



Mariangela Hungria da Cunha

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Last updated 09/12/2021

Researcher of Productivity at CNPq - Level 1A

Resumo informado pelo autor

Graduated in Agronomy, School of Agriculture Luiz de Queiroz (ESALQ-USP) (1979), M.Sc. in Soils and Plant Nutrition (ESALQ-USP) (1981), Ph.D. in Agronomy (Soil Science) Federal Rural University of Rio de Janeiro (UFRRJ) (1985), post-doc at Cornell University (1989), University of California - Davis (1991), University of Seville (1998). Researcher at Embrapa since 1982, at the National Soybean Center (Embrapa Soja) since 1991. Professor at the State University of Londrina (UEL), in the post-graduate courses in Microbiology and Biotechnology and at the Federal University of Technology (UTFPR), in Bioinformatics. Has experience in Agronomy with emphasis on Soil Biotechnology, in the themes: biological nitrogen fixation, biodiversity; taxonomy and phylogeny of prokaryotes, microbial ecology, soil microbiology, plant growth promoting bacteria; plant physiology; inoculant production; technologies of inoculation; omics sciences; microbial culture collections; bioindicators of soil quality. Has over 700 publications (papers, books, book chapters, technical reports) on these lines of research and has launched more than 20 technologies, including strains of rhizobia for the common bean crop, Azospirillum for the maize, wheat and brachiarias and for co-inoculation with rhizobia for the soybean and common bean. Works with various private partnerships in the development of new microbial inoculants, with several products already registered and commercialized. Has completed the supervision of more than 80 M.Sc. and Ph.D. students, and over 130 other types of supervision. President of the Brazilian Society of Soil Science (2001 to 2003), member of editorial boards and reviewer of national and international refereed journals. Represented the environmental area of the Brazilian Society of Microbiology for 20 years and coordinator of biofertilizers nets in Ibero-Americas. Vice-president and president of the RELARE (Laboratory Network Meeting for the Recommendation, Standardization and Technology Transfer of Microbial Inoculants of Interest for the Agriculture) (2010-2016). Advisory committee of the Bill & Melinda Gates Foundation in projects N2Africa and Human Capacity Building, as well as of projects in Argentina, Mexico and Peru and has projects in collaboration with Spain, Australia and France. Fellow research of CNPq since 1992 at the 1A level since 1998. Member of the Brazilian Academy of Sciences (ABC) (2008), and Brazilian Academy of Agronomic Sciences (ABCA) (2021). Title of "Commander of the National Order of Scientific Merit" by the President of Brazil (2008) and Grã-Cruz Order (2018). Award Glaci Zancan "Women in Science" of Paraná State (2009) "Honorary Advisor on Agricultural Scientist & Technology Green" of the Rural Development Administration (RDA, Korea) (2009). Award "Frederico de Menezes Veiga" by Embrapa, on the theme of "Low-Carbon Agriculture" (2012). Award Claudia-Maganize Category Science (2015). Medal of Merit by the Administrative Council of Agronomists of Paraná (CREA-PR, 2018) and of the Brazilian Agronomists (CONFEA/CREA, 2018). Award Antonio Carlos Moniz of the Brazilian Society of Soil Science (2019); List of the most influential researchers in the world (2020-2021); TWAS (Third World Academy of Sciences)-Lenovo in agriculture (2020). Soybean Character of Rural TV (2021). Member of the World Academy of Sciences (2022), among others. In 12/2021: h=54 (Web of Sciences), h=83 (Google Scholar), Scopus (57), h=72 (ResearchGate).

(Text informed by the author)

Links para Outras Bases:

[SciELO - Artigos em texto completo](#)

Civil name

Full name Mariangela Hungria da Cunha

Personal Information

Parental information Milton Vieira da Cunha and Leda Hungria da Cunha

Birth information 06/02/1958 - São Paulo/SP - Brazil

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86001970, PR - Brazil
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Formal Education

1982 - 1985 Doctorate in Agronomy.
Universidade Federal Rural do Rio de Janeiro, UFRRJ, Seropedica, Brazil
Title: Fisiologia da Fixação Biológica do Nitrogênio em Phaseolus vulgaris L., Year of degree: 1985
Advisor: Maria Cristina Prata Neves
Scholarship from : Empresa Brasileira de Pesquisa Agropecuária Centro Nac Pesq Agrobiologia

1980 - 1981 Master's in Solos e Nutrição de Plantas.
Usp Escola Superior de Agricultura Luiz de Queiroz, USP-ESALQ, Brazil
Title: Eficiência da Fixação Biológica do Nitrogênio x Evolução do H2 x Respiração dos Nódulos do Feijoeiro (Phaseolus vulgaris L.), Year of degree: 1981
Advisor: Aláides Puppim Ruschel
Scholarship from : Fundação de Amparo à Pesquisa do Estado de São Paulo

Graduation in Engenharia Agronomica.

