger
PEM fuel cell; Bipolar plates; Thermal management; Chaotic advection (Lasbet, Y. (156) 114)

- High rate partial state of charge
Valve regulated lead acid battery (VRLA); Ultracapacitor; Sulfation; Hybrid electric vehicle (HEV) (Stienecker, A.W. (156) 755)
- High-frequency transformer
Dynamic fuel cell modelling; Multi-stack; PEFC; Simulation (Garnier, J. (156) 108)
- High-rate discharge
Ni/MH batteries; Nanoscale CoO; Positive electrode (Wu, J.B. (156) 667)
- H_{upd}
Cyclic voltammetry; Platinum; Underpotential deposition of hydrogen (Reiner, A. (156) 28)
- Hybrid electric vehicle (HEV)
Valve regulated lead acid battery (VRLA); Ultracapacitor; Sulfation; High rate partial state of charge (Stienecker, A.W. (156) 755)
- Hydrogen
Dimethyl ether; Steam reforming; Fuel cells; Well-to-wheel; Diesel substitute; Ethanol; Methane; Methanol; Efficiency; Greenhouse gases; Biomass; Fischer-Tropsch (Semelsberger, T.A. (156) 497)
- Hydrogen
Methane reforming; Dry ice; Heat integration; Power integration; CO₂ sequestration (Posada, A. (156) 480)
- Hydrogen
Molybdenum carbide; Reforming; Catalyst; Fuel cell (Cheekatamarla, P.K. (156) 520)
- Hydrogen evolution
Proton-exchange membrane fuel cell; Activation using elevated temperature and pressure; Hydrogen pumping; CO oxidative stripping; Incubation (Xu, Z. (156) 315)
- Hydrogen generation
Ammonia borane; Hydrolysis; Metal catalysts; Platinum (Chandra, M. (156) 190)
- Hydrogen generation
Miniaturized-reformer; Silicon technology; Catalyst coating (Kwon, O.J. (156) 253)
- Hydrogen production
WGS reactor design; Fuel cell (Giunta, P. (156) 489)
- Hydrogen pumping
Proton-exchange membrane fuel cell; Activation using elevated temperature and pressure; Hydrogen evolution; CO oxidative stripping; Incubation (Xu, Z. (156) 315)
- Hydrogen storage
Metal hydride; Ammonia; Metal amide; Reactive ball milling (Leng, H.Y. (156) 166)
- Hydrogen-absorbing alloy
Nickel metal hydride battery; Superlattice (Yasuoka, S. (156) 662)
- Hydrolysis
Ammonia borane; Hydrogen generation; Metal catalysts; Platinum (Chandra, M. (156) 190)
- Hydrophilic
Hydrophobic; Porosity; Capillary pressure; Cathode; Water management (Gostick, J.T. (156) 375)
- Hydrophobic
Hydrophilic; Porosity; Capillary pressure; Cathode; Water management (Gostick, J.T. (156) 375)
- Impedance
EMD; Porosity; Diffusion; 'Spring-back' (Qu, D. (156) 692)
- Impedance spectroscopy
Electrolyte; Intermediate temperature SOFC; Sputtering; Thin layers (Brahim, C. (156) 45)
- Impedance spectroscopy
Proton exchange membrane fuel cell; Static converter (Sadli, I. (156) 119)
- Impedance spectroscopy
Solid oxide fuel cells; Solid electrolyte; Anode; Cathode (Muccillo, R. (156) 455)
- Incubation
Activation; CO; Fuel cells (Xu, Z. (156) 281)
- Incubation
Proton-exchange membrane fuel cell; Activation using elevated temperature and pressure; Hydrogen evolution; Hydrogen pumping; CO oxidative stripping (Xu, Z. (156) 315)
- InP
GaP; Anode; Lithium-ion battery; Reversible capacity; Zinc blende structure (Satya Kishore, M.V.V.M. (156) 594)
- Input ripple current compensation
Fuel cell inverter (Shireen, W. (156) 448)
- Interaction
PEM fuel cell; Design of experiments; Factorial design; Fuel cell design (Guvelioglu, G.H. (156) 424)
- Intermediate temperature
Fuel cell; Modeling; PBI (Cheddie, D. (156) 414)
- Intermediate temperature SOFC
Electrolyte; Impedance spectroscopy; Sputtering; Thin layers (Brahim, C. (156) 45)
- Internal resistance
Electrochemical capacitors; Spiral-wound structure (Zheng, J.P. (156) 748)
- Ionic conductivity
Composite polymer electrolyte; Molecular sieves; ZSM-5; Electrochemical properties (Xi, J. (156) 581)
- Ionic conductivity
Gel polymer electrolyte; Electrochemical stability; Lithium salt (Aoki, T. (156) 589)
- Ionic conductivity
Polymer electrolyte; Ionic liquid; Lithium battery; LiFePO₄ (Shin, J.-H. (156) 560)
- Ionic conductor
Current collector; Electroactive; Binder; Li ion mobility (Witker, D. (156) 525)
- Ionic liquid
