

Topic Categories – Biochemistry and Molecular Biology

ASBMB topic categories are grouped by this year's scientific themes. Bolded topics associated with one of the ten themes represent platform sessions with the same title. The programmed short talks will be selected from the volunteered abstracts.

ASBMB abstracts will be judged for Thematic Best Poster Awards in Washington, DC!

Genome Dynamics

DNA REPLICATION, RECOMBINATION, AND REPAIR THEME

- 2000-ASBMB **Aberrant DNA Repair, Genomic Instability and Cancer**
- 2001-ASBMB **Replication of Non-canonical DNA Sequences and Genomic Instability**
- 2002-ASBMB **Retroelements in Genome Plasticity and Cancer**
- 2003-ASBMB **Site-specific Recombination in Chromosome Dynamics and Gene Therapy**
- 2004-ASBMB DNA Damage Signaling
- 2005-ASBMB DNA Enzymes
- 2006-ASBMB DNA Repair Mechanisms
- 2007-ASBMB DNA Replication Mechanisms
- 2008-ASBMB DNA Replication Origins
- 2009-ASBMB Double-Stranded Breaks and DNA Recombination
- 2010-ASBMB Gene Targeting
- 2011-ASBMB Gene Therapy
- 2012-ASBMB Genome Diversity and DNA Recombination
- 2013-ASBMB Genome Fragility
- 2014-ASBMB Genome Stability and DNA Repair
- 2015-ASBMB Inhibitors of DNA Transactions
- 2016-ASBMB Mechanism of DNA Recombination
- 2017-ASBMB Meganucleases
- 2018-ASBMB Microsatellite Instability
- 2019-ASBMB Mobile DNA Elements
- 2020-ASBMB Mutagenesis
- 2021-ASBMB Non-B-form DNA
- 2022-ASBMB Regulation of Translesion Synthesis
- 2023-ASBMB Replicases and Replisomes
- 2024-ASBMB Replication Fork Dynamics
- 2025-ASBMB Replication Initiation
- 2026-ASBMB Retroelements and Cancer
- 2027-ASBMB Retroviruses and Retrotransposons
- 2028-ASBMB Signaling Responses to DNA Damage
- 2029-ASBMB Site-specific Recombination
- 2030-ASBMB Telomeres and Telomerase
- 2031-ASBMB Translesion and Error-Prone DNA Polymerases
- 2032-ASBMB Transposon-host Interactions
- 2033-ASBMB Transposons
- 2034-ASBMB **DNA**
- 2035-ASBMB DNA Structure
- 2036-ASBMB Probes of DNA Conformation

TRANSCRIPTION/CHROMATIN THEME

- 2040-ASBMB **Alternative Chromatin Structures**
- 2041-ASBMB **RNA Polymerase Pausing and Elongation**
- 2042-ASBMB **Structural Transitions in Chromatin: An Exploration of Mechanisms**
- 2043-ASBMB **Transcriptional Regulation in Growth, Differentiation and Diseases**
- 2044-ASBMB Chromatin Changes in Development
- 2045-ASBMB Chromatin Recognition and Assembly
- 2046-ASBMB Chromatin Remodeling
- 2047-ASBMB Chromatin Structure in Gene Activation
- 2048-ASBMB Covalent Modification of Transcription Factors
- 2049-ASBMB Dynamics of Transcription
- 2050-ASBMB Dysregulation of Transcription in Diseases
- 2051-ASBMB Histone Chaperones
- 2052-ASBMB Histone Modifications
- 2053-ASBMB Histone Variants
- 2054-ASBMB Non-coding RNAs in Gene Regulation and Chromosome Structure
- 2055-ASBMB Nucleosome Structure and Dynamics
- 2056-ASBMB RNA Polymerase II Pausing and Release
- 2057-ASBMB RNA Polymerase Structure
- 2058-ASBMB Transcriptional Assemblies and Mechanisms
- 2059-ASBMB Transcriptional Control of Growth and Differentiation
- 2060-ASBMB Transcriptional Elongation
- 2061-ASBMB Transcriptional Regulation and Epigenetics
- 2062-ASBMB Transcriptional Regulation and Signal Transduction