- 1976 - 1979** USP - Escola Superior de Agricultura Luiz de Queiroz, USP-ESALQ, Brazil
- 2002 - 2002** Improvement Course in Bioinformática.
Laboratório Nacional de Computação Científica, LNCC, Petropolis, Brazil
Advisor: Dra Ana Tereza Vasconcelos
- 2000 - 2000** Improvement Course in Balanço de Nitrogênio.
Dpto Of Agroenvironmental Sciences, DAS, Japan
Advisor: Dr Joji Arjara
- 1996 - 1996** Improvement Course in Bioquímica e Genética de Rhizobium/ Bradyrhizobium.
Universidad de Sevilla, UNISEV, Spain
Advisor: Dr Manuel Megias Guijo
- 1996 - 1996** Improvement Course in Bioquímica e Genética de Rhizobium e Bradyrhizobiu.
Embrapa Centro Nacional de Pesquisa de Soja, EMBRAPA CNPSO, Brazil
Advisor: Dr Manuel Megias Guijo
- 1996 - 1996** Improvement Course in Genética de Bradyrhizobium.
Knoxville, KNOXVILLE, United States
Advisor: Dr Gary Stacey
- 1994 - 1994** Improvement Course in Genética de Rhizobium.
Embrapa Centro Nacional de Pesquisa de Soja, EMBRAPA CNPSO, Brazil
Advisor: Dr Leif Skot
- 1994 - 1994** Improvement Course in Biomassa Microbiana.
Embrapa Centro Nacional de Pesquisa de Soja, EMBRAPA CNPSO, Brazil
Advisor: Dr David Wardle - AgResearch, New Zealand
- 1989 - 1989** Improvement Course in Genética de Rhizobium.
University of Wisconsin - Madison, WISC, Madison, United States
Advisor: Dra Jo Handelsman
- 1986 - 1986** Improvement Course in Enzimas de Assimilação do Nitrogênio.
Rothamsted Experimental Station, ROTHAMSTED, England
Advisor: Dr Roger Wallsgrove
- 1983 - 1986** Improvement Course in Fixação Biológica do N2 Com Bactérias Associativas.
Universidade Federal do Rio de Janeiro, UFRJ, Rio De Janeiro, Brazil
Advisor: Dra Johanna Döbereiner - EMBRAPA, CNPAB
- 1983 - 1985** Improvement Course in Balanço de N, Mineralização e Desnitrificação.
Universidade Federal do Rio de Janeiro, UFRJ, Rio De Janeiro, Brazil
Advisor: Dr Robert M. Boddey - EMBRAPA, CNPAB
- 1985 - 1985** Improvement Course in Anatomia dos Nódulos.
Universidade Federal do Rio de Janeiro, UFRJ, Rio De Janeiro, Brazil
Advisor: Dra Joan Sutherland - The University of Dundee, UK
- 1982 - 1984** Improvement Course in Fisiologia da Fixação Biológica do Nitrogênio.
Universidade Federal do Rio de Janeiro, UFRJ, Rio De Janeiro, Brazil
Advisor: Dra Janet I. Sprent - The University of Dundee, UK
- 1983 - 1983** Improvement Course in Genética de Azospirillum.
Universidade Federal do Rio de Janeiro, UFRJ, Rio De Janeiro, Brazil
Advisor: Dr Fernando Bastarrachea - Inst.Investig.Biomédicas, México
- 1983 - 1983** Improvement Course in Fisiologia da Fixação Biológica do Nitrogênio.
Universidade Federal do Rio de Janeiro, UFRJ, Rio De Janeiro, Brazil
Advisor: Dr Richard J. Thomas - The University of Dundee, UK
- 1982 - 1982** Improvement Course in Ecologia do Rhizobium.
Universidade Federal do Rio de Janeiro, UFRJ, Rio De Janeiro, Brazil
Advisor: Dr Caio Vidor - UFRS, RS
- 1980 - 1980** Improvement Course in Fisiologia da Fixação Biológica do Nitrogênio.
Universidade Federal do Rio de Janeiro, UFRJ, Rio De Janeiro, Brazil
Advisor: Dr Franklin R. Minchin - The University of Reading, UK

