

Curriculum Vitae

Ceylan Isgor, PhD

Personal Information

Birth: October 10, 1970, TURKEY
Address: Florida Atlantic University
Charles E. Schmidt College of Medicine
Department of Biomedical Science
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Citizenship: U.S.A.
Sex: Female

Professional Background

2018-present Undergraduate Research Liason for College of Medicine/FAU

2010-present Associate Professor (tenured)
Florida Atlantic University
Charles E. Schmidt College of Medicine
Department of Biomedical Science
Boca Raton, FL 33431

2004-2010 Assistant Professor (tenure track)
Florida Atlantic University
Charles E. Schmidt College of Biomedical Science
Department of Basic Science
Boca Raton, Florida 33431

1999-2004 Postdoctoral Fellow
The University of Michigan
Mental Health Research Institute
Ann Arbor, MI 48109-0720
Research Mentors: Stanley J. Watson, MD, PhD
Huda Akil, PhD

1993-1999 Doctor of Philosophy
Indiana University
Received: August, 1997
Major: Animal Learning and Behavior (Psychology)
Minor: Behavioral Neuroscience (Program in Neural Science)

Research Mentors: Dale R. Sengelaub, PhD
William Timberlake PhD

1990-1993 Bachelor of Arts
University of Maryland at College Park, College Park MD
Major: Psychology

1988-1990 University Degree
Bogazici University, Istanbul, TURKEY
Major: Business
Major: Psychology

Research Support & Awards

2019-2022 “Temporal ontogeny of epileptogenesis in a model of adult-onset spontaneous seizures”
Agency: National Institutes of Health/NINDS
Type: R15-AREA
Role: Principal Investigator

2020-2022 “Role of brainstem pontis oralis in postictal electroencephalographic suppression”
Agency: National Institutes of Health/NINDS
Type: R21 Exploratory Developmental Research Grant
Role: Principal Investigator
(pending Council Review)

2017-2018 “Compromised neural activity of the nucleus pontis oralis of the brain stem leads to sudden unexpected death in epilepsy”
Agency: FAU-Brain Institute (Neuroscience Pilot Award)
Type: Pilot Award
Role: Principal Investigator (PI: Robert P. Vertes)

2009-2011 “Individual differences in relapse to nicotine”
Agency: National Institutes of Health/NIDA
Type: R15-AREA
Role: Principal Investigator

2009-2010 Florida Atlantic University
Researcher of the Year
(Assistant Professor)

2008-2011 “A rat model of individual differences in neuro-immune responses to nicotine and stress”
Agency: Florida Department of Health/Biomed. Res. Program
Type: Team Science Project
Role: Co-Investigator (PI: K. Brew)

2007-2008	Florida Atlantic University Charles E. Schmidt College of Biomed Science Dwight W. Warren Excellence in Graduate Teaching Award
2005-2009	“Role of cannabinoid receptor 1 in novelty-seeking phenotype and treatment for nicotine dependence” Agency: Florida Department of Health/Biomed. Res. Program Type: New Investigator Research Role: Principal Investigator
1997	Society for Neuroscience annual meeting travel award
1996-1997	Biomedical Research Grant, NIMH
1996	Indiana Academy of Sciences Grant-in-Aid of Research
1994-1996	Indiana University Center for Integrative Study of Animal Behavior Research Support
1994-1996	Sigma Xi Grant-in-Aid of Research
1993-1997	Indiana University Center for Integrative Study of Animal Behavior Summer Support Fellowship
1993-1996	Indiana University Center for Integrative Study of Animal Behavior Travel Award

General Research Experience

2013-present	Florida Atlantic University Charles E. Schmidt College of Medicine <i>Topic:</i> Temporal ontogeny of aberrant synaptic circuit construction in epileptogenesis
2004-2013	Florida Atlantic University Charles E. Schmidt College of Medicine <i>Topic:</i> Individual differences in emotional reactivity in an outbred rat model of the novelty-seeking phenotype as an antecedent to vulnerability to stress and nicotine craving
1999-2004	The University of Michigan Mental Health Research Institute, Ann Arbor MI <i>Topic 1:</i> Morphological, behavioral and molecular consequences of chronic, variable stress during the peripubertal-juvenile period in the adult brain <i>Topic 2:</i> Individual differences in the novelty-seeking behavior in the female rat: Interactions of the low-responder/high-responder phenotype with the gonadal axis and brain dopaminergic circuitry <i>Topic 3:</i> Gonadal and adrenal steroid regulation of the novel estrogen receptor β in stress-relevant brain nuclei: Potential hypothalamic-pituitary-adrenal axis function

