



***3<sup>rd</sup> INTERNATIONAL DRUG ABUSE RESEARCH  
SOCIETY***

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***INTERNATIONAL SOCIETY FOR  
NEUROCHEMISTRY SATELLITE MEETING***



***PROGRAM & ABSTRACTS***

***Recent Frontiers and Advances in Drug Addiction***

***August 23-26, 2011***

***Grand Hyatt Hotel, Istanbul, Turkey***

***Conference Organizers:***

**Syed F. Ali (USA), George Koob (USA), Michael Kuhar (USA), Ali Unlu (TURKEY),  
Barbara Mason (USA), Hyoung Chun Kim (S. Korea), Emmanuel Onaivi (USA), Jesus Angulo (USA),  
James O'Callaghan (USA), Hakan Coskunol (TURKEY) and Sakire Pogun (TURKEY)**

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International Society for Neurochemistry (ISN)



Institute of Pharmaceutical Sciences,  
Kangwon National University, Chunchon, South Korea



National Center for Toxicological Research/  
US Food and Drug Administration (NCTR/FDA)

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# General Information about the Meeting Site

## ISTANBUL

**Istanbul** is a cosmopolitan city built on two continents. The most recent population census shows that it has a population of about 12 million people, from which almost 65% are inhabitants of the Asian side. Fulfilling the residential role of the city, it doesn't present a lot to see historically. In contrast, the European side is the commercial and cultural center, further divided into two districts (the Old City and the modern downtown) by a narrow channel of water called 'the Golden Horn'. Below you will find some helpful details to make your stay easier when you are in Istanbul.

### Arrival

Most countries' citizens require a visa to enter Turkey. For some countries this visa can be supplied directly upon arrival at the airport, for others it is advisable to pre-arrange it at a Turkish Embassy in the home country. Check with your local Turkish Embassy prior to departure. **US citizens can obtain their visa at the airport. Visa cost will be \$20 dollars US per passport.**

### Climate

The regional location of Istanbul is the second most humid region of the country, with an average humidity of 73%. The maximum that has been recorded is 41°C (105.8 °F) - 16°C (5°F). **August temperatures will be between 85°F and 95°F with high humidity. It is advised to bring loose summer clothing.**

### Money

The currency used in the Turkish Republic is the Lira – however most places can take Euros and USD. For that reason, many prices are quoted in USD (especially in the tourist areas). Visa and Master cards are accepted generally everywhere, although American Express or Diners Cards can pose difficulties. Travelers' Cheques are not easily cashed as most of the banks and exchange offices (doviz burosu) charge a sizable commission. It is advisable to use them as direct payment where possible, instead of cashing them.

### Electricity

In Istanbul, electricity is supplied at **220 volts with plugs of two round prongs**. As is not easy to find adapters in the city, **it is advisable to bring your own for use of any extra electrical item.**

### Internet Cafes

It is very easy to find Internet cafes anywhere in the city with reasonable prices. A set time-related fee is charged for the use of the computer or the Internet, but use of scanners, printers, etc. is usually extra.

### Taxis

All taxis in the city (a total of 22,000!) carry a meter. If the meter does not appear to be working, it is advisable to change taxis. The night fare commences after midnight.

Taxis will cost 40-50 Turkish Lira from airport to the Grand Hyatt Hotel. Luxury buses are available from the airport to Taskin Square (which is a 5 minute walk to the hotel). These are blue buses (Havas) that run every 30 minutes and cost 10 Turkish Lira (\$7.50 US). When you arrive at Taskin Square you will see the Intercontinental Hotel (tall building). The Grand Hyatt is across from the Intercontinental Hotel.

## Time

The whole country is in one time zone with a daylight saving period, so it is always two hours ahead of GMT. Daylight saving starts around April and ends around October.

## National Holidays

January 1st : New Years Eve, April 23rd : National Independence and Children's Day, May 19th : Youth and Sports Day, August 30th : Victory Day, October 29th : Republic Day. There are two other religious holidays, of which the times vary greatly, as they follow the lunar Islamic calendar of 354 days.