Postdoctorate

- 1997 - 1998** Postdoctorate .
Universidad de Sevilla - Facultad de Farmacia, UNIV. SEVILLA, Spain
Scholarship from : Conselho Nacional de Desenvolvimento Científico e Tecnológico
- 1989 - 1991** Postdoctorate .
University of California - Davis, UCDAVIS, United States
Scholarship from : Conselho Nacional de Desenvolvimento Científico e Tecnológico
- 1988 - 1989** Postdoctorate .
Cornell University, CORNELL, Ithaca, United States
Scholarship from : Conselho Nacional de Desenvolvimento Científico e Tecnológico

Complementary Education

- 2011 - 2011** Short Term Course in Interpretação da Norma ISO 17025. (Carga horária: 16h).
Embrapa - Centro Nacional de Pesquisa de Soja, CNPSOJA, Brazil
- 2010 - 2010** Short Term Course in I Taller Iberoamericano Para la Creación de Redes. (Carga horária: 16h).
Asociación Argentina de Microbiología, AAM, Argentina
- 2010 - 2010** Short Term Course in Curso de Imersão em Inglês. (Carga horária: 45h).
College Language Center, COLLEGE, Brazil
- 2010 - 2010** Short Term Course in de Capacitação em Auditores Internos da Qualidade. (Carga horária: 24h).
GESTÃO Consultoria e Treinamento, GESTÃO, Brazil
- 2010 - 2010** Short Term Course in Curso de Interpretação das normas BPL. (Carga horária: 24h).
GESTÃO Consultoria e Treinamento, GESTÃO, Brazil
- 2006 - 2006** Short Term Course in Bioinformática aplicada à anotação de genomas. (Carga horária: 40h).
Embrapa - Centro Nacional de Pesquisa de Soja, CNPSOJA, Brazil
- 2006 - 2006** Short Term Course in Eletroforese bidimensional como ferramenta proteôm. (Carga horária: 30h).
Instituto de Desenvolvimento Rural do Paraná, IDR-Paraná, Londrina, Brazil
- 2006 - 2006** Short Term Course in Comparative microbial genomics and taxonomy. (Carga horária: 30h).
Laboratório Nacional de Computação Científica, LNCC, Petropolis, Brazil
- 2006 - 2006** Short Term Course in Formação de Auditor Interno Em BPL NBR ISO 19011. (Carga horária: 24h).
EVIDÊNCIA - Evidência Consultoria e Treinamento Ltda, EVIDÊNCIA, Brazil
- 2005 - 2005** Short Term Course in Implantação das Boas Práticas de Laboratório. (Carga horária: 24h).
Evidência Consultoria e Treinamento Ltda, EVIDÊNCIA, Brazil
- 2002 - 2002** Short Term Course in Introdução à Programação Aplicada à Bioinformática. (Carga horária: 40h).
Universidade Estadual de Londrina, UEL, Londrina, Brazil
- 2001 - 2001** Short Term Course in La Genética Molecular de Los Rizobios.
Embrapa Centro Nacional de Pesquisa de Soja, EMBRAPA CNPSO, Brazil
- 2000 - 2000** Short Term Course in Afp Para Seqüenciador.
Embrapa Centro Nacional de Pesquisa de Soja, EMBRAPA CNPSO, Brazil

- 1998 - 1998** Short Term Course in Utilização de Sequenciadores Genéticos. Embrapa Centro Nacional de Pesquisa de Soja, EMBRAPA CNPSO, Brazil
- 1995 - 1995** Short Term Course in Filogenia Genética. Embrapa Centro Nacional de Pesquisa de Soja, EMBRAPA CNPSO, Brazil
- 1994 - 1994** Short Term Course in Sint.e Aplic. Oligonucl e Anál Via Rapd Em Plantas. Centro de Energia Nuclear na Agricultura, CENA, Brazil
- 1993 - 1993** Short Term Course in RMN na Elucidação Estrut. de Subst. Orgân.. (Carga horária: 21h). Universidade Estadual de Londrina, UEL, Londrina, Brazil
- 1992 - 1992** Short Term Course in Curso de Noções de Imunologia e Técnicas Sorológic. Embrapa Centro Nacional de Pesquisa de Soja, EMBRAPA CNPSO, Brazil
- 1992 - 1992** Short Term Course in Curso de Microscopia. Embrapa Centro Nacional de Pesquisa de Soja, EMBRAPA CNPSO, Brazil
- 1990 - 1990** Seminário de Radioisótopos. . University of California - Davis, UCDAVIS, United States
- 1990 - 1990** Short Term Course in Manipulação de Dna. University of California - Davis, UCDAVIS, United States
- 1988 - 1988** Short Term Course in Curso Básico de Radioisótopos e Material de Segura. Cornell University, CORNELL, Ithaca, United States

