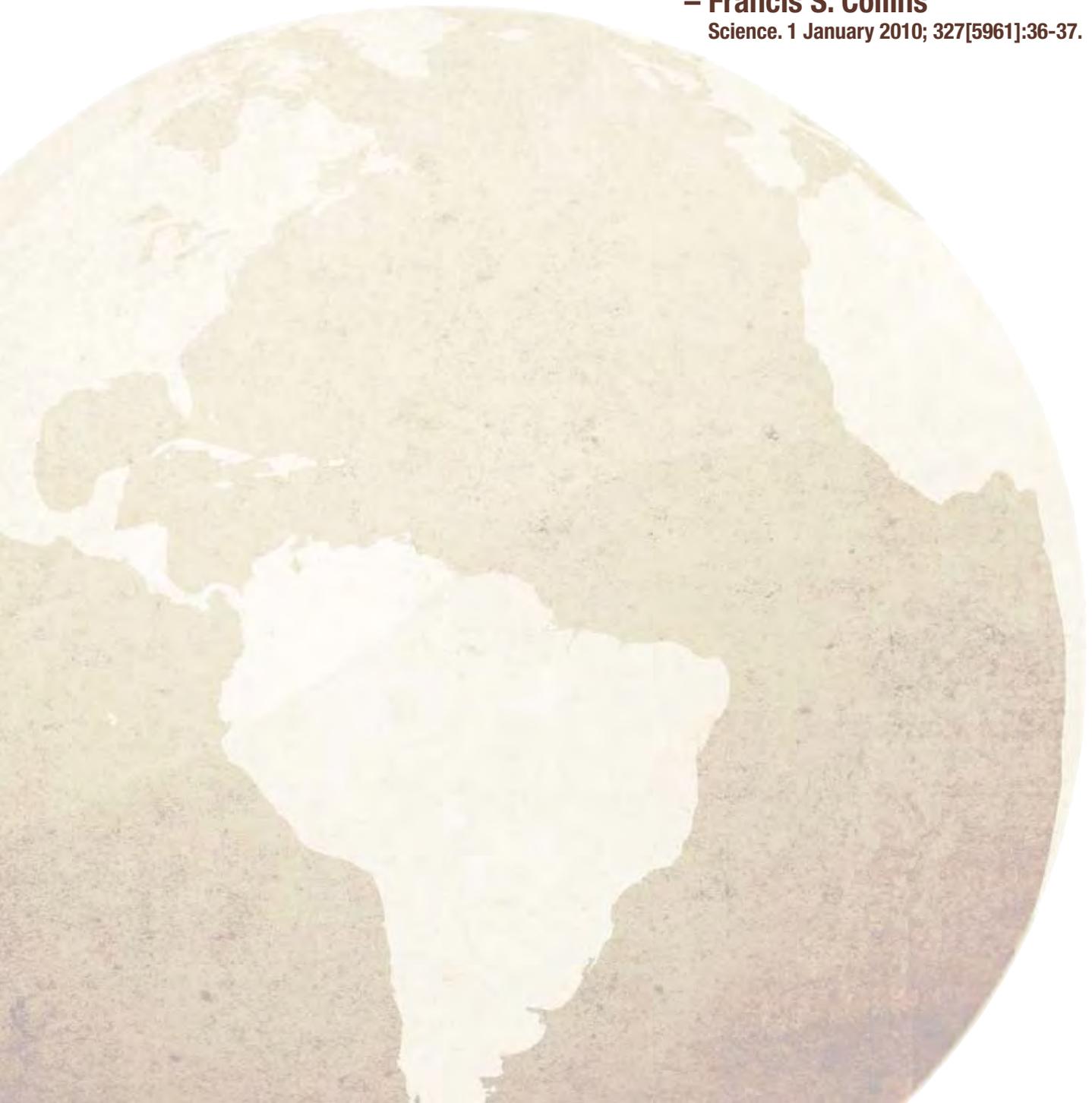




**“Helping to build capacity and training opportunities in the developing world will be a critical component for NIH.”**

**– Francis S. Collins**

Science. 1 January 2010; 327[5961]:36-37.



# BUILDING AN INTERNATIONAL NETWORK

In the United States, there has been a growing impetus in support of global health research. The respected U.S. Institute of Medicine called global health “a highly valued, visible, and concrete investment that has the power to save lives and to enhance the image of the United States in the eyes of the world,” recommending increased U.S. funding as well as improved cooperation to create and share knowledge that serves the global community. The Institute of Medicine specifically recommended that the United States help other nations invest in people, institutions, and capacity building by engaging in respectful partnerships.

The U.S. National Institutes of Health (NIH) has a long-standing

commitment to global health research and training, and enhancing these efforts over the next several years is one of five priority areas announced by Francis S. Collins, M.D., Ph.D., who became NIH Director on August 17, 2009. According to Dr. Collins, helping to build capacity and training opportunities in the developing world will be a critical component of NIH efforts to facilitate advances in prevention, diagnostics, and therapeutics.

Since its founding in 1990, the International Program of the National Institute on Drug Abuse (NIDA) has worked with colleagues from around the world to find evidence-based solutions to the public health problems of drug abuse, addiction, and drug-

related HIV/AIDS. The International Program builds partnerships with countries, organizations, and individual researchers to promote new research initiatives, build international research capacity, and disseminate knowledge. NIDA supports the International Program mission because the Institute recognizes that addiction knows no borders and that no country can solve the problem by acting alone. (Exhibit 1–FY 2009 NIDA International Program Activities), summarizes the variety of programs supported.

Engaging partners in diverse settings, the International Program has built a network of international and regional organizations that share the common goal to reduce the impact of drug abuse and addiction. Working





with the World Health Organization (WHO), the United Nations Office on Drugs and Crime, and the Joint United Nations Programme on HIV/AIDS (UNAIDS), the International Program helps develop international guidelines and initiatives to prevent and treat substance abuse. Regionally, the International Program supported efforts by the Inter-American Drug Abuse Control Commission (CICAD) to improve drug abuse epidemiology in Latin America, and the Canadian Social Science and Humanities Research Council to improve inhalant abuse prevention and treatment for indigenous people in Canada, the

United States, Mexico, and Australia. New NIDA initiatives with the International AIDS Society and the International Society of Addiction Journal Editors (ISAJE) will help train the next generation of drug abuse researchers. NIDA works with these global and regional partners to promote and enhance one another's efforts with scarce resources.

The International Program also builds its network within the United States, working closely with the White House Office of National Drug Control Policy as well as other NIH agencies, including the John E. Fogarty International Center, National Institute on Alcohol Abuse and Alcoholism (NIAAA), and the National Institute of Allergy and Infectious Diseases. Professional organizations, such as the Society for Neuroscience, Society for Prevention Research (SPR), American Association for the Treatment of Opioid Dependence (AATOD), and the National Hispanic Science Network, help to disseminate research findings and promote training opportunities.

Binational agreements grow from long-term cooperation between the NIDA International Program and its partner drug abuse research agencies in other countries. During fiscal year 2009, NIDA signed two new binational agreements:

- NIDA and the Spanish Plan Nacional sobre Drogas (PNSD) signed an agreement to pursue a program of scientific collaboration and exchange in the fields of biomedical and behavioral research related to drug abuse, including activities designed to further scientific and academic interactions between NIDA and PNSD's National Institute of Drug Research and Training.
- NIDA and Taipei Medical University, Taiwan, agreed to cooperate on research, training, and scientific exchanges on neuroprotection and drug abuse.

