A Message From Our CEO

Many people do not typically think about the important role of science in their daily lives. They do not focus on agriculture when eating their favorite meal. Most do not consider pathogens when they get sick. And rarely do people credit science in ensuring their family’s safety, or recognize innovation in stabilizing global economies. At CRDF Global, we do.

We think about these things and more with every program we implement, every scientist we train, and every innovator we mentor. Similar to previous years, major events in 2014 involving public health, political conflict, and economic instability underscored the importance of keeping the power of science and innovation at the forefront of everything we do.

Throughout 2014, we continued our work with scientists and other experts to protect global communities through training in biological, nuclear and chemical safety and security. Over the years, global threat reduction programs have been among our most consistently growing initiatives and in 2014, we built institutional capabilities and implemented workshops, trainings, and fellowships for scientists and policy experts across Eurasia, the Middle East, Africa, and South and Southeast Asia.

Last year we also proudly led several initiatives to increase opportunities for women scientists. We launched a fellowship for female science, technology, engineering and math Ph.D. students in Georgia, brought an Indonesian chemical security practitioner to the U.S. for a yearlong fellowship, and for the first time, we hosted a fellow at our Arlington, V.A. headquarters to research trends in women’s involvement in international science collaborations. Through empowering these women to accomplish their goals, we learned that there is still much more work to be done in amplifying women’s voices in international science.

We invite you to read about these stories and more in this year’s annual report. As we reflect on 2014, we know that none of this would be possible without your tremendous support. Thank you for being a champion for the power of science and its ability to take people from poverty to prosperity, turn sickness to health, and transform potential into achievement.

Thank you,

Cathy Campbell
Inspired By People

Everyday, CRDF Global is inspired by the thousands of people that we work with around the world. We believe that connecting scientists and innovators with the international scientific community empowers them to address challenges that affect individuals locally, regionally and around the world.

Read about some of our most impactful stories in 2014.

Encyclopedia of Life
Biodiversity Data Sharing

Paths to Commercialization

Iraq Science Fellowship
The Encyclopedia of Life: Demystifying Biodiversity Data Through Open Access
Since 2010, CRDF Global has partnered with the Smithsonian Institution to support their involvement with the Encyclopedia of Life (EOL) and help manage the program’s Rubenstein Fellows. Named in honor of philanthropist David M. Rubenstein, the program has helped fund scientists and support their efforts collecting, organizing, and sharing biodiversity data from locations around the globe. In this way, EOL and its Rubenstein Fellows are playing an integral role in transforming the way that science is communicated and interprets complex biological data. Although 2014 marked the last full year of funding for the fellowship program, the fellows have made lasting contributions to the fields of biodiversity and scientific open access.

CRDF Global has helped EOL and its Rubenstein Fellows foster international science collaborations by directly engaging and connecting biodiversity scientists across six continents. Throughout the course of this project, Adam Easter, CRDF Global’s Senior Grants and Contracts Manager, organized travel and logistics for EOL participants, managed currency exchanges, and planned events and workshops for the Rubenstein Fellows. Watch as Jennifer Hammock, the Marine Theme Coordinator for the EOL at the Smithsonian’s Natural History Museum, and Adam Easter, discuss how EOL is helping to transform biodiversity data around the world.
2014 marked the second year of CRDF Global’s Commercialization Pathfinder Program, which has helped hundreds of scientists and innovators turn their entrepreneurial dreams into a reality.
Maxim Ovidenko is calm and level-headed. As he pitches his startup, he speaks politely, yet confidently, discussing the ins and outs of his venture. Like most engineers, Maxim is comfortable with the technical aspects of his innovation, as he should be. A recent graduate and Ph.D. student at the Moscow Institute of Physics and Technology, he is an expert in the fields of aerodynamics and hydrodynamics, but what’s more surprising is his business acumen. He easily fields questions of business strategy, markets, sales, value propositions and “client niches” from the panel of judges that sits before him—each respected figures in technological innovation and entrepreneurship—and even they are impressed. Finishing his pitch, he thanks the judges and exits the stage to applause.

