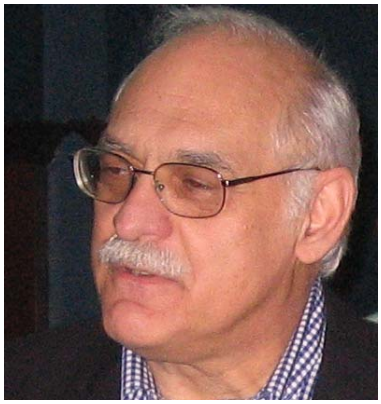
Volume1. Number 3 fall 2008

IDARS NEWS

Newsletter of the International Drug Abuse Research Society

PRESIDENT'S COLUMN



Michael J Kuhar, Ph.D.
President

We are witnessing a rapid growth in IDARS membership, and the first IDARS meeting was held in Merida, Mexico last year. We had great organization and planning, a great location and excellent slide and poster presentations. The attendance was excellent and the deliberations were productive. This has set the stage for the second scientific meeting in Seoul, South Korea in 2009. At the 2007 society for neuroscience (SFN) meeting in San Diego, IDARS again displayed a booth to showcase IDARS and its goals. Also, during the SFN meeting, IDARS held a dinner party and after the dinner, Dr. George Koob, who has now been elected as President Elect of IDARS, gave a lecture entitled "Neurocircuitry of addiction: The dark side". In his lecture, Dr. Koob attempted to summarize and integrate the neurocircuitry of addiction. He presented a journey through the neurocircuits linked to cocaine and alcohol addictions and observed that a number of consistencies and commonalities exist across the spectrum of addictive drugs with some contradictions. Dr. Koob also emphasized the emerging role of the amygdala and the bed nucleus of the stria terminalis and also the role of stress and CRF in addiction with the possible therapeutic implications for CRF antagonists in addiction. We are indeed fortunate that Dr Koob is willing to commit some of his time to leading IDARS.

It is exciting that the IDARS mission is attractive to distinguished scientists some of whom have accepted membership as Emeritus. Others will be nominated for Emeritus membership from around the Globe. As there are still many directions and choices for our society, IDARS leadership needs input from all members to allow this new society to organize outstanding meetings and other activities, and to enhance our understanding of the issues in research and in their clinical implications for drug abuse and addiction.

There are still many issues for our society including: whether we want to start a journal, or can we help our membership address the challenges of maintaining research support? Fund raising is very important for us, and I ask that you renew your membership by paying your annual membership dues, as your support is vital to a successful solid foundation for our unique research society. I also ask members to identify and invite corporate support for IDARS.

On behalf of our membership, I express thanks to Syed Ali at the IDARS office, who is the behind-the-scenes maestro of our organization and a backbone of IDARS. We also thank Emmanuel Onaivi who selflessly produces this informative newsletter.

Best regards,

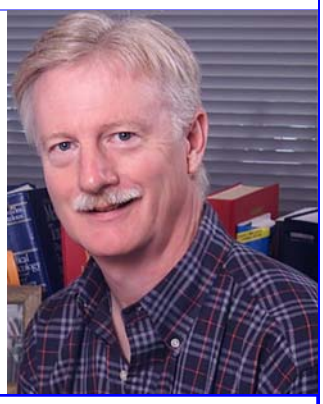
Michael J Kuhar, PhD

President, IDARS

Volume 1, Issue 3.
Fall 2008

Inside this issue:

Spot Light on the President –Elect: George F. Koob, Ph.D.,



George F. Koob
IDARS President-Elect

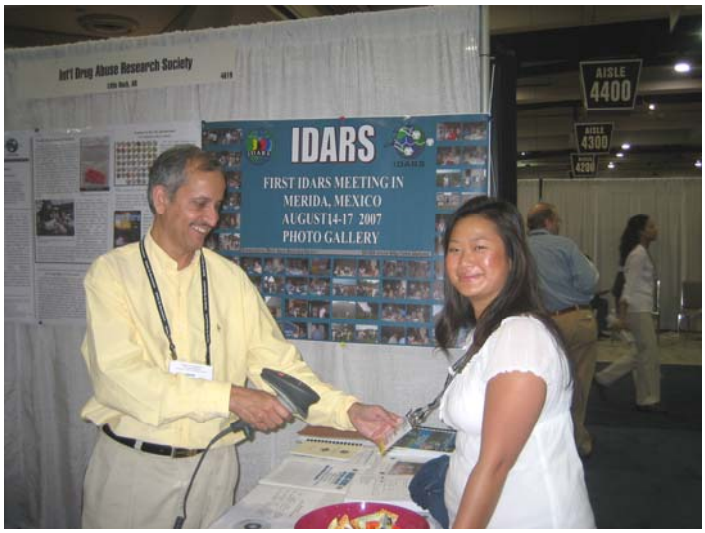
is a Professor and Chair of the Committee on the Neurobiology of Addictive Disorders at The Scripps Research Institute and Adjunct Professor in the Departments of Psychology and Psychiatry, and Adjunct Professor in the Skaggs School of Pharmacy and Pharmaceutical Sciences at the University of California, San Diego. Dr. Koob received his Bachelor of Science degree from Pennsylvania State University and his Ph.D. in Behavioral Physiology from The Johns Hopkins University. An authority on addiction and stress, Dr. Koob has published over 660 scientific papers and has received continuous funding for his research from the National Institutes of Health, including the National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the National Institute on Drug Abuse (NIDA). He is director of the NIAAA Alcohol Research Center at the Scripps Research institute, Consortium Coordinator for NIAAA's multi-center Integrative Neuroscience Initiative on Alcoholism, and Co-Director of the Pearson Center for Alcoholism and Addiction Research. He has trained 10 predoctoral and 64 postdoctoral fellows. Dr. Koob is Editor-in-Chief USA for the journal *Pharmacology Biochemistry and Behavior* and Editor-in-Chief for *Journal of Addiction Medicine*. He won the Daniel Efron Award for excellence in research from the American College of Neuropsychopharmacology, was honored as a Highly Cited Researcher from the Institute for Scientific Information, was presented with the Distinguished Investigator Award from the Research Society on Alcoholism, and won the Mark Keller Award from NIAAA. Dr. Koob's research interests have been directed at the neurobiology of emotion, with a focus on the theoretical constructs of reward and stress. He has made contributions to our understanding of the anatomical connections of the emotional systems and the neurochemistry of emotional function. Dr. Koob has identified afferent and efferent connections of the basal forebrain (extended amygdala) in the region of the nucleus accumbens, bed nucleus of the stria terminalis, and central nucleus of the amygdala in motor activation, reinforcement mechanisms, behavioral responses to stress, drug self-administration, and the neuroadaptation associated with drug dependence. This work includes characterization of the role of catecholamines as well as opioid and corticotropin-releasing factor peptidergic systems in behavioral activation and in opiate, stimulant, nicotine and alcohol reinforcement.

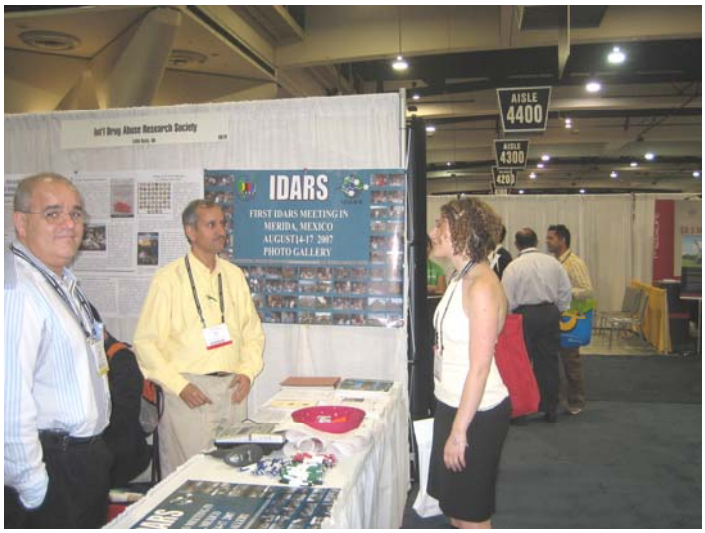
Dr. Koob's work with the neurobiology of stress includes the characterization of behavioral functions in the central nervous system for corticotropin-releasing factor. This hypothalamic releasing factor, which has classical hormonal functions as part of the hypothalamic pituitary adrenal axis, also is located in extrahypothalamic brain structures and may be an important component of the function of the limbic system. Recent use of a specific corticotropin-releasing factor antagonist suggests that endogenous brain corticotropin-releasing factor may be involved in specific behavioral responses to stress, and even in the psychopathology of anxiety and affective disorders. Dr. Koob also has characterized functional roles for other stress-related neurotransmitters/neuroregulators such as vasopressin, hypocretin (orexin) neuropeptide Y, and neuroactive steroids.