The International Program and the Dutch Addiction Program (DAP) expanded their productive binational

agreement by awarding grants to three new research teams, and NIDA continued its cooperative agreements with Russia and Mexico. Although not a formal binational agreement,

the Polish Ministry of Science and Higher Education agreed to consider collaboratively funding research grant applications submitted in response to the NIDA International

Program Announcements, and the Ministry established an administrative coordinator to promote applications in response to the International Program funding and fellowship announcements.

## Exhibit 1 – FY 2009 NIDA International Program Activities

Category	Number of Activities	Number of Countries
<b>International Research Activities</b>		
• Projects Funded Through Domestic Grants With Foreign Components	84	38
• Projects Funded Through Direct Foreign Grants	20	8
• Binational Agreements	5	5
• Grants Awarded Through Interagency Funding Agreements	20	37
<b>Fellowships and Research Exchanges</b>		
• DISCA/USDISCA	2	2
• IAS/NIDA Research Fellowships in HIV and Drug Use	2	4
• INVEST Fellowships	2	2
• INVEST-CTN Fellowships	2	2
• NIDA Hubert H. Humphrey Fellowships	14	10
• WHO/NIDA/CPDD International Traveling Fellowships	2	2
<b>Scientific Exchange and Capacity Building</b>		
• International Program Meetings	2	1
• NIDA-Supported Scientific Meetings	4	1
• Travel Support		
– NIDA Grantees	9	4
– Foreign Researchers	47	29

**“Engaging partners in diverse settings, the International Program has built a network of international and regional organizations that share the common goal to reduce the impact of drug abuse and addiction.”**

# PROMOTING INTERNATIONAL RESEARCH

The NIDA International Program embraces its responsibility as a global leader in drug abuse research, simultaneously recognizing that no country acting alone can address the numerous public health issues related to drug abuse and addiction. By working with long-standing partners and building new collaborative networks, the International Program contributes to the scientific evidence that leads to effective drug abuse prevention and treatment initiatives around the world. The current NIDA International Program research priorities are linkages between HIV/AIDS and drug abuse, adolescent and prenatal tobacco exposure, inhalant abuse, methamphetamine, and drugged driving.

The NIDA International Program promotes rigorous, peer-reviewed international research primarily through two mechanisms:

- Program Announcements (PAs) for International Research Collaboration on Drug Abuse and Addiction are long-term, broad calls for innovative, binational



applications in any area of drug addiction science; applications may be submitted for any review cycle.

- Request for Applications (RFAs) set aside funds to support research investigating a specific area of drug abuse science; applications must be submitted by a fixed deadline.

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, in which a U.S. principal investigator works with a researcher from another country. During fiscal year 2009, NIDA supported more than 100 projects in 39 nations through direct foreign grants or domestic grants with foreign components. In partnership with

other NIH agencies, NIDA funded another 20 projects in 37 countries. Using these mechanisms, individuals from diverse settings successfully join forces to enhance local, national, and international public health efforts to address drug abuse and addiction.

## Newly Funded Projects

During fiscal year 2009, NIDA reissued its PAs, utilizing three funding mechanisms to solicit collaborative research proposals by U.S. investigators working with investigators from other countries. The PAs differ only by the amount and length of the awards; the R03 Small Grant and the R21 Exploratory/Developmental Research Grant awards are for relatively smaller amounts of money and shorter time periods than the R01 Research



Project Grant awards. The first R01 grant issued under the new PAs was to Dr. David Metzger, University of Pennsylvania, and the Indonesian principal investigator, Dr. Adhi Nurhidayat, to conduct a prospective randomized trial to evaluate the effectiveness of integrated drug and HIV counseling among injecting drug users beginning methadone treatment in Indonesia. The work expands the collaboration established during Dr. Nurhidayat's NIDA INVEST Fellowship at the University of Pennsylvania and also will extend findings from a WHO study on substitution therapy of opiates and HIV/AIDS that was completed by former NIDA Hubert H. Humphrey Fellow Ms. Riza Sarasvita, M.S.,

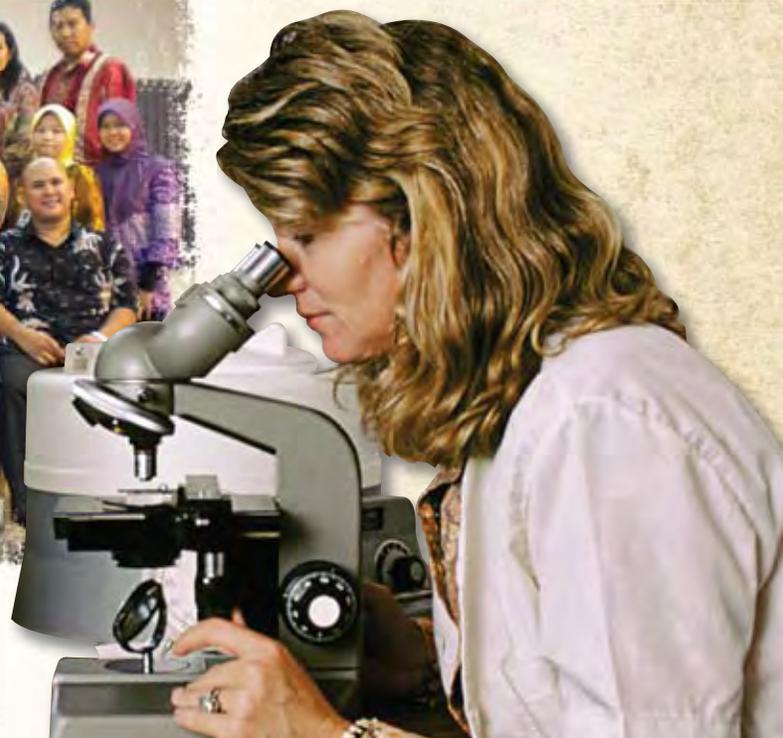
M.H.S., and her colleagues at The Drug Dependence Hospital in Jakarta.

NIDA also issued an international RFA in 2009, for International Research Collaborations on HIV/AIDS and Drug Use (RFA-DA-10-008), committing \$2 million in fiscal year 2010 for collaborative, regionally focused research on the intersection of HIV/AIDS and drug use in international settings. Applications were required to include as key personnel at least two foreign researchers from different countries in the same geographic region, and foreign applicants were encouraged but not required to collaborate with U.S. investigators.

NIDA participates in a uniquely successful funding model through

the International Program's binational agreement with DAP. Using Administrative Supplements to existing domestic grants, NIDA supports U.S. researchers who partner with DAP-supported scientists. In fiscal year 2009, NIDA and DAP supported three new research teams to explore ways to address the use of and dependence on cocaine:

- Dr. George Koob, Scripps Research Institute, and Dr. Judith R. Homberg, University of Nijmegen, will explore the motivation and etiology of cocaine dependence by investigating the interaction of inherited differences in the serotonin and cortical stress systems that increase extracellular serotonin levels and lead to neuroadaptations.





