



# **Moldovan Research and Development Association**

## *Activities and Impact*

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# Before MRDA

- No Moldova-based agencies or foundations to support R&D sector
- Strong competitions at international level
- Lack of proposal writing skills
- Little international collaboration
- Few if not at all research opportunities for young scientists
- Lack of projects administration skills



# What Happened in 2000?

Signing the Cooperation Agreement  
between the Government of Moldova  
and the U.S. Civilian Research and Development  
Foundation (CRDF)

led to

setting up MRDA as  
a non governmental public organization and  
partner of the CRDF with the mission  
to advance  
science and technology  
development in Moldova



# MRDA Major Activities

- Develop grant programs relevant to R&D sector needs in compliance with national scientific priorities
- Conduct grant program competitions in a democratic and transparent way



# Moldovan-U.S. Collaboration Development

## Moldovan-U.S. Bilateral Grants Program (BGP)

- 3 competitions announced
- 65 Moldovan-U.S. partnerships established
- over 400 scientists involved of which:
  - 30% former weapon scientists, and
  - 40% young researchers

*Total BGP funding: U.S.\$2,500,000*



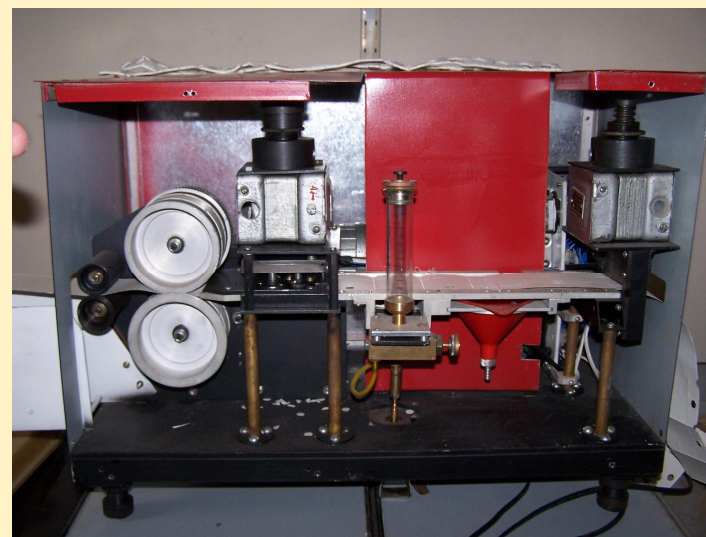
## BGP Highlights: *New Techniques and Devices towards Ecological Agriculture*

Dr. Nicolai Popov (Institute of Plant Protection and Ecological Agriculture, ASM) and Prof. Tong-Xian Liu (Texas A&M University) improved existing and developed new techniques and a special device for releasing beneficial arthropods into the orchards and vineyards.

These techniques and instrumentation greatly increase the efficiency of plant protection measures.

The device was tested by the US side and is in the process of commercialization. Commercial application of this innovation will considerably reduce pesticide burden on plants, cutting pest control expenses and improving the quality of agricultural products.

*Moldovan Research and Development Association*





# Scientific Infrastructure Development

## Regional Experimental Support Centers (RESC) Program

3 RESCs established

*Total RESC funding: U.S. \$950,000*

## Major Equipment for Research Laboratories (MERL) Program

8 laboratories equipped

*Total MERL funding: U.S. \$640,000 of which 50% co-funded by ASM*

## Networking Infrastructure Program (NIP)

*Total NIP funding: U.S. \$200,000*

*Moldovan Government contribution: U.S. \$500,000*



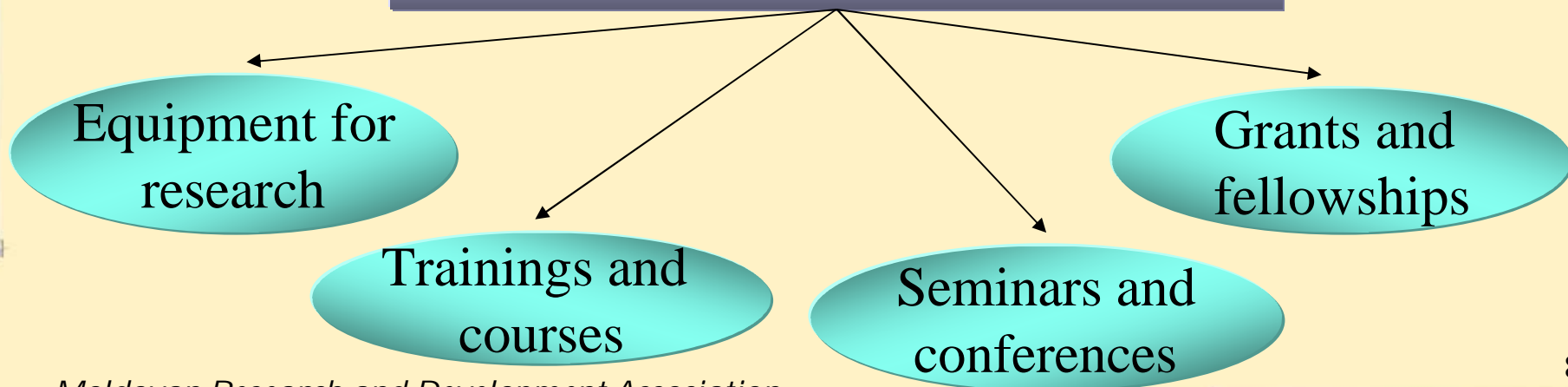


# Integration of Research with Education

## Centers for Education and Research in Moldova (CERIM) Program

*Center for Education and Research in Mathematics and Computer Science at Moldova State University*