Polymer electrolyte; Lithium battery; Ionic conductivity; LiFePO₄ (Shin, J.-H. (156) 560)
- Kinetics
Lithium ion battery; Water content; LiPF₆; Electrolyte; Decomposition (Kawamura, T. (156) 547)
- Li ion mobility
Current collector; Electroactive; Binder; Ionic conductor (Witker, D. (156) 525)
- Li_{1-x}CoO₂ electrode
Lithium-ion battery; Li_xC₆ electrode; Battery thermal effect; Peltier heat (Huang, Q. (156) 541)
- LiBF₄
Lithium bis(oxalate)borate; Electrolyte additive; Solid electrolyte interface; Low temperature performance (Zhang, S.S. (156) 629)
- LiCo_{0.5}Fe_{0.5}O₂
Mössbauer effect; Triangular antiferromagnetism; Lithium-ion battery; Magnetic properties (Kalpana, D. (156) 598)
- LiFePO₄
Polymer electrolyte; Ionic liquid; Lithium battery; Ionic conductivity (Shin, J.-H. (156) 560)
- LiPF₆
Lithium ion battery; Water content; Electrolyte; Decomposition; Kinetics (Kawamura, T. (156) 547)
- Lithium batteries
Organic-inorganic nanocomposite; PEDOT-nanoribbons; MoS₂; Cathode material (Murugan, A.V. (156) 615)
- Lithium battery
Electrolyte; 3-Methyl-2-oxazolidinone; Conductivity; DSC (Gzara, L. (156) 634)
- Lithium battery
Polymer electrolyte; Ionic liquid; Ionic conductivity; LiFePO₄ (Shin, J.-H. (156) 560)
- Lithium bis(oxalate)borate
LiBF₄; Electrolyte additive; Solid electrolyte interface; Low temperature performance (Zhang, S.S. (156) 629)

- Lithium intercalation
Nanostructures; Polyaniline; Vanadium oxide; Nanocomposites (Malta, M. (156) 533)
- Lithium ion batteries
Model; Cycling (Santhanagopalan, S. (156) 620)
- Lithium ion battery
Water content; LiPF_6 ; Electrolyte; Decomposition; Kinetics (Kawamura, T. (156) 547)
- Lithium salt
Gel polymer electrolyte; Electrochemical stability; Ionic conductivity (Aoki, T. (156) 589)
- Lithium-ion batteries
Silicon/graphite composites; Alloying electrode; Factor experiment (Dimov, N. (156) 567)
- Lithium-ion battery
InP; GaP; Anode; Reversible capacity; Zinc blende structure (Satya Kishore, M.V.V.M. (156) 594)
- Lithium-ion battery
 $\text{LiCo}_{0.5}\text{Fe}_{0.5}\text{O}_2$; Mössbauer effect; Triangular antiferromagnetism; Magnetic properties (Kalpana, D. (156) 598)
- Lithium-ion battery
Electrolyte salt; Thermal stability; Decomposition kinetics; Thermal analysis (Lu, Z. (156) 555)
- Lithium-ion battery
 $\text{Li}_{1-x}\text{CoO}_2$ electrode; Li_xC_6 electrode; Battery thermal effect; Peltier heat (Huang, Q. (156) 541)
- Lithium-ion polymer battery
Gel-type polymer electrolyte; Mixed lithium salts; Ceramic filler (Yang, C.-M. (156) 574)
- Lithium-ion rechargeable batteries
Silicon; Patterned wafer; Thin film; Anode; Capacity retention cycle tests (Bang, B. (156) 604)
- $\text{LiTi}_{1-x}\text{Ni}_x\text{O}_2$
Molten carbonate fuel cell; Solubility; TiO_2 -coated nickel cathode; Sol-gel method (Hong, M.Z. (156) 158)
- Li_xC_6 electrode
Lithium-ion battery; $\text{Li}_{1-x}\text{CoO}_2$ electrode; Battery thermal effect; Peltier heat (Huang, Q. (156) 541)
- Load following
Dynamic; Fuel cell; Ramping; Ultra capacitor (Meacham, J.R. (156) 472)
- Low carbon loading
PEM fuel cells; Bipolar plates; Carbon composite materials; Electrical conductivity (Blunk, R. (156) 151)
- Low pressure
Alkaline fuel cells; Bipolar cell (Gülzow, E. (156) 1)
- Low temperature performance
 LiBF_4 ; Lithium bis(oxalate)borate; Electrolyte additive; Solid electrolyte interface (Zhang, S.S. (156) 629)
- LSCF
SOFC; LSM; Cathodes (Tietz, F. (156) 20)
- LSM
SOFC; LSCF; Cathodes (Tietz, F. (156) 20)
- Magnesium insertion
Rechargeable magnesium; Vanadium oxide nanotubes (Jiao, L. (156) 673)
- Magnetic properties
 $\text{LiCo}_{0.5}\text{Fe}_{0.5}\text{O}_2$; Mössbauer effect; Triangular antiferromagnetism; Lithium-ion battery (Kalpana, D. (156) 598)
- Manganese oxide
Scanning electron microscopy; Electrochemical supercapacitor; Physical vapor deposition; X-ray photoelectron spectroscopy (Djurfors, B. (156) 741)
- Mass transfer
PEM fuel cell; Gas diffuser layer; Porosity (Jang, J.-H. (156) 244)