Professional Experience

1. Universidade Federal do Paraná - UFPR

Contract institutional

- 1995 - 2008** Contract: Colaborador , Position: Colaborador, Schemes of job: Part-time
Other information:
Participação no projeto PRONEX, grupo de excelência em Fixação Biológica do Nitrogênio, com o Dr. Fábio de Oliveira Pedrosa, no Departamento de Bioquímica, participação nos projetos GENOPAR, PROTEOPAR e Instituto do Milênio

Activities

- 12/1996 - Current** Research and Development, Setor de Ciências Biológicas, Departamento de Bioquímica
- 06/1996 - 05/2005** Research and Development, Setor de Ciências Biológicas, Departamento de Genética
- 01/1995 - 05/2005** Post-graduate degree, Genética
- Disciplines Taught:*
PROFESSORA CADASTRADA E ORIENTADORA

2. Sociedade Brasileira de Ciência do Solo - SBCS

Contract institutional

- 2001 - Current** Contract: Colaborador , Position: Colaborador , Working hours (weekly): 1, Schemes of job: Part-time

Activities

- 12/2005 - Current** Management and Administrative Positions
Positions:
Coordenadora da Comissão Especializada III: B
- 07/2003 - 07/2005** Management and Administrative Positions
Positions:
Membro do conselho
- 07/2001 - 07/2003** Management and Administrative Positions
Positions:
Presidente da Sociedade Brasileira de Ciência do Solo

3. Universidade Tecnológica Federal do Paraná - UTFPR

Contract institutional

- 2014 - Current** Contract: Professor Visitante , Position: Professora Credenciada de Pós-Graduação , Working hours (weekly): 2, Schemes of job: Part-time

4. Sociedade Brasileira de Microbiologia - SBM

Contract institutional

- 1991 - Current** Contract: Colaborador , Position: Colaborador , Working hours (weekly): 1, Schemes of job: Part-time

5. Embrapa - Centro Nacional de Pesquisa de Soja - CNPSOJA

Contract institutional

- 2014 - Current**

6. Universidade Estadual de Londrina - UEL

**Contract
institutional**

- 2005 - Current** Contract: Professor , Position: Professora Credenciada de Pós-Graduação , Working hours (weekly): 5, Schemes of job: Part-time
Other information:
Professora cadastrada e orientadora do Mestrado em Biotecnologia
- 1995 - 1998** Contract: Colaborador , Position: Professora Credenciada de Pós-Graduação, Schemes of job: Part-time
Other information:
Professora cadastrada e orientadora do mestrado em Agronomia
- 1991 - Current** Contract: Professor colaborador , Position: Professora Credenciada de Pós-Graduação , Working hours (weekly): 5, Schemes of job: Part-time
Other information:
Pós-graduação em Microbiologia do Solo - Mestrado e Doutorado

Activities

- 03/1999 - Current** Post-graduate degree, Genética e Biologia Molecular
Disciplines Taught:
Orientadora cadastrada
- 03/1999 - Current** Research and Development, Centro de Ciências Biológicas, Departamento de Genética
- 12/1995 - 12/1998** Research and Development, Centro de Ciências Agrárias, Departamento de Agronomia
- 12/1995 - 12/1998** Post-graduate degree, Agronomia
Disciplines Taught:
Orientadora cadastrada
- 10/1991 - Current** Research and Development, Centro de Ciências Biológicas, Departamento de Microbiologia
- 10/1991 - Current** Post-graduate degree, Microbiologia
Disciplines Taught:
Microbiologia do solo

7. Empresa Brasileira de Pesquisa Agropecuária - EMBRAPA

**Contract
institutional**

- 1982 - Current** Position: PESQUISADORA III , Working hours (weekly): 40, Schemes of job: Full-time
Other information:
Centro Nacional de Pesquisa em Agrobiologia até 1991 e Centro Nacional de Pesquisa de Soja de 1991 até o presente momento

