# EB2019 Topic Category List for PHYSIOLOGY

## Cardiovascular Section

### FEATURED TOPICS:

(Note: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster)

<table>
<thead>
<tr>
<th>Code</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1001-APS</td>
<td>Cardiac ECM niche in health and disease (Dixon/Griffiths)</td>
</tr>
<tr>
<td>1002-APS</td>
<td>Kaley Award Featured Topic (Kubes)</td>
</tr>
<tr>
<td>1003-APS</td>
<td>Wiggers Award Featured Topic (Chien)</td>
</tr>
<tr>
<td>1004-APS</td>
<td>Cardiac and Peripheral Vasculopathies: Emerging Biomarkers, Imaging and Treatments (LeBlanc/Kaufman)</td>
</tr>
<tr>
<td>1005-APS</td>
<td>Inflammation and Leukocyte Biology in Cardiovascular Disease (Halade/de Castro Bras)</td>
</tr>
<tr>
<td>1006-APS</td>
<td>Cardiovascular Metabolism in Diabetes (Hill/Harmancey)</td>
</tr>
<tr>
<td>1007-APS</td>
<td>Cardiovascular Section Young Investigator Competition (Faulkner/Dorrance)</td>
</tr>
<tr>
<td>1008-APS</td>
<td>Aging, Exercise, and Heart Failure: Common Connections and New Targets (Emter/Wrann)</td>
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### POSTERS:

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>1015-APS</td>
<td>Blood pressure regulation</td>
</tr>
<tr>
<td>1016-APS</td>
<td>Cardiac electrophysiology</td>
</tr>
<tr>
<td>1017-APS</td>
<td>Cardiac function and dynamics</td>
</tr>
<tr>
<td>1018-APS</td>
<td>Cardioprotection</td>
</tr>
<tr>
<td>1019-APS</td>
<td>Diabetes, insulin resistance and obesity</td>
</tr>
<tr>
<td>1020-APS</td>
<td>Endothelial cell biology in health and disease</td>
</tr>
<tr>
<td>1021-APS</td>
<td>Heart failure</td>
</tr>
<tr>
<td>1022-APS</td>
<td>Hypertension</td>
</tr>
<tr>
<td>1023-APS</td>
<td>Myocardial ischemia</td>
</tr>
<tr>
<td>1024-APS</td>
<td>Vascular ion channels</td>
</tr>
<tr>
<td>1025-APS</td>
<td>Cerebral circulation</td>
</tr>
<tr>
<td>1026-APS</td>
<td>Coronary circulation</td>
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</tbody>
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## The Microcirculatory Society

### POSTERS:

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>1040-APS</td>
<td>Angiogenesis/microvascular remodeling/injury &amp; repair</td>
</tr>
<tr>
<td>1041-APS</td>
<td>Atherosclerosis/thrombosis/platelets</td>
</tr>
<tr>
<td>1042-APS</td>
<td>Inflammation/leukocyte-endothelium interactions</td>
</tr>
<tr>
<td>1043-APS</td>
<td>Instrumentation, methodology, and experimental models</td>
</tr>
<tr>
<td>1044-APS</td>
<td>Ischemia-reperfusion/free radical biology</td>
</tr>
<tr>
<td>1045-APS</td>
<td>Lymphatic function</td>
</tr>
<tr>
<td>1046-APS</td>
<td>Microvascular cell signaling pathways</td>
</tr>
<tr>
<td>1047-APS</td>
<td>Microvascular development and aging</td>
</tr>
<tr>
<td>1048-APS</td>
<td>Microvascular flow regulation/oxygen delivery/networks</td>
</tr>
<tr>
<td>1049-APS</td>
<td>Microvascular mechanics/hemodynamics/rheology</td>
</tr>
<tr>
<td>1050-APS</td>
<td>Microvascular pathophysiology-pharmacology, therapeutics and translational aspects</td>
</tr>
<tr>
<td>1051-APS</td>
<td>Pericytes and Stem Cells</td>
</tr>
<tr>
<td>1052-APS</td>
<td>Permeability/fluid &amp; solute exchange/glycocalyx</td>
</tr>
<tr>
<td>1053-APS</td>
<td>Tissue-microvessel interactions/extracellular matrix</td>
</tr>
</tbody>
</table>
### Biomedical Engineering Society

