



NIDA International Program

Summary of Fiscal Year 2010

Program Activities

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Building Regional and International Networks.....

NIDA-supported collaboration stimulates the discovery of evidence-based treatment and prevention programs.

By promoting global and regional scientific networks, the National Institute on Drug Abuse (NIDA) International Program disseminates NIDA research methods and findings around the world, while simultaneously introducing NIDA grantees to talented drug abuse researchers from other countries. NIDA-supported collaboration stimulates the discovery of evidence-based treatment and prevention programs that can be implemented effectively among large populations and helps researchers in every country advance scientific understanding of drug abuse and addiction. The International Program supports a series of interconnected initiatives to promote research, build international research capacity, and exchange scientific information with countries, organizations, and individual researchers, which are summarized in Exhibit 1 – Fiscal Year 2010 NIDA International Program Activities.

Building global cooperation on addiction is a crucial task: the United Nations Office on Drugs and Crimes (UNODC), which serves as a global recordkeeper for statistics about drug abuse, reports that illicit drug users are found in every country and that drug use is one of the top 20 risk factors for health problems. More than 150 countries report the incidence of injection drug use, which is a primary vector for transmission of HIV and other infections. As governments struggle to recover from the economic recession that began in 2008, they must reduce the economic impact of drug abuse and addiction, which UNODC estimates approaches 2 percent of the gross domestic product in some countries.

One of the International Program's most productive initiatives strengthens and stimulates international drug abuse research networks through binational agreements between NIDA and research institutions in other countries. Formal agreements have been signed with Mexico, the Netherlands, Russia, Spain, and Taiwan.

During 2010, the United States and Mexico issued a joint declaration of cooperation on drug demand-reduction efforts that underscored a commitment to reduce illicit drug consumption and the need to work collaboratively with each other and additional partners in the region. The declaration emphasized the importance of both countries intensifying efforts to prevent and treat substance abuse disorders, with the two nations agreeing to address six areas of improvement within the next 12 months: developing strong families and communities that resist criminal organizations and promote a culture of lawfulness; providing more and better addiction treatment by integrating it into mainstream medicine; expanding screening, brief intervention, and referral to substance abuse treatment; implementing evidence-based practices; bolstering accreditation and licensing programs; and promoting innovations in criminal justice to reduce recidivism and interrupt the cycle of drug use and crime. Both nations pledged to continue domestic initiatives to reduce the demand for drugs through the United States' National Drug Control Strategy and Mexico's Action Program for Prevention and Treatment of Addictions. The joint declaration was issued at the conclusion of the 8th U.S.–Mexico Bi-National Drug Demand Reduction Policy Meeting, which was held at the U.S. Department of State in Washington, DC.



NIDA International Program Director Dr. Steven W. Gust (left) listens to White House Office of National Drug Control Policy Deputy Director Dr. A. Thomas McLellan, during the U.S.–Netherlands Workshop on Binational Research Collaboration on Drug Abuse and Addiction.

NIDA and its Dutch partners celebrated a decade of progress through the uniquely successful binational agreement between the two nations, which was signed in 1999. Between 2002 and 2009, NIDA awarded \$2.35 million in administrative supplements to 13 teams of researchers through the U.S.–Netherlands Binational Awards. By June 2010, those 13 awards had resulted in a new R01 research grant award; 3 new collaborative links; 17 books, chapters, or reports; 30 peer-reviewed scientific journal articles; and 60 presentations at scientific meetings. During the U.S.–Netherlands Workshop on Binational Research Collaboration on Drug Abuse and Addiction, participants met with White House Office of National Drug Control Policy (ONDCP) Deputy Director A. Thomas McLellan, Ph.D., who described the Obama Administration’s priorities for drug control strategies and suggested ways that research can inform policy development. Three more research teams reported preliminary findings during the workshop, and the two nations announced that three additional research teams would be funded in fiscal year 2011 to conduct research on translational and implementation research for prevention and treatment programs.

Joining resources on a training institute, the International Program began offering a tuition waiver for a U.S. researcher attending the Dutch Summer Institute on Alcohol, Drugs and Addiction, a 2-week, intensive multidisciplinary graduate-level addiction training program. In 2010, the tuition waiver was awarded to Ana Hilde, M.P.H. The experience led to several new opportunities for Ms. Hilde—she was invited to give two talks on the topic of Dutch drug programs and recently submitted an application for a NIDA research grant on adolescent initiation into prescription drug abuse.

NIDA also extended its productive partnerships with international organizations such as UNODC, the Joint United Nations Programme on HIV/AIDS (UNAIDS), and the World Health Organization (WHO), where the two institutions are developing drug treatment guidelines for pregnant women. Expanding initiatives with the International Society of Addiction Journal Editors (ISAJE) continue to help researchers from low-resource countries publish their findings in peer-review journals. NIDA also expanded its training and research initiatives in HIV and drug abuse with the International AIDS Society (IAS) and continued its Latin American epidemiology program with the Inter-American Drug Abuse Control Commission (CICAD).

During 2010, international partner organizations recognized efforts by the NIDA International Program and its participants. The Society for Prevention Research (SPR) presented its 2010 International Collaborative Prevention Research Award to NIDA International Program Director Steven W. Gust, Ph.D., to recognize the International Program’s contributions to advancing the field of prevention science globally. At AIDS 2010, which was organized by IAS, UNAIDS presented its prestigious Red Ribbon Award to the Substance Abuse Research Center in Gaza for work to prevent and treat drug abuse and drug-related HIV among students and refugees. Mohammed F. Al-Afifi, M.D., M.Sc., directs the center and has partnered with NIDA grantees and scientists in Egypt, Israel, and the United States for more than a decade on drug abuse



Mr. Hasan Aamoudi (left), chair, and Dr. Mohammed F. Al-Afifi, director of the Palestinian Substance Abuse Research Center, accept the UNAIDS Red Ribbon Award from Ms. Emily Blitz, International AIDS Society.



NIDA International Program Director Dr. Steven W. Gust received the 2010 International Collaborative Prevention Research Award from the Society for Prevention Research.

research. The French Institute of Health and Medical Research (Inserm) also honored NIDA Director Nora D. Volkow, M.D., in 2010 for her pioneering work in brain imaging and addiction science.

The International Program partners with domestic agencies and organizations that share its commitment to international collaboration. The Institute began a new relationship with the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) while continuing effective partnerships with ONDCP and other National Institutes of Health (NIH) agencies, including the John E. Fogarty International Center, National Institute on Alcohol Abuse and Alcoholism, National Institute of Allergy and Infectious Diseases, National Institute of Diabetes and Digestive and Kidney Diseases, National Institute of Mental Health, and National Institute of Neurological Disorders and Stroke. Professional organizations, such as the American Association for the Treatment of Opioid Dependence, College on Problems of Drug Dependence (CPDD), National Hispanic Science Network, Society for Neuroscience, and SPR, help to disseminate research findings and promote training opportunities.