Activities

- 07/1991 - Current** Research and Development, Centro Nacional de Pesquisa de Soja
- 12/1982 - 07/1991** Research and Development, Centro Nacional de Pesquisa de Agrobiologia

8. Soytech Seeds Pesquisa em Soja - STS

**Contract
institutional****2010 - 2012**

9. Universidade Paranaense - UNIPAR

**Contract
institutional****2005 - 2015** Contract: Professora Colaboradora , Position: Professora Colaboradora de Pós-Graduação , Working hours (weekly): 2, Schemes of job: Part-time

10. Instituto de Desenvolvimento Rural do Paraná - IDR-Paraná

**Contract
institutional****2004 - 2006**

11. Universidade Federal Rural do Rio de Janeiro - UFRRJ

**Contract
institutional****1984 - 1988** Contract: Colaborador , Position: PROFESSORA CADASTRADA, Schemes of job: Part-time**Activities**

- 06/1984 - 04/1988** Research and Development, Instituto de Agronomia, Departamento de Solos
- 08/1983 - 12/1987** Post-graduate degree, Agronomia (Ciências do Solo)
Disciplines Taught:
Microbiologia do Solo , Curso Intensivo de Fixação do N2

Projects

Projetos de
pesquisa

2017 - Current INCT - Plant-Growth Promoting Microorganisms for Agricultural Sustainability and Environmental Responsibility

Description: There is a strong global demand for more quantitative food production and increased quality, but a new approach is necessary. As important as producing more, it is necessary to consider agricultural sustainability, to enhance the recovery of degraded areas, to lower emissions of greenhouse gases (GHGs) and avoid pollution of the soil and water by agrochemicals, thus optimizing the rational use of inputs. Although fundamental to productivity, chemical fertilizers have high cost, being imported and of low use efficiency by most crops. In this context, microorganisms which promote the growth of plants (PGPM – plant-growth promoting microorganisms) which includes any microorganism that stimulates plant growth, independent of the mechanism of action. These include nitrogen-fixing bacteria, producers of plant-growth regulators, microbes that solubilize potassic and phosphate rocks as well as facilitators of nutrient absorption, such as mycorrhizal fungi are crucial for agricultural sustainability, opening opportunities for what can be defined as a true "green microrevolution" with impact on productivity, but with environmental responsibility. This INCT was proposed with the mission to "conduct basic research and biotechnology development, to train personnel and transfer knowledge, products and technologies for public and private sectors, aiming to increase the use of PGPMs, microbial processes and biomolecules in Brazilian agriculture, maximizing plant nutrition and crop yields with lower inputs of chemical fertilizers and diminished environmental impact." For this, in this first phase of the project 27 specific objectives were outlined, related to 60 goals. The activities included in the basic science component will generate new knowledge on taxonomy, phylogeny, physiology, ecology, structural genomics, proteomics, transcriptomics and metabolomics with PGPM and in-plant associations with PGPM. A second strand is the development of biotechnological products, and molecules related to PGPM technologies with various biotechnological innovations as well as in crop improvement with PGPM-plant associations. New technologies, such as the application of microorganisms, ideal agronomic practices for each crop and the recovery of degraded pastures will be studied and validated. Another strong aspect of this INCT comprises activities related to the environment, with research lines on the quantification of the contribution of biological nitrogen fixation and GHG emissions in comparison to the use of chemical fertilizers, generating information to support the ABC (Low Carbon Agriculture) Plan of the Brazilian government. In addition, this information will allow the use of PGPMs for Clean Development Mechanisms (CDM) and ecosystem services. On the environmental side the use of microbial biomarkers for monitoring soil quality is proposed, with scientific, social and public policy implications.

Status: In progress Category: Projetos de pesquisa

Members: Mariangela Hungria da Cunha (Responsible); ; Funding Institution: Conselho Nacional de Desenvolvimento Científico e Tecnológico-CNPq, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior-CAPEs, Fundação Araucária-FUNDAÇÃO ARAUCÁRIA

Areas of Expertise

1. Biotecnologia do Solo
2. Microbiology and Biochemist of the Soil
3. Molecular Genetics and of Microorganisms
4. Biology and Fisiology of the Microorganisms
5. Applied Microbiology
6. Vegetal Genetics

Languages

English	Understanding Fluent , Speaking Fluent , Writing Fluent , Reading Fluent
Español	Understanding Fluent , Speaking Fluent , Writing Fluent , Reading Fluent
Français	Understanding Funcional , Speaking Basic , Writing Basic , Reading Funcional