Supervisors: Stanley J. Watson, MD, PhD
Huda Akil, PhD

- 1994-1999 Indiana University
Department of Psychology & Program in Neural Science,
Bloomington IN
Topic: Organization of sexual dimorphism in hippocampal cellular
and dendritic morphology and subsequent maze learning in
adulthood.
Supervisor: Dale R. Sengelaub, PhD
- 1992-1993 Indiana University
Department of Psychology, Bloomington IN
Topic: Effects of cooperation and competition on social foraging
Supervisor: William Timberlake, PhD
- 1991-1992 University of Maryland at College Park
Department of Psychology, College Park MD
Topic: Priming in racial stereotyping
Supervisor: Charles Stangor, PhD
- 1990-1992 University of Maryland at College Park
Program in Behavioral Neuroscience, College Park MD
Topic: Brightness threshold, visual acuity and concept formation
Supervisor: William Hodos, PhD

Technical Skills

Behavior:

Behavioral models of learning and memory using radial, water and sand mazes using rats and mice
Behavioral models of anxiety using light/dark box, elevated plus maze, open field, social interaction test
Developmental models of stress/environmental enrichment including unpredictable physical and social stress, rearing condition, social hierarchy, dominance-subordination and kinship relationships
Behavioral models of drug taking, behavioral sensitization to psychostimulants, self-administration of psychostimulants, locomotor reactivity to novelty
Behavioral models of foraging for food, approach/avoidance paradigms
Skull EEG capping and monitoring of electrophysiological activity in freely moving mice

Surgery:

Ovariectomy, orchidectomy, adrenalectomy

Intracardial perfusions, decapitation, brain and spinal tissue collection, brain dissection and blocking
Microinjection (iontophoresis) of drugs in the brain nuclei using the stereotaxic apparatus (reversible lesion paradigm)
Collection of plasma from live animals via tail nicking
Cesarean section delivery
Microsurgeries including gonadectomy on embryonic rat pups
Delivery of viral vectors *in vivo* in various brain regions for downstream anatomical analyses

Histology:

Nissl stains
Immunohistochemistry (DAB and fluorescence-conjugates)
Golgi-Cox impregnation
Timm's Silver Stain
Horseradish peroxidase retrograde labeling
Vaginal cytology
Tissue sectioning using vibratome, cryostat, rotary and freezing microtomes
Tissue collection using Laser Capture Microdissection

Biological Assays:

Radioimmunoassay

Molecular Assays:

DNA cloning, transformation
Plasmid Preparation
In situ hybridization histochemistry using riboprobes
DNA/RNA isolation/purification
Immunohistochemistry
Double *in situ* and immuno histochemistry using radiolabeled and digoxigenin labeled mRNA probes
Autoradiography
Affymetrix Gene Chip Assay
RNA collection/purification and amplification from picogram quantities using the laser capture microdissection technique
Chromatin Immunoprecipitation Assay & ChIP on chip
Western Blot

Light Microscopy:

Unbiased stereological counts of particles using a 3-D computer-interfaced video image analysis system (e.g., neuron, glia, radiolabelled pixels per neuron)
Quantification of gross and cellular morphology using the Cavalieri Estimator for structural volume and Nucleator probe for soma size
Quantification of dendritic morphology in individual neurons stained by the Golgi-Cox method (e.g., dendritic length, number of branches, spine number and density) using a 3-D computer-interfaced video image analysis system (Neurolucida)

Confocal microscopy including z-stack collection for 3-D montage of individual neurons in *NeuroLucida*

Transgenic Mice: Breeding and maintaining bigenic and trigenic mice strains

Teaching Experience

Assistant Instructor: Undergraduate level psychology courses, 1993-1996, Indiana University:
(Learning and Motivation, Behavioral Neuroscience, Social Psychology, Statistical Methods, Evolution of Learning, Biopsychology, Developmental Neurobiology)