RNA THEME

- 2070-ASBMB **RNA-based Gene Regulation in Bacteria**
- 2071-ASBMB **RNA Editing and Nucleotide Modification**
- 2072-ASBMB **RNA/RNP Transport and Localization**
- 2073-ASBMB **Small RNA Regulation of Eukaryotic Gene Expression**
- 2074-ASBMB Alternative RNA Splicing
- 2075-ASBMB Catalytic RNA
- 2076-ASBMB Molecular Recognition and Enzymology of RNA
- 2077-ASBMB Molecular Recognition of RNA
- 2078-ASBMB Non-coding RNAs
- 2079-ASBMB Ribonucleoproteins
- 2080-ASBMB Riboregulation
- 2081-ASBMB Riboswitches
- 2082-ASBMB RNA Editing and Modification
- 2083-ASBMB RNA Folding
- 2084-ASBMB RNA Modification: Mechanism and Function
- 2085-ASBMB RNA Processing
- 2086-ASBMB RNA Structure and Dynamics
- 2087-ASBMB RNA Structure and Translation
- 2088-ASBMB RNA Structure, Function and Regulation
- 2089-ASBMB RNA Transport and Localization
- 2090-ASBMB RNA Turnover

2091-ASBMB RNA-based Gene Regulation
2092-ASBMB Small RNAs

Molecular Structure and Dynamics

PROTEIN SYNTHESIS AND DEGRADATION THEME

2100-ASBMB Membrane Protein Biosynthesis
2101-ASBMB Protein Aggregation and Autophagy
2102-ASBMB Protein Folding and Quality Control
2103-ASBMB The Ribosome and Protein Translation
2104-ASBMB ADAMS and Other Proteases
2105-ASBMB Autophagy Pathway
2106-ASBMB Genetic Studies of Protein Synthesis
2107-ASBMB Mechanisms of Protein Synthesis
2108-ASBMB Molecular Chaperones: Mechanism and Function
2109-ASBMB Protease: Structure and Regulation
2110-ASBMB Proteases in Disease
2111-ASBMB Proteasomes: Structure and Regulation
2112-ASBMB Protein Aggregation and Amyloid Diseases
2113-ASBMB Protein Folding and Misfolding
2114-ASBMB Protein Synthesis in Organelles
2115-ASBMB Protein Targeting (Protein Synthesis)
2116-ASBMB Protein Turnover and Quality Control
2117-ASBMB Protein Turnover in Cell Regulation
2118-ASBMB Proteolytic Enzymes and Inhibitors
2119-ASBMB Regulation of Protein Synthesis
2120-ASBMB Ribosome and Translation
2121-ASBMB tRNA Synthetases: Structure, Mechanism and Evolution
2122-ASBMB Ubiquitin Pathway and Targeting
2123-ASBMB Ubiquitination in Clearance of Protein Aggregates

STRUCTURE, MECHANISMS AND REGULATION IN ENZYME CATALYSIS THEME

2130-ASBMB Kinases, Phosphatases and Phosphorus in Biological Reactions
2131-ASBMB Metals and Redox Chemistry
2132-ASBMB Processive Enzymes
2133-ASBMB Sulfur Chemistry and Biological Redox
2134-ASBMB Biosynthesis of Sulfur-containing Cofactors and Metabolites
2135-ASBMB Design of Phosphatase and Kinase Inhibitors as Drug Targets
2136-ASBMB Engineering of Polyketide, Non-Ribosomal Peptide and Fatty Acid Synthases
2137-ASBMB Enzymology of Phosphoryl Transfer
2138-ASBMB Fatty Acid, Polyketide and Nonribosomal Peptide Synthases
2139-ASBMB Metallocofactor Biosynthesis
2140-ASBMB Metalloenzyme Mechanisms
2141-ASBMB Novel Natural Products Based on Polyketide, Non-ribosomal Peptide and Fatty Acid Synthases
2142-ASBMB Redox Enzymes
2143-ASBMB Sulfur Sensing
2144-ASBMB Sulfur-dependent Redox Regulation