Awards

- 2021** Lista dos Cientistas mais Influentes do Mundo, Stanford University
- 2021** Lista Forbes de mulheres mais poderosas do Agro, Forbes
- 2021** Membro da Academia Mundial de Ciências, Third World Academy of Sciences (TWAS)
- 2021** Personagem Soja Brasil, Canal Rural
- 2020** Lista dos Cientistas mais Influentes do Mundo, Stanford University
- 2020** Prêmio TWAS (Third World Academy of Sciences)-Lenovo Award in Agriculture, TWAS-Lenovo
- 2019** Prêmio Antonio Carlos Moniz de Ciência do Solo, Sociedade Brasileira de Ciência do Solo
- 2018** Medalha da Ordem Nacional do Mérito Científico (ONMC), Classe Grã-Cruz, Área Ciências Agrárias, Presidência da República
- 2018** Medalha de Mérito da Menção Honrosa e a inscrição no Livro do Mérito do Sistema CONFEA/CREA, Conselho Federal de Engenharia e Agronomia CONFEA
- 2018** Medalha de Mérito do Conselho Regional de Engenharia e Agronomia do Paraná, Conselho Regional de Engenharia e Agronomia do Paraná (CREA-PR)
- 2017** Embaixador de Turismo de Londrina pela realização da XXVII Reunião Latino-americana de Rizobiologia, Convention Bureau - LCB e SEBRAE
- 2017** Profissionais do Ano 2016, Londrina
- 2015** Prêmio Revista Claudia, Categoria Ciências, Editora Abril e Natura
- 2014** Menção honrosa no XIV Encontro Nacional de Microbiologia Ambiental, pelo trabalho de Fukami et al. Parâmetros agronômicos da cultura do trigo em função de diferentes concentrações de Azospirillum, Sociedade Brasileira de Microbiologia
- 2014** Segundo lugar no XIV Encontro Nacional de Microbiologia Ambiental, trabalho de Delamuta et al. Análise filogenética do gene nodY/K revela coevolução e transferência horizontal entre Bradyrhizobium, Sociedade Brasileira de Microbiologia
- 2012** Prêmio Frederico de Menezes Veiga - Tema 2012 "A agricultura na economia de baixa emissão de carbono", Embrapa
- 2011** Prêmio BIAGRO de Trabalho em Pesquisa Básica, XXV Reunião Latinoamericana de Rizobiologia/BIAGRO
- 2011** Prêmio de Melhor Trabalho na Área de Solos do Congresso Brasileiro de Microbiologia, 26 Congresso Brasileiro de Microbiologia
- 2011** Prêmio "Johanna Dobereiner" de Curadoria em Coleções de Culturas, Embrapa
- 2010** Troféu Glaci Zancan "Mulheres de Ciência", SETI, Governo do Paraná
- 2009** Premiação Nacional de Equipes - Categoria Criatividade, Empresa Brasileira de Pesquisa Agropecuária
- 2009** Premiação Nacional de Equipes - Categoria Parceria, Empresa Brasileira de Pesquisa Agropecuária

- 2009** RDA Overseas Honorable Researcher, Rural Development Administration (RDA)
- 2008** Membro Titular da Área de Ciências Agrárias, Academia Brasileira de Ciências
- 2008** Ordem Nacional do Mérito Científico, Classe de Comendador, Ciências Agrárias, Presidência da República
- 2003** Premiação Nacional de Equipes, Embrapa
- 2002** Prêmio BIAGRO de Melhor Trabalho Apresentado, XXI Reunión Latinoamericana de Rhizobiologia/BiAGRO
- 2001** Prêmio Embrapa de Parceria, Empresa Brasileira de Pesquisa Agropecuária
- 1992** Prêmio Ciba-Geigy, II Simpósio Brasileiro sobre Microbiologia do Solo
- 1988** Prêmio Valée do Nordeste, I Congresso Nacional de Biotecnologia