Exhibit 1–Fiscal Year 2010 NIDA International Program Activities

| Category | Activities | Countries |
|---|------------|-----------|
| International Research Activities | | |
| • Projects Funded Through Domestic Grants With Foreign Components | 116 | 38 |
| • Projects Funded Through Direct Foreign Grants | 6 | 6 |
| • Grants Awarded Through Interagency Funding Agreements | 19 | 26 |
| • Binational Agreements | 5 | 5 |
| Fellowships and Research Exchanges | | |
| • DISCA/USDISCA | 2 | 2 |
| • IAS/NIDA Research Fellowships in HIV and Drug Use | 5 | 5 |
| • INVEST Fellowships | 3 | 3 |
| • INVEST/CTN Fellowships | 2 | 2 |
| • NIDA Hubert H. Humphrey Fellowships | 17 | 15 |
| • WHO/NIDA/CPDD International Traveling Fellowships | 2 | 2 |
| Scientific Exchange and Capacity Building | | |
| • International Program Meetings | 5 | 5 |
| • NIDA Supported Scientific Meetings | 5 | 4 |
| • Travel Support | | |
| NIDA Grantees | 7 | 5 |
| Foreign Researchers | 44 | 27 |

Promoting Research

These collaborative research partnerships stimulate new approaches because each partner brings unique perspectives to bear on common issues.

The NIDA International Program supports binational and regional research on drug abuse and addiction to develop evidence-based interventions to address the public health problems of drug abuse, addiction, and drug-related HIV/AIDS. International Program research addresses every aspect of addiction, beginning with the underlying biomedical and behavioral causes and progressing through drug use patterns and trends; prevention and treatment interventions; individual, familial, and societal consequences; and policy studies that compare and contrast the effect of government actions across borders.

Although some international researchers receive NIDA support through a direct foreign grant, most international research is supported through a domestic grant with a foreign component, where a principal investigator from a U.S. institution works with a researcher from another country. These collaborative research partnerships stimulate new approaches because each partner brings unique perspectives to bear on common issues. Collaborating also allows scientists to access unique resources that may exist only in other countries.

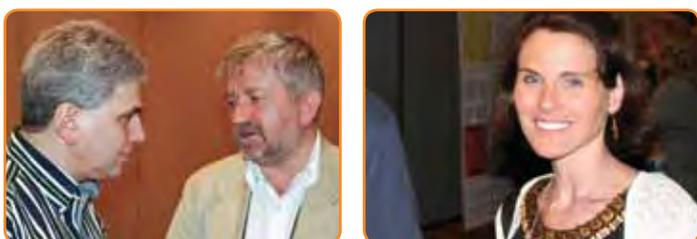
Newly Funded Projects

International Program funding opportunities include the Program Announcements (PAs) for International Collaboration on Drug Abuse and Addiction Research, which use three types of grant awards to support research partnerships between NIDA grantees at U.S. institutions and their partners in other countries, for research in six priority areas: interventions designed to seek out, test, and treat HIV-positive drug users; adolescent tobacco

use and prenatal tobacco exposure; medications to treat cocaine addiction; inhalant abuse; drugged driving; and methamphetamine use. During 2010, four new projects were funded through these PAs—three R01 Research Grant Proposals and one R21 Exploratory/Development Research Grant:

- *Marek C. Chawarski, Ph.D., Yale University, and Wang Zhou, M.D., Ph.D., Wuhan Centers for Disease Control and Tongji Medical College, China*, will compare three types of behavioral treatments in combination with methadone maintenance therapy (MMT) to determine which treatment works best to help heroin-dependent injection drug users enrolled in MMT to stop using drugs, adhere to methadone, and reduce HIV risk behaviors.
- *Robert E. Booth, Ph.D., University of Colorado Denver, and Sergiy Dvoryak, M.D., Ph.D., Ukrainian Institute on Public Health Policy*, will conduct randomized clinical trials in three Ukrainian regions to compare the effectiveness of two interventions in reducing the risk of HIV acquisition and transmission among injecting drug users.
- *Kimberly C. Brouwer, Ph.D., University of California, San Diego, and María Remedios Lozada Romero, M.D., Pro-Comusida, Mexico*, will investigate the continually evolving risk environments for HIV and other sexually transmitted infections among female sex workers on the U.S.–Mexican border, including perceptions of violence and access to drug abuse prevention and treatment and health care services.
- *Donnal L. Gruol, Ph.D., Scripps Research Institute, and Lars Terenius, Ph.D., Karolinska Institute, Sweden*, will use mouse models and a new approach to study brain receptor dynamics, fluorescence correlation spectroscopy, integrated with confocal laser scanning microscopy to analyze mu-opioid receptor variants that may have consequences for opioid analgesia and drug addiction in humans.

Seeking to stimulate collaborative research among investigators from the same geographic regions, expand research capacity in areas where drug-related HIV is emerging or already epidemic, and enhance public health approaches to the prevention and treatment of drug-related HIV/AIDS associated with drug use, NIDA issued a Request for Applications (RFA-DA-10-008) for International Research Collaborations on HIV/AIDS and Drug Use. Two of the five research teams include former NIDA International Program fellows:

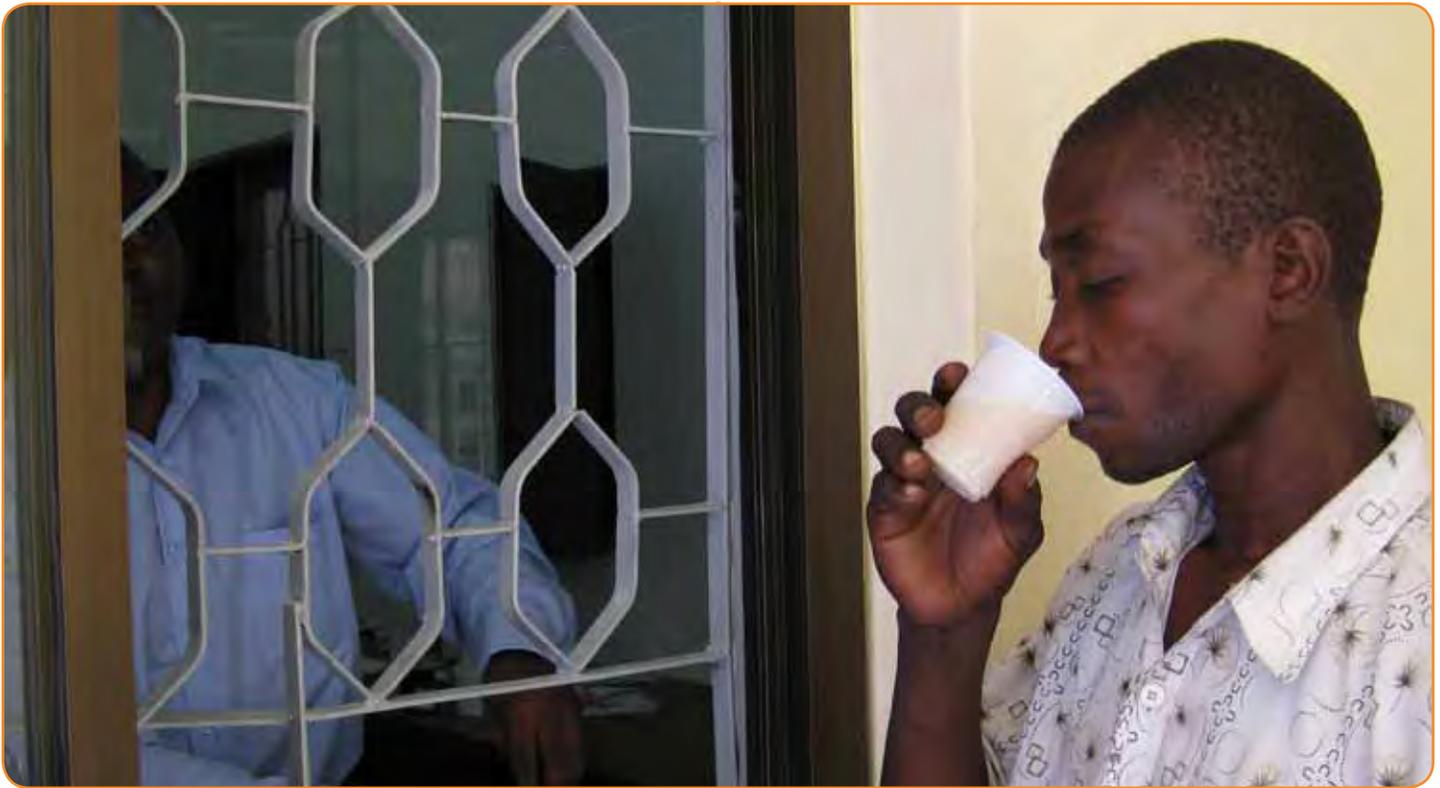


- *Sergiy Dvoryak, M.D., Ph.D., Ukrainian Institute on Public Health Policy, former NIDA Hubert H. Humphrey Fellow and 2011 INVEST/CTN Fellow, is working with Frederick Altice, M.D., Yale University, to develop and evaluate HIV and substance abuse interventions for the criminal justice system in the former Soviet Union region. Their regional research partners include Konstantin Dumchev, M.D., Vinnitsya Regional Narcological Dispensary, Ukraine; former NIDA Hubert H. Humphrey Fellow David Otiashvili, M.D., Ph.D., Union Alternative Georgia; Nina Kerimi, M.D., Ph.D., UNODC; and former NIDA Hubert H. Humphrey Fellow Victor Chtenguelov, M.D., Ph.D., Glib Prib, M.D., Ph.D., and Irina Trofimchenko, Ukrainian Institute on Public Health Policy.*
- *Gabriela Paz-Bailey, M.D., and Sonia Morales Miranda, D.V.M., Universidad del Valle de Guatemala; Carmen Fernandez-Casanueva, Ph.D., El Colegio de la Frontera Sur, Mexico; Felipe Javier Uribe-Salas, Ph.D., Colegio de la Frontera Norte, Mexico; Kimberly C. Brouwer, Ph.D., University of California, San Diego, and colleagues are conducting research to gain a better understanding of the patterns and context of drug use along the Mexico/Guatemala border and how substance use is related to the spread of HIV, hepatitis C virus, and sexually transmitted infections.*
- *Olga Levina, NGO Stellit, St. Petersburg, Russia; Anneli Uuskula, M.D., Ph.D., University of Tartu, Estonia; Dr. Robert Heimer, Yale University, and colleagues are investigating the HIV epidemic in Russia and Estonia, which is largely driven by viral transmission among injection drug users, to determine the impacts of ethnicity and stigma on HIV prevalence and on access to care.*

- *Hendrée Jones, Ph.D., Johns Hopkins University (JHU) and RTI International, is collaborating with Republic of Georgia partners Irma Kirtadze, M.D., a 2010 WHO/NIDA/CPDD International Traveling Fellow, and David Otiashvili, M.D., Ph.D., a former NIDA Hubert H. Humphrey Fellow, and Russian partner Evgeny Krupitsky, M.D., Ph.D., D.M.Sc., Bekhterev Research Psychoneurological Institute, St. Petersburg, Russia, and 2010 recipient of the NIDA International Award of Excellence. The team will identify the patterns of drug use and cultural contexts of risks in order to adapt and test a comprehensive treatment model for women injection drug users that hopes to avert the emerging HIV and hepatitis C epidemics in Georgia.*
- *African researchers Jessie Mbwambo, M.D., Ph.D., Muhimbili University of Health and Allied Sciences, Tanzania, and Anne-Gloria Moleko, Ph.D., University of Pretoria, South Africa, along with William W. Latimer, Ph.D., M.P.H., JHU, and colleagues, are working to address the large-scale HIV pandemic in Sub-Saharan African countries by testing a brief intervention model and a more intensive couples intervention to foster behavior change among high-risk groups disproportionately affected by HIV, including young women who use drugs and trade sex.*

Continuing the binational funding agreement between NIDA and the Netherlands, three new research teams received funding to explore ways of addressing the use of and dependence on cocaine. NIDA funds the U.S. researchers; the Netherlands supports the Dutch scientists. The newly funded teams are:

- *George Koob, Ph.D., Scripps Research Institute, and Judith R. Homberg, Ph.D., University of Nijmegen, are investigating whether an inherited serotonin transporter (5-HTT) genetic variation confers vulnerability to cocaine dependence by enhancing cocaine-induced neuroadaptations in the central corticotropin-releasing factor stress system and associated negative emotionality.*
- *Christopher Pierce, Ph.D., University of Pennsylvania, and Louk Vanderschuren, Ph.D., Utrecht University, are studying striatal circuits involved in drug taking and drug seeking and further exploring the efficacy of deep brain stimulation in attenuating drug-related behaviors.*
- *Raymond Booth, Ph.D., University of Florida, and Wim van den Brink, M.D., Ph.D., University of Amsterdam, are continuing efforts to find an efficacious medication for stimulant addiction by scaling up synthesis of potential compounds (5HT2A inverse agonist/5HT2C agonist) to conduct in vivo functional evaluation assays, which include cocaine-induced downregulation of D2 receptor expression using single-photon emission computed tomography imaging techniques and the attenuation of cocaine consumption in rat self-administration models.*



Credit: Mariette Peeters/Pangaea Global AIDS Foundation

A Tanzanian patient takes his methadone dose.