- Dr. Christopher Pierce, University of Pennsylvania, and Dr. Louk Vanderschuren, Utrecht University, will study pharmacological modulation of striatal circuits, deep brain stimulation to attenuate reinstatement, and optogenetics to inhibit or enhance neuronal activity to examine the roles of striatal subsystems in cocaine reinforcement and the reinstatement of cocaine seeking.
- Dr. Raymond Booth, University of Florida, and Dr. Wim van den Brink, University of Amsterdam, will test a potential pharmacotherapy for cocaine addiction that is without abuse liability in humans.

Another partnership between NIDA and the U.S. Civilian Research & Development Foundation (CRDF) funded two innovative projects in HIV/AIDS and drug abuse to be conducted by teams of U.S. and Eurasian scientists. The projects build on a 2008 NIDA/CRDF proposal development workshop held in Kiev, Ukraine, which focused on identifying a research agenda and developing regional collaborative research proposals. CRDF will administer the NIDA-funded projects:

- Dr. Anneli Uuskula, University of Tartu, Estonia, and Dr. Don Des Jarlais, Beth Israel Medical Center, United States, will investigate HIV transmission among injecting and noninjecting drug users in Tallinn, Estonia.
- Former NIDA Humphrey Fellow Dr. Tomas Zabransky, Charles University, Czech Republic, and Dr. Robert Booth, University of Colorado, United States, will lead a five-country team of researchers combining qualitative and quantitative techniques to develop data about HIV among drug users, recent developments in drug scenes that are associated with the transmission of blood-borne diseases, and the individual and social dynamics of HIV risks. Other members of the team include Dr. Zaruhi Beglaryan, United Nations

Development Programme, Armenia; former NIDA Humphrey Fellow Dr. David Otiashvili, Union Alternative, Georgia; Dr. Oleksander Zeziulin, Vinnitsya Regional Narcological Dispensary, Ukraine; former WHO/NIDA/College on Problems of Drug Dependence (CPDD) International Traveling Fellow Dr. Konstantyn Dumchev, Vinnitsya Regional Narcological Dispensary, Ukraine; former NIDA Humphrey Fellow Dr. Sergiy Dvoryak, Ukrainian Institute on Public Health Policy; Dr. Joseph E. Schumacher, University of Alabama at Birmingham, United States; and Dr. Shruti Mehta, Johns Hopkins University, United States.

## Research Impacts the World

NIDA-supported international research teams provide the scientific evidence necessary to develop, adopt, and evaluate government policies, prevention programs, and treatment protocols that effectively address drug abuse and its consequences around the world. In addition to journal articles and presentations at scientific conferences, researchers' efforts are noted by NIDA and other organizations. A 2009 article in *NIDA Notes* (Intervention for Disruptive Children Shows Long-Term Benefits. 2009;22[4]:4–6) featured the work of two scientists funded through the U.S.—

**“The NIDA-supported Syrian Center for Tobacco Studies received the Hamdan Award for the best medical college, institute, or center in the Arab World.”**



Netherlands Binational Agreement, Dr. John Lochman, University of Alabama, and Dr. Walter Matthys, Rudolf Magnus Institute of Neuroscience, who have demonstrated that the NIDA-supported Coping Power Program is effective in Utrecht, The Netherlands, as well as in the United States. The intervention teaches social coping skills to at-risk children age 8 to 13, helping them avoid cigarette and marijuana use in adolescence. The project is being tested now in Puerto Rico, Spain, Ireland, and Italy.

The NIDA-supported Syrian Center for Tobacco Studies received the Hamdan Award for the best medical college, institute, or center in the Arab World. Dr. Wasim Maziak is the director of the center and a NIDA grantee at the University of Memphis in the United States. The Syrian Center, which is now training researchers throughout the Arab region, was established in 2002 with the support of the Syrian government and NIDA, in collaboration with the Syrian Society Against Cancer,

Aleppo University, and Virginia Commonwealth University (VCU).

The general press also reports on NIDA-supported international research findings: the French newspaper *Le Monde* devoted extensive coverage to a presentation at the International Conference on Drugs and Cultures by Dr. Geoffrey P. Hunt of the Scientific Analysis Corporation, San Francisco,

California, and his colleague, Dr. Karen Joe-Laidler of the Hong Kong University Centre for Criminology. The two compared the social context of club drug use by youth in San Francisco, California, and Mongkok, Hong Kong, reporting that Hong Kong youth were more likely to come from the working class and to use ketamine, rather than Ecstasy.



# BUILDING RESEARCH CAPACITY

Recognizing the growing need for capable local leaders and researchers who can identify effective, sustainable, and culturally appropriate drug abuse and addiction programs, the NIDA International Program develops research training and professional development activities, sponsors scientific meetings, and supports research exchanges. In turn, NIDA fellowship alumni contribute to the scientific community through research, teaching, publishing, networking with colleagues, and identifying likely candidates to participate in NIDA research and professional development activities.

## New Fellowship Focuses on HIV/AIDS

NIDA and the International AIDS Society (IAS) established a fellowship program that focuses on HIV research related to drug abuse to advance scientific understanding of the links between drug abuse and HIV while fostering multinational research. The IAS/NIDA Fellowships on HIV and Drug Use provide two types of awards: one to a junior HIV and drug abuse

scientist for an 18-month postdoctoral fellowship at a leading research institute in the field, and one to a well-established HIV scientist, not currently active in the drug abuse field, for an 8-month period of professional development on HIV and drug abuse. Both awards include a stipend of \$75,000. The first postdoctoral award was to Michah Onger Oyaró, Ph.D., a research scientist at the University of Nairobi, Kenya, who will study with John Wylie, Ph.D., University of Manitoba, Canada, to design and conduct a study of social networks, serostatus, and molecular epidemiology of HIV, hepatitis B, and hepatitis C infections among drug abusers in Kenya. The first professional development award was to María Gudelia Rangel, Ph.D., a research associate and professor at El Colegio de la Frontera Norte in Tijuana, Mexico, who will work with Dr. Steffanie Strathdee, University of California San Diego, to investigate HIV prevalence among clients in substance abuse rehabilitation centers in Baja California, Mexico.

INVEST Drug Abuse Research Fellowships provide 12 months of postdoctoral training with an established NIDA-supported scientist at a U.S. institution. Each fellow receives training in drug abuse research methods and participates in professional development activities. The 2009 INVEST Fellows included:

- Dr. Marta Concheiro Guisan, University of Santiago de Compostela, Spain, who worked

with Dr. Marilyn Heustis, NIDA Intramural Research Program, to develop and validate an analytical method to quantify the level of buprenorphine in the oral fluid and sweat of pregnant, opioid-dependent women receiving buprenorphine maintenance treatment.

- Dr. Alberto Moriggia, University of Pavia, Italy, who worked with Dr. David L. Thomas of the Johns Hopkins School of Medicine to investigate the role of HIV in the progression of hepatitis C-related liver diseases among injection drug users.

The International Program and the NIDA Clinical Trials Network (CTN) cosponsor the INVEST-CTN Drug Abuse Research Fellowships for postdoctoral researchers to train with a scientist affiliated with 1 of the 16 CTN Regional Research and Training Centers in the United States. Leonardo R. Estacio, Jr., Ph.D., University of the Philippines, Manila, is spending his fellowship year with Dr. Dennis M. Donovan of the Alcohol and Drug Abuse Institute at the University of Washington in Seattle, Washington, working to provide baseline evidence of the prevalence and incidence of amphetamine-type stimulant abuse and its associated risk and protective factors. Mario A. Zapata, M.D., CES University in Medellín, Columbia, is working with Dr. Michael Robbins, University of Miami, implementing and evaluating the Brief Strategic Family Therapy model, particularly with adolescent drug users.