S, T & A Production

Bibliographic Production

Articles Published in Scientific Journals

- 1.** [doi](#) BARBOSA, JULIERME ZIMMER; ROBERTO, LUDMILA DE ALMEIDA; **Hungria, Mariangela**; CORRÊA, RODRIGO STUDART; MAGRI, EDERLAN; CORREIA, TERESA DRUMMOND. 2022. Meta-analysis of maize responses to Azospirillum brasilense inoculation in Brazil: Benefits and lessons to improve inoculation efficiency In APPLIED SOIL ECOLOGY. , v.170, 104276
- 2.** [doi](#) MORETTI, LUIZ GUSTAVO; CRUSCIOL, CARLOS ALEXANDRE COSTA; BOSSOLANI, JOÃO WILLIAM; CALONEGO, JULIANO CARLOS; MOREIRA, ADÔNIS; GARCIA, ARIANI; MOMESSO, LETUSA; KURAMAE, EIKO EURYA; **Hungria, Mariangela**. 2021. Beneficial microbial species and metabolites alleviate soybean oxidative damage and increase grain yield during short dry spells In EUROPEAN JOURNAL OF AGRONOMY. , v.127, 126293
- 3.** [doi](#) Zilli, Jerri Édson; PACHECO, RAFAEL SANCHES; GIANLUPPI, VICENTE; SMIDERLE, OSCAR JOSÉ; URQUIAGA, SEGUNDO; **Hungria, Mariangela**. 2021. Biological N2 fixation and yield performance of soybean inoculated with Bradyrhizobium In NUTRIENT CYCLING IN AGROECOSYSTEMS. , v.1, 1-1
- 4.** [doi](#) KLEPA, MILENA SERENATO; FERRAZ HELENE, LUISA CAROLINE; O'HARA, GRAHAM; **Hungria, Mariangela**. 2021. Bradyrhizobium agreste sp. nov., Bradyrhizobium glycinis sp. nov. and Bradyrhizobium diversitatis sp. nov., isolated from a biodiversity hotspot of the genus Glycine in Western Australia In INTERNATIONAL JOURNAL OF SYSTEMATIC AND EVOLUTIONARY MICROBIOLOGY. , v.1, 1-1
- 5.** [doi](#) GARCIA, MARCOS VINÍCIOS CONCEIÇÃO; **NOGUEIRA, MARCO ANTONIO**; **Hungria, Mariangela**. 2021. Combining microorganisms in inoculants is agronomically important but industrially challenging: case study of a composite inoculant containing Bradyrhizobium and Azospirillum for the soybean crop In AMB Express. , v.11, 71
- 6.** [doi](#) ERCOLE, TAIRINE G.; SAVI, DAIANI C.; **ADAMOSKI, DOUGLAS**; KAVA, VANESSA M.; **Hungria, Mariangela**; GALLI-TERASAWA, LYGIA V.. 2021. Diversity of maize (Zea mays L.) rhizobacteria with potential to promote plant growth In BRAZILIAN JOURNAL OF MICROBIOLOGY. , v.52, 1807-1823
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Presentations in Events

- HUNGRIA, M. *Biological nitrogen fixation with the soybean and common bean crops in the tropics*. 2007. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *A importância da fixação biológica do nitrogênio na cultura da soja: uma história de sucesso na América do Sul*. 2006. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Biodiversity, genomics and proteomics of soil microorganisms in Brazil: An underground agribusiness treasure*. 2006. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Contribution of biological nitrogen fixation to the environmental and agricultural sustainability in Brazil: from grain yield to genes*. 2006. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Microbiologia do solo, rumos e rumores: biodiversidade x biotecnologia, bioprospecção x transgenia, riqueza genética x funcionalidade*. 2006. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Situação atual e perspectivas dos inoculantes microbianos no Brasil*. 2006. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *A biologia do solo*. 2005. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Bioindicadores de qualidade do solo*. 2005. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Biotechnologia na agricultura: Transgênicos e não-transgênicos*. 2005. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Ecology of nitrogen-fixing organisms contributing to sustainable agriculture in tropical agroecosystems*. 2005. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Fixação biológica do N₂ em sistemas agrícolas*. 2005. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Inoculation stories in Brazil*. 2005. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Plantio direto e índices de avaliação da qualidade do solo*. 2005. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Soybean: contrast between U.S. & Brazilian inoculation experiences*. 2005. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Contribuição da biota do solo no rendimento agrícola*. 2004. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *Economical and environmental benefits of inoculation and biological nitrogen fixation with soybean: situation in South America*. 2004. (Conference or lecture, Presentations in Events)
- HUNGRIA, M. *O genoma de Chromobacterium violaceum*. 2004.