Cell Systems and Metabolism

METABOLISM AND DISEASE THEME

2150-ASBMB Metabolic Communication
2151-ASBMB Metabolic Signal Transduction
2152-ASBMB Metabolism and Cancer
2153-ASBMB Mitochondrial Function and Disease
2154-ASBMB Aging and Metabolism
2155-ASBMB Control of Energy Homeostasis
2156-ASBMB Epigenetics and Cancer
2157-ASBMB Epigenetics and Metabolic Disease
2158-ASBMB Genetic and Metabolic Approaches to Obesity
2159-ASBMB Glucolipotoxicity and Metabolic Stress
2160-ASBMB Metabolic Networks
2161-ASBMB Metabolic Regulation
2162-ASBMB Metabolism and Diabetes
2163-ASBMB Metabolism and Neurodegeneration
2164-ASBMB Metabolism and Nutrition
2165-ASBMB Mitochondria-derived Signals
2166-ASBMB Nuclear Receptors in Metabolic Syndromes
2167-ASBMB Nutrient Control of Cell Growth
2168-ASBMB Nutrient Sensing and Signaling

OBESITY THEME

2170-ASBMB Enzymes, Hormones and Obesity
2171-ASBMB Frontiers in Obesity Research
2172-ASBMB Treatment, Prevention and Complications of Obesity
2173-ASBMB Disparities in Obesity
2174-ASBMB Obesity
2175-ASBMB Obesity and the Metabolic Syndrome

2180-ASBMB SYSTEMS BIOLOGY

2181-ASBMB Experimental and Computational Approaches to Systems
2182-ASBMB Fluorescence Microscopy Approaches to Understand Apoptosis
2183-ASBMB Genomics and Toxicogenomics
2184-ASBMB Mathematical Biology
2185-ASBMB Microarrays
2186-ASBMB Subsystems and Simulation

2190-ASBMB PROTEOMICS AND BIOINFORMATICS

2191-ASBMB Computational Approaches in Systems Biology
2192-ASBMB Functional Proteomic Studies
2193-ASBMB Genomics
2194-ASBMB Global Analysis of Protein Function
2195-ASBMB Protein Profiling in Normal and Disease States
2196-ASBMB Surface Plasmon Resonance
2197-ASBMB Toxicogenomics

2200-ASBMB METHODS

2201-ASBMB Biophysical Methods
2202-ASBMB Electrophoresis
2203-ASBMB Mass Spectroscopy
2204-ASBMB Nanotechnology
2205-ASBMB New Molecular and Cellular Imaging Agents
2206-ASBMB Protein Chemistry
2207-ASBMB Recombinant DNA Technology

2210-ASBMB CELL AND ORGANELLE DYNAMICS

- 2211-ASBMB Cargo Sorting and Vesicle Targeting
- 2212-ASBMB Cell Division
- 2213-ASBMB Cell Migration
- 2214-ASBMB Diseases of Organelle Misfunction
- 2215-ASBMB Golgi Structure and Biogenesis
- 2216-ASBMB Intracellular Dynamics
- 2217-ASBMB Membrane Biogenesis
- 2218-ASBMB Membrane Transport
- 2219-ASBMB Mitochondrial Dynamics
- 2220-ASBMB Mitochondrial Genetic Diseases
- 2221-ASBMB Mitochondrial Toxicity
- 2222-ASBMB Nuclear Dynamics
- 2223-ASBMB Organelle Biogenesis
- 2224-ASBMB Organelle Evolution

2230-ASBMB BIOENERGETICS

- 2231-ASBMB Cytochrome P450
- 2232-ASBMB Flavoproteins
- 2233-ASBMB Oxidative Phosphorylation

2240-ASBMB CELL CYCLE

- 2241-ASBMB Cell Cycle and Growth Control
- 2242-ASBMB Checkpoint Mechanisms
- 2243-ASBMB Cyclins and Cyclin-Dependent Kinases