The NIDA Hubert H. Humphrey (HHH) Drug Abuse Research Fellowships are a component of the larger Humphrey Fellowship Program supported by the U.S. Department of State for midcareer professionals from eligible countries. The NIDA Humphrey Fellows study at VCU and participate in a professional affiliation on drug abuse research, policy, or treatment. To help new Humphrey Fellows identify potential mentors for their professional affiliations, the International Program produced the HHH Fellows Professional Affiliation Directory, which documents more than 400 professional affiliations reported by HHH Fellows in substance abuse and HIV/AIDS programs from 1991 through 2009, summarizing the fellows' activities and providing contact information for mentors. In 2009, NIDA expanded its efforts to attract more qualified applicants for the Humphrey Fellowships, volunteering to work via e-mail with potential applicants to help them complete competitive applications and asking U.S. embassies, Fulbright Commissions, international organizations, and current and former Humphrey Fellows to identify and encourage potential applicants.

The 2009–2010 VCU Humphrey Fellows include:

- Dr. Murilo Battisti, Brazil, investigates ecstasy and club drug use in Brazil and will use his fellowship to learn about substance abuse research to develop evidence-based practices and policies to address substance abuse among Brazilian youth.
- Ms. Gabriela (Gabby) Olivera, Uruguay, focuses on violence and other gender issues that influence women's abuse of prescription drugs and alcohol. During her fellowship, she will concentrate on designing evidence-based substance abuse policies and programs.
- Ms. Chinyere Celestina (Chi Chi) Okonkwo, Nigeria, has worked in psychiatric hospitals with patients relapsing to drug abuse and will use her fellowship to improve her knowledge of the behavioral aspects of drug abuse and addiction, psychological management of substance abuse, and ways to conduct research that will inform the development of better services for patients.
- Mr. Mohd Muzafar Shah bin Mohd Razali, Malaysia, currently is working with VCU faculty members to design a culturally valid instrument to identify at-risk youth in Malaysia. He will use his fellowship to further refine the tool.
- Mr. Valeriy Ryabukha, Ukraine, has trained with the Medford, Massachusetts, Police Department and the Massachusetts State Police and has created a pilot drug abuse prevention project in his home country. During his fellowship, he would like to identify effective prevention models that could be implemented in Ukraine and learn how to improve and obtain funding for his pilot program.



- Mrs. Rawnak Aqraw, Iraq, has worked on initial assessments of drug use and psychiatrists' perceptions of substance use disorders among Iraqi patients. She will spend her fellowship learning how to design and implement evidence-based treatment programs.
- Dr. Thanda Khin, Myanmar, focuses on drug-related HIV/AIDS in her country and will use her fellowship to learn more about epidemiology and developing and evaluating treatment and prevention programs.

In addition to the seven Humphrey Fellows at VCU, NIDA worked with seven Humphrey Fellows at Johns Hopkins University, including Ms. Andrea Domanico, Brazil, and Dr. Sergey Koren, Russia. Ms. Domanico is an ethnographer working with crack cocaine users, human rights issues related to drug addiction and incarceration, and stigma for women drug users. Dr. Koren is a psychiatrist working on drug treatment and HIV prevention for high-risk populations.

The Distinguished International Scientist Collaboration Awards (DISCA) and Distinguished International Scientist Collaboration Awards for U.S. Citizens (USDISCA) support short-term research exchanges by senior scientists. Carlos A. Zubaran, Jr., M.D., Ph.D., University of Western Sydney, Australia, visited his research partner, Linda B. Cottler, Ph.D., M.P.H., at Washington University in St. Louis, Missouri, to compare illicit substance users from the United States and Australia to help identify substance use variables that are significantly influenced by geographical variations, thus promoting further understanding of the environmental factors that may promote or maintain substance use. Dwayne Simpson, Ph.D., Texas Christian University (TCU), worked with Ed Day, B.M., B.Ch., at the University of Birmingham. The pair adapted concepts and tools from the TCU Treatment Process Model for treatment systems in the United Kingdom, where the National Treatment Agency for Substance

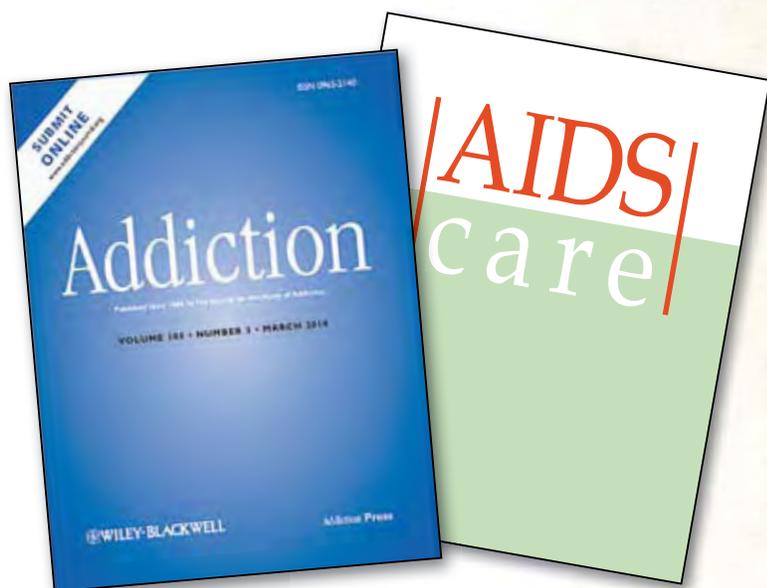
Misuse endorsed the programs, saying that they could be implemented effectively by following easy-to-use manuals and that this change could contribute to significant and lasting organizational improvements.

NIDA, WHO, and CPDD cosponsor the WHO/NIDA/CPDD International Traveling Fellowships to provide travel support for international researchers who conduct research visits to NIDA grantees and participate in two scientific meetings: the NIDA International Forum and the CPDD Annual Scientific Meeting. The 2009 fellows were from South Africa and China. Liezille Jean Pretorius, Ph.D., Medical Research Council of South Africa, worked with Dr. Hendrée Jones, Johns Hopkins University, on projects to reduce stigma related to problem drinking among South African women. Wang Zhou, M.D., Ph.D., Wuhan Center for Disease Control and Prevention, worked with Dr. Richard Schottenfeld, Yale University, on behavioral interventions to improve the effectiveness of methadone maintenance treatment among Chinese injection drug users and with Dr. Wenzhe Ho, Children's Hospital of Pennsylvania, to design randomized clinical trials.

## Fellows Contribute to Scientific Community

During and after their NIDA research training, International Program fellows contribute to the scientific community through their positions as policymakers or through research advances. During 2009, two former NIDA Humphrey Drug Abuse Research Fellows accepted significant policymaking positions, crediting their NIDA Humphrey Fellowships for enhancing their competitiveness for the positions. Mr. Nguyen Cuu Duc, Vietnam, was named director





of the Drug Advisory Program of the Colombo Plan Secretariat. Founded in 1951, the 26-country Colombo Plan is one of the oldest regional intergovernmental organizations in the world; it launched the Drug Advisory Program in 1973 to strengthen regional capability to participate effectively in international drug control efforts and to prevent drug abuse and illicit drug trafficking. Dr. Munir Ahmed was appointed UNAIDS Partnerships and Social Mobilization Adviser for his home country of Bangladesh.