## Emergency Phone Numbers

Police 155. Traffic police 154. Ambulance 112. These numbers are toll free when you use a regular phone but if you are using a public or a cellular there is a charge.

## Public Telephones

There are three kinds of public phones:

- 1. Token phones:** For these you have to insert a special token that can be purchased from the post office. These phones are very hard to find and quite old-fashioned.
- 2. Card phones:** These work with a special prepaid card that can be purchased from the post offices and most street vendors. There are three kinds - 30 units, 60 units and 100 units. It is advisable to purchase 60 or 100 units for making international calls.
- 3. Credit card phones:** These work with all the major credit cards and they are available at the airport and all the major touristy sites. For international operators, here are the most common numbers: AT&T 0-0-8001 2277, MCI 0-0-8001 1177, US Sprint 0-0-8001 4477.

## Weight and Measurement System

Turkey uses the metric system.



## **Information on Scientific Sessions**

### **Speaker Instructions**

Please bring your presentation on a CD or USB port (memory stick/thumb drive) to the conference room 30 minutes prior to the beginning of the session on the day you present. Projector, PowerPoint software and a computer (Windows XP-based) will be provided for the presentations.

### **Poster Presenter Instructions**

The poster session will be held adjacent to the meeting room from 4:00 - 7:00 PM on Tuesday, August 23, 2011 and Wednesday, August 24, 2011. Poster board will be made available beginning at 12:00 noon on Tuesday August 23, 2011.

PLEASE NOTE: The 170 cm wide and 100 cm tall which translate about into 5.5 ft wide and 3.3 ft tall. The suggested poster size will be about 120 -150 cm (4-5 ft) wide and 90 cm (3 ft) tall.. Poster presenters are asked to prepare posters which will fit on the board, and should be easily viewed by the audience. Pushpins will be provided for your convenience to display your posters.

The poster numbers are listed on pages 22- 26.

### **Publication of Proceedings**

The proceedings of this satellite meeting will be published in a newly launched online IDARS Journal. All presenters are invited to submit manuscripts for publication in the proceedings. The deadline to submit manuscripts for publication is November 1, 2011. Information for Authors will be available at the registration desk and on the IDARS website: [www.IDARS.org](http://www.IDARS.org) as well as on [www.ashdin.com](http://www.ashdin.com).

**Monday, August 22, 2011**

# **REGISTRATION AND WELCOME**

**Grand Ball Room Area**

**4:00 – 8:00 PM**

## Tuesday, August 23, 2011

7:00 - 9:00AM Registration/Continental Breakfast in the First Floor Ballroom.

### Conference: Grand Ballroom

8:00 – 8:30AM Opening of the Meeting  
Welcome and General Information  
Syed Ali/George Koob

#### SESSION I: DOPAMINE, ALCOHOLISM AND DRUG ADDICTION

Moderators: George Koob (USA) and Marco Diana (Italy)

8:30 -8:50AM A role for dopamine in the motivational effects of drug dependence: A conceptual framework with practical and theoretical implications for treatment.  
George Koob, *The Scripps Research Institute, La Jolla, California, USA*

8:50 -9:10AM Dopamine D1 and D3 receptors differentially regulate cocaine-induced reward learning.  
Ming Xu, *Department of Anesthesia and Critical Care, University of Chicago, Chicago, Illinois, USA*

9:10 -9:30AM Gene expression in dopaminergic brain structures of rats self-administering cocaine. Activation of MEF2C transcription factor.  
Jean Zwiller, *Université de Strasbourg, Strasbourg, FRANCE*

9:30 -9:50AM Highly selective dopamine D3 receptor antagonists as anti-addiction, anti-craving, anti-relapse medications: studies in preclinical animal models  
Eliot Gardner, *National Institute on Drug Abuse, National Institutes of Health, Baltimore, Maryland USA*