**POSTERS:**
- 1055-APS Mathematical models of organ systems, tissues or cells
- 1056-APS Mechanobiology
- 1057-APS Regenerative medicine
- 1058-APS Tissue engineering

### Cell & Molecular Physiology Section

**FEATURED TOPICS:**
(Note: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster)
- 1060-APS pH Homeostasis and Acid-Base Transport (Parker/Romero)
- 1061-APS Ion Channels, Solute and Molecular Transporters In Heath and Disease (Baines)
- 1062-APS Molecular Mechanisms of Cellular Signaling and Transduction (Blazer-Yost/Teal)

**POSTERS:**
- 1065-APS Ion channels, transporters and pumps in health and disease
- 1066-APS Aquaporins and other water transporters
- 1067-APS Nutrient and metabolite transporters
- 1068-APS Neurotransmitter and drug transporters
- 1069-APS pH homeostasis and acid-base transport
- 1070-APS Cell volume regulation
- 1071-APS Endothelial and epithelial barrier function
- 1072-APS Choroid plexus and blood brain barrier
- 1073-APS Signal transduction mechanisms and regulation
- 1074-APS Nutritional influences on cell signaling
- 1075-APS Microbiome influences on cell signaling
- 1076-APS Orai and STIM proteins in calcium signaling
- 1077-APS Exosomes, ectosomes and microvesicles
- 1078-APS microRNAs in health and disease
- 1079-APS Extracellular matrix and cytoskeleton
- 1080-APS Oxidative stress, redox changes and mitochondrial metabolism
- 1081-APS Inflammation: cellular responses
- 1082-APS Hypoxia: cellular responses
- 1083-APS Protein trafficking, targeting, membrane domains, and cell polarity
- 1085-APS Cell migration, adhesion, contractility and excitability
- 1086-APS Stem cells, cell growth, development, differentiation and autophagy
- 1087-APS Apoptosis, cell stress and cell death
- 1088-APS Cancer proliferation and metastasis: cell and molecular processes
- 1089-APS Cell physiology: emerging topics, concepts and methods

### Central Nervous System Section

**FEATURED TOPICS:**
(Note: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster)
- 1095-APS Effects of Diet on Emotion and Motivated Behavior (Silberman)
- 1096-APS New Advances in CNS Physiology (Wainford)
POSTERS:
1097-APS  Astrocyte and neuroglial interactions
1098-APS  Blood-brain barrier, brain blood flow and metabolism
1099-APS  Brain development and aging
1100-APS  Central nervous system: other
1101-APS  Central regulation of body fluid homeostasis
1102-APS  Central regulation of food intake and body weight
1103-APS  Cognition and behavior
1104-APS  Neuroendocrinology/neuroimmunology
1105-APS  Neuroexcitability, neurotransmission and neuroplasticity
1106-APS  Neuroinflammation/neuroprotection/ischemia
1107-APS  Neurotransmission and signaling molecules

Comparative & Evolutionary Physiology Section

FEATURED TOPICS:
(Note: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster
1110-APS  Comparative and Evolutionary Physiology Section Trainee Featured Topic
(Crossley)

POSTERS:
1115-APS  Comparative cardiovascular and respiratory physiology
1116-APS  Comparative metabolic physiology, biochemistry and endocrinology
1117-APS  Comparative muscle physiology, locomotion and behavior
1118-APS  Comparative osmotic, ionic, and acid-base regulation
1119-APS  Comparative neurobiology
1120-APS  Comparative digestive physiology
1121-APS  Other comparative and evolutionary physiology
1122-APS  Scholander Award Competition

Endocrinology & Metabolism Section

FEATURED TOPICS:
(Note: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster
1125-APS  Sex specific differences in obesity induced hypertension (Barnes/Primeaux)
1126-APS  Noncoding RNAs: Emerging Functions in Metabolism and Diseases (Wang/Zhang)