Maxim was one of the hundreds of participants to take part in CRDF Global’s 2014 Commercialization Pathfinder Program. The Commercialization Pathfinder Program gives innovators from the world’s emerging markets an opportunity to test their entrepreneurial mettle and gain practical mentorship and international exposure. In its second year, the program has helped over 700 scientists, engineers, university students and faculty turn their inspirations into “valuation”. Since 2013, graduates of the program and their mentees have raised nearly $3 million in grants and investments.

What makes the Pathfinder program unique in the world of entrepreneurial competitions is its ability to go beyond the pitch. “It isn’t just about judging a pitch,” says Irina Mitchell, Program Manager at CRDF Global. “It’s about helping them develop all the skills necessary for their future success.” Aspiring entrepreneurs and innovators like Maxim that participate in the Pathfinder program aren’t just told to pitch their ideas and hope for an investment. Instead, the Pathfinder program helps them build their entrepreneurial skills through the combination of an intensive eLearning platform developed by CRDF Global with a curriculum developed by professors at MIT’s Sloan School of Management and on-site training, and face-to-face mentorship. The Pathfinder provides participants with a holistic experience where they can develop every aspect of their venture from the ground up.

Conducted in three phases, the program begins with an 8-10 week eLearning course where participants are taught basic business, management, and entrepreneurial skills by MIT professors. In this stage of the program participants like Maxim learn how to start and manage their ventures. After completing the eLearning phase of the program, participants were evaluated based on the quality of their coursework and individual assessments made by mentors working with the Pathfinder program. Those selected by the judges to progress continue to the second phase: boot camp.
The boot camp provides participants with an opportunity to put their newly acquired skills and knowledge to the test. They participate in intensive workshops on topics such as early-stage funding processes and how to build an effective startup team. Punctuating the boot camp are ideathons, where both the mentors and participants come together not only learn more about supporting their own future venture, but also to help one another.

“I think of global entrepreneurship as a community where people help each other, and the main reason for it is not money,” says Igor Pavlov, a 2013 Pathfinder participant turned mentor. “A year ago, I came to the program with my startup with no revenue… I gained invaluable knowledge from the community. Now, I’m glad to give my experience back to the community.”

After completing the boot camp, the remaining participants compete in a pitch competition where the judges selected five winners—two grand prize winners receiving trips to top U.S. technology innovation hubs and the remaining three receiving 6 months of free, professional mentorship. The winners are carefully selected based on their performance in the eLearning phase and the boot camp and how well they demonstrate their new knowledge in their pitch.

After completing this nearly two-and-half-month long program of training, mentorship, and evaluation, Maxim delivered his pitch impressing the judges so much that he was selected as a grand prize winner.

“Thanks to this program, I have gained a better understanding of what a business is and what a business is not,” said Maxim.

“For me, being an entrepreneur is about trying to change this world, to make it better. That’s my task. That’s my aim.”

Maxim is now poised to propel his startup, Trimsystems, into successful venture and is already busy developing strategies to expand to the U.S. “The Commercialization Pathfinder program was an amazing experience,” he said. In the third and final phase of the Pathfinder program, Maxim will travel to the U.S. with fellow grand prize winner, Kirill Shilov, to experience firsthand its innovative and entrepreneurial ecosystem and to network with other innovators and potential investors. The remaining three competition finalists, Mariya Subbotina, Kirill Pshinnik, and Alexandr Schitnikov, will complete a free, six-month professional mentorship program.
Engaging Isolated Scientists in Iraq

In Iraq, a variety of issues have impeded the scientific development needed to adequately rebuild Iraq’s infrastructure and overcome some of its economic challenges. Limited travel and engagement efforts have hindered Iraq’s scientific researchers, who often find it difficult to interact with peers in the international scientific community.