International Program Research Prompts Changes Around the World

During 2010, NIDA-supported research provided evidence that guided changes in government policies and prevention programs, and gave clinicians a noninvasive tool to assess treatment compliance among their patients. In Tanzania, a former NIDA Hubert H. Humphrey Fellow in Drug Abuse Research and an International Program-funded binational research team contributed to the Tanzanian government's adopting the first medication-assisted therapy (MAT) program to prevent HIV transmission among drug users in Sub-Saharan Africa. Working with colleagues from the Ministry of Health and Social Welfare and Muhimbili University of Health and Allied Sciences, former Hubert H. Humphrey Fellow Amani Msami, M.P.H., M.Pharm., who leads the Tanzania Drug Control Commission (DCC) Education, Information and Statistics Section, helped draft five documents outlining Tanzania's response to HIV among drug users, including policy guidelines, an outreach service guide for HIV prevention among drug users, health care facility standards for MAT programs, clinical guidelines, and a substance abuse screening and

brief intervention protocol for primary care settings. The documents were based in part on research conducted in Dar es Salam by International Program grantees from the University of Texas at Houston, Sheryl A. McCurdy, Ph.D., Michael W. Ross, Dr.Med.Sc., Ph.D., M.P.H., and Mark L. Williams, Ph.D., and their Tanzanian partners from the Muhimbili University of Health and Allied Sciences, Gad P. Kilonzo, M.D., and M.T. Leshabari, Ph.D. PEPFAR and the U.S. Centers for Disease Control and Prevention supported the DCC policy development and implementation efforts.

In the United Kingdom, D. Dwayne Simpson, Ph.D., Texas Christian University (TCU), and his partner, Ed Day, Ph.D., University of Birmingham, conducted 30 regional seminars and group meetings with key decisionmakers, researchers, and opinion leaders about how to implement innovations for integrated services in substance abuse treatment and recovery using the TCU conceptual models for addiction treatment process and innovation implementation. Their work contributed to the creation of a center to consolidate and coordinate substance abuse prevention and recovery activities in Great Britain.



Hanneke Creemers, the Netherlands (left), and 2009–2010 INVEST Fellow Marta Concheiro Guisán, Spain, talk during the NIDA International Forum poster session.

Marta Concheiro Guisán, Ph.D., of Spain used her NIDA INVEST Drug Abuse Research Fellowship to develop and validate two new, noninvasive methods of quantifying the level of licit and illicit drugs in biological samples from opiate-dependent patients. The new methods developed by Dr. Concheiro and her mentor, Marilyn Huestis, Ph.D., NIDA Intramural Research Program, allow researchers to quantify quickly and simultaneously 16 drugs and their metabolites in oral fluid or 14 drugs and their metabolites in sweat patches. Drs. Concheiro, Huestis, and their colleagues published several articles describing their innovation, including articles in *Analytical*

and *Bioanalytical Chemistry* (2009) 394(2):513–522; *Forensic Science International* (2009) 188(1–3):144–145; *Clinical Chemistry* (2009) 55(6):1177–1187; *Journal of Analytical Toxicology* (2009) 33(5):243–252; and *Journal of Chromatography B* (2009) 877(27):3065–3071. Dr. Concheiro, who has returned to the University of Santiago de Compostela Faculty of Medicine, also presented her research at a number of scientific meetings.

In New York City, NIDA-supported research provided evidence on the impact of substance use on a community when an International Program-supported ethnographer and a local art collective joined forces. As part of his research into preventing HIV and hepatitis C infections among injection drug users, Pedro Mateu-Gelabert, Ph.D., National Development and Research Institutes, noticed that drug dealers in New York were creating heroin brands by labeling the glassine envelopes in which they distributed the drug. Working with the Social Art Collective in New York City, Dr. Mateu-Gelabert and his colleagues interviewed drug dealers and users, as well as an artist who designs the brand images, while collecting the empty envelopes to create an art project that the *New York Times* said “is meant to examine the intersection of advertising and addiction and provoke questions about how society addresses dependence and disease.” In addition to 150 decorated envelopes collected from city streets, the exhibit included 12 large-scale prints of the brand designs, 1,800 empty envelopes (representing a heavy heroin user’s annual consumption), and information cards describing injection drug use risks. Proceeds from the exhibit were shared with a local needle-exchange program.



Members of the Social Art Collective, who organized a display of heroin brands in New York City, include (from left): Nirah Johnson, Lisha Perez, Pedro Mateu-Gelabert, Ashly Jordan, Liza Vadnai, and David Siemenski.

NIDA International Forum 2010

NIDA International Forum Focuses on Research To Inform Drug Policy and Public Health

The 15th NIDA International Forum was held June 11–15, 2010, in Scottsdale, Arizona, as a satellite to the Annual Scientific Meeting of CPDD. More than 240 participants from 49 countries participated in the plenary session, workshops, and networking activities. A joint CPDD/NIDA International Forum **poster session** featured presentations by 140 U.S. and international researchers as well as representatives from 11 NIDA components.

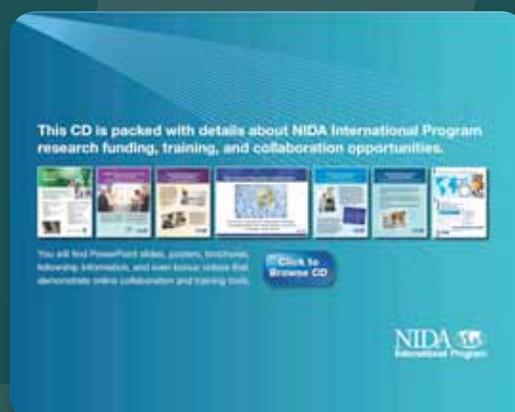
Plenary session speakers explored the ways drug abuse researchers and policymakers can develop evidence-based drug policies that include public health as a priority. A. Thomas McLellan, Ph.D., ONDCP deputy director, offered his perspective as a leading drug abuse researcher turned policymaker, describing the relatively new U.S. perspective that demand drives the production and trafficking of illicit drugs. Dr. McLellan discussed how that insight shaped the focus on community-based prevention interventions and integrating drug treatment into primary health care settings in the U.S. National Drug Control Strategy that was released in May 2010. Dr. McLellan added that the U.S. posture on drug abuse was similar to the country's response to the global financial crisis: the problem of drug abuse cannot be solved by a single nation, and the United States needs

strong and committed partners to succeed in reducing addiction. Thomas F. Babor, Ph.D., M.P.H., University of Connecticut, and his colleagues—John Strang, M.D., MBBS, United Kingdom National Addiction Center; Peter Reuter, Ph.D., M.Phil., University of Maryland; and Robin Room, Ph.D., M.A., University of Melbourne and Turning Point Alcohol and Drug Centre—described a multinational, interdisciplinary review of evidence-based drug policy designed to make scientific evidence relevant to policymakers and build the case for including public health as a priority in all drug policies.