**Total CERIM funding: U.S.\$ 300,000**







# Support for Young Scientists

## Moldovan Travel Fellowship Program (MTFP)

Opportunity to develop collaboration with American scientists and make research in well-equipped labs of U.S. institutions  
*/39 young scientists supported/*

## Follow-on Program

Opportunity to continue collaboration with newly established U.S. partners after returning home */37 projects supported/*

## Moldovan Young Scientists Support Program (MYSSP)

Opportunity to develop project management skills and advance scientific careers */8 projects supported/*



# MTFP Highlights

Investigations of ZnO and Cu<sub>2</sub>O nanoarchitectures made by Dr. Oleg Lupan from the Technical University of Moldova in partnership with Dr. Lee Chow from the University of Central Florida opened opportunities for self-assembly of multifunctional nanostructured systems with applications in bioscience and nanomedicine, electronics and photonics.



The nanosensor could be used in hydrogen car engines, aircrafts and hydrogen industry in the near future.

The research results were published in ten peer-reviewed international journals; two poster papers were presented at the International Conference Nanotech-2007 in Santa Clara, CA; one pending patent of the Republic of Moldova and one US patent.

Additionally, Dr. Lupan managed to develop contacts with 5 US research teams and two US companies.



# Travel and Conference Support

## European Travel Grants Program (ETGP) Priority Research Disciplines Support (PRDS) Travel Grants Program

Opportunities to participate with oral or poster presentations in large-scale international scientific events organized in EU and the U.S. / *36 scientists supported of which 15 - young researchers/*

## International Scientific Conferences Support (ISCS) Program

Organization of international scientific conferences in Moldova / *7 conferences organized in various scientific fields/*



# Science & Business Partnership Development

Science & Business National Partnership Club



7 Meetings organized

Innovations Promotional Catalogues



Innovations Market Website



STEP Grants Program Joint Competition



3 competitions announced  
18 S&B partnerships developed



# MRDA Other Activities

- **Consultative and Technical Assistance**
  - ✓ proposals writing
  - ✓ partner search
  - ✓ awards administration
  
- **Awards Administration**
  - ✓ tax exemption - procedure set up
  - ✓ customs clearance - procedure set up
  - ✓ grants management - accounting system set up



# MRDA Other Activities

## Seminars and Conferences

- Proposals Writing Seminars → *over 1300 scientists trained*
- Awards Management Seminars → *over 800 scientists trained*
- Commercialization Seminars → *over 550 participants*
  
- Specialized events:
  - ❖ Ecological Chemistry Conferences
  - ❖ Institutional Building Conference
  - ❖ PAN-RESC Conference
  - ❖ MTFP Experience Exchange Workshop
  - ❖ Global Science and National Policies: the Role of Academies
  - ❖ Science & Education Policies – International Conference for the Central and Eastern Europe Balkans, Caucasus and Baltic States







# Summarizing Impact

- Develop Moldovan-U.S. scientific collaboration resulting in:
  - *joint research and exchange of ideas*
  - *access to new facilities*
  - *joint publications& patents*
  - *new projects development, etc.*
  
- Develop and improve scientists' skills in:
  - *proposal writing*
  - *awards management*
  - *innovation pitching and marketing*
  - *business planning and negotiation*
  
- Prevent scientists' exodus and advance their scientific careers
  
- Engage former weapon scientists in civilian research
  
- Support the young generation of scientists





# Summarizing Impact

Collaboration with:

- U.S. National Science Foundation
- U.S. Office of Naval Research Global
- U.S. Department of Homeland Security
- American Chemical Society
- American Association for the Advancement of Science
- University of Urbana-Champaign, Illinois
- University of California, Riverside
- Many other U.S. Universities and Research Centers involved in joint projects under CRDF/MRDA programs



# Future Plans

- Develop a project Monitoring & Evaluation system (*based on international experience*)
- Support international scientific conferences in Moldova
- Support the young generation of scientists and advance their scientific careers
- Support the Lyceum and University of ASM (*long distance education, visitors' exchange*)
- Support scientific results commercialization

# Thank You!!!

Special thanks to:

- ✓ U.S. Department of State
- ✓ Government of the Republic of Moldova
- ✓ U.S. Embassy to the Republic of Moldova
- ✓ U.S. Civilian Research and Development Foundation

for their generous support that has helped to:

- ✓ accomplish major grant programs
- ✓ hold conferences and seminars and
- ✓ support MRDA administrative activities