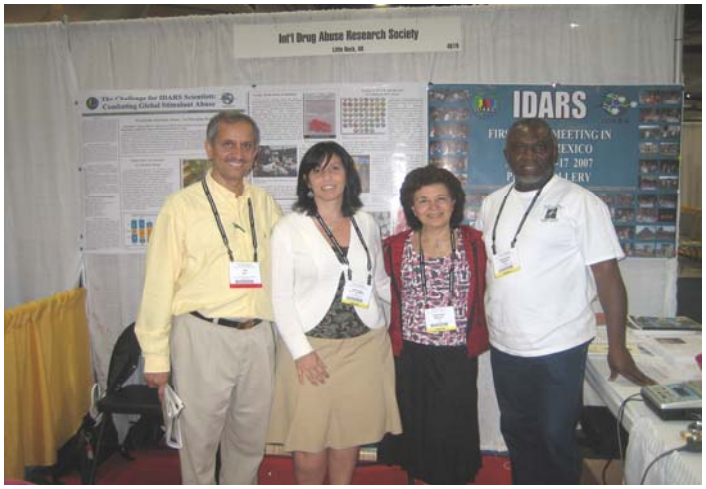
Dr. Koob also is one of the world's authorities on the neurobiology of drug addiction. He has contributed to our understanding of the neurocircuitry associated with the acute reinforcing effects of drugs of abuse and more recently on the neuroadaptations of these reward circuits associated with the transition to dependence. He has validated key animal models for dependence associated with drugs of abuse and has begun to explore a key role of anti-reward systems in the development of dependence.

The identification of specific neurochemical systems within the basal forebrain system of the extended amygdala involved in motivation has significant theoretical and heuristic impact. From a theoretical perspective, identification of a role for dopaminergic, opioidergic, GABAergic, glutamatergic and corticotropin-releasing factor systems in the excessive drug taking provides a neuropharmacologic basis for the allostatic changes hypothesized to drive the process of pathology associated with addiction, anxiety, and depression. From a heuristic perspective, these findings provide a framework for further molecular, cellular and neurocircuit research that will identify the basis for individual differences in vulnerability to pathology.

IDARS Booth at the 2007 Society for Neuroscience Meeting in San Diego.







IDARS booth at the Society for Neuroscience (SFN) was manned on volunteer basis and as shown in these pictures, Syed Ali tirelessly was available to introduce IDARS to members of SFN.

IDARS Dinner and Lecture by Dr. George Koob at the 2007 Society for Neuroscience Meeting in San Diego.

The dinner party was attended by members of IDARS and after dinner, Dr. Koob introduced by Dr. Kuhar presented a lecture titled, Neurocircuitry of addiction: The dark side. Others are guest of members of IDARS.

Scientists can help in drug abuse prevention: Model from Portugal.

Teresa Summavielle
[1]Instituto de Biologia
Molecular e Celular – IBMC,
University of Porto Portugal.

Research centers are becoming aware of the relevance of an active interaction with the outside society, improving the understanding of many scientific issues which have a significant impact on daily life. Knowledge it-self may represent a direct contribution to transforming life-styles. However, often there is no clear application of knowledge acquired from scientific into daily life..