Concurrent **breakout sessions** focused on developing a consensus statement on treatment guidelines for pregnant women, co-chaired by Hendrée Jones, Ph.D., RTI International and JHU, and Vladimir Poznyak, M.D., WHO; developing research projects to inform policy, chaired by Alison Ritter, Ph.D., M.A., Australian National Drug and Alcohol Research Centre; cultural adaptations of family-based interventions to strengthen families and prevent substance abuse, chaired by Karol L. Kumpfer, Ph.D., M.S., University of Utah; and drugged driving, chaired by J. Michael Walsh, Ph.D., M.A., The Walsh Group.

The alumni meeting of the NIDA International **fellowship programs** was co-chaired by Dale Weiss of NIDA and J. Randy Koch, Ph.D., M.A., VCU. Former NIDA Hubert H. Humphrey Fellow Nguyen Cuu Duc, M.A., Vietnam, presented the best practices in drug

demand reduction in the Asia-Pacific region, which he oversees as director of the multinational Colombo Plan Drug Advisory Programme. Marya Hynes Dowell, M.H.S., CICAD, discussed the process of building an Inter-American drug research system and the system's impact on research and policy in the region. The NIDA International Program also supported a second CPDD satellite, the International Women's and Children's Health and Gender Conference.



Awards of Excellence

During the 2010 NIDA International Forum, the International Program presented its 2010 Awards of Excellence to honor mentors, researchers, and binational collaborative teams whose efforts support the International Program mission, including:

- Excellence in Mentoring: Walter Ling, M.D., University of California, Los Angeles.
- Excellence in International Leadership: Evgeny Krupitsky, M.D., Ph.D., D.M.Sc., Pavlov Medical University and Bekhterev Research Psychoneurological Institute, Russia.
- Excellence in International Collaborative Research: Thomas F. Babor, Ph.D., M.P.H., University of Connecticut, and Robin Room, Ph.D., M.A., University of Melbourne and Turning Point Alcohol and Drug Centre, Australia.

- Sun Hongqiang, M.D., M.S., China, who focuses on the role of cue induced craving in relapse, visited Houston, Texas, to work with Thomas Kosten, M.D., Baylor College of Medicine; Thomas F. Newton, M.D., and Richard De La Garza, Ph.D., Houston Veterans Affairs Medical Center; and Paul Cinciripini, Ph.D., MD Anderson Cancer Prevention Center.



WHO/NIDA/CPDD International Traveling Fellows

NIDA, WHO, and CPDD selected two drug abuse scientists from developing countries as recipients of International Traveling Fellowship Awards. The awards supported a 1 week research visit with a NIDA supported research grantee and participation in the 2010 NIDA International Forum and CPDD Annual Scientific Meeting. The two International Traveling Fellows were:

- Irma Kirtadze, M.D., Georgia, who focuses on HIV prevention among drug users, particularly inhalant users, stimulant injectors, and needle exchange program clients. Dr. Kirtadze visited Hendrée Jones, Ph.D., at JHU and Wendee Wechsberg, Ph.D., M.S., at RTI International, with whom she studied comprehensive approaches to HIV prevention and treatment for drug using women in Georgia.



Building Research Capacity

Former NIDA International fellows play uniquely influential roles in the drug abuse research community, directing university programs, leading policy initiatives, and winning recognition for their research.

The NIDA International Program supports fellowships, professional development programs, scientific meetings, and travel stipends for researchers from around the world to stimulate collaborative research efforts, identify new research topics, and strengthen existing professional associations.

Fellowship Programs Continue To Grow

For more than two decades, NIDA International Program fellowships have trained drug abuse research experts from other countries in U.S. research methods and helped fellows enhance their understanding of the scientific basis of drug abuse and addiction. Building research capacity in low-resource countries remains a priority for NIH Director Francis Collins, and the NIDA International Program continued to expand its productive fellowship programs in 2010.

NIDA and IAS expanded the **IAS/NIDA Fellowships in HIV and Drug Use Research**, doubling the number of awards made in 2009. The fellows, who were announced during the 2010 AIDS meeting, include Elena Dukhoulinova, Russia, who will study with Ronald I. Swanstrom, Ph.D., University of North Carolina in Chapel Hill; Jonathan Claude Ipser, South Africa, who will work with Igor Grant, M.D., University of California, San Diego; Shusen Liu, China, who will train with Zunyou Wu, Ph.D., Chinese National Center for AIDS/STD Control and Prevention; Brandon Marshall, Canada, who will study



with Sandro Galea, M.D., Dr.P.H., Columbia University; and Former NIDA INVEST Fellow Adhi Nurhidayat, M.D., M.P.H., Indonesia, who will work with David Metzger, Ph.D., University of Pennsylvania.

The **NIDA Hubert H. Humphrey Drug Abuse Research Fellowships** enhance the standard U.S. Department of State Hubert H. Humphrey program by providing additional mentoring, training, and professional development activities for drug abuse professionals. By expanding recruitment and outreach efforts, the NIDA International Program and its State Department partners doubled the number of eligible NIDA Hubert H. Humphrey Fellowship candidates in 2010, resulting in full complements of NIDA Hubert H. Humphrey Fellows at both Virginia Commonwealth University (VCU) and JHU.

The NIDA Hubert H. Humphrey Fellows at VCU include:

- *Rogério Alves da Paz, M.D., Brazil*, who learned about how the United States has dealt with crack epidemics, rehabilitation programs, and drug-related public policies, and established collaborative relationships with treatment programs in the United States.
- *Dorra Amira, M.S., Tunisia*, enhanced her knowledge of drug abuse prevention, treatment, and analytical methods so that she can improve procedures in Tunisian toxicology laboratories and better address the drug problems of Tunisia.
- *Omar El Shahawy, M.D., M.P.H., Egypt*, focused on gender issues in adolescent and marginalized groups and improved his public health understanding of policies, research, and prevention of tobacco use.
- *Moses Abayomi Ojo, M.D., Nigeria*, enhanced his knowledge and practical skills in the treatment and prevention of substance abuse, focusing on the common drugs of abuse in Nigeria.
- *Dafina Muqaj, M.A., Kosovo*, expanded her knowledge about drug treatment programs and addiction research to improve programs at the drug prevention and treatment center where she works.
- *Maia Rusakova, Ph.D., Russian Federation*, learned about risk behavior prevention tools and distance learning programs that could be implemented in the Russian Federation.
- *Mário Sérgio Sobrinho, Ph.D., Brazil*, focused on the U.S. drug court system to help implement similar programs in Brazil.
- *Oranooch Sungkhawanna, M.A., Thailand*, worked on designing and implementing more effective drug control policies to expand the use of evidence-based substance abuse treatment and prevention programs in Thailand.