In an effort to promote Iraq’s involvement in the international scientific community, the United States and Iraq agreed to develop Iraq’s scientists and engineers through exchanges, training programs and fellowships in science, engineering and medicine. As a result, the U.S. Department of State sponsored the Iraq Science Fellowship Program (ISFP). Since 2008 the program has given Iraqi scientists and engineers the opportunity to further their research and knowledge by conducting research in partnership with a variety of host institutes. CRDF Global implements the program on behalf of the U.S. Department of State, inviting 10-20 fellows each year to travel to participating institutes.

ISFP has had a tremendous impact on the fellows and their hosts. During their fellowships, Iraqi scientists have learned new technical methods and expertise that enhance their research. For example, previous fellows have conducted research using state of the art viral techniques to safely and securely study highly pathogenic human hemorrhagic fever viruses; one fellowship resulted in the synthesis and characterization of biopolymer thin films for potential biomedical uses; and another fellow performed genetic sequencing of Rotavirus and developed new diagnostic assays for zoonotic pathogens.

The uniqueness of the ISFP stems from the sustainability of its impacts. Upon returning home, Iraqi researchers are equipped with new techniques and abilities that not only furthers their individual capabilities, but enables them to transfer the knowledge they gained to their peers and students. And they are encouraged to do so by their U.S. counterparts. Many have formed continued partnerships with their host organizations, allowing them to further advance their research upon returning to Iraq.

Fellows have also made key national advancements, associated with their fellowships, to support Iraq’s reconstruction efforts. One fellow, an expert in genetics, returned home to establish a $5 million Iraqi livestock gene bank with the Iraqi General Veterinary Company in collaboration with her host organization, the U.S. Department of Agriculture. Another fellow returned to Iraq to implement a joint Iraqi-U.S. project to design molecular surveillance projects for Pestiviruses and Coronavirus among livestock across Iraq. Fellows have also organized workshops for researchers and post-graduates at al-Nahrain University on molecular primer design, prepared manuals and standard operating principles for use in Iraqi government veterinary diagnostic research laboratories, and applied new safety and security procedures in academic laboratories across Baghdad.

In order to ensure the longevity of the program and its national impact, CRDF Global provides two major supplemental activity opportunities for fellows during their fellowship, this includes covering their registration and transportation to an academic conference in their discipline, or their participation in a workshop, short course, or training. It has at times also included a site visit to a leading laboratory in their field, and other types of professional development. CRDF Global also helps fellows network with researchers and professionals in the U.S. by crafting connections that help them once they return to Iraq. To do this, CRDF Global has supported fellows in obtaining memberships in American and international scientific associations and built relationships with prospective contacts to help strengthen the bond between the Iraqi and American scientific community. This creates an environment where assistance, information, and advice can be shared among peers and support the advancement of international scientific engagement efforts in Iraq.
Spotlight on Global Health

We live in an increasingly connected world and the need for preventing the occurrence and spread of human and zoonotic diseases is a growing priority for international security. In 2014, CRDF Global implemented programs and activities that enhance health security and improve biosafety, biosecurity, and disease surveillance practices globally.

04/2014
Helped 9 scientists from Libya receive training using polymerase chain reaction to diagnose infectious disease organisms

05/2014
Organized attendance for 60 international researchers at the Endemic and Emerging Viral Diseases of Priority in the Middle East and North Africa, held in Qatar

06/2014
Managed logistics in support of the Asociación Mexicana de Bioseguridad A.C. to host the 6th International Biosafety and Biosecurity Symposium in Mexico

07/2014
Partnered with NIH’s Fogarty International Center to provide logistical and financial support for childhood obesity and brain networking initiatives

09/2014
Hosted professional skills development webinars for Iraqi and Afghan biological scientists and public health experts

10/2014
In the midst of the Ebola outbreak, we arranged trainings in Liberia on the use of personal protective equipment to reduce disease transmission

11/2014
Managed logistics for biosecurity experts to attend the Asia-Pacific Biosafety Association’s 9th Annual Conference in Bangkok, Thailand
Driven By Science

When applied responsibly, science and technology have the power to take people from poverty to prosperity, turn sickness to health, and transform potential into achievement.
Opportunities for women in science have come a long way, but there is still more to be done. In 2014, CRDF Global supported several initiatives for women scientists and innovators focused on improving their ability to collaborate internationally. We collaborated with the Georgian Research and Development Foundation to establish the Georgian Women Research Fellowship Program, which awarded grants to 12 women completing their Ph.D.s in STEM careers at Tbilisi State University, Georgian Technical University, Ilia State University, and Sokhumi State University.