Based on the research that is being conducted by the Neurobehavioral Group at the IBMC (Institute for Molecular and Cell Biology), which is focused on the neurotoxic effects of drug abuse at several levels, it was possible to gather relevant information on the effects of "Ecstasy". This particular drug has increasing levels of consumption among the adolescent population. However, reports indicate that they are unaware of the real consequences that ecstasy may have either acutely or in a long term. Furthermore, the number of adolescents convinced that ecstasy does not represent a serious risk is also rising. Therefore, we have conceived a plan for direct action in the high-school environment, aiming to prevent the abuse of ecstasy among 9th graders.

This project was part of a more extensive program (financed by Fundação Calouste Gulbenkian) which aimed to characterize long term effects of exposure to ecstasy at the molecular and behavioral levels in an adolescent rat model.

We have tried to accomplish our objectives through education on the neurobiological consequences of drug abuse adapted to the level of the students. Information was focused on altered brain morphology and function, emphasizing long-term effects and main consequences for daily life. The choice of this grade level was based on the fact that a significant number of students leave school when the compulsory education period ends. Choosing a higher school grade would lead us to loose a relevant fraction of the intended audience. Also, among 10th graders, ecstasy is already widely abused. It was found that more than 2000 students from the area of Porto (Portugal) have been affected. The image of this campaign was considered a key-point; therefore, we have invested in an appealing visual that was imprinted into pins, t-shirts and other offers to the students, reinforcing our message. A leaflet with written and visual information was also distributed to all the students.

At a later stage of this project, in collaboration with a graduating student from Journalism Communication Sciences, we have decided to broaden the range of our effort by creating a website were reliable information of the effects ecstasy and other drugs (in Portuguese) would be presented to adolescents and young adults. Another relevant issue was the use of science-based information during the campaign and the direct involvement of scientists in the campaign. We divided the campaign using two different approaches: information distribution by leaflets and talks by the researchers, both using that same graphic image and covering the same contents.

In order to find out how the adolescents' knowledge on the subject was improved by our program, a questionnaire was implemented. Our first results, obtained by comparing the answers to particular questions before our actions and one month afterwards, showed highly significant difference between the two points. For instance, the proportion of students that correctly identified 3 out of 5 long-term effects of ecstasy increased from 22 to 65%, while in schools where only leaflets were distributed, the increase was from 23 to 39%. Those reporting not to be aware of the effects decreased from 56 to 9% after our visit, reinforcing the relevance of scientists' involvement in this type of service to the community.

Scientists can help in drug abuse prevention: Model from Portugal.

Teresa Summavielle (*Continued from previous page*).

Visual images used in the Portuguese model were imprinted into pins and T-shirts to reinforce images of the effects of drugs in the brain.

IBMC, Porto, Portugal

What is IDARS?

"IDARS" is an acronym for the International Drug Abuse Research Society. The purposes of IDARS are scientific, educational and charitable. The Society seeks to promote excellence in: 1) advancing the understanding of drug abuse, substance abuse, and addiction, 2) bringing together scientists of varying backgrounds and disciplines within the field of drug abuse research, 3) integrating drug abuse research directed at all levels of biological organization to improve prevention and treatment efforts, 4) promoting education in the addiction sciences, 5) informing the general public about the results and implications of current research in the addiction sciences.

Who are the members of IDARS?

Members of IDARS are research scientists and clinicians from around the world. The current president of IDARS is Dr. Michael J. Kuhar, Professor of Pharmacology, at the Yerkes National Primate Center of Emory University, in Atlanta, GA. IDARS President-Elect is Dr. George F. Koob, Professor and Chair of the Committee on the Neurobiology of Addictive Disorders at The Scripps Research Institute, San Diego, CA. The Chief Executive Officer is Dr. Syed F. Ali, Head, Neurochemistry Laboratory, Division of Neurotoxicology, at the National Toxicological Research Center, Food and Drug Administration, in Jefferson, AR.