- Mathematical model
Primary alkaline battery; Cathode; Electrolytic manganese dioxide; Perturbation methods (Johansen, J.F. (156) 645)
- MCFC
Direct internal reforming; Modified reformer; Anode compartment; Reforming reaction (Wee, J.-H. (156) 288)
- MCFC cathode coating
Cobalt oxides; Electrodeposition; Glycine; Fuel cells (Mansour, C. (156) 23)
- Membrane electrode assembly
Gas-diffusion layer; Non-humidified operation; Polymer electrolyte membrane fuel cell; Thin cast membranes (Vengatesan, S. (156) 294)
- Membrane electrode assembly
PEM; Fuel cells; Electric vehicle; Dynamic response; Overshoot (Shimpalee, S. (156) 355, 369)
- Mesophase pitch
Supercapacitors; Activated carbons (Mora, E. (156) 719)
- Metal amide
Hydrogen storage; Metal hydride; Ammonia; Reactive ball milling (Leng, H.Y. (156) 166)
- Metal catalysts
Ammonia borane; Hydrogen generation; Hydrolysis; Platinum (Chandra, M. (156) 190)
- Metal hydride
Hydrogen storage; Ammonia; Metal amide; Reactive ball milling (Leng, H.Y. (156) 166)
- Metal oxide catalysts
Ethanol oxidation; Sol-gel; Direct ethanol fuel cells (Calegario, M.L. (156) 300)
- Methane
Deposits; Gas-phase kinetics; Natural gas; Steam; Air (Gupta, G.K. (156) 434)
- Methane
Dimethyl ether; Steam reforming; Fuel cells; Well-to-wheel; Hydrogen; Diesel substitute; Ethanol; Methanol; Efficiency; Greenhouse gases; Biomass; Fischer-Tropsch (Semelsberger, T.A. (156) 497)
- Methane reforming
Hydrogen; Dry ice; Heat integration; Power integration; CO_2 sequestration (Posada, A. (156) 480)
- Methanol
Dimethyl ether; Steam reforming; Fuel cells; Well-to-wheel; Hydrogen; Diesel substitute; Ethanol; Methane; Efficiency; Greenhouse gases; Biomass; Fischer-Tropsch (Semelsberger, T.A. (156) 497)
- Methanol electro-oxidation
Direct methanol fuel cell; Platinum; Carbon (Choi, J.-S. (156) 466)
- Methanol oxidation
 CeO_2 -modified PtRu/C catalysts; X-ray diffraction; X-ray photoelectron spectroscopy; Voltammetry (Guo, J.W. (156) 345)
- Methanol transport
Direct methanol fuel cells; Polymer electrolyte membranes; Water transport; Pulse gradient spin-echo nuclear magnetic resonance diffusion (Jayakody, J.R.P. (156) 195)
- 3-Methyl-2-oxazolidinone
Electrolyte; Lithium battery; Conductivity; DSC (Gzara, L. (156) 634)
- Micro-CHP
Solid oxide fuel cell; Power converter; Cost optimisation (Hawkes, A.D. (156) 321)
- Micro-fuel cell
PEM fuel cell; Fuel cell modeling; Nano-pores; Air breathing; Natural convection (Litster, S. (156) 334)
- Microstructure
Cathodic interlayers; SOFC; Sol-gel (Fontaine, M.L. (156) 33)
- Miniaturized-reformer
Silicon technology; Catalyst coating; Hydrogen generation (Kwon, O.J. (156) 253)
- Mixed lithium salts
Gel-type polymer electrolyte; Ceramic filler; Lithium-ion polymer battery (Yang, C.-M. (156) 574)
- MOCVD
Chromia-forming alloy; Electrical resistivity; Oxidation; SOFC interconnect; Screen-printing (Cabouro, G. (156) 39)

- Model
Lithium ion batteries; Cycling (Santhanagopalan, S. (156) 620)
- Modeling
Bond Graph; Energy approach; PEM fuel cell; Experimental validation (Saisset, R. (156) 100)
- Modeling
Fuel cell; PBI; Intermediate temperature (Cheddie, D. (156) 414)
- Modelling
Cogeneration of heat and power; Fuel processor; Fuel cell system; Natural gas; PEMFC (Hubert, C.-E. (156) 64)
- Modified reformer
Direct internal reforming; MCFC; Anode compartment; Reforming reaction (Wee, J.-H. (156) 288)
- Molecular sieves
Composite polymer electrolyte; ZSM-5; Ionic conductivity; Electrochemical properties (Xi, J. (156) 581)
- Molten carbonate fuel cell
LiTi_{1-x}Ni_xO₂; Solubility; TiO₂-coated nickel cathode; Sol-gel method (Hong, M.Z. (156) 158)
- Molybdenum carbide
Reforming; Hydrogen; Catalyst; Fuel cell (Cheekatamarla, P.K. (156) 520)
- MoS₂
Organic-inorganic nanocomposite; PEDOT-nanoribbons; Cathode material; Lithium batteries (Murugan, A.V. (156) 615)
- Mössbauer effect
LiCo_{0.5}Fe_{0.5}O₂; Triangular antiferromagnetism; Lithium-ion battery; Magnetic properties (Kalpana, D. (156) 598)