Assistant Instructor: Graduate level statistics course, 1996, Indiana University

Laboratory Instructor: Methods in Experimental Psychology, 1995, Indiana University

Undergraduate Medical Student Research Advisor, 2000-2002, University of Michigan:
-responsibilities included training students in laboratory techniques and assisting them with their undergraduate research theses

Graduate Student Research Director, 2002, University of Michigan:
-responsibilities included directing graduate level research, helping pose tangible research questions, design experiments and assist in interpreting data

Lecturer in the Medical Neuroscience Module delivered to the *1st year medical students*, 2005-present, Florida Atlantic University:
-delivered neuropharmacology and neurophysiology lectures pertaining to topics of learning and memory, neurobiology of reward circuitry, drug addiction, hypothalamus and limbic system and the stress axis

Lecturer in a team-taught, *graduate level*, degree requirement class Topics in Biomedical Sciences, 2005-2012; Florida Atlantic University:
-delivered lectures pertaining to neurobiological bases of individual differences in drug addiction and introduced general behavioral paradigms used in animal models of drug addiction

Lecturer Molecular Neuropsychopharmacology, 2008-2013; Florida Atlantic University:
-developed and annually instructed this *graduate level 3 credit* course which fulfills an elective requirement for the Florida Atlantic University ***Neuroscience Certificate Program***.

Facilitator Problem Based Learning in Medical Neuroscience delivered to *1st year medical students*, Spring 2009-present; Florida Atlantic University

Lecturer Neurobiology of Addiction, 2014-present; Florida Atlantic Univ: -developed and annually instructed this graduate level 3 credit course which fulfills an elective requirement for the College of Medicine *Masters in Biomedical Science Program*.

Doctoral Thesis

Ceylan Isgor (1997) Effects of perinatal gonadal steroids on adult spatial navigation and hippocampal morphology

Doctoral Committee: Dale R. Sengelaub, PhD, Chair
Joseph E. Steinmetz, PhD
Jeffrey Alberts, PhD
Elizabeth Kurz, PhD

Invited Talks and Presentations (2004-present)

“An animal model of individual differences in risk-taking behavior” Neuroscience Brown Bag Series, Florida Atlantic University, Department of Psychology, 11/18/2004

“A rodent model of individual differences in adolescent nicotine addiction: therapeutic perspectives” Neuroscience Colloquium, Florida State University, 11/23/2005

“Individual differences in novelty-seeking and nicotine addiction: therapeutic perspectives.” Neuroscience Brown Bag, Florida Atlantic University, 05/11/2006.

“Vulnerability to nicotine craving & modulation with cannabinoid receptor 1 (CB1) antagonist” Biomedical Seminars, Florida Atlantic University, 08/22/2006

“Neurobiological mechanisms in vulnerability to nicotine: HPA axis” Neuroscience Colloquium, University of Michigan, 10/10/2007

“Nicotine vulnerability: “Individual differences in emotional reactivity” Neurobiology Seminar, Emory U., 10/24/2008

“Normal and pathological brain development during adolescence” Neuroscience and Behavioral Biology, Emory U., 12/05/2008

“Vulnerability to stress: neurobiological correlates” University of Louisville, College of Medicine, Department of Psychiatry & Behavioral Sciences, 09/21/2009

“Individual differences in novelty-seeking phenotype and nicotine abstinence-induced anxiety-like behavior” Indiana University, Neuroscience Program, 02/12/2010

“Epigenetic regulation of the brain derived-neurotrophic factor gene in nicotine-induced anxiety” Neuroscience Seminar, University of Florida, 04/30/2010

“Individual differences in relapse to nicotine in an outbred rodent model of nicotine vulnerability” Neuroscience Seminar, University of North Dakota, 07/17/2011

“Progressive aberrant hippocampal circuit remodeling underlies early cognitive impairments and later seizure susceptibility in a transgenic mice overexpressing BDNF.” Florida State University, 09/07/2012

“Seizure-prone brain circuit construction in the temporal lobe epilepsy” Bradenton Pediatrics Club Seminar, 11/18/2014

“Epileptogenesis in aberrant synaptic circuits in the adult hippocampus of transgenic mice over-expressing the brain-derived neurotrophic factor” Florida Atlantic University, Neuroscience Seminar, 09/22/2015

