

## REINVIGORATING UKRAINIAN SCIENCE AND TECHNOLOGY: Interim Report on the CRDF International Select Conference on Ukrainian Science

### SUMMARY

The **U.S. Civilian Research and Development Foundation (CRDF)** recently held a conference in Kiev, Ukraine to identify key elements of a roadmap for domestic and international action for the near-term development of Ukrainian science and technology (S&T). The two-day conference demonstrated tremendous interest in taking serious steps to reinvigorate Ukrainian S&T and resulted in a number of draft recommendations for future action. CRDF and its partners in Ukraine will issue a final report of these recommendations in December 2005, and will seek to identify partners and funding to begin to carry out these recommendations.

Ukrainian policymakers have welcomed the U.S. involvement in this conference and in the S&T reform process. Therefore, the implementation of future initiatives has the potential to significantly benefit U.S.-Ukrainian relations, as well as to further U.S. economic, national security, and S&T goals.

### CONFERENCE OVERVIEW

The **CRDF International Select Conference on Ukrainian Science** took place on October 31 – November 1, 2005, and was attended by approximately 100 Ukrainian, U.S., and international scientists, policymakers, nonprofit organizations, and company representatives. Fourteen invited conference papers focused on key issues of Ukrainian science; conference participants had ample time to discuss recommendations for priority areas of S&T development and reform, and highlight areas where international assistance would be particularly helpful. The issues discussed included conditions needed to foster S&T excellence, education and research, innovation, and nonproliferation.

The conference included the co-chairs and several members of Ukrainian President Yushchenko's recently-appointed 20-member **Presidential Working Group** ("Working Group on Elaboration of a Concept for the Development of the Scientific Sphere"), which is charged with making recommendations to the

President by January 2006. The Presidential Working Group held its first meeting on the second day of the CRDF conference, and reported to the CRDF conference participants its plan to receive input, hold meetings, and develop recommendations during the next several weeks. Therefore, the recommendations from the CRDF conference should prove a timely and useful guide to Ukrainian internal funding decisions, and interest and influence international donors who wish to assist Ukraine's economic development. CRDF also plans to utilize the results of the conference to help secure government and private funding for new and enhanced programs in Ukraine according to Ukrainian priorities.

### **SUMMARY OF CONFERENCE RECOMMENDATIONS**

The conference participants identified the following issues and recommendations for future action:

1. **Merit-based funding should be the primary support for science and innovation in Ukraine.**
  - Peer review mechanisms should include foreign experts for validation.
  - Young researchers should be specifically supported through merit-based competitions.
2. **Research and education must be more closely integrated.**
  - The National Academy of Sciences of Ukraine (NASU), the universities, and industry should work together to train science students. Barriers to such cooperation must be dropped.
  - Centers of Excellence in critical fields should be developed as joint projects of NASU, the universities, and industry to train graduate students and do research.
  - Competitive training program awards to teams of university and academy researchers for should be established for the joint training of graduate students in critical research areas.
3. **Legislation and regulation must become friendlier to science and innovation.**
  - Regulation of business must be reduced, and corruption eliminated.
  - Certification should be required only where justified.
  - IPR legislation should clarify ownership of state-founded research results.
  - A new law on NASU should clarify its role conducting world-class basic research, applied research of national importance, and advising the government on science and technology.
4. **The state should provide systematic support for innovation and technology commercialization.**
  - Develop a state-run SBIR-like program for applied research.
  - Support development of technoparks, business incubators, and technology transfer offices.
5. **The international nature of science, technology, and education must be used to strengthen Ukrainian science.**
  - The international science community must provide leadership. This could be done through an ongoing working group of international funders with activities in Ukraine, to enable information-sharing, discussion of possible joint activities, and identification of individual and mutual priorities.
  - A U.S.-Ukraine coalition of interested parties (government, industry, academia, think-tanks, etc) should oversee bilateral БСТ relations.
  - Ukraine should make its capabilities known to the international scientific community.
  - International scientific societies and journals should become more prominent in Ukraine.

- Programs supporting former weapons scientist programs should be integrated into the national S&T strategy and into new initiatives on peer-review and education.

### **ORGANIZING COMMITTEE AND SPEAKERS**

The Conference Organizing Committee included the following individuals:

*Paula Dobriansky*, Under Secretary for Global Affairs, U.S. Department of State

*Rose Gottemoeller*, Senior Associate, Carnegie Endowment for International Peace

*Andriy Gurzhiy*, First Deputy Minister, Ministry for Education and Science of Ukraine

*The Honorable Rush Holt*, U.S. House of Representatives, 12th District of New Jersey, Co-Chair, Congressional P& D Caucus

*The Honorable Marcy Kaptur*, U.S. House of Representatives, 9th District of Ohio, Co-Chair, Ukraine Caucus

*Academician Anatoly Shpak*, Vice President, National Academy of Sciences of Ukraine

*Igor Yuknovskiy*, Acting Chair, Committee on Science and Education, Verkhovna Rada of Ukraine

**Speakers and moderators** at the conference included Dr. George Atkinson, Science Adviser to the U.S. Secretary of State; Oleh Rybachuk, Chief of Staff to President of Ukraine; Academician Borys Paton, President, National Academy of Sciences of Ukraine; Cathleen A. Campbell, CRDF Senior Vice President; and representatives of the U.S. National Science Foundation, the U.S. National Academy of Sciences, the U.S. Embassy in Kiev; and the John D. and Catherine T. MacArthur Foundation.