Octavio Campollo, Ph.D., University of Guadalajara, Mexico, finished his DISCA experience with two published manuscripts and a collaborative effort to help other addiction professionals in his home country. After studying NIDA's Addiction Technology Transfer Centers in the continental United States and the Caribbean Basin during his research exchange with Fernando Wagner, Sc.D., Morgan State University, Dr. Campollo decided to start an independent technology transfer center with other

faculty members to disseminate information and to train and support addiction professionals in Mexico.

A 2007–2008 NIDA INVEST Fellow, Dr. Adhi Nurhidayat, Indonesia, chaired one session at the Pre-Pacific Rim College of Psychiatrists Meeting and presented on Indonesia's mental health policy during that meeting and the International Society of Addiction Medicine Annual Scientific Meeting.

David Huepe, Ph.D., a 2007 recipient of a NIDA/CICAD Competitive Research Award, was appointed head of research at the National Council on Narcotics (CONACE, or Consejo Nacional contra Estupefacientes) in Chile.

Among the articles by former fellows published during 2009:

- *Addiction* (2009 Apr;104[4]:603–611). Former INVEST Fellow Dr. Guilherme Borges, Mexico, and colleagues report a link between migration to the United States and transformation of substance abuse norms and pathology in Mexico.

- *Journal of Pharmacology and Experimental Therapeutics* (2009[329]:1–9, 2009). Former INVEST Fellow and DISCA scientist Dr. Raka Jain, India, demonstrates the effects of modafinil on dopamine transporter systems, suggesting that modafinil may be a potential pharmacotherapy for methamphetamine addiction.
- *AIDS Care* (2009 May;21[5]:591–597). Former NIDA Humphrey Fellow Dr. David Otiashvili, Georgia, and colleagues report on secrecy and HIV risk behaviors of men who have sex with men (MSM), concluding that efforts to educate and to provide unobtrusive and anonymous testing and counseling services to MSM may be critical to the deterrence of an HIV epidemic in the Republic of Georgia.
- *Journal of Analytic Toxicology* (2009 Jun;33[5]:243–252). INVEST Fellow Dr. Marta Concheiro, Spain, and colleagues report the first data on placenta concentrations of methadone and metabolites after controlled drug administration.
- *Journal of Clinical Virology* (2009 Mar;44[3]:200–206). Former INVEST Fellow Dr. Paolo Telles and colleagues report that young people who had been injecting drugs for a short time directly or indirectly shared injection works frequently, putting them at risk of contracting hepatitis C.
- *Journal of Medicinal Chemistry* (2009 Apr 9;52[7]:1885–1902). Former INVEST Fellow Dr. Sung-Jin Cho, South Korea, and colleagues report the design, synthesis, and pharmacological properties of selective 5-hydroxytryptamine 2C receptor agonists derived from the lead compound tranlycypromine.

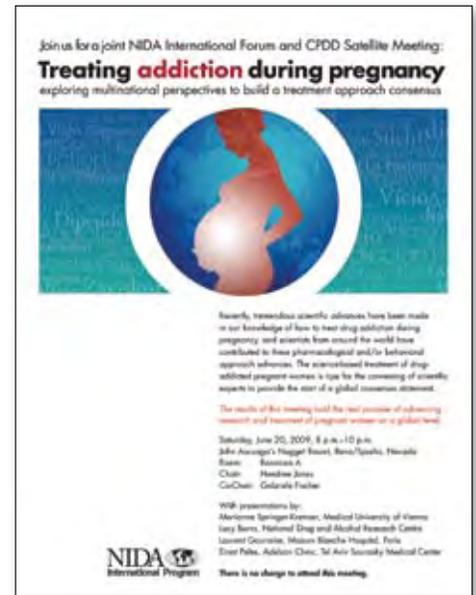
## Orientations and Tools Improve Fellowships

Throughout the year, the International Program works with fellows to introduce NIDA opportunities available during the fellowships and ensure that the fellows meet NIDA staff and grantees who would be interested in collaborating with them when they return home. Initial meetings with NIDA Humphrey Drug Abuse Research Fellows focus on their plans for research affiliations. At a January 2009 orientation for 16 Humphrey, INVEST, and INVEST-CTN Fellows from 13 nations, the group met individually or in small groups with NIDA project officers, Intramural Research Program staff, and Fogarty International Center officials. In addition, they learned about International Program-supported online tools for collaboration and training and toured the National Library of Medicine.

Between 1990 and 2009, NIDA funded 309 fellows through the International Program training and exchange opportunities. The fellows represent 91 countries. The fellows' mentors represent 44 institutions from 21 states within the United States. In 2009, the International Program introduced a new tool on its Web site, making it easier to find talented, NIDA-

trained research partners from other countries with the interactive Fellowship Map (online at [international.drugabuse.gov/research/fellowships\\_worldwide\\_map.html](http://international.drugabuse.gov/research/fellowships_worldwide_map.html)). The map fosters collaboration among international researchers by allowing users to identify NIDA fellowship alumni from a particular country or fellowship program with just a click of a mouse. The map also links from individual fellows to their journal articles indexed in the NIH National Library of Medicine's PubMed database. Former fellows from the NIDA INVEST, INVEST-CTN, Hubert H. Humphrey, and DISCA/USDISCA programs are included on the map.

Another innovation was a CD-ROM containing recruiting and application materials that former fellows could use to help identify qualified candidates for the International Program research training and exchange programs. Users found a PowerPoint presentation, posters, advertisements, and brochures explaining the NIDA International Program and its fellowships as well as applications, instructions, and policy and procedure documents for the INVEST, INVEST-CTN, and DISCA/USDISCA fellowships. A bonus video demonstrated four online tools designed to improve collaboration and training.



## Treating Addiction During Pregnancy

The NIDA International Program and CPDD cosponsored a second satellite to the CPDD Annual Scientific Meeting: Treating Addiction During Pregnancy: Exploring Multinational Perspectives To Build a Treatment Approach Consensus. Invitees to the satellite completed a premeeting survey that attracted enthusiastic responses from researchers in 22 different countries on six continents. More than 90 percent of respondents agreed with 11 of 13 proposed principles of drug treatment for pregnant women. Dr. Hendrée Jones of Johns Hopkins University chaired the meeting; Dr. Gabriele Fischer of the Medical University of Vienna was co-chair. Dr. Marianne Springer-Kremser, Medical University of Vienna, reviewed ethical considerations involved in conducting addiction research with pregnant participants. Three other speakers reviewed research findings on studies of pregnant women in their countries: from Australia, Dr. Lucy Burns, National Drug and Research Centre; from France, Dr. Laurent

**“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.”**

Gourarier, Maison Blanche Hospital; and from Israel, Dr. Einat Peles, Tel Aviv Sourasky Medical Center.