- Multi-resolution model
Optimization; Fuel cell simulation; PEFC (Wu, J. (156) 388)
- Multi-stack
Dynamic fuel cell modelling; High-frequency transformer; PEFC; Simulation (Garnier, J. (156) 108)
- Nanocomposites
Nanostructures; Polyaniline; Vanadium oxide; Lithium intercalation (Malta, M. (156) 533)
- Nano-pores
PEM fuel cell; Micro-fuel cell; Fuel cell modeling; Air breathing; Natural convection (Litster, S. (156) 334)
- Nanoscale CoO
Ni/MH batteries; Positive electrode; High-rate discharge (Wu, J.B. (156) 667)
- Nanostructures
Polyaniline; Vanadium oxide; Nanocomposites; Lithium intercalation (Malta, M. (156) 533)
- Natural convection
PEM fuel cell; Micro-fuel cell; Fuel cell modeling; Nano-pores; Air breathing (Litster, S. (156) 334)
- Natural gas
Cogeneration of heat and power; Fuel processor; Fuel cell system; Modelling; PEMFC (Hubert, C.-E. (156) 64)
- Natural gas
Deposits; Gas-phase kinetics; Methane; Steam; Air (Gupta, G.K. (156) 434)
- Natural graphite
Synthetic graphite; Expanded graphite; Carbon black; PUREBLACK® Carbon; Desulco® and Acheson processes (Wissler, M. (156) 142)
- Ni/MH batteries
Nanoscale CoO; Positive electrode; High-rate discharge (Wu, J.B. (156) 667)
- Nickel
Ni-YSZ cermet; Sulfur poisoning; Raman spectroscopy; XRD (Dong, J. (156) 461)
- Nickel hydroxide
Precipitation conditions; Disorder; Non-uniform broadening; Phase selection (Ramesh, T.N. (156) 655)
- Nickel metal hydride battery
Hydrogen-absorbing alloy; Superlattice (Yasuoka, S. (156) 662)
- Ni-YSZ cermet
Sulfur poisoning; Nickel; Raman spectroscopy; XRD (Dong, J. (156) 461)
- Nodes network
Fuel cells; Thermal model (Dumercy, L. (156) 78)
- Nonaqueous electrolyte
Activated carbon; Capacitor; Electrical double layer; Temperature dependence (Liu, P. (156) 712)
- Non-humidified operation
Gas-diffusion layer; Membrane electrode assembly; Polymer electrolyte membrane fuel cell; Thin cast membranes (Vengatesan, S. (156) 294)
- Non-noble electrocatalysts
Chemical synthesis; Oxygen reduction; PEM fuel cells (Zhang, L. (156) 171)
- Non-uniform broadening
Nickel hydroxide; Precipitation conditions; Disorder; Phase selection (Ramesh, T.N. (156) 655)
- Optimization
Multi-resolution model; Fuel cell simulation; PEFC (Wu, J. (156) 388)
- Optimization
PEM; Fuel cell; Air system (Bao, C. (156) 232)
- Optimization
TIEC; AMTEC; Cascade; Efficiency (Lodhi, M.A.K. (156) 685)
- Organic-inorganic nanocomposite
PEDOT-nanoribbons; MoS₂; Cathode material; Lithium batteries (Murugan, A.V. (156) 615)
- Overshoot
PEM; Fuel cells; Membrane electrode assembly; Electric vehicle; Dynamic response (Shimpalee, S. (156) 355), 369)
- Oxidation
Chromia-forming alloy; Electrical resistivity; SOFC interconnect; MOCVD; Screen-printing (Cabouro, G. (156) 39)
- Oxygen reduction
Chemical synthesis; Non-noble electrocatalysts; PEM fuel cells (Zhang, L. (156) 171)
- Particle swarm optimization
Fuel cell system; Air supply circuit modeling; Fuzzy controller (Tekin, M. (156) 57)
- Patterned wafer
Silicon; Thin film; Anode; Lithium-ion rechargeable batteries; Capacity retention cycle tests (Bang, B. (156) 604)
- PBI
Fuel cell; Modeling; Intermediate temperature (Cheddie, D. (156) 414)
- PEDOT-nanoribbons
Organic-inorganic nanocomposite; MoS₂; Cathode material; Lithium batteries (Murugan, A.V. (156) 615)
- PEFC
Dynamic fuel cell modelling; High-frequency transformer; Multi-stack; Simulation (Garnier, J. (156) 108)
- PEFC
Optimization; Multi-resolution model; Fuel cell simulation (Wu, J. (156) 388)
- PEFC system operation
Critical flow rate; Anode gas management; Fuel cell stack and overall efficiency (Zhu, W.H. (156) 512)
- Peltier heat
Lithium-ion battery; Li_{1-x}CoO₂ electrode; Li_xC₆ electrode; Battery thermal effect (Huang, Q. (156) 541)
- PEM
Fuel cell; Air system; Optimization (Bao, C. (156) 232)
- PEM
Fuel cells; Membrane electrode assembly; Electric vehicle; Dynamic response; Overshoot (Shimpalee, S. (156) 355), 369)
- PEM fuel cell
