



3rd Circular

SECOND INTERNATIONAL CONFERENCE
ON:

**NANOBIOTECHNOLOGY IN
PLANT BREEDING & PLANT PROTECTION
PERSPECTIVES TOWARDS FOOD SECURITY AND
SUSTAINABILITY**

June 1-3, 2020

Organized by:

**PLANT BREEDING AND ACCLIMATIZATION INSTITUTE
NATIONAL RESEARCH INSTITUTE
Radzików, 05-870 Błonie, Poland**



in collaboration with:

European Association For Research On Plant Breeding (EUCARPIA Cereals Section)

**Society for Sustainable Agriculture and Resource Management
(SSARM), India**

**International Foundation for Sustainable Development in Africa and Asia (IFSDAA),
Goettingen, Germany**

NANO-BIOTECHNOLOGY IN PLANT BREEDING & PLANT PROTECTION PERSPECTIVES TOWARDS FOOD SECURITY AND SUSTAINABILITY

INVITATION

Dear Colleague,

Nanotechnology is manufacturing at the molecular level—building things from nanoscale components, where unique phenomena enable novel applications. Nanos comes from Greek term for dwarf. It is technology: that visualizes, characterizes, produces and manipulates matter at the size of 1-100 nm. A nanometer (nm) is one-billionth of a meter. A typical sheet of paper for printing is about 100,000 nm thick, a red blood cell counts about 2,000-5,000 nm in size, and the diameter of DNA is actually in the range of 2.5 nm. Biologists have been working for at the molecular level, in the range of nanometers (DNA and proteins) to micrometers (cells). A typical protein such as hemoglobin has a diameter of about 5 nm, DNA's double helix is about 2 nm wide, and a mitochondrion ranges to a few hundred nanometers. In consequence, any subcellular entity can be termed "nanobiology". A living cell counting hundreds of nanometers is considered to be an essential fabrication system just at nanoscale. Nanosized molecular building blocks construct all biological systems that in cooperation produce living entities. These elements led nanotechnologists to bear a new science named "nanobiotechnology" - the combination of nano and biotechnology. Nanoscale science, engineering, and technology, more widely known under the novel term 'nanobiotechnology' form a broad, multidisciplinary field that exerts tremendous impact on contemporary societies. Food and nutritional security and sustainability of agriculture are globally important and valued goals for researchers, policy planners, breeders, farmers and consumers alike.

In post green revolution era global food production has increased tremendously, mainly from the increased yields resulting from new plant crop varieties of cereals and millets, with more efficient use of fertilizers, water, pesticides, and other plant breeding and plant protection technologies. This has increased the global per capita food supply reducing hunger. World population is likely to grow from 6 billion in 2000 to 8 billion in 2025 and may stabilize at about 10 billion by 2050 with major increases being in developing countries. The impact of green revolution technologies has already been witnessed in terms of degraded soil and water and reduced biodiversity that are key elements to food security. Food security strategies should therefore be revisited. This will call for a blend of traditional ecological prudence with frontier technologies, particularly nanotechnology and biotechnology. Agricultural nanobiotechnologies, as well as conventional plant breeding and plant protection jointly, have the potential to boost food production, nutritional security and environment health safety. Novel nanobiotechnologies may help to increase and achieve the productivity gains needed to feed a growing global population, introduce resistance to pests and diseases without costly inputs, heighten crops' tolerance to adverse weather and soil conditions, improve the nutritional value of some foods, and enhance the durability of products during harvesting or shipping. Nanobiotechnology may also offer cost-effective solutions to micronutrient malnutrition, such as vitamin A- and iron-rich crops. Nanobiotechnology could also produce plants for animal feed with modified composition that increase the efficiency of meat production and lower methane emissions. Besides plant protection and plant breeding methods, tissue culture has long been used as a relatively low-tech route to improve productivity. Also, marker assisted breeding can help speed up conventional breeding programmes, and insights from gene sequencing and bio-informatics may have a variety of uses. However, many claims and counter-claims are currently being made about the potentials for new agricultural biotechnologies in improving food and nutritional security, particularly in the developing world. These techniques can be more easily applied to develop varieties of crop species that will yield well in challenging environments. However, there is need for government and public-private collaborations to invest in agricultural nano-biotechnology-based companies, researches, or initiatives, in order to make the gene revolution beneficial to humankind, especially to people in developing countries.