“Adult-onset epilepsy: The dentate granule neuron gating hypothesis” University of Minnesota, Duluth Graduate Program In Neuroscience Seminar Series, 06/08/2018

“Emergence of epileptogenesis in aberrant synaptic circuits in the adult hippocampus of transgenic mice over-expressing the brain-derived neurotrophic factor” FAU Schmidt College of Medicine, Distinguished Lecturer Series, 02/02/2019

“Limbic System and Emotions” Marcus Neuroscience Institute; Boca Raton Regional Hospital Neurology Residency program 12/05/2019

International Conferences and Workshops Attended

Isgor, C., Timberlake, W. (1994). Effects of social conflict on foraging efficiency in the Norway rat. Annual Meeting of American Psychological Society, Washington D.C.

Isgor, C., Timberlake, W. (1994). Cooperation and competition in social foraging. Ohio-Kentucky-Purdue-Indiana University Joint Annual Animal Learning Meeting, Purdue University, Purdue IN.

Isgor, C., Waldroup, L.L., Sengelaub, D.R., Timberlake, W., Schroeder, D.M. (1995). Neural and hormonal correlates of spatial memory. Soc. Neurosci. Abstr. (24.19).

Isgor, C., Sengelaub, D.R. (1996). Neonatal androgens affect spatial behavior and CA3 pyramidal cell morphology: A Golgi study. Soc. Neurosci. Abstr. (302.10).

Waldroup, L.L., **Isgor, C.**, Sengelaub, D.R., Frommer, G. (1996). Acute testosterone affects aged male hippocampal morphology. Soc. Neurosci. Abstr. (491.1).

- Isgor, C., Sengelaub, D.R. (1997).** Prenatal gonadal steroids affect adult spatial behavior, CA1 and CA3 pyramidal cell morphology in rats. Soc. Neurosci. Abstr. (32.13).
- Isgor, C., Akil, H., Watson, S.J. (1999).** Acute restraint stress interacts with the HPA-axis of the female rat differentially across the oestrus cycle. Soc. Neurosci. Abstr. (582.11).
- Kabbaj, M., Isgor, C., Watson S.J., Akil, H. (1999).** Chronic nonhabituating physical stress and intermittent social stress during adolescence affect the HPA axis of the adult rat. 29th Annual Meeting of Neuroscience.
- Huang, G.C., Isgor, C., Akil, H., Watson, S.J. (2000).** Regulation of estrogen receptor β mRNA across oestrus cycle in the rat brain. Soc. Neurosci. Abstr. (346.18).
- Isgor, C., Kabbaj, M., Akil, H., Watson, S.J. (2000).** Chronic nonhabituating physical and social stress during adolescence alters hippocampal morphology and gene expression in rats. Soc. Neurosci. Abstr. (571.11).
- Lu, D., Healy, D.J., Young, E.A., Huang, G.C., Isgor, C., Akil, H., Meador-Woodruff, J.H. (2000).** Hippocampal NMDA receptor expression during the oestrus cycle. Soc. Neurosci. Abstr. (617.11).
- Kabbaj, M., Isgor, C., Watson, S. J., Akil, H. (2000).** Chronic nonhabituating social stress during adolescence inhibits behavioral sensitization to amphetamine: role of dopamine receptors. Soc. Neurosci. Abstr. (656.16).
- Isgor, C., Shieh, K.R., Akil, H., Watson, S.J. (2001).** Colocalization of estrogen β -receptor messenger RNA with vasopressin, oxytocin and orphanin FQ in the rat hypothalamic paraventricular and supraoptic nuclei. 31st Annual Meeting of Society for Neuroscience.
- Isgor, C., Kabbaj, M., Akil, H., Watson, S.J. (2002).** Interaction between the novelty-seeking behavior and the oestrus cycle in the female rat: Dopaminergic correlates. 32nd Annual Meeting of the Society for Neuroscience.
- International Neurostereology Workshop organized by Mark West, PhD University of Aarhus, Denmark in collaboration with Ignite Consultants, Denmark. July 6-12, 2002, Paris, France
- Isgor, C., Slomianka, L., Watson, S.J. (2003).** Hippocampal mossy fiber terminal field size is differentially affected in a rat model of risk-taking behavior. 33rd Annual Meeting of the Society for Neuroscience.