Bond Graph; Energy approach; Modeling; Experimental validation (Saisset, R. (156) 100)
- PEM fuel cell
Bipolar plates; Thermal management; Heat-exchanger; Chaotic advection (Lasbet, Y. (156) 114)

- PEM fuel cell
Design of experiments; Factorial design; Interaction; Fuel cell design (Guvelioglu, G.H. (156) 424)
- PEM fuel cell
Gas diffuser layer; Porosity; Mass transfer (Jang, J.-H. (156) 244)
- PEM fuel cell
Micro-fuel cell; Fuel cell modeling; Nano-pores; Air breathing; Natural convection (Litster, S. (156) 334)
- PEM fuel cells
Chemical synthesis; Non-noble electrocatalysts; Oxygen reduction (Zhang, L. (156) 171)
- PEM fuel cells
Bipolar plates; Carbon composite materials; Electrical conductivity; Low carbon loading (Blunk, R. (156) 151)
- PEMFC
Cogeneration of heat and power; Fuel processor; Fuel cell system; Modelling; Natural gas (Hubert, C.-E. (156) 64)
- PEMFC
Experimental design; Taguchi method; ANOVA (Wahdame, B. (156) 92)
- Performance
GDL; Compression (Escribano, S. (156) 8)
- Perturbation methods
Primary alkaline battery; Cathode; Electrolytic manganese dioxide; Mathematical model (Johansen, J.F. (156) 645)
- Phase selection
Nickel hydroxide; Precipitation conditions; Disorder; Non-uniform broadening (Ramesh, T.N. (156) 655)
- Physical vapor deposition
Scanning electron microscopy; Manganese oxide; Electrochemical supercapacitor; X-ray photoelectron spectroscopy (Djurfors, B. (156) 741)
- Platinum
Ammonia borane; Hydrogen generation; Hydrolysis; Metal catalysts (Chandra, M. (156) 190)
- Platinum
Cyclic voltammetry; H_{up} ; Underpotential deposition of hydrogen (Reiner, A. (156) 28)
- Platinum
Direct methanol fuel cell; Carbon; Methanol electro-oxidation (Choi, J.-S. (156) 466)
- Platinum–magnesium catalyst
Preferential oxidation; Carbon monoxide; Water vapour; Basicity; Fuel cell (Cho, S.-H. (156) 260)
- Poly-2-acrylamide-2-methyl propane sulfonic acid
Proton conductivity; Polymer electrolyte; Polyvinyl alcohol; Cross-linking (Hamaya, T. (156) 311)
- Polyaniline
Nanostructures; Vanadium oxide; Nanocomposites; Lithium intercalation (Malta, M. (156) 533)
- Polyaniline
Potentiodynamic deposition; Electrochemical supercapacitor; *p*-Toluene sulfonic acid (Girija, T.C. (156) 705)
- Polymer electrolyte
Ionic liquid; Lithium battery; Ionic conductivity; $LiFePO_4$ (Shin, J.-H. (156) 560)
- Polymer electrolyte
Proton conductivity; Polyvinyl alcohol; Cross-linking; Poly-2-acrylamide-2-methyl propane sulfonic acid (Hamaya, T. (156) 311)
- Polymer electrolyte membrane fuel cell
Gas-diffusion layer; Membrane electrode assembly; Non-humidified operation; Thin cast membranes (Vengatesan, S. (156) 294)
- Polymer electrolyte membranes
Direct methanol fuel cells; Water transport; Methanol transport; Pulse gradient spin-echo nuclear magnetic resonance diffusion (Jayakody, J.R.P. (156) 195)
- Polymer electrolyte pore-filled membranes
Polystyrene sulfonic acid; Porous poly(vinylidene fluoride) films; Simultaneous irradiation grafting; Direct methanol fuel cells (Nasef, M.M. (156) 200)
- Polypyrrole
All-polymer battery; Conducting polymer; Polyterthiophene (Wang, C.Y. (156) 610)
- Polystyrene sulfonic acid
Polymer electrolyte pore-filled membranes; Porous poly(vinylidene fluoride) films; Simultaneous irradiation grafting; Direct methanol fuel cells (Nasef, M.M. (156) 200)
- Polyterthiophene
All-polymer battery; Conducting polymer; Polypyrrole (Wang, C.Y. (156) 610)
- Polyvinyl alcohol
Proton conductivity; Polymer electrolyte; Cross-linking; Poly-2-acrylamide-2-methyl propane sulfonic acid (Hamaya, T. (156) 311)
- Porosity
EMD; Diffusion; 'Spring-back'; Impedance (Qu, D. (156) 692)
- Porosity
Hydrophilic; Hydrophobic; Capillary pressure; Cathode; Water management (Gostick, J.T. (156) 375)
- Porosity
PEM fuel cell; Gas diffuser layer; Mass transfer (Jang, J.-H. (156) 244)
- Porous materials
Sol-gel; V_2O_5 ; Electrochemical capacitors (Reddy, R.N. (156) 700)
- Porous poly(vinylidene fluoride) films