Our 2014 Robin Copeland Memorial Fellow, Dian Pusfitasari, joined us from the Indonesian Institute of Science and embarked on a yearlong nonproliferation fellowship. She spent her time in the U.S. at the Monterey Institute of International Studies in California and the American Association for the Advancement of Science in Washington, D.C. And, with proceeds from CRDF Global’s 2013 Annual Awards gala, we launched the CRDF Global Henrietta H. Fore Women in Science Fellowship. Through this initiative, we hosted Dr. Siela Maximova in our Arlington, V.A. office, where she researched global trends in international science collaborations for women scientists and innovators and focused on improving their ability to collaborate internationally.
Three research teams in Georgia won CRDF Global's Georgia Business Partnership Grant in the fall of 2014 which supports promising biological research and technologies to encourage product commercialization and long-term collaboration between the academic and private sectors.

A Georgian research team, led by Dr. George Kamkamidze used their Georgia Business Partnership Grant to commercialize Neo PCR Diagnostics, an original method for using real-time PCR (Polymerase Chain Reaction) to identify pathogens associated with gastrointestinal tract infections and diarrhea. Real-time PCR is a new modification that can lead to rapid detection of infectious pathogens. Likewise, Dr. Tamar Japaridze and team are using their grant to commercialize a new product called ProbioGE which contain strands of bifidobacteria that produce the most beneficial form of lactic acid and acetic acid by fermenting indigestible fibers. The third team plans to use their grant toward bringing Geo-oss, a ready-to-use implant created for stomatology and facial surgery, around the world to help patients in need.

With funding from the Georgia Business Partnership Grant, research teams led by renowned doctors have come up with innovative methods to help solve health issues.
Promoting a Culture of Nuclear Security

In collaboration with the U.S. Department of State’s Partnership for Nuclear Security, CRDF Global organized a suite of nuclear security culture programming for over 70 grantees at the Institute of Nuclear Materials Management (INMM) 55th Annual Meeting in July of 2014. The 70 nuclear security experts gathered in Atlanta to meet with peers from around the U.S. and the world, strengthening their linkages with the international nuclear security community. CRDF Global-arranged activities at the meeting included workshops, the launch of two competitions, and numerous structured discussions aimed to strengthen best practices and sustainability of international INMM chapters.
CRDF Global’s Professional Skills Program (PfS) was invited to present a one-day workshop at the 9th ASEAN Science and Technology Week in Indonesia following a three-day PfS workshop led by Charles Dunlap who trained over 80 participants on international funding sources, proposal development and research paper authorship.

The workshop curriculum has evolved significantly over the last several years, and this PfS Program was the first to implement its current Training-the-Trainers course combined with CRDF Global’s current standard set of group exercises. With nearly 80 participants, 60% of whom were women, from universities and research institutions on Java and other Indonesian islands, CRDF Global completed its eighth Indonesian PfS workshop.

The President of the Indonesian Chemical Society has noted that for a country of more than 238 million people, Indonesia has a very low rate of publication in international journals and is lagging behind other ASEAN countries even though Indonesia’s GDP is capable of supporting high-quality research. The capacity CRDF Global is building to improve proposal development and authorship skills for the Indonesian STEM community are fundamental to their development in the sciences and engineering.
Since 2005, CRDF Global’s Annual Awards Gala has honored individuals with the George Brown Award for International Scientific Cooperation. Named in honor of the late California Congressman George E. Brown, Jr., the award recognizes those whose life work has advanced his vision of creating a better world through science and innovation. In 2014, CRDF Global honored Jeff Hoffman, a global entrepreneur and mentor with the George Brown Award. We also added a new award category, the Corporate Impact Award, to recognize corporations for their contributions to the global scientific community. Schlumberger was our first Corporate Impact Award recipient.
When it comes to issues of nuclear security, nuclear proliferation gets most of the world’s attention. Underlying this threat, however, is a subtler risk: the theft and misuse of radiological material. Hosted in October 2014, Galaxy Serpent was an international exercise that brought together nuclear specialists from around the world to learn how to better address issues of nuclear smuggling and forensics. Watch as Jim Borgardt, a nuclear physics professor at Juniata College, discusses these issues and how Galaxy Serpent helped countries improve their nuclear security practices.
Core Stats