- Isgor, C.**, Slomianka, L., Akil, H., Watson, S.J. (2004). Estrogen receptors α and β colocalize with Ki-67 and doublecortin immunoreactivity in proliferative regions of the adult rat brain. 34th Annual Meeting of the Society for Neuroscience.
- Turner, C.A., **Isgor, C.**, Evans, S.J., Neal, C.R., Akil, H., Watson, S.J. (2004). Effects of early postnatal FGF-2 administration on neurogenesis, emotionality and gene expression in rats. 34th Annual Meeting of the Society for Neuroscience.
- Perez, J. A., Turner, C. A., **Isgor, C.**, Watson, S. J., Akil, H. (2004) FGF-2, a possible predictor for emotional reactivity after environmental complexity. 34th Annual Meeting of the Society for Neuroscience.
- Tao, R., Pearson, E., Ma, Z., **Isgor, C.** (2005) Cannabinoid (CB) 1 receptor antagonist blocks nicotine-induced conditioned place preference in the HR but not LR adolescents. 35th Annual Meeting of the Society for Neuroscience.
- Isgor, C.**, Bhatti, A., Hall, P., Ma, Z., Tao, R. (2005) Cannabinoid 1 receptor antagonist treatment reverses behavioral sensitization to nicotine in adolescent rats with novelty seeking phenotype. 35th Annual Meeting of the Society for Neuroscience.
- Isgor, C.**, Bhatti, A., Hall, P., Ma, Z., Tao, R. (2006) Hippocampus mediates the behavioral sensitization to nicotine in peripubertal-juvenile rats: Interaction with the novelty-seeking phenotype. 36th Annual Meeting of the Society for Neuroscience.
- Tao, R., Jenney C., Zhang, G., Ma, Z., Krishnamoorthy, S., **Isgor, C.** (2006) Involvement of 5-HT_{2A} but not 5-HT_{1A} receptors in the serotonin toxicity and syndrome. 36th Annual Meeting of the Society for Neuroscience.
- Isgor, C.**, Bhatti, A. S., Aydin, C., Hall, P., Ma, Z., Tao, R. (2007) A cannabinoid receptor (CB) 1 antagonist, AM251, reverses nicotine craving in a rat model of novelty-seeking behavior: regulation of hippocampal 5HT neurotransmission. 37th Annual Meeting of the Society for Neuroscience.
- Bhatti, A., Aydin C., Oztan, O., Hall, P., **Isgor, C.** (2007) Chronic stress interactions with phenotypic predisposition for nicotine craving: the novelty-seeking phenotype and hippocampal neuropeptide Y. 37th Annual Meeting of the Society for Neuroscience.
- Guthrie KM, De La Puente R, **Isgor, C.** (2007) Ki-67 expression in the intact and target-deprived olfactory epithelium. 37th Annual Meeting of the Society for Neuroscience.
- Aydin C., Bhatti A.S., Oztan O., **Isgor C.** (2008) The novelty-seeking phenotype predicts expression of behavioral sensitization to nicotine: implications for neuropeptidergic regulation in amygdale. 38th Annual Meeting of the Society for Neuroscience.