POSTERS:
1127-APS  Cardiovascular endocrinology, including renin-angiotensin-aldosterone
1128-APS  Gestation, fetal, and neonatal biology, including mammary gland and lactation
1129-APS  Mitochondrial function in endocrinology and metabolism
1130-APS  Neuroendocrinology, hypothalamus and pituitary
1131-APS  Obesity and satiety
1132-APS  Adipocyte function and metabolism
1133-APS  Pancreatic hormones and diabetes
1134-APS  Reproduction and sex hormones
1135-APS  Stress and trauma including adrenal gland
1136-APS  Exercise, muscle protein synthesis, and bone metabolism
Environmental & Exercise Physiology Section

FEATURED TOPICS:
(NOTE: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster
1140-APS Examining Physiological Mechanisms Using Environmental Stressors (Johnson/Schlader)
1141-APS EEP Impact Award Featured Topic: Modulation of Systemic and Tissue Metabolism via Differences in Activity and Fitness (Morris/Rector)
1142-APS Mechanisms Underlying the Greater Propensity for Cardiovascular Disease in Populations with Elevated Risk (Keller/Brothers)

POSTERS:
1145-APS Acute exercise responses
1146-APS Altitude and hypoxia
1147-APS Cardiac responses to exercise
1148-APS Exercise training responses
1149-APS Exercise, health and disease
1150-APS Fluid balance, blood volume regulation and trauma
1151-APS Metabolism and energetics of muscle and related tissues
1152-APS Muscle atrophy and hypertrophy
1153-APS Muscle plasticity and gene regulation/expression
1154-APS Neural control of the circulation during exercise
1155-APS Ergogenics and Detection
1156-APS Reduced gravity and hyperbaric environments
1157-APS Respiratory responses to exercise
1158-APS Responses of bone and connective tissue to exercise and inactivity
1159-APS Signaling with muscle among cells, tissues and organs
1160-APS Temperature regulation and biological timekeeping
1161-APS Vascular responses to exercise and environmental stress
1162-APS Exercise and nutrition

Epithelial Transport Group

FEATURED TOPICS:
(NOTE: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster
1165-APS Hans Ussing Lecture Featured Topic (McDonough)
1166-APS Steve Hebert Lecture Featured Topic (Keely)

POSTERS:
1170-APS In vitro and in vivo epithelial transport in lung
1171-APS In vitro and in vivo epithelial transport in intestine
1172-APS In vitro and in vivo epithelial transport in kidney

Gastrointestinal & Liver Physiology Section

FEATURED TOPICS:
(NOTE: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster
1175-APS Gastrointestinal and Liver Physiology and Disease (Zachos)
Control of cellular organelle function, metabolism, and injury in liver and intestinal diseases (Li)

**POSTERS:**
- 1180-APS  Alcoholic and nonalcoholic fatty liver diseases
- 1181-APS  Barrier function and repair
- 1182-APS  Effects of diet and metabolites on mucosal immunology
- 1183-APS  Effects of diet on GI and liver physiology
- 1184-APS  Gastric physiology and pathophysiology
- 1185-APS  Gastrointestinal cancer and metastasis
- 1186-APS  Gastrointestinal development
- 1187-APS  Gastrointestinal motility
- 1188-APS  Gastrointestinal nutrient sensors
- 1189-APS  GI hormones, peptides and receptors
- 1190-APS  GI and liver epithelial junctions
- 1191-APS  GI and liver stem cells
- 1192-APS  Growth factors, proliferation, differentiation and apoptosis
- 1193-APS  Immunology and microbiology of the gut
- 1194-APS  Intestinal inflammation and pathophysiology
- 1195-APS  Liver physiology and pathophysiology
- 1196-APS  Metal ion transport
- 1197-APS  Metabolic disease: GI and liver function
- 1198-APS  Microbes and nutrition
- 1199-APS  Microbiome of the GI tract
- 1200-APS  Nuclear receptors in the liver and GI tract
- 1201-APS  Nutrient metabolism in the gut
- 1202-APS  Pancreatic physiology and pathophysiology
- 1203-APS  Prebiotics, probiotics and gut function