9:50 -10:10AM The dopamine hypothesis of drug addiction and its potential therapeutic value. Marco Diana, *Department of Drug Sciences, University of Sassari, Sassari, ITALY*

10:10 -10:40AM Coffee/Tea Break

#### SESSION II: ALCOHOLISM: CELLULAR MECHANISMS AND POTENTIAL

## TREATMENT TARGETS

- Moderators:** Barbara Mason (USA) and Antonio Noronha (USA)
- 10:40 -11:00AM** Evidence of MGLU2/3 and MGLU5 Metabotropic glutamate receptor dysregulation in alcohol-dependent rats: implications for the treatment target potential of MGLURs.  
Friedbert Weiss, *The Scripps Research Institute, La Jolla, California, USA*
- 11:00 -11:20PM** Synaptic transcript and protein expression in the human alcoholic brain.  
Peter Dodd, *University of Queensland, SMMS, Brisbane, AUSTRALIA*
- 11:20 -11:40PM** Predictive validity of human laboratory models for medication development in alcohol dependence.  
Barbara Mason, *The Scripps Research Institute, La Jolla, California, USA*
- 11:40 -11:55PM** Genotype-phenotype interaction in alcohol-dependent subjects.  
Alfreda Stadlin, *Chungbuk National University, KOREA*
- 11:55- 12:10PM** Distribution of *ADH1C* genotypes and alleles in Turkish alcoholic subjects.  
Selim Kortunay, *Pamukkale University, Turkey.*
- 12:10 - 12:25PM** Advances in medications development to treat alcoholism.  
Antonio Noronha, *National Institutes of Health/National Institute on Alcoholism, Rockville, Maryland, USA*
- 12:25 -2:00PM** LUNCH

## SESSION III: GENERAL ANESTHETICS: KETAMINE/PCP/GHB

- Moderators:** William Slikker, Jr. (USA) and Merle Paule (USA)
- 2:00 -2:20PM** Inhalation anesthetic-induced neuronal degeneration in the developing rhesus monkey.  
Cheng Wang, *National Center for Toxicological Research/FDA, Jefferson, AR USA*
- 2:20 -2:40PM** Ketamine-induced neurotoxicity during development: pathways to toxicity and prevention.  
William Slikker, Jr., *National Center for Toxicological Research/FDA, Jefferson, AR USA*
- 2:40 -3:00PM** Translational approaches to preclinical developmental neurotoxicity assessments for pediatric anesthetics.  
Merle Paule, *National Center for Toxicological Research/FDA, Jefferson, AR USA*
- 3:00 -3:20PM** GHB-induced cognitive deficits during adolescence.  
Ratna Sircar, *Feinstein Institute for Medical Research, Manhasset, NY, USA*

**3:20 -3:40PM**      **Molecular mechanisms underlying the effects of phencyclidine.**  
**Kazutaka Ikeda**, *Tokyo Metropolitan Institute of Medical Science, Tokyo, JAPAN*

**3:40 -4:00PM**      **Coffee/Tea Break**

**SESSION IV: POSTER SESSION: 4:00 – 7:00PM**

**Moderators: Zbigniew Binienda (USA) and Ashraf Virmani (ITALY)**

**4:30 -5:30PM**      **Odd-numbered posters: Authors should be at their posters for questions.**

**5:30 -6:30 PM**      **Even-numbered posters: Authors should be at their posters for questions.**

## Wednesday, August 24, 2011

7:00 - 8:30 AM Registration/Continental Breakfast in the First Floor Ballroom

<b>SESSION V: COCAINE-OPIATES-HORMONES ADDICTION AND EFFECTS</b>
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**Moderators:** Michael Kuhar (USA) and Emilio Ambrosio (SPAIN)