- Oztan O., Aydin C., Bhatti A.S., Tobiansky D., **Isgor, C.** (2008) Effects of HDAC2 silencing on the neurotrophic factor family and inflammatory cytokine gene expression in a rat model of novelty-seeking phenotype: implications for behavioral sensitization to nicotine. 38th Annual Meeting of the Society for Neuroscience.
- Bhatti A.S., **Isgor C.** (2008) Differential effects of cannabinoid (CB) 1 receptor antagonist or bupropion in the mossy fibre reorganization following behavioral sensitization to nicotine in a rat model of novelty-seeking. 38th Annual Meeting of the Society for Neuroscience.
- Aydin C., Oztan O, **Isgor, C.** (2009) The role of chromatin remodeling in synaptic organization of hippocampal mossy fibres following behavioral sensitization to nicotine in a rat model of novelty-seeking: effects of a selective neuropeptide Y2 receptor antagonist (submitted abstract). 39th Annual Meeting of the Society for Neuroscience.
- Oztan O., Aydin C., **Isgor C.** (2009) Chronic intermittent social stress differentially regulates hippocampal mossy fibre terminal fields in a rodent emotional reactivity model: role of histone deacetylases and brain derived neurotrophic factor in mossy fibre remodeling (submitted abstract). 39th Annual Meeting of the Society for Neuroscience.
- Aydin C., Oztan O., **Isgor C.** (2010) Epigenetic regulation of the BDNF gene following behavioral sensitization to nicotine in a rat model of novelty-seeking: implications of anxiety-like behavior and mossy fibre plasticity. 40th Annual Meeting of the Society for Neuroscience
- Oztan O., Aydin C., **Isgor C.** (2010) Epigenetic regulation of the BDNF gene following chronic variable physical and social stress in an outbred rat model of novelty-seeking is associated with hippocampal mossy fibre morphology. 40th Annual Meeting of the Society for Neuroscience
- Aydin C., Oztan O., **Isgor C.** (2011) Chromatin plasticity at the BDNF gene is associated with hippocampal mossy fibre remodeling following behavioral sensitization to nicotine in an outbred rat model of the novelty-seeking phenotype. NIDA/NIAAA Satellite Symposium at the World Congress on Psychiatric Genetics. Sept 9, 2011; Washington D.C.
- Aydin C., Oztan O., **Isgor C.** (2011) Differential effects of a cannabinoid receptor (CB) 1 antagonist AM251 administered during adolescence or early adulthood on behavioral and molecular adaptations induced by adolescent nicotine in the novelty-seeking phenotype. 41th Annual Meeting of the Society for Neuroscience
- Oztan O., Aydin C., **Isgor C.** (2011) Chronic nonhabituating, variable physical stress in adolescence causes antidepressant and anxiogenic effects in the novelty-seeking

- phenotype: Stress interactions with administration of a generalized histone deacetylase inhibitor, trichostatin A. 41st Annual Meeting of the Society for Neuroscience
- Aydin C., Oztan O., **Isgor C.** (2012) Effects of a selective Y2R antagonist, JNJ-31020028, on nicotine-induced hippocampal mossy fibre plasticity in the novelty-seeking phenotype. 42nd Annual Meeting of the Society for Neuroscience
- Oztan O., Aydin C., **Isgor C.** (2012) Chronic variable stress-induced dendritic plasticity and associated changes in brain-derived neurotrophic factor in the hippocampus and the basolateral amygdala in the novelty-seeking phenotype: implications for depressive- and anxiety-like behaviors. 42nd Annual Meeting of the Society for Neuroscience
- Guthrie KM, Aydin C, Pare C, **Isgor C.** (2013) Mossy fiber sprouting in BDNF-enriched hippocampus. 43rd Annual Meeting of the Society for Neuroscience
- Isgor C**, Hossain F, Aydin C, Oztan O, Guthrie K (2013) Dendritic analyses of hippocampal dentate gyrus and CA3 pyramidal neurons in brain-derived neurotrophic factor overexpressing mice. 43rd Annual Meeting of the Society for Neuroscience
- McDole B, **Isgor C**, Guthrie KM (2014) BDNF increases spine density of olfactory bulb granule cells in vivo. 44th Annual Meeting of the Society for Neuroscience
- Isgor C**, Coombs P, Guthrie K (2014) Progressive remodeling of hippocampal mossy fibres and dentate gyrus granule neuron dendritic arbors in the brain-derived neurotrophic factor overexpressing mice. 44th Annual Meeting of the Society for Neuroscience
- McDole B, **Isgor C**, Guthrie K (2014) Dendritic analysis of granule cells in the BDNF-enriched olfactory bulb. ACHEMS
- McDole B, **Isgor C**, Guthrie K (2016) BDNF augmentation in vivo increases spine density in adult-born olfactory granule cells. 46th Annual Meeting of the Society for Neuroscience
- Yepes C, Laquerre M, Zhou W, Guthrie K, **Isgor C** (2016) Emergence of epilepsy in a transgenic mouse strain that overexpresses brain-derived neurotrophic factor in the forebrain. 46th Annual Meeting of the Society for Neuroscience
- Vertes R P, Gil, M, St Clair R, Lemos R, Koroma K, **Isgor C** (2017) A proposed role for the nucleus pontis oralis of the brainstem (NPO) in sudden unexpected death in epilepsy. 47th Annual Meeting of the Society for Neuroscience
- Hossain MS, Pough A, Koroma K, **Isgor C** (2018) Adult-born dentate granule neurons show accelerated maturation in a transgenic mouse model of adult-onset spontaneous epilepsy. 48th Annual Meeting of the Society for Neuroscience