The NIDA Hubert H. Humphrey Fellows at JHU include:

- *Ayse Ender Altintoprak, M.D., Turkey*, focused on substance abuse education and treatment.
- *Hla Aung, M.D., Burma (Myanmar)*, learned about integrating drug prevention and treatment in family medicine practices.
- *Roman Gabrhelik, Ph.D., Czech Republic*, focused on translational research, drug treatment, and epidemiology.
- *Hussein Habeeb Mhawesh, M.D., Iraq*, learned about public health policy and management techniques he can use to develop policies, programs, and services to improve health care in Iraq.
- *Rubeena Kidwai, Ph.D., M.A., Pakistan*, focused on community-based programs in applied positive psychology to develop and implement projects to promote psychosocial wellness and psychological resilience in members of impoverished, low-income communities of Pakistan.

- *Abimbola Onigbanjo-Williams, M.P.H., Nigeria*, works to improve health care systems for Nigerians and concentrated on family planning, reproductive health, maternal and child health, and HIV/AIDS during her fellowship.
- *Bangone Santavasy, M.A., Laos*, focused on management techniques to improve drug use and HIV prevention and treatment programs among pregnant women.
- *Ashish Sinha, Ph.D., Nepal*, learned about drug-related HIV interventions he can implement at the Save the Children program in Nepal.
- *Igor Vasiyanovich, M.D., Ukraine*, learned about ways to improve the management, evaluation, and accreditation of health care institutions.

The broader Hubert H. Humphrey program supported by the U.S. Department of State offers fellowships in 17 areas. In addition to working with the NIDA Hubert H. Humphrey Fellows in Drug Abuse Research at VCU and JHU, the International Program works with fellows from other sites who have an interest in drug abuse, addiction, or drug-related HIV. During 2010, those fellows included fellows at Emory University and Vanderbilt University. Nnenna Nina Chigbo, M.P.H., Nigeria, used her Hubert H. Humphrey Fellowship at Emory University to study U.S.-based HIV/AIDS policy and prevention, specifically focusing on advocacy, law, outcomes research, and program development. David Njengere Kabita, M.Phil., Kenya, focused on substance abuse prevention in school curricula while at Vanderbilt University.



NIDA INVEST Drug Abuse Research Fellowships

offer 12 months of postdoctoral training with a NIDA grantee at a U.S. institution. Huaihui Zhang, M.D., Ph.D., a psychiatrist at the Shanghai Yangpu District Mental Health Center, China, spent her fellowship with Richard S. Schottenfeld, M.D., Yale University. Dr. Zhang evaluated the prevalence, clinical correlates, and impact on treatment response of co-occurring abuse of other illicit substances among heroin-dependent patients receiving opioid agonist maintenance treatment, in order to inform practice guidelines and policies in China. Mikhail Torban, M.D., a research fellow at St. Petersburg Psychoneurological Scientific Institute, Russia, spent his fellowship with Robert Heimer, Ph.D., Yale University, using Rapid Assessment and Response protocols to explore the differences among Connecticut migrant communities. Drs. Torban and Heimer used the results to develop culturally appropriate substance abuse and HIV interventions for Bosnian, Russian, and Salvadorian injection drug users and to identify the individual, community, and structural facilitators of and barriers to care. Perrine Roux, Pharm.D., Ph.D., French National Institute of Health and Medical Research (Inserm), worked with Sandra D. Comer, Ph.D., Columbia University, to better define the concept of nonadherence to opioid maintenance treatment with buprenorphine/naloxone. During her fellowship, she validated a tool to measure nonadherence using a self-administered questionnaire.

The **NIDA INVEST/CTN Drug Abuse Research Fellowships** provide 12 months of postdoctoral training with a NIDA grantee associated with one of the 13 CTN Regional Research and Training Centers in the United States. Fellows also present their research at CTN



Steering Committee meetings held during the year. Suzanne Nielsen, Ph.D., BPharm, BPharmSc, is a senior research fellow and senior pharmacist at the Turning Point Alcohol and Drug Centre in Victoria, Australia, where she integrates research activities with clinical practice. Working with mentor Walter Ling, M.D., at the University of California, Los Angeles, Dr. Nielsen assisted on CTN studies of pharmacotherapies and behavioral therapies and conducted a secondary analysis of existing CTN data pertinent to future research that she plans to conduct in Australia after her fellowship ends. Meera Vaswani, Ph.D., All India Institute of Medical Sciences, New Delhi, India, worked with Wade Berrettini, M.D., Ph.D., at the University of Pennsylvania School of Medicine to conduct exploratory candidate gene studies in opioid-addicted subjects. Through this work, she will gain expertise in modern genotyping methods and in linkage disequilibrium and pharmacogenetic data analytic methods, which she can use to conduct a similar collaborative study in India. Although his INVEST/CTN Fellowship was announced in 2010, Felipe Vallejo Reyes, Ph.D., Pontificia Universidad Católica de Valparaíso, Chile, will work with his mentor, Eugene Somoza, M.D., Ph.D., University of Cincinnati, in 2011.

Distinguished International Scientist Collaboration Awards (**DISCA**) and Distinguished International Scientist Collaboration Awards for U.S. Citizens and Permanent Residents (**USDISCA**) permit experienced drug abuse researchers to spend up to 3 months on an exchange visit with a research partner. USDISCA sends NIDA grantees to other countries; DISCA brings researchers from other countries to the United States to work with a NIDA grantee.



2010 INVEST Fellows include (from left): Dr. Mikhail Torban, Russia; NIDA International Program Associate Director Dale Weiss; Dr. Huaihui Zhang, China; and Dr. Perrine Roux, France.



Participants in the Fellows Orientation Program met with NIDA and NIH officials, visited the NIH and NIDA Intramural Research Program campuses, learned about online resources, and networked with one another.