- 8:00 -8:20AM** **Subcortical D3/D2 receptor binding in cocaine dependent humans.**  
*\*David Matuskey, Department of Psychiatry Yale University, New Haven, Connecticut, USA*
- 8:20 -8:40AM** **The MGLU5 receptor regulates extinction of cocaine-driven behaviors.**  
*Robyn Brown, Florey Neuroscience Institutes, University of Melbourne, Parkville, AUSTRALIA*
- 8:40 -9:00AM** **Endomorphin-2: A study of its binding sites autoradiographic distribution and its reinforcing properties.**  
*Emilio Ambrosio, Universidad Nacional de Educación a Distancia (UNED), Madrid, SPAIN*
- 9:00 -9:20AM** **Morphine modulation of toll like receptors in microglial cells potentiates neuropathogenesis in a HIV-1 model of co-infection with pneumococcal pneumonia.**  
*Sabita Roy, Department of Pharmacology and Surgery, University of Minnesota, Minneapolis, Minnesota, USA*
- 9:20 -9:40AM** **Behavioral and molecular evidence for a feedback interaction between morphine and HIV-1 viral proteins.**  
*Sulie Chang, Seton Hall University, South Orange, New Jersey, USA*
- 9:40 -9:55AM** **Estradiol enhance the behavioral response to cocaine in male and female rats.**  
*Annabell Segarra, University of Puerto Rico, School of Medicine, San Juan, PUERTO RICO.*
- 9:55 -10:10AM** **Hyperpolarization Activated Cation Current, I<sub>h</sub>, and its potential contribution to Cocaine Sensitization.**  
*Carlos A. Jiménez-Rivera, Department of Physiology, University of Puerto Rico, PUERTO RICO.*
- 10:10-10:40AM** **Coffee/Tea Break**

*\*Kuhar Travel Awardee*

**SESSION VI: MARIJUANA/CANNABINOIDS**

**Moderators:** Emmanuel Onaivi (USA) and Eliot Gardner (USA)

- 10:40 -11:00AM** **From cannabinoid genomics to medical marijuana.**  
Emmanuel Onaivi, *William Paterson University, Wayne, New Jersey, USA*
- 11:00 -11:20AM** **Brain cannabinoid CB2 receptor-selective pharmacological agents modulate cocaine's actions in preclinical animal models relevant to addiction.**  
Eliot Gardner, *National Institutes of Health/National Institute on Alcoholism, Rockville, Maryland, USA*
- 11:20 -11:40AM** **Role of cannabinoid CB1 receptor gene in the methamphetamine-induced dopaminergic toxicity; application of dimemorfan, a dextromethorphan analog.**  
Eun-Joo Shin, *College of Pharmacy, National University, Chunchon, SOUTH KOREA*

**SESSION VII: INHALANTS:TOLUENE**

**Moderators:** Hyoung-Chun Kim (SOUTH KOREA) and Hwei-Hsien Chen (TAIWAN)

- 11:40 - 12:00AM** **Acute toluene exposure induces persistent alterations in synaptic transmission in key regions of the addiction neurocircuitry.**  
Jacob Beckley, *Medical University of South Carolina, Charleston, South Carolina, USA*
- 12:00 -12:20PM** **Hypersensitivity of 5-HT2A receptors in an animal model of toluene-induced psychotic disorder.**  
Hwei-Hsien Chen, *Tzu Chi University/National Health Research Institutes, Zhunan, TAIWAN*
- 12:20 -12:40PM** **The effect of adolescent toluene exposure on behavioral responses to cocaine in adulthood: impact of toluene dose and exposure frequency.**  
Jhodie Duncan, *Florey Neuroscience Institutes, Victoria, AUSTRALIA*
- 12:40 -2:00PM** **Lunch**

**SESSION VIII: DRUG OF ABUSE PATTERNS, POLICY AND CRIMINAL JUSTICE SYSTEM IN TURKEY**

**Moderators:** Ali Unlu (TURKEY) and Hakan Coskunol (TURKEY)

- 2:00 -2:15PM** **To what extent demographic characteristics determine international drug couriers' profile: A cross-sectional study in Istanbul.**  
Ali Unlu, *Head of Drug Prevention and Monitoring Unit, Istanbul Narcotics Division, Istanbul, TURKEY*