Polystyrene sulfonic acid; Simultaneous irradiation grafting; Direct methanol fuel cells (Nasef, M.M. (156) 200)
- Positive electrode
Ni/MH batteries; Nanoscale CoO; High-rate discharge (Wu, J.B. (156) 667)
- Potentiodynamic deposition
Polyaniline; Electrochemical supercapacitor; *p*-Toluene sulfonic acid (Girija, T.C. (156) 705)
- Power converter
Solid oxide fuel cell; Cost optimisation; Micro-CHP (Hawkes, A.D. (156) 321)
- Power integration
Hydrogen; Methane reforming; Dry ice; Heat integration; CO_2 sequestration (Posada, A. (156) 480)
- Precipitation conditions
Nickel hydroxide; Disorder; Non-uniform broadening; Phase selection (Ramesh, T.N. (156) 655)
- Preferential oxidation
Carbon monoxide; Water vapour; Basicity; Platinum–magnesium catalyst; Fuel cell (Cho, S.-H. (156) 260)
- Primary alkaline battery
Cathode; Electrolytic manganese dioxide; Mathematical model; Perturbation methods (Johansen, J.F. (156) 645)
- Proton conductivity
Polymer electrolyte; Polyvinyl alcohol; Cross-linking; Poly-2-acrylamide-2-methyl propane sulfonic acid (Hamaya, T. (156) 311)
- Proton exchange membrane fuel cell
Dynamic hydrogen electrode; Reference electrode (Siroma, Z. (156) 284)
- Proton exchange membrane fuel cell
Computational study; Water transport (Um, S. (156) 211)
- Proton exchange membrane fuel cell
Impedance spectroscopy; Static converter (Sadli, I. (156) 119)
- Proton exchange membrane fuel cell
Visualization; Flow field; Two-phase flow; Flooding (Liu, X. (156) 267)
- Proton exchange membrane fuel cells
RF sputtering; Pt deposition; Electrode fabrication (Huang, K.-L. (156) 224)
- Proton-exchange membrane fuel cell
Activation using elevated temperature and pressure; Hydrogen evolution; Hydrogen pumping; CO oxidative stripping; Incubation (Xu, Z. (156) 315)
- Proton-exchange membrane fuel cells
Carbon components; Catalyst support; Direct carbon fuel cell (Dicks, A.L. (156) 128)

- Pt deposition
Proton exchange membrane fuel cells; RF sputtering; Electrode fabrication (Huang, K.-L. (156) 224)
- Pulse gradient spin-echo nuclear magnetic resonance diffusion
Direct methanol fuel cells; Polymer electrolyte membranes; Water transport; Methanol transport (Jayakody, J.R.P. (156) 195)
- Pump
Electrokinetic energy conversion; Generator; Figure of merit; Thermodynamic analysis (Xuan, X. (156) 677)
- PUREBLACK® Carbon
Natural graphite; Synthetic graphite; Expanded graphite; Carbon black; Desulco® and Acheson processes (Wissler, M. (156) 142)
- Raman spectroscopy
Ni-YSZ cermet; Sulfur poisoning; Nickel; XRD (Dong, J. (156) 461)
- Ramping
Dynamic; Fuel cell; Ultra capacitor; Load following (Meacham, J.R. (156) 472)
- Reactive ball milling
Hydrogen storage; Metal hydride; Ammonia; Metal amide (Leng, H.Y. (156) 166)
- Rechargeable magnesium
Magnesium insertion; Vanadium oxide nanotubes (Jiao, L. (156) 673)
- Reference electrode
Dynamic hydrogen electrode; Proton exchange membrane fuel cell (Siroma, Z. (156) 284)
- Reforming
Molybdenum carbide; Hydrogen; Catalyst; Fuel cell (Cheekatamarla, P.K. (156) 520)
- Reforming reaction
Direct internal reforming; MCFC; Modified reformer; Anode compartment (Wee, J.-H. (156) 288)
- Reversible capacity
InP; GaP; Anode; Lithium-ion battery; Zinc blende structure (Satya Kishore, M.V.V.M. (156) 594)
- RF sputtering
Proton exchange membrane fuel cells; Pt deposition; Electrode fabrication (Huang, K.-L. (156) 224)
- Scanning electron microscopy
Manganese oxide; Electrochemical supercapacitor; Physical vapor deposition; X-ray photoelectron spectroscopy (Djurfors, B. (156) 741)
- Screen-printing
Chromia-forming alloy; Electrical resistivity; Oxidation; SOFC interconnect; MOCVD (Cabouro, G. (156) 39)
- Self-discharge
Electrochemical capacitors; Supercapacitors; Carbon cloth electrode; Float-current (Niu, J. (156) 725)
- Silicon
Patterned wafer; Thin film; Anode; Lithium-ion rechargeable batteries; Capacity retention cycle tests (Bang, B. (156) 604)
- Silicon technology
Miniaturized-reformer; Catalyst coating; Hydrogen generation (Kwon, O.J. (156) 253)