2250-ASBMB CHROMOSOMES

- 2251-ASBMB Centromeres and Kinetochores
- 2252-ASBMB Chromosome Segregation and Aneuploidy
- 2253-ASBMB Cohesion/Chromosome Condensation
- 2254-ASBMB Mitotic Spindle
- 2255-ASBMB Spindle Checkpoint

Signaling

LIPID AND MEMBRANE METABOLISM THEME

- 2260-ASBMB **Biology of Neutral Lipid Metabolism and Trafficking**
- 2261-ASBMB **Current Topics in Phosphoinositide Biology and Signaling**
- 2262-ASBMB **Phospholipase D and Phosphatidic Acid Signaling**
- 2263-ASBMB **Sphingolipid Metabolism and Biological Regulation**
- 2264-ASBMB Chemical Probes of Lipid Systems
- 2265-ASBMB Lipid Second Messengers
- 2266-ASBMB Lipid Signaling
- 2267-ASBMB Lipid Storage
- 2268-ASBMB Lipid Trafficking
- 2269-ASBMB Lipidomics
- 2270-ASBMB Lipids and Control of Gene Expression
- 2271-ASBMB Lipids and Inflammation
- 2272-ASBMB Non-animal Genetic Models of Lipid Metabolism
- 2273-ASBMB Nuclear Lipid Signaling
- 2274-ASBMB Organelle Lipid Biosynthesis
- 2275-ASBMB Pharmacological Targets in Lipid Metabolism
- 2276-ASBMB Phosphatidylinositol Signaling
- 2277-ASBMB Protein-lipid Interactions
- 2278-ASBMB Regulation of Lipid Metabolism
- 2279-ASBMB Stress and Lipid Metabolism

- 2280-ASBMB Structural Biology and Mechanisms of Membrane Lipid Assembly
- 2281-ASBMB Tissue-specific Regulation of Lipid Metabolism

2290-ASBMB GLYCOBIOLOGY AND EXTRACELLULAR MATRIX

- 2291-ASBMB Glycans in Development and Disease
- 2292-ASBMB Glycans in Pathogenic Protozoa
- 2293-ASBMB Plant Cell Wall Biosynthesis and Function
- 2294-ASBMB Protein-glycan Functional Interactions

2300-ASBMB STRUCTURE, FUNCTION AND BIOGENESIS OF CELL MEMBRANES

- 2301-ASBMB Lipid Domains and Lipid Rafts
- 2302-ASBMB Membrane Protein Synthesis, Insertion and Assembly
- 2303-ASBMB Protein-lipid Interactions As Determinants of Function
- 2304-ASBMB Structure and Function of Transport Proteins and Channels
- 2305-ASBMB Vesicular Trafficking

SIGNAL TRANSDUCTION FROM THE PLASMA MEMBRANE TO THE NUCLEUS THEME

- 2310-ASBMB **Sensors and Adaptors in Innate Immunity**
 - 2311-ASBMB **Signaling from New and 'Arrestin' Sites**
 - 2312-ASBMB **STATus of JAKs and STATs in JAK/STAT Signaling**
 - 2313-ASBMB **Synchronizing the Synchronizers**
 - 2314-ASBMB Apoptosis and Cell Stress
 - 2315-ASBMB Biochemical Pharmacology
 - 2316-ASBMB Cell Differentiation
 - 2317-ASBMB Cell Proliferation
 - 2318-ASBMB Circadian Signaling
 - 2319-ASBMB Cytokine and Growth-factor Signaling
 - 2320-ASBMB Experimental Approaches to Systems
 - 2321-ASBMB G Proteins, Kinases and Arrestins
 - 2322-ASBMB G-protein-coupled Receptor Signaling
 - 2323-ASBMB GTPases
 - 2324-ASBMB Immune Cell Signaling
 - 2325-ASBMB Inflammation
 - 2326-ASBMB Integration and Organization of Signaling Pathways
 - 2327-ASBMB Molecular Basis of Sleep
 - 2328-ASBMB Neurobiology
 - 2329-ASBMB Pathogen(bacterial, viral)-mediated Signaling
 - 2330-ASBMB Posttranslational Modifications
 - 2331-ASBMB Protein Targeting (Signal Transduction)
 - 2332-ASBMB Protein Turnover
 - 2333-ASBMB Regulatory Networks
 - 2334-ASBMB Signaling in Disease and Therapy
 - 2335-ASBMB Signaling to the Cytoskeleton
 - 2336-ASBMB Toll-like Receptor Signaling
 - 2337-ASBMB Transcriptional Regulation
- 2340-ASBMB **PROTEIN PHOSPHORYLATION AND DEPHOSPHORYLATION**
 - 2341-ASBMB Adapter Proteins
 - 2342-ASBMB Kinase Cascades
 - 2343-ASBMB Map Kinases
 - 2344-ASBMB Phosphatases
 - 2345-ASBMB Receptor Tyrosine Kinase Signaling to Nucleus
 - 2346-ASBMB Serine/Threonine Kinase