Keeping these facts in view, the Plant Breeding and Acclimatization Institute-National Research Institute (IHAR-PIB), Radzikow, Blonie, Poland, EUCARPIA, Society for Sustainable Agriculture and Resource Management, India and International Foundation for Sustainable Development in Africa and Asia, Goettingen, Germany decided to organize **an International Conference on "Nanobiotechnology in plant breeding and plant protection, perspectives towards food security and sustainability"** for researchers, breeders, development functionaries and policy planners to discuss such issues and draw a coherent strategy to tackle some of the above stated issues. You and your fellow colleagues are cordially invited to join us in Plant Breeding and Acclimatization Institute - National Research Institute (IHAR-PIB), Radzikow, Poland, and we will be delighted to welcome you.

Prof. Rishi Behl
Convener

Prof. Dr. Edward Arseniuk
Chair, Organizing Committee

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INFORMATION ABOUT THE CONFERENCE

The technical programme of the International Conference will consist of **plenary lectures, lead papers, contributory papers, discussions with scientists, breeders, policy planners, representatives from Industry and NGO's, poster presentation and an exciting exhibition.**

Venue:	IHAR-PIB, Radzikow, Poland
Dates:	June 01-03 2020
Official Language:	ENGLISH
Presentation abstract delivery by e-mail no later than:	April 15th, 2020
Registration form submitted by e-mail no later than:	April 30th, 2020

OBJECTIVES:

1. Review the current global status and identify long term challenges for food, nutritional & environmental security and natural resources;
2. Suggest strategies using modern nanobiotechnologies in conventional plant breeding and plant protection to achieve targets as per UN Millennium goals;
3. Provide an opportunity to exchange knowledge and technologies on sustainable agriculture in fragile environments;
4. Establish international forum/network of researchers and development functionaries concerned with sustainable development.

MISSION

IHAR-PIB, Radzikow, Poland, EUCARPIA, ICSSARM, India and IFSDAA, Germany being scientific and developmental organizations, are primarily interested in science-based and policy-related contributions in all areas of relevant research on sustainable development, food and nutritional security, bio-energy, environmental and agricultural sustainability as per UN Millennium goals, so that steps can be suggested for implementation using modern (nano-)biotechnologies and conventional plant breeding and plant protection.

THEMES

Contributors are requested to specify a title of their intended presentation which will fit the following themes and related topics.

Nanobiotechnology and plant breeding for crop improvement and crop protection:

- Nano-biotechnology in plant breeding and plant protection for crop production in 2020 - the International Year of Plant Health
- Genetic resources for crop improvement in relation to land use/ecology;
- Integrating nano-biotechnology for agricultural sustainability;
- Infusing tolerance to biotic and abiotic stresses;
- Enhancing water, nutrient/input use efficiency in crops, low input genotypes;
- Enhancing physiological efficiency for elevating productivity ceilings;
- Value addition: nutritional quality and industrial uses;
- Transgenics and molecular breeding approaches and applications;
- Plant tissue culture and its applications;
- Approaches for improving biomass production for bioenergy;

INFORMATION ABOUT THE CONFERENCE

For natural resource management:

- Plant microbe interaction towards sustainability, productivity and plant protection;
- Biologically oriented land use, organic farming, biofertilizers, biopesticides;
- Phyto and bioremediation approaches for polluted soils;
- Agriculture waste management including bio-plastics and biogas production;
- Dryland agriculture for crops , agro-forestry & agro-horticulture.

Related socio-economic aspects:

- Participatory plant breeding - combining adaptation, performance and acceptance;
- Policy issues and biosafety regulations;
- Patents and farmers rights and livelihood issues;
- Acceptance of biotechnological products in rural and urban settings globally;