Welcome to our Newsletter*

Emmanuel Onaivi, Ph.D., Newsletter Editor IDARS is delighted to publish our electronic newsletter, with information about the society, seeking ideas about our journal, and opportunities for our members. The intention of this newsletter is not only to communicate to you, but also, for you to be able to respond with suggestions for how IDARS may increase its role in your research. Please send us feedback, and get involved! As editor of this newsletter, I invite you to contact me with ideas for articles in future editions, or to volunteer to write an article yourself.

INTRODUCTION TO CANNABINOIDS AND ENDOCANNABINOIDS.

E. S. Onaivi

Cannabinoids are the constituents of the marijuana plant (*Cannabis sativa*) of which the principal psychoactive ingredient is delta-9-tetrahydrocannabinol (Δ^9-THC). There are about 70 cannabinoids and numerous other natural compounds that have been reported in the cannabis plant. The recent progress in marijuana-cannabinoid research include the discovery of specific genes coding for cannabinoid receptors (CBRs) that are activated by smoking marijuana, and that the human body and brain makes its own marijuana-like substances called endocannabinoids that also activate CBRs. The new knowledge and progress about cannabinoids and endocannabinoids indicate that a balanced level of endocannabinoids is important for pregnancy and that the breast milk in animals and humans has endocannabinoids for the growth and development of the new born. The cannabinoid system consisting of the CBRs, endocannabinoids and the enzymes for their synthesis and degradation is ubiquitous and a target for development of new therapeutic agents. There are two well characterized cannabinoid receptors termed CB1-Rs and CB2-Rs and these CBRs are perhaps the most abundant G-protein coupled receptors that are expressed at high levels in many regions of the mammalian brain. Both CB1-Rs and CB2-Rs are distributed in the brain and peripheral tissues where they sub serve numerous biological functions.

IDARS RECENT AND COMING EVENTS

- IDARS First International Meeting jointly with ISN/ASN Satellite meeting was held from August 14-17, 2007 in Merida, Mexico.
- IDARS hosted dinner and lecture by Dr. George Koob during Society for Neuroscience meeting in November, 2007 in San Diego, CA.
- IDARS is sponsoring the International symposium on drugs of abuse in Azores, Island of Sao Miguel in Portugal in July 28-29, 2008.
- IDARS will have a booth and socials at the Society for Neuroscience meeting in Washington DC in November 2008.
- IDARS 2nd International meeting will be jointly held as Pre-Satellite meeting of the 22nd Biennial meeting of the International Society for Neurochemistry (ISN) from August 18-21, 2009, in Seoul, South Korea.

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IDARS-NIDA AWARDEES

- *Dr. Alicia Brusco Argentina*
- *Dr. Teresa B. Summavielle Portugal*

IDARS MEMBERSHIP APPLICATION

I wish to apply for membership in the International Drug Abuse Research Society (IDARS).

For Renewal Please Check ____ Date:_______________

Last Name: ……………………………………………………………………………………………

First Name: ……………………………………………………………………………………………

Degree (s): ……………………………………………………………………………………………

Department: …………………………………………………………………………………………

Institution: ……………………………………………………………………………………………

Address: ………………………………………………………………………………………………

City: ……………………………………… State/Province: ………… Zip/Postal Code: …………

Country: ………………………………………………………………………………………………

Business Phone: (include country and area code): ……………………………………………………

FAX: (include country and area code): ………………………………………………………………

Email: …………………………………………………………………………………………………

Research Interest: ____

Check Desired Class of Membership:

____ Regular Annual Dues: US $ 50.00 Signature: ____________________________

____ Post Doctoral Annual Dues: US $20.00 Signature: ____________________________

____ Student Annual Dues: US $ 20.00 Signature: ____________________________

____ Donation $ _____________

Please make check payable to IDARS; dues is also payable by Credit Card:

VISA ___ or MasterCard ___ Credit Card #: ___________________________ Exp. Date ______

Cardholder's Name: _______________________ Signature: _____________________________

A completed signed form, along with a copy of curriculum vitae, should be sent by mail to:

IDARS

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