Scientific Publications (1998-present):

- Isgor, C.,** Sengelaub, D.R. (1998). Prenatal gonadal steroids affect adult spatial behavior, CA1 and CA3 pyramidal cell morphology in rats. *Hormones and Behavior* 34(special issue on Estrogen Effects on Cognition Across the Lifespan):183-198.
- Kabbaj, M., **Isgor, C.,** Watson, S.J., Akil, H. (2002). Stress during adolescence alters behavioral sensitization to amphetamine. *Neuroscience* 113(2):395-400.
- Isgor, C.,** Huang, G.C., Akil, H., Watson, S.J. (2002). Correlation of estrogen β -receptor messenger RNA with endogenous levels of plasma estradiol and progesterone in the female rat hypothalamus, the bed nucleus of stria terminalis and the medial amygdala. *Molecular Brain Research* 106:30-41.
- Isgor, C.,** Sengelaub, D.R. (2003). Effects of neonatal gonadal steroids on adult CA3 pyramidal neuron dendritic morphology and spatial memory in rats. *Journal of Neurobiology* 55(2):179-190.
- Isgor, C.,** Shieh, K.R., Akil, H., Watson, S.J. (2003). Colocalization of estrogen β -receptor messenger RNA with vasopressin, oxytocin and orphanin FQ in the rat hypothalamic paraventricular and supraoptic nuclei. *Anatomy and Embryology* 206(6):461-469.
- Isgor, C.,** Cecchi, M., Kabbaj, M., Akil, H., Watson, S.J. (2003). Estrogen receptor β in the paraventricular nucleus of hypothalamus regulates the neuroendocrine response to stress and is regulated by corticosterone. *Neuroscience* 121(4):837-845.
- Isgor, C.,** Kabbaj, M., Akil, H., Watson, S.J. (2004). Delayed effects of chronic, variable stress during peripubertal-juvenile period on hippocampal morphology and on cognitive and stress axis functions in rats. *Hippocampus* 14(5):636-648.
- Isgor, C.,** Slomianka, L., Watson, S.J. (2004). Hippocampal mossy fiber terminal field size is differentially affected in a rat model of risk-taking behavior. *Behavioral Brain Research* 153(1):7-14.
- Torregrossa, M.M., **Isgor, C.,** Rice, K.C., Watson, S.J., Woods, J.H. (2004). The delta opioid receptor antagonist (+)BW373U86 regulates BDNF mRNA expression in rats. *Neuropsychopharmacology* 29(4):649-59.
- Isgor, C.,** Watson, S.J. (2005). Estrogen receptor α and β messenger RNA expressions by proliferating and differentiating cells in the adult rat dentate gyrus and subventricular zone. *Neuroscience* 134:847-856.
- Ma, Z., Pearson, E., **Isgor, C.,** Tao, R (2006). Evidence of reuptake inhibition responsible for mecamylamine-evoked increases in extracellular serotonin. *Brain Research* 1073-1074: 321-324.