526 Awards
Over 75 Countries
3,330 Participants
$25,256,854

Awards made under CRDF Global Programs and Solutions

CRDF Global Programs Initiated
325 Awards

CRDF Solutions Initiated
201 Awards
Supporters

Foundations, Corporations and Other Organizations

Automotive Technologies International
Bechtel Corporation
Bill & Melinda Gates Foundation
Boston Medical Center
California Institute of Technology
CH2M HILL
Chevron Corporation
DuPont
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Government of Canada
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Michelin Research Asia, Japan
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Nokia
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U.S. Pharmacopeia
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University of Minnesota
University of Pennsylvania
University of Texas, Austin
Wellesley College/Michigan State
World Bank - infoDev
Yale University Schools of Medicine and Public Health
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U.S. Center for Disease Control and Prevention
U.S. Department of Agriculture
Agricultural Research Service

U.S. Department of Commerce
National Oceanic & Atmospheric Administration

U.S. Department of Defense
Defense Threat Reduction Agency
U.S. Army Research Laboratory
U.S. Air Force

U.S. Department of Energy
National Nuclear Security Agency
Office of Health, Safety and Security

U.S. Department of State
Bureau of Democracy, Human Rights and Labor
Bureau of European and Eurasian Affairs
Bureau of International Security and Nonproliferation
Bureau of Oceans and International Environmental and Scientific Affairs
Bureau of South and Central Asian Affairs

U.S. National Academy of Sciences

U.S. National Science Foundation

U.S. National Institutes of Health
Fogarty International Center

National Institute of Allergy and Infectious Diseases
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Dr. King Holmes
Mr. Paul Longsworth
Ms. Catherine Mannick
Dr. Rodney Nichols
Mr. Peter O'Donnell, Jr.
Gilbert S. Omenn, M.D. and Martha Darling
Dr. Anne C. Petersen
Ms. Susan Raymond
Dr. Hassan Virji
Mrs. Lulu C. Wang
Dr. William A. Wulf
CRDF Global Staff
## Financials

### Consolidated statement of activities for the year ended December 31, 2014*

<table>
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<tr>
<th>STATEMENT OF ACTIVITIES</th>
<th>UNRESTRICTED</th>
<th>TEMPORARILY RESTRICTED</th>
<th>TOTAL</th>
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<td>Grants and Contracts</td>
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<td>Solutions Services</td>
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<td>Interest and Investment Income</td>
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<td>Net Assets Released from Restrictions</td>
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<td><strong>Total Revenues</strong></td>
<td>23,673,264</td>
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**Program Expenses:**

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<tr>
<td>Capacity Building</td>
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<td>Entrepreneurship and Innovation</td>
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<td>Other Programs</td>
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<td><strong>Total Program Expenses</strong></td>
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| Solutions Services                                   | 1,303,774   | –                    | 1,303,774 |
| **Total Expenses**                                    | 22,836,180  | –                    | 22,836,180 |

| Change in Net Assets                                  | 837,084     | 680,436              | 1,517,520 |

**Net Assets:**

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<td><strong>Net Assets at End of Year</strong></td>
<td>$5,053,069</td>
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*The information presented here is drawn from the 2014 consolidated financial statements of CRDF Global and Subsidiary, which are audited by McGladrey & Pullen, LLP on accordance with generally accepted standards and presented to the CRDF Global Board of Directors at its June 2015 meeting.*