In 2010, senior drug abuse researchers from Taiwan and the United States were named Distinguished International Scientists to advance their collaborations with colleagues in the United States and Russia, respectively. Hwei-Hsien Chen, Ph.D., a pharmacologist and toxicologist at Tzu Chi University, Taiwan, worked with Athina Markou, Ph.D., University of California, San Diego, to investigate whether the reward-enhancing effects of the abused inhalant toluene occur in mice. Drs. Chen and Markou also investigated how glutamatergic pharmacological manipulations that are available to treat humans may affect toluene-induced facilitation of brain reward function, an approach that could suggest eventual pharmacotherapies to prevent toluene abuse. Dr. Chen concentrated on mastering the mouse intracranial self-stimulation procedure, which currently is unavailable in Taiwan. Kenneth W. Griffin, Ph.D., M.P.H., Weill Cornell Medical College, and Irina Pervova, Ph.D., St. Petersburg State University, used Dr. Griffin's USDISCA to conduct key informant interviews and focus groups on the epidemiology, etiology, and prevention activities regarding adolescent substance use

in St. Petersburg. They also conducted a local prevention needs assessment and obtained government and university approval to adapt, test, and refine evidence-based family prevention programs that address differences between the United States and Russia in culture, language, and organizational structures. The pair, who met while planning a 2006 NIDA-funded conference in St. Petersburg, has already submitted one grant application, a feasibility study for drug abuse prevention trials, and is developing two others.

Fellows Contribute to Scientific Community

Former NIDA International fellows play uniquely influential roles in the drug abuse research community, directing university programs, leading policy initiatives, and winning recognition for their research. Former NIDA Hubert H. Humphrey Fellow Flavio Pechansky, M.D., Ph.D., M.Sc., was named by the Brazilian Ministry of Justice and the Brazilian Secretariat for Drug and Alcohol Policies to lead a project integrating drug abuse treatment



Researchers from the Center for Drug and Alcohol Research in Porto Alegre, Brazil, celebrated the Center's new grant at the 2010 NIDA International Forum. From left are: Dr. Fernanda Munhoz Driemeier, Dr. Anderson Ravy Stalf, Dr. Sibebe Faller, Dr. Flavio Pechansky, and Dr. Felix Kessler.

and prevention programs in 60 counties in five Brazilian states. The Center for Drug and Alcohol Research at the Federal University of Rio Grande do Sul, which Dr. Pechansky also directs, will identify and evaluate public, community, and private programs that already exist in these localities; develop substance abuse training courses for health care, social work, law enforcement, and judiciary professionals; and conduct research focused on crack users and at-risk pregnant women and their newborns. Another former Hubert H. Humphrey Fellow, Muzafar Razali of Malaysia, received his doctoral degree from the University of Malaya in August 2010 and was appointed head of the Psychology and Counseling Department, Faculty of Education and Human Development, at Sultan Idris Education University. He also was named a teaching and research fellow at the Asian Centre for Research on Drug Abuse at the Islamic Science University of Malaysia.

Two former NIDA Hubert H. Humphrey Fellows, Pavel Bém, M.D., and Tomas Zabransky, M.D., Ph.D., organized a meeting on urban drug policy in Prague that led to the adoption of the Prague Declaration, a set of seven principles of effective drug policies and a call for greater participation by urban leaders in forming drug policies. Dr. Bém, mayor of Prague, and Dr. Zabransky, Center

for Addictology, Charles University, Prague, brought together policymakers, public health administrators, and researchers for the conference, where they discussed recent developments in the field of urban drug policy and related interventions and encouraged participants to sign the declaration.

Two other former NIDA Hubert H. Humphrey Fellows were recognized for their research efforts during 2010. The Institute of International Education awarded a Hubert H. Humphrey Alumni Professional Development Grant to Peter Kenneth Ndege, M.D., Kenya, to attend the International Harm Reduction Association conference in April 2010, recognizing his success in forming the nongovernmental organization Center for Addiction Studies in Africa, which has trained 70 primary health care clinicians in the diagnosis and management of drug use disorders, and his work with UNODC to study the introduction of opiate substitution therapy and other harm reduction measures in Kenya. ISAJE presented Monica S. Malta, Ph.D., Brazil, with the ISAJE/WHO Young Scholar award in June 2010 for her paper, "Adherence to Antiretroviral Therapy for Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome Among Drug Users: A Systematic Review," published in *Addiction*.



Former NIDA Humphrey Fellows Drs. Tomas Zabransky (left) and Pavel Bém organized a meeting on urban drug policy in the Czech Republic.

Building and Sharing Knowledge

Regional cooperation is often the most effective mechanism to address drug abuse, addiction, and drug-related HIV/AIDS.

Scientific meetings offer investigators the opportunity to discuss emerging trends in drug use and common research interests; create linkages to support research collaborations; and learn about NIDA research funding priorities, training tools, and online resources. During 2010, the International Program organized scientific meetings on a wide range of drug abuse topics.

Regional Meetings Foster Collaborative Research

Recognizing that regional cooperation is often the most effective mechanism to address drug abuse, addiction, and drug-related HIV/AIDS, the NIDA International Program organized a series of regional meetings in 2010 to bridge the gap that often hinders the exchange of research ideas and the development of constructive collaborations. Meetings were held in Malaysia, Norway, and Ukraine:

- **Penang, Malaysia.** The meeting focused on epidemiology and treatment research needs and challenges in the region. Participants formed workgroups assigned to address issues ranging from identifying funding to developing new research protocols.
- **Oslo, Norway.** Held in conjunction with the International Council on Alcohol, Drugs and Traffic Safety, the meeting examined the challenges in accurately assessing the impact of drugged driving due to regional and national legal differences. Participants identified potential topics for international collaborative research.
- **Kiev, Ukraine.** Focused on drug treatment and prevention among injection drug users, the meeting participants discussed potential collaborative studies on medically assisted treatment for drug dependence and HIV.



NIDA Symposium, Workshop Featured at AIDS 2010

Two NIDA-supported meetings featured international drug abuse research during the XVIII International AIDS Conference. The IAS/NIDA Symposium featured presentations by NIDA Director Nora Volkow, M.D., on the neurobiology of drug use and HIV risk behavior; U.S. Global AIDS Coordinator Eric Goosby, M.D., on PEPFAR's evolving strategy to prevent HIV among persons who inject drugs; Charles O'Brien, M.D., Ph.D., University of Pennsylvania, on substance abuse treatment as HIV prevention; and IAS President Julio Montaner, M.D., FRCPC, FCCP, on highly active antiretroviral treatment as prevention for injecting drug users. The NIDA Workshop on Building International Research Capacity and Collaboration on Drug Abuse and HIV/AIDS informed drug abuse and HIV/AIDS researchers about current and planned NIDA research funding opportunities, online networking and collaboration tools, and research training programs available to foster the development of regional research networks and collaborations. Participants had opportunities to establish new research collaborations and provide feedback to NIDA regarding research opportunities and mechanisms to establish regional research networks.