- Bhatti, A., Hall, P., Ma, Z., Tao, R., **Isgor, C.** (2007). Hippocampus modulates the behaviorally sensitizing effects of nicotine in a rat model of novelty-seeking: potential role for mossy fibres. *Hippocampus* 17(10): 922-933.
- Kabbaj, M. & **Isgor, C.** (2007). Effects of chronic environmental and social stimuli during adolescence on mesolimbic dopaminergic circuitry markers. *Neuroscience Letters* 422(1): 7-12.
- Ardiles, Y., de la Puente, R., Toledo, R., **Isgor, C.**, Guthrie, K.M. (2007). Response of olfactory axons to loss of synaptic targets in the adult mouse. *Experimental Neurology* 207(2):275-288.
- Bhatti, A.S., Aydin, C., Oztan, O., Ma, Z., Tao, R., **Isgor, C.** (2009). Effects of cannabinoid receptor (CB) 1 antagonist AM251 on behavioral sensitization to nicotine in a rat model of novelty-seeking behavior: correlation with hippocampal 5HT. *Psychopharmacology (Berl)* 203(1):23-32.
- Aydin, C., Oztan, O., **Isgor, C.** (2011) Vulnerability to nicotine abstinence-related social anxiety-like behavior: Molecular correlates in neuropeptide Y, Y2 receptor and corticotropin releasing factor. *Neurosci Lett* 490(3):220-225.
- Aydin C., Oztan O., **Isgor, C.** (2011) Effects of a selective Y2R antagonist, JNJ-31020028, on nicotine abstinence-related social anxiety-like behavior, neuropeptide Y and corticotropin releasing factor mRNA levels in the novelty-seeking phenotype. *Behav Brain Res* 222(2):332-41.
- Oztan, O., Aydin, C., **Isgor, C.** (2011) Chronic variable physical stress during the peripubertal-juvenile period causes differential depressive and anxiogenic effects in the novelty-seeking phenotype: Functional implications for hippocampal and amygdalar BDNF and the mossy fibre plasticity. *Neurosci* 192:334-44.
- Oztan, O., Aydin, C., **Isgor, C.** (2011) Stressful environmental and social stimulation in adolescence causes antidepressant-like effects associated with epigenetic induction of the hippocampal BDNF and mossy fibre sprouting in the novelty-seeking phenotype. *Neurosci Lett* 501(2):107-11.
- Aydin C., Oztan O., **Isgor C.** (2012) Long-term effects of juvenile nicotine exposure on abstinence-related social anxiety-like behavior and amygdalar cannabinoid receptor 1 (CB1R) mRNA expression in the novelty-seeking phenotype. *Behav Brain Res* 228(1):236-9.
- Aydin C., Oztan O., **Isgor C.** (2012) Nicotine-induced anxiety-like behavior in a rat model of the novelty-seeking phenotype is associated with long-lasting

neuropeptidergic and neuroplastic adaptations in the amygdala: Effects of the cannabinoid receptor 1 antagonist AM251. *Neuropharmacology* 63(8):1335-45.

Hollis F., **Isgor C.**, Kabbaj M. (2013) The consequences of adolescent chronic unpredictable stress exposure on brain and behavior. *Neuroscience*, 249:232-41.

Aydin C, Oztan O, **Isgor C.** (2014) Hippocampal Y2 receptor-mediated mossy fiber plasticity is implicated in nicotine abstinence-related social anxiety-like behavior in an outbred rat model of the novelty-seeking phenotype. *Pharmacol Biochem Behav* 125:48-54.

Isgor C., Pare C, McDole B, Coombs P, Guthrie K. (2015) Expansion of the dentate mossy fiber-CA3 projection in the brain-derived neurotrophic factor enriched mouse hippocampus. *Neuroscience* 288:10-23

McDole B, **Isgor C.**, Pare C, Guthrie K. (2016) BDNF over-expression increases olfactory bulb granule cell dendritic spine density in vivo. *Neuroscience* 304:146-60

Gil, M, **Laquerre M.**, Zhou Hui W, **Isgor C.** Epileptogenic dentate granule neuron circuits examined in a transgenic model of adult onset spontaneous seizures. *Brain Structure & Function* (in review)

Vertes R, Gil M, St. Clair R, Lemos R, Koroma K, **Isgor C.** Temporal ontogeny of subthreshold EEG aberrations on route to tonic/clonic seizures in a model of adult-onset spontaneous epilepsy. *Epilepsia* (in review).

Scientific Affiliations

2015-present	Member, American Epilepsy Society
2014-present	Member, Sigma Xi, The Scientific Research Society
1994-present	Member, Society for Neuroscience
1993-present	Member, American Psychological Society
1993-present	Member, American Psychological Association

References

Stanley J. Watson, Jr. M.D., Ph.D., Co-Director and Research Professor
The University of Michigan
Molecular and Behavioral Neuroscience Institute
Theophile Raphael Professor of Neurosciences
205 Zina Pitcher Place
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