**History of Physiology Group**

**POSTERS:**
- 1205-APS  History of Physiology

**Hypoxia Group**

**FEATURED TOPICS:**
(NOTE: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster
- 1210-APS  Hypoxia: Hot Topics in Hypoxia

**POSTERS:**
- 1211-APS  Carotid body structure and function
- 1212-APS  Gene transcriptionand translation in hypoxia
- 1213-APS  Hypoxia and ion channels, transmitters, and second messengers
- 1214-APS  Intermittent hypoxia/oxidative stress
- 1215-APS  Pathophysiology of hypoxia
- 1216-APS  Responses to acute or chronic hypoxia exposure and altitude
- 1217-APS  Integrated physiology and hypoxia

**Muscle Biology Group**

**FEATURED TOPICS:**
(NOTE: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster
Hot topics in muscle biology (Wang/Mitch)

**POSTERS:**

1224-APS  Contractile processes
1225-APS  Cardiac muscle; physiology and metabolism in health and disease
1226-APS  Skeletal muscle; physiology, pathology and metabolism in health and disease
1227-APS  Smooth muscle; physiology, pathology and metabolism in health and disease
1228-APS  Aging and nutritional regulation of muscle atrophy; sarcopenia and muscle regeneration
1229-APS  Regulation of cardiac and skeletal muscle contraction
1230-APS  Role of exosomes in muscle metabolism
1231-APS  Muscle fatigue and regulation of EC coupling

**Neural Control & Autonomic Regulation Section**

**FEATURED TOPICS:**

(NOTE: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster

1235-APS  Autonomic Anti-inflammatory Mechanisms: Which Branch Trumps? (Mathis)

1236-APS  Autonomic Function in Normal and Preeclamptic Pregnancies (Stachenfeld)

1237-APS  Regulation of Muscle Sympathetic Outflow during Exercise (Floras/Millar)

1238-APS  NCAR Young Investigator Awards Featured Topic

**POSTERS:**

1245-APS  Cellular and molecular basis of autonomic control
1246-APS  Sympathetic regulation in heart failure
1247-APS  Sympathetic regulation in hypertension
1248-APS  Sympathetic regulation in diabetes and obesity
1249-APS  Differences in autonomic regulation in aging or sex
1250-APS  Autonomic circuitry in thermoregulation or metabolism
1251-APS  Sympathetic control of the circulation
1252-APS  Arterial baroreflex function and blood pressure regulation
1253-APS  Chemoreflex function and autonomic regulation
1254-APS  Sympathetic and parasympathetic regulation in disease
1255-APS  Autonomic balance: sympathetic and parasympathetic
1256-APS  Central regulation of autonomic control: Hypothalamus
1257-APS  Central regulation of autonomic control: Brain stem
1258-APS  Central regulation of autonomic control: CNS
1259-APS  Inflammation, immune system and autonomic regulation
1260-APS  Autonomic and respiratory interactions
1261-APS  Autonomic regulation of neuroendocrine and fluid volume
1262-APS  Autonomic adjustments to behavioral stress
1263-APS  Autonomic adjustments to exercise
1264-APS  Enteric nervous system, digestion and metabolic function
1265-APS  Autonomic control of cerebral and coronary blood flow

**Nutrition Physiology Interest Group**
FEATURED TOPICS:
(NOTE: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster
1270-APS Hot topics in Nutrition (Thalacker-Mercer/Borsheim)

POSTERS:
1271-APS Macronutrient (protein, carbohydrates and lipids) regulation of health and chronic disease
1272-APS Micronutrient (vitamins and minerals) regulation of health and chronic disease
1273-APS The role of bioactive components in health
1274-APS Metabolic programming
1275-APS Nutrient regulation of the microbiome
1276-APS Dietary regulation of body composition
1277-APS Nutrition and hunger control
1278-APS Nutrition through the lifecycle