2347-ASBMB Small GTPases
2348-ASBMB Tyrosine Kinases

2350-ASBMB SECOND MESSENGERS

2351-ASBMB Calcium
2352-ASBMB Cyclases
2353-ASBMB Cyclic AMP
2354-ASBMB Cyclic GMP
2355-ASBMB Inositol Phosphates and Phosphoinositides
2356-ASBMB Nitric Oxide
2357-ASBMB Other Lipid Second Messengers
2358-ASBMB Phosphodiesterases
2359-ASBMB Signaling Crosstalk

Chemical Biology Group

CHEMICAL BIOLOGY AND DRUG DISCOVERY THEME

2360-ASBMB The Chemical Biologist's Toolbox
2361-ASBMB Peptide-Based Drug Delivery, Drug Discovery and Biomaterials
2362-ASBMB Novel Approaches to High-Throughput Drug Discovery
2363-ASBMB The Chemical Biology of Human Disease
2364-ASBMB Biosynthesis of Complex Molecules
2365-ASBMB Cellular Metal Ions
2366-ASBMB Chemical Biology of Cell Death
2367-ASBMB Chemical Perspectives in Neurobiology
2368-ASBMB Chemical Probes and Their Use in Identifying New Therapeutic Targets
2369-ASBMB Chemistry and Cell Biology of Natural Products
2370-ASBMB Drug Delivery
2371-ASBMB Drug Design
2372-ASBMB High-content Approaches
2373-ASBMB Membrane Proteins as Drug Targets

2374-ASBMB Mode of Action of Bioactive Natural Products
2375-ASBMB New Spectroscopic Techniques for Chemical Biologists
2376-ASBMB New Targets for Drug Discovery: Antibacterials
2377-ASBMB New Targets for Drug Discovery: Nuclear Hormone Receptors
2378-ASBMB Nucleic-acid-small Molecule Interactions
2379-ASBMB Pharmacogenomics
2380-ASBMB Polypharmacology and Drug Repurposing
2381-ASBMB Protein-small Molecule Interactions
2382-ASBMB Small Molecule Control of Protein Folding and Assembly
2383-ASBMB Small Molecule Tools for Biology
2384-ASBMB Target Identification and Pathway Mining
2385-ASBMB Vaccine Development

2400-ASBMB PLANT BIOCHEMISTRY

Education and Professional Development (ASBMB)

IT DIDN'T WORK! COPING WITH "FAILURE" FOR STUDENTS AND PROFESSIONALS THEME

2500-ASBMB Classroom of the Future I: Classroom Management Skills
2501-ASBMB Classroom of the Future II: Mentoring Students in the Research Laboratory
2502-ASBMB The Art of Collaboration
2503-ASBMB It's Not Your Fault: Dealing with Frustration at the Bench
2504-ASBMB Fostering Student Engagement in the Classroom
2505-ASBMB Mentoring
2506-ASBMB Novel Approaches to Experimental Learning
2507-ASBMB Outreach and Service Learning



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