## Scientific Meetings and Travel Support

Working to build partnerships with other organizations, the NIDA International Program provides programmatic or financial support to major scientific meetings. During fiscal year 2009, the International Program provided partial support for the:

- SPR International Poster Session, where NIDA provided travel awards for 12 international researchers who presented the results of drug abuse prevention research that was completed in international settings. Responding to the SPR decision to focus on international research during its 2011 Annual Meeting, 30 scientists from 10 countries met

to suggest ways that SPR can help create more effective international research networks.

- Society for Neuroscience Early Career Investigators Poster Session as part of NIDA's miniconvention on Frontiers in Addiction Research, showcasing drug abuse and drug-related neuroscience research by 18 junior investigators from 13 nations.
- AATOD National Conference, helping 12 scientists from seven nations learn about the evidence base for comprehensive methadone treatment services.
- La Red Latinoamericana de Investigadores en Drogas (REDLA) meeting of Latin American epidemiology researchers to exchange data on drug use in the region. REDLA is coordinated by CICAD and supported by the International Program.



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 2009, NIDA provided travel support for 47 international researchers from 28 nations, who attended six meetings in the United States and one in Canada, as well as 9 U.S. researchers who spoke at four meetings in the United States, India, Switzerland, and United Kingdom. Those meetings included the Asian-American Pacific Islander Conference; United Kingdom Medical Research Council Drugs Strategy Conference; International Symposium on Biotechnological Approaches to Neuroimmunomodulation and Infectious Diseases; American Society of Addiction Medicine International Symposium; Substance Abuse Librarians and Information Specialists Annual Conference; Behavioral and Mental Health Research in the Arctic Strategy Setting Meeting; and International Association of Forensic Toxicologists Annual Meeting.



# NIDA International Forum 2009

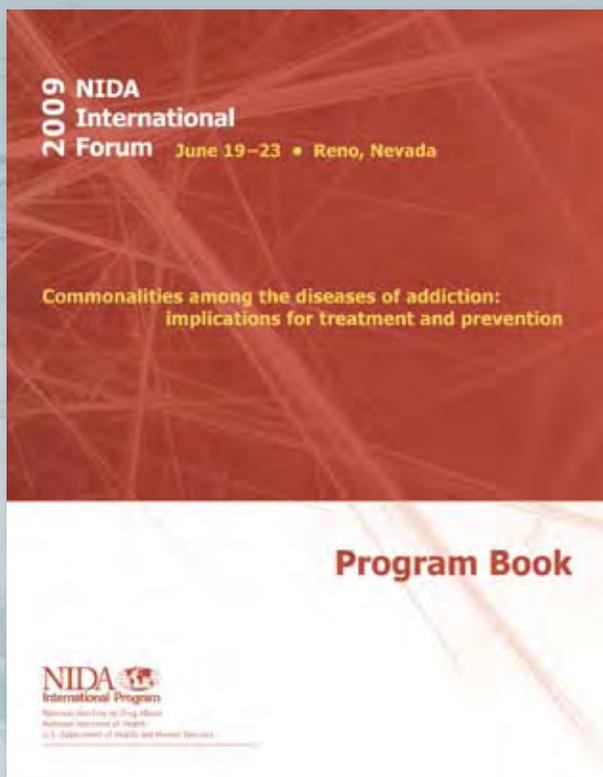
**Drugs. Sex. Gambling. Obesity.** Plenary session speakers at the 14th NIDA International Forum documented the commonalities among these “Disorders of Desire,” citing clear overlap in implicated brain regions and similar patterns of compulsive self-administration, tolerance, craving, comorbidity, disruption of inhibitory control, and impaired decision-making. NIDA Deputy Director Dr. Timothy Condon reviewed the Institute’s priority research areas and reported on the Institute’s signature projects to eradicate tobacco addiction and elucidate the genetics of brain development, and initiatives to prevent and treat substance abuse among military personnel and veterans. More than 250 participants from 48 countries participated in the plenary session, workshops, and networking activities, which were held

June 19–23, 2009, in Reno, Nevada, as a satellite to the Annual Scientific Meeting of CPDD. **A joint CPDD/NIDA International Forum poster session featured presentations by 150 U.S. and international researchers.** Representatives from 10 NIDA components and the Fogarty International Center presented posters summarizing the units’ goals, research interests, international focus, and international funding priorities.

Dr. Joseph Frascella, NIDA Division of Clinical Neuroscience and Behavioral Research, chaired the plenary session on the disorders of desire, which featured presentations by him, Dr. Wim van den Brink, University of Amsterdam, and Dr. Anna Rose Childress, University of Pennsylvania. Concurrent workshops focused on ethical issues in the conduct of research, chaired

by Dr. Linda B. Cottler, Washington University; multinational assessment and prevention of inhalant abuse, chaired by Ms. Debra Dell, Canadian Youth Solvent Addiction Committee; new formulations and indications for the pharmacotherapy naltrexone, co-chaired by Dr. Ivan Montoya, NIDA, and Dr. David R. Gastfriend, Alkermes, Inc.; and the interaction of violence and substance use affecting women’s treatment and interventions in the global arena, chaired by Dr. Wendee M. Wechsberg, RTI International.

ISAJE presented two concurrent breakout sessions focused on practical and ethical issues in publishing addiction science. The session on practical issues, chaired by Dr. Robert L. Balster, editor of *Drug and Alcohol Dependence*, was designed to help published and unpublished researchers choose an



*Collaboration and Training tools video*

appropriate journal, avoid common pitfalls between submission and acceptance, and understand what editors want most from prospective authors. Dr. Thomas F. McGovern, editor-in-chief of *Alcoholism Treatment Quarterly*, chaired the session on ethical issues, which addressed issues such as good citation practices, how to deal with authorship credits, and conflict of interest related to funding sources. Participants received a copy of the newly revised book, *Publishing Addiction Science* (second edition, Babor et al., 2008).

**The alumni meeting of the NIDA International Fellowship Programs** was co-chaired by Ms. Dale Weiss, NIDA, and Dr. J. Randy Koch, VCU. Dr. David Otiashvili, Union Alternative Georgia, and Dr. George Woody, University of Pennsylvania, discussed how NIDA international fellowships

and funding initiatives helped them build a productive international research team. Dr. James E. Herrington, Fogarty International Center, reviewed NIH funding opportunities to support global health research.

**The 2009 Awards of Excellence were presented** to James C. Anthony, Ph.D., M.Sc., Michigan State University, Excellence in Mentoring;

Ian Stolerman, Ph.D., King's College London, United Kingdom, Excellence in International Leadership; and Steffanie A. Strathdee, Ph.D., University of California San Diego, United States; María Remedios Lozada Romero, M.D., Baja California State, Mexico; and Carlos Magis-Rodríguez, M.D., M.P.H., CENSIDA, Mexico, Excellence in Collaborative Research.



# BUILDING AND SHARING KNOWLEDGE

Recognizing the potential of the Internet to deliver relatively low-cost communications, collaboration, and training initiatives, the NIDA International Program has been a leader in developing Web-based resources to build research capacity and disseminate science-based prevention and treatment protocols.

During fiscal year 2009, those efforts matured through several new NIDA initiatives and the successful launch of research interest groups using online collaboration tools to contribute to scientific knowledge about drug abuse and addiction.