- 2:15 -2:30PM**      **Retrospective analysis of probationers: Sociodemographic characteristics, individual familial history of addiction and crime, treatment outcomes.**  
*Hakan Coskunol, Institute of Drug Abuse, Toxicology and Pharmaceutical Sciences (BATI), Bornova, Izmir,, TURKEY*
- 2:30- 2:45PM**      **Drug test system on probationers.**  
*Serap Annette Akgür, Institute of Drug Abuse, Toxicology and Pharmaceutical Sciences (BATI), Bornova, Izmir, TURKEY*
- 2:45- 3:00PM**      **The adolescents having substance disorder. Applying to treatment center via probation, health policy and family: Similar? Different?**  
*Zeki Yüncü, Institute of Drug Abuse, Toxicology and Pharmaceutical Sciences (BATI), Bornova, Izmir, TURKEY*
- 3:00 -3:30PM**      **Coffee/Tea Break**
- 3:30-4:30PM**      **IDARS Business Meeting**

<b>SESSION IX:</b>	<b>POSTER SESSION:</b>	<b>4:00 – 6:00 PM</b>
<b>Moderators:</b>	<b>Frederico Pereira (PORTUGAL) and Eun-Joo Shin (Korea)</b>	

- 4:00 -5:00PM**      **Odd-numbered posters: Authors should be at their posters for questions.**
- 5:00 -6:00PM**      **Even-numbered posters: Authors should be at their posters for questions.**

**Dinner in Istanbul**

**Thursday , August 25, 2011**

**Conference Organizers plan a tour of  
Istanbul  
No Scheduled Conference activities**

## Friday, August 26, 2011

7: 00 -8:30AM Registration/Continental Breakfast in the First Floor Ballroom

### SESSION X: SUBSTITUTED AMPHETAMINES I: METH/MDMA

**Moderators:** Glen Hanson (USA) Jean Lud Cadet (USA)

- 8:00 -8:20AM** **Differential roles of endogenous NT systems in the extinction, maintenance and reinstatement of meth self-administration.**  
*Glen Hanson, Department of Pharmacology and Toxicology, University of Utah, Salt Lake City, Utah USA*
- 8:20 -8:40AM** **Long-lasting neurochemical and transcriptional alterations triggered in the rat nucleus accumbens by a long interval two-injection methamphetamine paradigm.**  
*Jean Lud Cadet, Molecular Neuropsychiatry Research Branch, DHHS/NIH/NIDA Intramural Research, Baltimore, Maryland USA*
- 8:40 -9:00AM** **Methamphetamine self-administration causes striatal dopaminergic neuroadaptations and mitigates deficits caused by a subsequent methamphetamine exposure.**  
*Annette E. Fleckenstein, Department of Pharmacology and Toxicology, University of Utah, Salt Lake City, Utah USA*
- 9:00 -9:20AM** **Chronic exposure to glucocorticoids primes the CNS proinflammatory response in methamphetamine neurotoxicity.**  
*James O'Callaghan, Center For Disease Control/NIOSH, Morgantown, West Virginia, USA*
- 9:20 -9:40AM** **In Vivo stress influences the neuroinflammation and dopaminergic neurotoxicity associated with methamphetamine exposure.**  
*Diane Miller, Center For Disease Control/NIOSH, Morgantown, West Virginia, USA*
- 9:40 -10:00AM** **Time-dependent effects of methamphetamine on striatal neurochemical and astrocytic profile and motor coordination in mice.**  
*Frederico Pereira, Faculty of Medicine, University of Coimbra, PORTUGAL*
- 10:00 -10:30AM** **Coffee/Tea Break**