- Silicon/graphite composites
Lithium-ion batteries; Alloying electrode; Factor experiment (Dimov, N. (156) 567)
- Simulation
Dynamic fuel cell modelling; High-frequency transformer; Multi-stack; PEFC (Gamier, J. (156) 108)
- Simulation
Fuel cell; Characterization (Schott, P. (156) 85)
- Simultaneous irradiation grafting
Polymer electrolyte pore-filled membranes; Polystyrene sulfonic acid; Porous poly(vinylidene fluoride) films; Direct methanol fuel cells (Nasef, M.M. (156) 200)
- SOFC
Cathodic interlayers; Microstructure; Sol-gel (Fontaine, M.L. (156) 33)
- SOFC
LSCF; LSM; Cathodes (Tietz, F. (156) 20)
- SOFC interconnect
Chromia-forming alloy; Electrical resistivity; Oxidation; MOCVD; Screen-printing (Cabouro, G. (156) 39)
- SOFC stack
CHP model; Computer experimental analysis; Factorial design (Cali, M. (156) 400)
- Sol-gel
Cathodic interlayers; Microstructure; SOFC (Fontaine, M.L. (156) 33)
- Sol-gel
Ethanol oxidation; Direct ethanol fuel cells; Metal oxide catalysts (Calegaro, M.L. (156) 300)
- Sol-gel
Porous materials; V₂O₅; Electrochemical capacitors (Reddy, R.N. (156) 700)
- Sol-gel method
Molten carbonate fuel cell; LiTi_{1-x}Ni_xO₂; Solubility; TiO₂-coated nickel cathode (Hong, M.Z. (156) 158)
- Solid electrolyte
Solid oxide fuel cells; Anode; Cathode; Impedance spectroscopy (Muccillo, R. (156) 455)
- Solid electrolyte interface
LiBF₄; Lithium bis(oxalate)borate; Electrolyte additive; Low temperature performance (Zhang, S.S. (156) 629)
- Solid oxide fuel cell
Power converter; Cost optimisation; Micro-CHP (Hawkes, A.D. (156) 321)
- Solid oxide fuel cell
System identification; Degradation of materials (Haschka, M. (156) 71)
- Solid oxide fuel cells
Solid electrolyte; Anode; Cathode; Impedance spectroscopy (Muccillo, R. (156) 455)
- Solubility
Molten carbonate fuel cell; LiTi_{1-x}Ni_xO₂; TiO₂-coated nickel cathode; Sol-gel method (Hong, M.Z. (156) 158)
- Spiral-wound structure
Internal resistance; Electrochemical capacitors (Zheng, J.P. (156) 748)
- 'Spring-back'
EMD; Porosity; Diffusion; Impedance (Qu, D. (156) 692)
- Sputtering
Electrolyte; Impedance spectroscopy; Intermediate temperature SOFC; Thin layers (Brahim, C. (156) 45)
- Static converter
Proton exchange membrane fuel cell; Impedance spectroscopy (Sadli, I. (156) 119)
- Steam
Deposits; Gas-phase kinetics; Methane; Natural gas; Air (Gupta, G.K. (156) 434)
- Steam reforming
Dimethyl ether; Fuel cells; Well-to-wheel; Hydrogen; Diesel substitute; Ethanol; Methane; Methanol; Efficiency; Greenhouse gases; Biomass; Fischer-Tropsch (Semelsberger, T.A. (156) 497)
- Sulfation
Valve regulated lead acid battery (VRLA); Ultracapacitor; High rate partial state of charge; Hybrid electric vehicle (HEV) (Stienecker, A.W. (156) 755)
- Sulfur poisoning
Ni-YSZ cermet; Nickel; Raman spectroscopy; XRD (Dong, J. (156) 461)
- Supercapacitors
Electrochemical capacitors; Carbon cloth electrode; Self-discharge; Float-current (Niu, J. (156) 725)
- Supercapacitors
Activated carbons; Mesophase pitch (Mora, E. (156) 719)
- Superlattice
Nickel metal hydride battery; Hydrogen-absorbing alloy (Yasuoka, S. (156) 662)
- Surface oxygen exchange
Anode-supported SOFC; Cathode/electrolyte interface; 1Ce10ScZr (Wang, Z. (156) 306)

- Synthetic graphite
 Natural graphite; Expanded graphite; Carbon black; PUREBLACK®
 Carbon; Desulco® and Acheson processes (Wissler, M. (156) 142)
- System identification
 Solid oxide fuel cell; Degradation of materials (Haschka, M. (156) 71)
- Taguchi method
 PEMFC; Experimental design; ANOVA (Wahdame, B. (156) 92)
- Temperature dependence
 Activated carbon; Nonaqueous electrolyte; Capacitor; Electrical double layer (Liu, P. (156) 712)
- Thermal analysis
 Lithium-ion battery; Electrolyte salt; Thermal stability; Decomposition kinetics (Lu, Z. (156) 555)
- Thermal management
 PEM fuel cell; Bipolar plates; Heat-exchanger; Chaotic advection (Lasbet, Y. (156) 114)
- Thermal model
 Fuel cells; Nodes network (Dumercy, L. (156) 78)