The NIDA International Program Web site ([international.drugabuse.gov](http://international.drugabuse.gov)) continues to be the comprehensive source of information about research advances, fellowships, scientific meetings, and funding activities of interest to the international drug abuse research community. An August 2009 analysis of Web site use found that an average of 15,000 users visit the site monthly. The most frequently visited sections of the Web site include pages related to the NIDA



International Forum, INVEST and INVEST-CTN Fellowships, and the *Methadone Research Web Guide*. The number of visits to the expanded Collaboration and Training Tools section of the site grew most rapidly. Visitors represent 100 countries, with the most frequent visitors coming from Canada, United Kingdom, United States, Brazil, Germany, and India.

The bimonthly NIDA International E-News, which is archived on the International Program Web site, informs subscribers of recent developments. Statistics from the listserv distributor Constant Contact demonstrate the E-News success as a targeted and effective communication tool. When compared to 2009 statistics for listservs from government agencies, NIDA International E-News

subscribers were more likely to open the e-mail message (32 percent versus 23 percent) and more than three times as likely to open an E-News topic (46 percent versus 15 percent). Major topics for the 2009 E-News included announcements about a \$2 million RFA for regional international research collaborations on HIV/AIDS and drug abuse, the new International AIDS Society/NIDA Fellowships in HIV and Drug Use, the binational agreements signed by NIDA with Spain and with Taipei Medical University, trends in Latin American drug use as identified by REDLA, a new international networking effort launched by SPR, and the National Hispanic Science Network on Drug Abuse presentation of its National Award of Excellence in Public Service to NIDA International



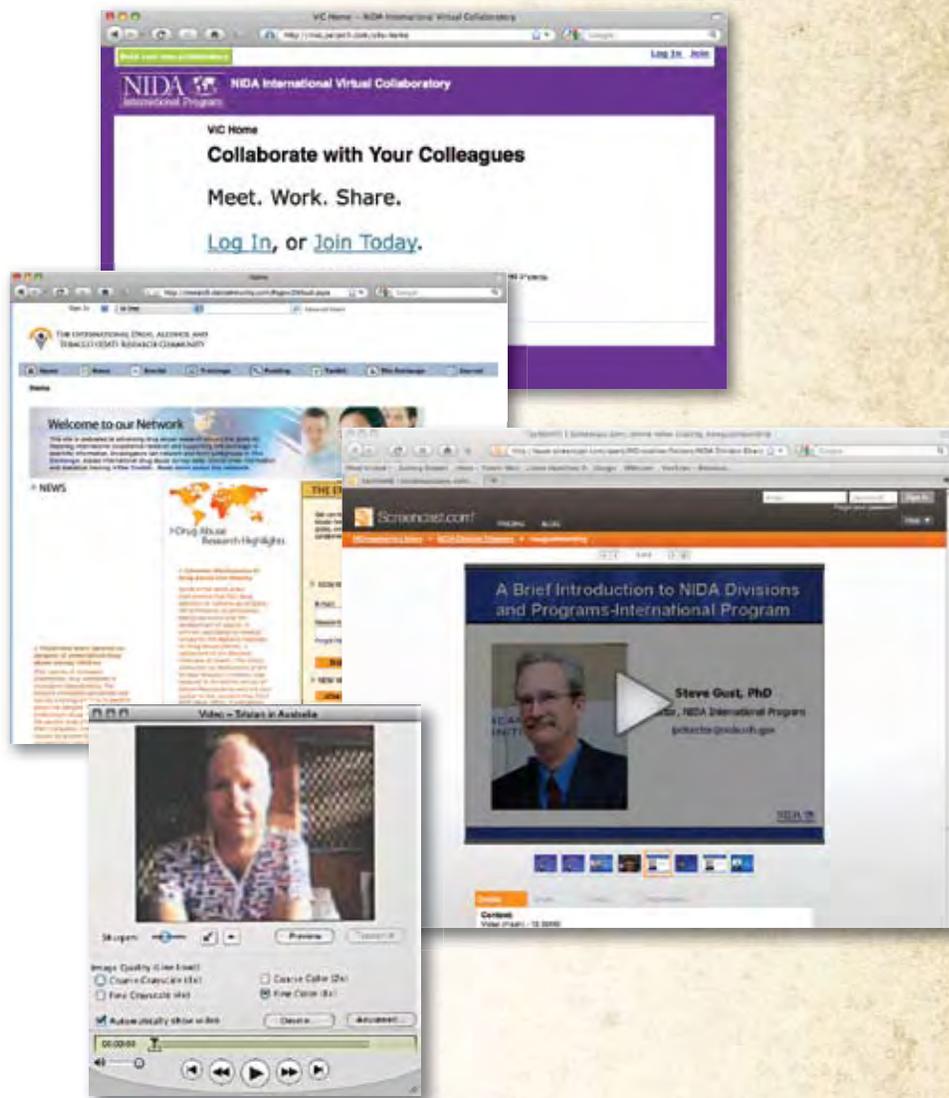
Program Director Dr. Steven W. Gust.

To highlight the quality and breadth of research conducted around the world, the International Program launched a searchable, online database of research abstracts accepted for poster presentation at NIDA International Forums from 2003 through 2009. Users may look for abstracts by author, title/subject, year, research category, country, or geographic region. **international.drugabuse.gov/Forum\_Abstracts/**

To help researchers learn more about NIDA, the International Program produced recorded talks to introduce the mission, goals, and international research priorities of each NIDA Division. The online NIDA Division Directors Virtual Seminar Series is a valuable tool for learning more about NIDA, identifying potential research topics of interest to NIDA, or preparing for meetings with NIDA staff. **international.drugabuse.gov/collaboration/training\_divdirect.html**

A 5-minute video available on the International Program Web site (**international.drugabuse.gov/collaboration/index.html**) highlights four online resources developed for the international drug abuse research community:

- NIDA International Virtual Collaboratory (NIVC; **nivc.perpich.com**), which supports live or recorded audio/video virtual meetings, discussion forums linked to an e-mail listserv, user-built



document libraries, secure document writing and editing tools, and a searchable Collaboration Matching Service.

- International Drug, Alcohol and Tobacco Research Community, which collects and disseminates research news, provides online

databases, and publishes an online, peer-reviewed journal (**idatresearch.com**).

- **DrugAbuseResearchTraining.org**, which provides free, online courses in biostatistics, evaluating drug and substance abuse programs, and designing and managing clinical



Each course includes self-assessment questions, practical examples, and links to resources. Continuing medical education credit and printable copies of the course materials are available for a modest fee. The site also features a low-cost textbook, *Introduction to Clinical Drug and Substance*

*Abuse Research Methods*, to help international students and teachers improve research skills. The textbook provides a comprehensive introduction to proposal design, clinical trials, biostatistics, and other areas essential to clinical drug abuse research.

- *Methadone Research Web Guide and Tutorial*, which presents U.S. research outcomes about methadone maintenance treatment, reviews best practices in treatment program design and implementation, and disseminates evidence-based treatment protocols. It is designed to answer the most frequently posed questions by the international community regarding the path of research inquiry used by the United States, which could be used by other

countries to support approval of methadone as a treatment therapy ([international.drugabuse.gov/methadone](http://international.drugabuse.gov/methadone)).

The International Programme 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



**“The program, which was developed with NIDA support, prepares students to translate research on addiction into more effective treatment protocols, prevention interventions, and public health policies.”**



(United States), added a part-time study option in 2009. The program, which was developed with NIDA support, prepares students to translate research on addiction into more effective treatment protocols, prevention interventions, and public health policies.