Physiological Omics Group

POSTERS:
1280-APS Systems biology, computational modeling, and bioinformatics
1281-APS Genetically-engineered model organisms
1282-APS Genetics, genomics, gene expression, and epigenetics
1283-APS Ion transport: genes and function
1284-APS Non-coding RNA: miRNA, siRNA, and long ncRNA
1285-APS Genetics/genomics of exercise, obesity, and diabetes
1286-APS Genetics/genomics of cardiovascular and kidney disease
1287-APS Renin-angiotensin system: genes and function
1288-APS Functional genomics: transcriptomics, proteomics and metabolomics
1289-APS Vascular disease: genes and function
1290-APS Translational genomics: from model organisms to humans

Renal Section

FEATURED TOPICS:
(NOTE: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster and once in the oral session)
1295-APS Advances in Renal Physiology I (Ellison)
1296-APS Advances in Renal Physiology II (Layton)
1297-APS Renal Section Young Investigator Award Featured Topic: At the Nexus of Circadian Biology and Renal Physiology (Gumz)

POSTERS:
(NOTE: Highest scoring abstracts from the Renal Poster topic categories will be selected for oral
1300-APS Acute kidney injury
1301-APS Renal complications of polycystic disease
1302-APS Diabetic kidney disease
1303-APS Hormone and autacoid effects on the kidney
1304-APS Immune cells and inflammation impact on kidney function and hypertension
1305-APS Kidney in hypertension
1306-APS Nutrition, exercise and metabolic syndrome in renal function
1307-APS Omics and systems biology of renal function and disease
Respiration Section

FEATURED TOPICS:
(NOTE: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster
1320-APS  Sex and Gender in Respiratory Physiology (Silveyra/Prakash)
1321-APS  Mapping The Lung: Leveraging Emerging Technologies To Better Understand Pulmonary Disease (Beers/Bastarache)
1322-APS  Emerging Therapeutics for Respiratory Dysfunction (Turner/Falk)
1323-APS  Perinatal Reprogramming of Respiratory Control (Huxtable/Baker)

POSTERS:
1325-APS  Control of breathing: connectivity, neuromodulation and neurotransmission
1326-APS  Control of breathing: chemoreception
1327-APS  Control of breathing: development
1328-APS  Control of breathing: integrated responses
1329-APS  Control of breathing: respiratory motoneurons and muscles
1330-APS  Control of breathing: respiratory plasticity
1331-APS  Control of breathing: rhythm generation and Patterning
1332-APS  Lung physiology: airway epithelial cell biology
1333-APS  Lung physiology: airway responsiveness and smooth muscle cell biology
1334-APS  Lung physiology: alveolar epithelial cell biology
1335-APS  Lung physiology: biomechanics, surfactant and gas exchange
1336-APS  Lung physiology: development and plasticity
1337-APS  Lung physiology: endothelial cell biology
1338-APS  Lung physiology: fluid balance
1339-APS  Lung physiology: pulmonary hypertension
1340-APS  Lung physiology: vascular smooth muscle cell biology, vascular regulation, and hypoxia

Teaching of Physiology Section

FEATURED TOPICS:
(NOTE: if selected for inclusion in a featured topic, abstracts will be presented twice: once as a poster
1345-APS  Innovative techniques for teaching health sciences to increase retention and mastery learning (Harrison-Bernard/Jones)

POSTERS:
1346-APS  Teaching, Learning and Testing in the Biological and Biomedical Sciences

Water & Electrolyte Homeostasis Section

FEATURED TOPICS:
1350-APS  Effect of diet on metabolism, cardiovascular and renal physiology and pathophysiology
1351-APS  Therapeutic and adverse effects of pharmacological agents on integrative physiology and pathophysiology
1352-APS  Hormones and receptors in homeostatic control of physiology and during allostasis in pathophysiology
1353-APS  Environmental and epigenetic contributions to disease origin

**POSTERS:**
1354-APS  Blood pressure and fluid volume regulation in pregnancy
1355-APS  Developmental programming and cardio-renal function in adults
1356-APS  Cardiovascular and renal mechanisms in diabetes and metabolic syndrome
1357-APS  Renin-angiotensin-aldosterone system in regulation of blood pressure and renal function
1358-APS  Sex differences in blood pressure and fluid volume homeostasis
1359-APS  Translational physiology in water and electrolyte homeostasis research

**Total Abstracts Submitted**