InWomen Chair Dr. Wendee Wechsberg introduces a panel at the 2010 InWomen Conference. The panelists included (from left): Dr. Anna Gyarmathy, European Monitoring Centre for Drugs and Drug Addiction; Maayan Schori, Israel; Dr. Bronwyn Myers, South Africa; and Nancy Poole, Canada.

Scientific Meetings and Travel Support

In addition to organizing scientific meetings directly, the International Program provided programmatic and partial funding for major scientific meetings organized by its partner organizations during 2010:

- **SPR Annual Meeting**, where NIDA provided travel awards for 13 investigators who presented prevention research completed in international settings during the SPR International Networking and Poster Session. NIDA also helped launch the International Good Behavior Game (GBG) Network, where researchers from Belgium, the Netherlands, and the United States reported dramatically similar results across six randomized trials on the effectiveness of GBG in preventing drug abuse and other adverse outcomes. Building upon momentum from the previous year, more than 40 international scientists, policymakers, and community representatives participated in the 2010 International Networking Forum at SPR to share knowledge and information about prevention strategies and interventions involving international collaborations.
- **Fogarty International Tobacco Research and Capacity Building Network Meeting**, which featured presentations by four NIDA grantees and discussions about project management and research or training collaborations between domestic and foreign investigators.
- **International Conference on Women, Children, and Gender**, which was organized by an International Program Working Group in conjunction with the 2010 NIDA International Forum and the CPDD Annual Scientific Meeting. Participants from 27 countries examined women's drug treatment outcomes and international issues facing women in treatment, and participated in nine roundtables where senior researchers and new investigators identified topics for future discussion and work.

- **National Hispanic Science Network International Conference**, where the International Program supported 13 scientists from Chile, Mexico, and Spain who presented their research at the International Poster Session.
- The **Society for Neuroscience Frontiers in Addiction Research** miniconvention, which showcased research by 16 international scientists from 13 countries at the Early Career Investigators Poster Session.

By supporting the participation of individual experts at meetings around the world, the International Program fosters dissemination of scientific evidence related to drug abuse and addiction policy, prevention, and treatment. During 2010, NIDA provided travel support for 44 international researchers from 27 nations to attend meetings in the United States, as well as 7 U.S. researchers who spoke at meetings in Argentina, Austria, Egypt, India, and the Netherlands. Those meetings included the American Society of Addiction Medicine; Consultation on Pain and Palliative Care; International Congress on Addiction Treatment and Prevention; Research Needs on Drugs and Driving; Kasr Al-Ainy International Psychiatry Conference; and Substance Abuse Surveillance in Sikkim, India.

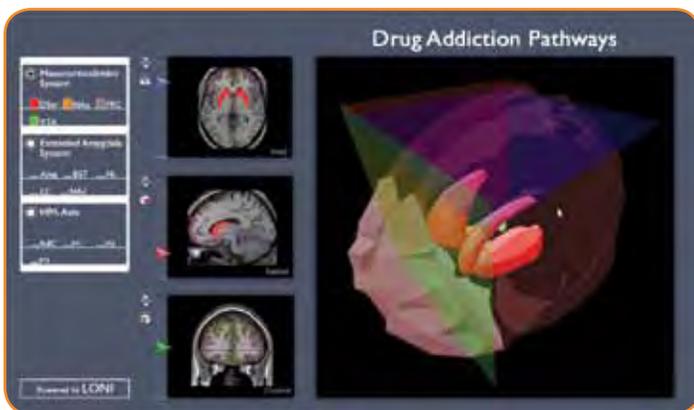


1993–1994 NIDA Humphrey Fellow Dr. Eli Lawental, Israel, and his daughter, doctoral candidate Maayan Schori, hosted roundtable discussions during the InWomen conference.

Online Tools

Scientists building international research partnerships require dedicated online tools designed to meet their unique needs for information, communication, and training. The NIDA International Program develops Web-based resources to help its geographically diverse, multidisciplinary audience disseminate research findings, share investigative methods and data, access training opportunities, and identify colleagues studying similar research topics.

The NIDA International Program Web site, www.international.drugabuse.gov, provides comprehensive details about the Institute's activities and resources for first-time visitors and veteran researchers around the world. The site helps users access research funding opportunities, apply for International Program-supported fellowships, enhance their knowledge with online training courses, or find research partners using the Fellowship Alumni Map or the International Drug Abuse Research Abstract Database.



The Neurobiology of Addiction online training course includes interactive, 3-D brain pathway animation.

Subscribers to the free, bimonthly NIDA International Program E-News, which is archived on the searchable Web site, learn about new initiatives and recent Institute activities.

During 2010, the International Program created a series of Professional Development Webinars for drug abuse researchers. Four hour-long, interactive programs provided exercises and tips for scientists to enhance their oral and poster presentation skills and effectively communicate their research interests and results in formal and informal settings.

The International Program supported development of free, online courses designed for international drug abuse researchers on the site DrugAbuseResearchTraining.org, through a Small Business Innovative Research (SBIR) contract

to Medical Directions, Inc. The courses include biostatistics; evaluating substance abuse programs; designing and managing clinical trials; and the 2010 addition, neurobiology of addiction. The neurobiology course includes state-of-the-science interactive 3-D animation of brain pathways developed by Medical Directions, Inc., and NIDA grantee Nicholas W. Gilpin, Ph.D., Scripps Research Institute.

Use of the NIDA International Virtual Collaboratory (NIVC) continued to expand during 2010. The site, developed by JGPerpich, LLC. with SBIR support from the NIDA International Program, provides tools such as virtual meetings, recorded seminars, discussion forums, wikis, member-built resource centers, document editing and storage tools, and directories to facilitate collaborative research and working groups. New public groups on drug abuse policy and tobacco research began to take shape during 2010, as other groups matured, including those focusing on volatile substance misuse, international research ethics, and international women's and children's health and gender issues (InWomen). In addition to the public groups, several invitation-only groups exchange information or plan future activities.

ISAJE began pilot testing a program to pair senior drug abuse researchers with young investigators from low-resource countries who want to publish their completed research in a peer-reviewed academic journal but have little experience or support in writing for publication. When fully operational, the program will function through the online site developed by ISAJE with support from the NIDA International Program, Publishing Addiction Research Internationally (PARINT.org). The site also provides tutorials for authors and addiction scientists interested in serving as peer reviewers as well as a database of 82 peer-reviewed addiction journals in 18 languages.



By 2010, the International Program in Addiction Studies, an online master of science degree jointly offered by the University of Adelaide (Australia), King's College London (United Kingdom), and VCU (United States), had graduated 18 students from 6 continents. The program, developed with NIDA support, prepares students to translate research on addiction into more effective treatment protocols, prevention interventions, and public health policies.