## SESSION XI: DRUGS OF ABUSE AND NEUROPROTECTIVE STRATEGIES

**Moderators:** Jesus Angulo (USA) and Susan Schenk (NEW ZEALAND)

- 10:30 -10:50AM** **Sazetidine-A and  $\alpha 4\beta 2$  nicotinic receptor desensitizing agent significantly decreases self-administration of cocaine and methamphetamine in rats.**  
Edward Levin, *Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, North Carolina USA*
- 10:50 -11:10AM** **Methamphetamine and neural damage: neuropeptides and NO.**  
Jesus Angulo, *Department of Biological Sciences, Hunter College of CUNY, New York, New York USA*
- 11:10 -11:30AM** **Neuroprotective features of Acetyl-l-carnitine in MDMA and METH-induced neurotoxicity: *in vitro* and *in vivo* study.**  
Teresa Summavielle, *instituto de biologia Molecular e Celular, IBMC, Univeristdade do Porto, PORTUGAL*
- 11:30- 11:50PM** **An Optimized Sigma Receptor ligand attenuates the behavioral effects of methamphetamine in Mice.**  
Michael Seminerio, *School of Pharmacy, West Virginia University, Morgantown, West Virginia USA*
- 11:50- 12:10PM** **Phenibut: a new drug of abuse?**  
Timothy Maher, *Massachusetts College of Pharmacy and Health Sciences, Boston, Massachusetts, USA*
- 12:10-2:00PM** **Lunch**

## SESSION XII: SUBSTITUTED AMPHETAMINES II: MDMA/METH

**Moderators:** James O'Callaghan (USA) and John Mendelson (USA)

- 2:00 -2:20PM** **Human Pharmacology of MDA and MDMA.**  
John Mendelson, *St. Luke's Hospital, California Pacific Medical Center Research Institute, San Francisco, California USA*
- 2:20 -2:40PM** **Serotonin depletion enhances the reinforcing effects of MDMA.**  
Susan Schenk, *School of Psychology, Victoria University of Wellington, Wellington, NEW ZEALAND*
- 2:40 -3:00PM** **Priming with methamphetamine intensified mitochondrial dysfunction and cell damage induced by 1-METHY-4-PHENYLPYRIDINIUM ion and rotenone *in vitro*.**  
Naren Banik, *Department of Neurosciences, Medical University of South Carolina, Charleston, South Carolina, USA*

**SESSION XIII: NICOTINE: INTERACTION WITH OTHER DRUGS/SYSTEMS**

**Moderators:** Sonya Sobrian (USA) and Amir Rezvani (USA)

**3:00 -3:20PM** **Enduring changes in emotional responsiveness following prenatal cocaine and/or nicotine.**

Sonya Sobrian, *Howard University College of Medicine, Washington, DC, USA*

**3:20 -3:40PM** **Involvement of nicotinic cholinergic  $\alpha 4\beta 2$  receptors in alcohol consumption and cognition: preclinical studies.**

Amir Rezvani, *Duke University Medical Center, Durham, North Carolina, USA*

**3:40 - 4:00PM** **The Cause and Effect of Drinking and Smoking Co-morbidity.**

Yousef Tizabi, *Howard University College of Medicine, Washington, DC USA*

**SESSION XIV: 4:00 PM – 6:00PM**  
**PANEL DISCUSSION AND OPEN FORUM**  
**SUMMARY AND RECOMMENDATIONS**

<b>Panelists:</b>	<b>George Koob</b>	<b>Michael Kuhar</b>
	<b>Peter Dodd</b>	<b>Hyung-Chun Kim</b>
	<b>Jean Cadet</b>	<b>Marco Diana</b>
	<b>Susan Schenk</b>	<b>Jean Zwiller</b>
	<b>John Mendelson</b>	<b>James O’Callaghan</b>

**6:00 PM** **CONCLUDING REMARKS/MEETING ADJOURNED**  
**George Koob/Syed Ali**

**8:00 - 10:00 PM**  
**FAREWELL DINNER**  
**AT THE POOL**