About IHAR-PIB

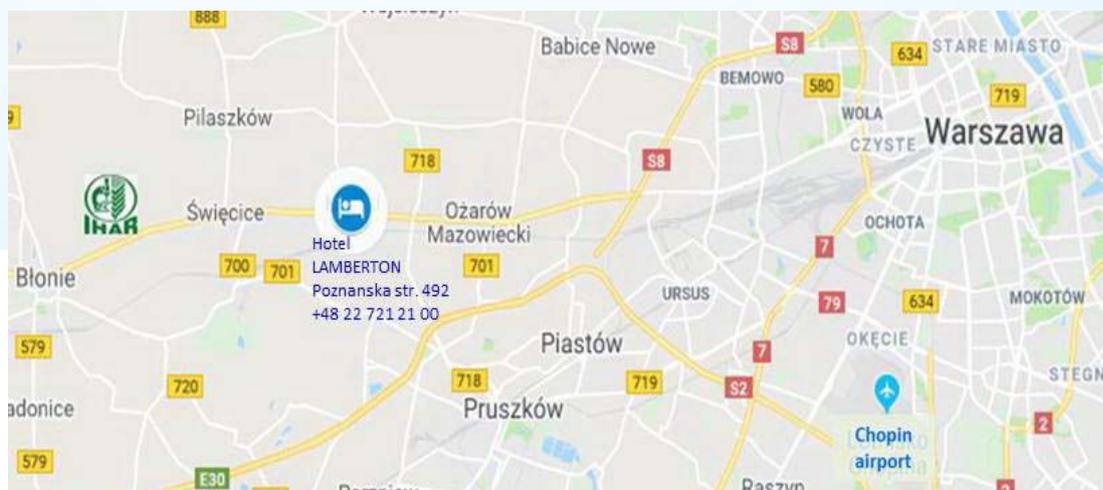
Research focus. The Plant Breeding and Acclimatization Institute-National Research Institute (IHAR-PIB) is the largest Research Center in Poland in the multi-disciplinary area of plant improvement, biotechnology, germplasm conservation and enhancement. The Institute has built up units that work on GMO detection in plant products, biosafety and basic research with the use of transgenesis. Established in 1951, the Institute was recognized as a leading research center for crop improvement and food security not only in Central Europe, but also on the international scale. Research achievements of IHAR-PIB reflected in released cultivars and frequently cited publications in highly respected scientific journals, resulted in wide contacts with international community of researchers and plant breeders. IHAR-PIB continues to develop an extensive collaboration in the field of genetic crop improvement through breeding, development of seed science and certified seed production technologies. By contributing to such a broad spectrum of activities the Institute is recognized as a competitive agricultural research center, not only in Europe but also worldwide.

About Radzikow:

Radzikow is situated in the central part of Poland's lowland. IHAR-PIB is a Research Center located between trees and fields. Among attractions, a few kilometers distant from IHAR-PIB headquarters at Radzikow, is a primeval forest "Puszcza Kampinowska" and Fryderyk Chopin Museum at Żelazowa Wola.

Climate and weather: Weather between late spring and early fall months is usually pleasant. Plenty of bright, sunny days are present. Average air temperature at the turn May/June ranges between 15-20°C. Cooler air temperatures, rainy days or windy weather happen occasionally.

Please see IHAR-PIB situation map:



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REGISTRATION FEE AND OTHER PAYMENTS

EARLY FEE	LATE FEE
350 EUR - up to April 30 th , 2020	450 EUR - after April 30 th , 2020

PAYMENTS OF REGISTRATION FEE SHOULD BE MADE THROUGH BANK TRANSFER

PAYMENT DETAILS:

Beneficiary: Instytut Hodowli i Aklimatyzacji Roslin-PIB
Address: Radzików, 05-870 Błonie, NIP (VAT): PL 529-000-70-29

Bank: BNP PARIBAS

Account no.: 47 2030 0045 1110 0000 0094 2390

SWIFT: PPABPLPK

Note, remark: *Nanobiotech. Conf. 2020 + name of participant(s).*

Within the registration fee participants will receive:

1. Transport from/to the Chopin airport in Warsaw,
2. Transport from HOTEL to Conference site and back.
3. Conference party, lunches and suppers during the conference days (Monday-Wednesday).
4. Conference coffee, tea and snacks at breaks.
5. Conference materials, including book of abstracts.
6. Technical/field trip.

ACCOMMODATION

Accommodation of a standard class rooms (1,2-bed) and full board for all participants is offered in [Hotel Lambertton](#) from 31st May (check in) till 03 June (check out) 2020 (Poznanska Street 492, 05-850 Oltarzew).
Hotel website: <https://hotellamberton.pl/>

Cost of 3 nights stay is:

Single room 135 EUR (45 EUR per night per room)

Double room 150 EUR (50 EUR per night per room)

HOTEL BOOKING - via e-mail a.drapala@hotellamberton.pl with adnotation: "IHAR Conference"

Board and Lodging:

Transport from the airport to the hotel (about 25 km) and back from the conference site to the airport in the afternoon of 03 June, 2020, will be provided by local organizers.

Bus shuttle between the hotel LAMBERTON and the IHAR Conference site will be available for transportation during the convention hours.