- Thermal stability
 Lithium-ion battery; Electrolyte salt; Decomposition kinetics; Thermal analysis (Lu, Z. (156) 555)
- Thermodynamic analysis
 Electrokinetic energy conversion; Generator; Pump; Figure of merit (Xuan, X. (156) 677)
- Thin cast membranes
 Gas-diffusion layer; Membrane electrode assembly; Non-humidified operation; Polymer electrolyte membrane fuel cell (Vengatesan, S. (156) 294)
- Thin film
 Silicon; Patterned wafer; Anode; Lithium-ion rechargeable batteries; Capacity retention cycle tests (Bang, B. (156) 604)
- Thin layers
 Electrolyte; Impedance spectroscopy; Intermediate temperature SOFC; Sputtering (Brahim, C. (156) 45)
- TIEC
 AMTEC; Cascade; Efficiency; Optimization (Lodhi, M.A.K. (156) 685)
- TiO₂-coated nickel cathode
 Molten carbonate fuel cell; LiTi_{1-x}Ni_xO₂; Solubility; Sol-gel method (Hong, M.Z. (156) 158)
- p*-Toluene sulfonic acid
 Polyaniline; Potentiodynamic deposition; Electrochemical supercapacitor (Girija, T.C. (156) 705)
- Triangular antiferromagnetism
 LiCo_{0.5}Fe_{0.5}O₂; Mössbauer effect; Lithium-ion battery; Magnetic properties (Kalpana, D. (156) 598)
- Two-phase flow
 Proton exchange membrane fuel cell; Visualization; Flow field; Flooding (Liu, X. (156) 267)
- Ultra capacitor
 Dynamic; Fuel cell; Ramping; Load following (Meacham, J.R. (156) 472)
- Ultracapacitor
 Valve regulated lead acid battery (VRLA); Sulfation; High rate partial state of charge; Hybrid electric vehicle (HEV) (Stienecker, A.W. (156) 755)
- Underpotential deposition of hydrogen
 Cyclic voltammetry; H_{up}; Platinum (Reiner, A. (156) 28)
- V₂O₅
 Porous materials; Sol-gel; Electrochemical capacitors (Reddy, R.N. (156) 700)
- Valve regulated lead acid battery (VRLA)
 Ultracapacitor; Sulfation; High rate partial state of charge; Hybrid electric vehicle (HEV) (Stienecker, A.W. (156) 755)
- Vanadium oxide
 Nanostructures; Polyaniline; Nanocomposites; Lithium intercalation (Malta, M. (156) 533)
- Vanadium oxide nanotubes
 Rechargeable magnesium; Magnesium insertion (Jiao, L. (156) 673)
- Visualization
 Proton exchange membrane fuel cell; Flow field; Two-phase flow; Flooding (Liu, X. (156) 267)
- Voltammetry
 CeO₂-modified PtRu/C catalysts; X-ray diffraction; X-ray photoelectron spectroscopy; Methanol oxidation (Guo, J.W. (156) 345)
- Water content
 Lithium ion battery; LiPF₆; Electrolyte; Decomposition; Kinetics (Kawamura, T. (156) 547)
- Water management
 Hydrophilic; Hydrophobic; Porosity; Capillary pressure; Cathode (Gostick, J.T. (156) 375)
- Water transport
 Direct methanol fuel cells; Polymer electrolyte membranes; Methanol transport; Pulse gradient spin-echo nuclear magnetic resonance diffusion (Jayakody, J.R.P. (156) 195)
- Water transport
 Proton exchange membrane fuel cell; Computational study (Um, S. (156) 211)
- Water vapour
 Preferential oxidation; Carbon monoxide; Basicity; Platinum-magnesium catalyst; Fuel cell (Cho, S.-H. (156) 260)
- Well-to-wheel
 Dimethyl ether; Steam reforming; Fuel cells; Hydrogen; Diesel substitute; Ethanol; Methane; Methanol; Efficiency; Greenhouse gases; Biomass; Fischer-Tropsch (Semelsberger, T.A. (156) 497)
- WGS reactor design
 Hydrogen production; Fuel cell (Giunta, P. (156) 489)
- X-ray diffraction
 CeO₂-modified PtRu/C catalysts; X-ray photoelectron spectroscopy; Voltammetry; Methanol oxidation (Guo, J.W. (156) 345)
- X-ray photoelectron spectroscopy
 CeO₂-modified PtRu/C catalysts; X-ray diffraction; Voltammetry; Methanol oxidation (Guo, J.W. (156) 345)
- X-ray photoelectron spectroscopy
 Scanning electron microscopy; Manganese oxide; Electrochemical supercapacitor; Physical vapor deposition (Djurfors, B. (156) 741)
- XRD
 Ni-YSZ cermet; Sulfur poisoning; Nickel; Raman spectroscopy (Dong, J. (156) 461)
- Zinc blende structure
 InP; GaP; Anode; Lithium-ion battery; Reversible capacity (Satya Kishore, M.V.V.M. (156) 594)
- ZSM-5
 Composite polymer electrolyte; Molecular sieves; Ionic conductivity; Electrochemical properties (Xi, J. (156) 581)