The online site developed by ISAJE, Publishing Addiction Research Internationally ([PARINT.org](http://PARINT.org)), provides tutorials, resources, guidance, and support for authors and expert reviewers of research into drug dependence and its relationship to other addictions, such as gambling. The site, which is partially supported by the International Program, includes a database of 65 peer-reviewed addiction journals in 18 languages.

**Addiction**  
FOR DEBATE

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## Classification of abused inhalants

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**ABSTRACT**

Many hundreds of household and industrial products can be volatilized readily and are subject to abuse. Inhalant abuse research has been hampered by a lack of consensus on whether or not there are subclassifications of abused inhalants based on chemical structure, form or intended use of the product or pharmacological properties. This paper discusses strengths and weaknesses of various approaches to classification of inhalants and suggests areas for future research in this area. It is concluded that classification of inhalants by form or product types is not useful for scientific purposes; rather, subclassification of inhalants should be based on a yet-to-be-determined combination of chemical and pharmacological similarity and shared patterns of abuse. One of the ways in which we can improve our understanding of inhalant abuse is to obtain more detailed information on individual products and the geographical distribution of their use.

**Keywords** Epidemiology, inhalants, nitrous oxide, nitrites, nosology, solvents

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**YSAC**  
Youth Solvent Addiction Committee

Information Sharing Session on Indigenous Youth Residential Solvent Abuse Treatment in Canada

Presenter - Debra Dill, BA, MA Candidate  
November 10<sup>th</sup> - December 10<sup>th</sup> 2008

**VSM Prevention Initiatives in Central Australia**

Tristan Ray  
Coordinator, CAYLUS

**Treatment & healing centres in Canada**

## Research Interest Working Groups

Use of NIVC grew exponentially in 2009, as the online collaboration tool was updated to permit users to join multiple research interest working groups within NIVC, including public groups focusing on inhalants, international research ethics, and international women's and children's health and gender issues. Invitation-only groups focus on child neurodevelopment research, prevention interventions, volatile substance abuse among indigenous populations, current and former NIDA Humphrey Fellows, and current and former INVEST, INVEST-CTN, and DISCA/USDISCA Fellows. NIVC members also may join two other Virtual Collaboratories to cooperate on interdisciplinary projects with researchers who belong

to the National Institute of Mental Health (NIMH) Virtual Collaboratory for Suicide Studies and the NIDA/NIMH/NIAAA Virtual Collaboratory for Integrative Behavioral Health Services Research Network.

The International Program supports training for NIVC members to use tools such as discussion forums, wikis, member-built resource centers, and group rosters to facilitate collaborative research and working groups. Privacy settings allow members to post materials in the resource center for just one group, other groups in the three Virtual Collaboratories, or with anyone who has access to the Internet.

These vibrant research interest working groups are using NIVC in a variety of ways. An ad-hoc, multidisciplinary group

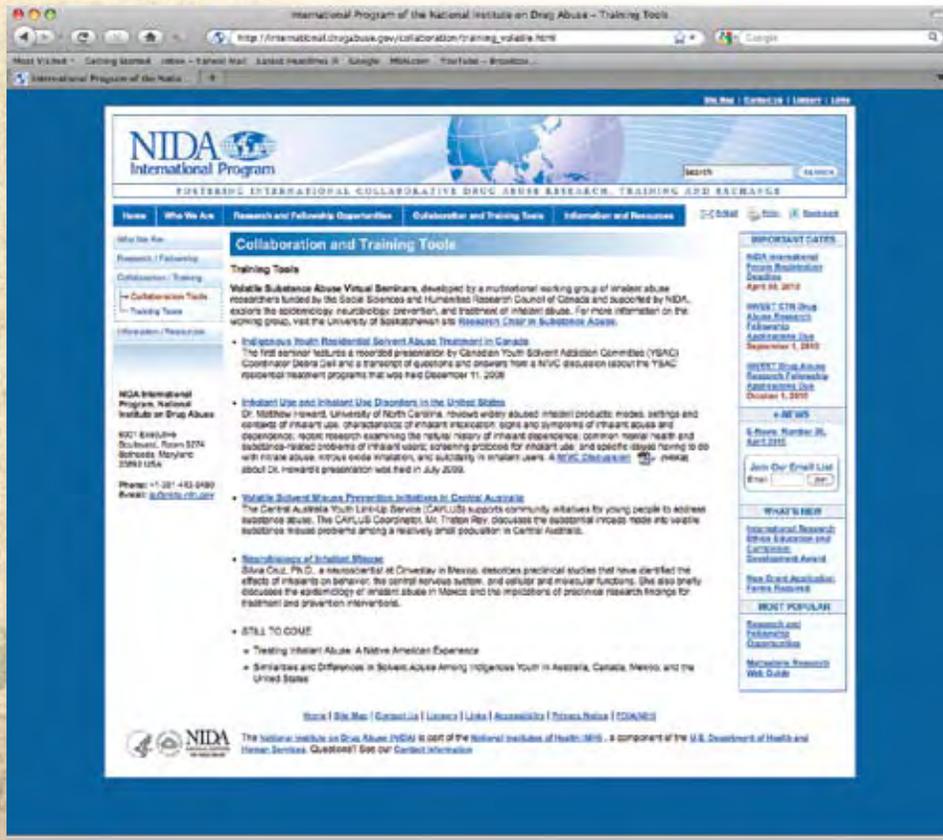


of NIDA-supported researchers joined forces to publish an article in *Addiction* discussing the strengths and weaknesses of various approaches to classification of inhalants and suggesting areas for future research in the area (Balster RL, Cruz SL, Howard MO, Dell CA, Cottler LB. Classification of abused inhalants. *Addiction*. 2009 Jun;104[6]:878–882. Epub 2009 Feb 10). The authors conclude that classification of inhalants by form or product type is not useful for scientific purposes. They recommend that subclassification of inhalants should be based on a yet-to-be-determined combination of chemical and pharmacological similarity and shared patterns of abuse, and call

for efforts to obtain more detailed information on individual products and chemicals, their patterns of use, and the geographical distribution of their use. The authors worked through NIVC to engage the international drug abuse research community as they drafted the paper, planned workshops at the 2007, 2008, and 2009 NIDA International Forums, and worked with other organizations to gather international data on inhalant abuse.

Another multinational, multidisciplinary group of inhalant abuse researchers developed a series of Volatile Substance Abuse Virtual Seminars in NIVC to explore the epidemiology, neurobiology,

prevention, and treatment of inhalant abuse. During 2009, three seminars were completed, focusing on indigenous youth residential solvent abuse treatment in Canada, inhalant use and inhalant use disorders in the United States, and volatile solvent misuse prevention initiatives in Central Australia. The seminars are available on NIVC and the NIDA International Program Web site, [international.drugabuse.gov/collaboration/training\\_volatile.html](http://international.drugabuse.gov/collaboration/training_volatile.html), along with discussion forums related to each seminar. The research group is funded by the Social Sciences and Humanities Research Council of Canada and supported by NIDA.



**“The seminars are available on NIVC and the NIDA International Program Web site, [international.drugabuse.gov/collaboration/training\\_volatile.html](http://international.drugabuse.gov/collaboration/training_volatile.html), along with discussion forums related to each seminar.”**

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