The Conference programme will take your time from 8:00 am to even 9:00 pm (on June 01-02 and up to 4.00 p.m. on 03 June).

Cancellation and refund:

Cancellation of participation must be send via e-mail to: nanobiotechnology@ihar.edu.pl **before 10th May, 2020** for a full refund (bank charges in the amount of € 12 will be deducted).

No refunds are available after 10th May, 2020.

Liability:

The Conference fees DO NOT include provisions for the insurance of participants against personal injuries, sickness, theft or property damage. Participants are advised to take insurance whatever they consider necessary.

Poland's visa application: a support letter from organizers might be issued upon request.

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PRESENTATIONS

Paper/Poster of registered participants will be published in Conference Book of Abstracts

One person can submit only one paper

ORAL PRESENTATION:

Oral presentations will be limited to **20 minutes**, including 3-5 minutes for discussion. The Scientific Program Committee may invite a speaker to extend the length of a presentation, authors will be contacted in advance. The customary audiovisual: notebook and multimedia projector will be available. If other facilities would be required, please notify local organizers in advance, so perhaps we will be able to assist you with our help.

Oral Presentation Abstract:

Maximum **two** pages (A4 size, 12 Times New Roman font), **up to April 15th, 2020**.

POSTER PRESENTATION:

Posters (60 cm wide ×100 cm length) should include title, name and address of the author(s), short introduction, method and material, results and conclusions. The poster sessions will be arranged thematically around the main Conference themes.

Poster Presentation Abstract:

Maximum **one** page (A4 size, 12 Times New Roman font), **up to April 15th, 2020**.

FULL PAPER FOR PUBLICATION:

Full papers will be published in Conference Proceedings. Exact guidelines and a deadline to submit computerscripts will be specified before the conference time.

Nevertheless, please indicate that you are ready to submit full paper while coming to the conference

Please send abstract of your paper or just full paper of your presentation on e-mail:

nanobiotechnology@ihar.edu.pl and/or as cc to:
[Edward Arseniuk e.arseniuk@ihar.edu.pl](mailto:Edward.Arseniuk@ihar.edu.pl)

NOTICE 1: BOOK OF ABSTRACTS WILL BE EDITED/PUBLISHED BY LOCAL ORGANIZER OF THE CONFERENCE.

NOTICE 2: Participants of the conference will have a possibility to purchase a book with 20% discount entitled: "Advances in breeding techniques for cereal crops" edited by Professor Frank Ordon, Julius Kühn Institute, Germany and Professor Wolfgang Friedt, University of Giessen, Germany (Published by: Burleigh Dodds Science Publishing).

The next Circular will will be distributed in February 2020
or upon request.

NANOBIOTECHNOLOGY IN PLANT BREEDING & PLANT PROTECTION PERSPECTIVES TOWARDS FOOD SECURITY AND SUSTAINABILITY

PATRONAGE:

MINISTRY OF AGRICULTU-

RE AND RURAL DEVELOPMENT



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CONTACT ADDRESS

International Conference

Plant Breeding and Acclimatization Institute
National Research Institute,
Radzików, 05-870 Błonie, Poland

www.ihar.edu.pl



REGISTRATION FORM

Second International Conference on:



NANOBIOTECHNOLOGY IN PLANT BREEDING & PLANT PROTECTION PERSPECTIVES TOWARDS FOOD SECURITY AND SUSTAINABILITY

June 1-3, 2020

organized in:

Plant Breeding and Acclimatization Institute - National Research Institute

1.	Family Name (in block letters)	
2.	First Name	
3.	Title	
4.	Gender	
5.	Institution	
	Mailing Address	
	VAT Number	
6.	Phone & fax	
7.	E-mail	
8.	Title of:	Oral presentation:
		Poster presentation:
9.	Registration Fee (somewhat reduced because of sponsor-ships):	Early fee 350 EUR (before April 30 th , 2020)
		Late fee 450 EUR (after April 30 th , 2020)
10.	Signature and date

Please complete, sign and return this form even right now, but no later than April 30, 2020

- ♦ and e-mail to: <http://www.ihar.edu.pl/nanobiotechnology2020.php>
or to: [Edward Arseniuk <e.arseniuk@ihar.edu.pl>](mailto:e.arseniuk@ihar.edu.pl)

This registration form will be available on IHAR-PIB Conference homepage:

- ♦ <http://www.ihar.edu.pl/nanobiotechnology2020.php>