17. (Conference or lecture,Presentations in Events)
18. HUNGRIA, M.*Participação do Laboratório de Biotecnologia do Solo da Embrapa Soja no projeto GENOPAR. 2004.*
(Conference or lecture,Presentations in Events)
19. HUNGRIA, M.*Resultados de inoculação de milho e trigo com Azospirillum spp. 2004.*
(Conference or lecture,Presentations in Events)
20. HUNGRIA, M.*Resultados de Reinoculação da soja e inoculação do feijoeiro. 2004.*
(Conference or lecture,Presentations in Events)

Inovação

Projects

Projetos de pesquisa

2017 - Current INCT - Plant-Growth Promoting Microorganisms for Agricultural Sustainability and Environmental Responsibility

Description: There is a strong global demand for more quantitative food production and increased quality, but a new approach is necessary. As important as producing more, it is necessary to consider agricultural sustainability, to enhance the recovery of degraded areas, to lower emissions of greenhouse gases (GHGs) and avoid pollution of the soil and water by agrochemicals, thus optimizing the rational use of inputs. Although fundamental to productivity, chemical fertilizers have high cost, being imported and of low use efficiency by most crops. In this context, microorganisms which promote the growth of plants (PGPM – plant-growth promoting microorganisms) which includes any microorganism that stimulates plant growth, independent of the mechanism of action. These include nitrogen-fixing bacteria, producers of plant-growth regulators, microbes that solubilize potassic and phosphate rocks as well as facilitators of nutrient absorption, such as mycorrhizal fungi are crucial for agricultural sustainability, opening opportunities for what can be defined as a true "green microrevolution" with impact on productivity, but with environmental responsibility. This INCT was proposed with the mission to "conduct basic research and biotechnology development, to train personnel and transfer knowledge, products and technologies for public and private sectors, aiming to increase the use of PGPMs, microbial processes and biomolecules in Brazilian agriculture, maximizing plant nutrition and crop yields with lower inputs of chemical fertilizers and diminished environmental impact." For this, in this first phase of the project 27 specific objectives were outlined, related to 60 goals. The activities included in the basic science component will generate new knowledge on taxonomy, phylogeny, physiology, ecology, structural genomics, proteomics, transcriptomics and metabolomics with PGPM and in-plant associations with PGPM. A second strand is the development of biotechnological products, and molecules related to PGPM technologies with various biotechnological innovations as well as in crop improvement with PGPM-plant associations. New technologies, such as the application of microorganisms, ideal agronomic practices for each crop and the recovery of degraded pastures will be studied and validated. Another strong aspect of this INCT comprises activities related to the environment, with research lines on the quantification of the contribution of biological nitrogen fixation and GHG emissions in comparison to the use of chemical fertilizers, generating information to support the ABC (Low Carbon Agriculture) Plan of the Brazilian government. In addition, this information will allow the use of PGPMs for Clean Development Mechanisms (CDM) and ecosystem services. On the environmental side the use of microbial biomarkers for monitoring soil quality is proposed, with scientific, social and public policy implications.

Status: In progress Category: Projetos de pesquisa

Members: Mariangela Hungria da Cunha (Responsible); ; Funding Institution: Conselho Nacional de Desenvolvimento Científico e Tecnológico-CNPq, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior-CAPEs, Fundação Araucária-FUNDAÇÃO ARAUCÁR

Citations

Web of Science		
Number of articles: 287	Total of citations: 9533	Factor H: 54
HUNGRIA M*		
SCOPUS		
Number of articles: 303	Total of citations: 10381	
Hungria, M*		
Outras		
Number of articles: 600	Total of citations: 22852	
h=83, i10=305		

Total of Production

Bibliographic Production

Articles published in scientific journal	338
Books published	4
Books published	2
Books published	1
Chapters published	66
Organization of work published	3
Article in newspaper	20
Article in magazine	25
Articles published in annals of events	668
Presentations in Events (Conference or lecture)	20
Other bibliographic productions	106

Technical Production

Technological Product (other)	21
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Process or Technique (analytical)	5
Process or Technique (instrumental)	1
Process or Technique (procedural)	9
Process or Technique (other)	9
Technical Works (assessorship)	5
Technical Works (consulting)	8
Technical Works (opinion document)	15
Short Term Course Taught (other)	1
Development of teaching material	4
Radio or TV Show (interview)	3
Other technical production	2

Patentes e Registros

Patente	2
Programa de computador registrado	1

Academic Advisories

Academic Advisory - concluded (Master's thesis - secondary advisor)	10
Academic Advisory - concluded (Master's thesis - primary advisor)	45
Academic Advisory - concluded (Ph.D. thesis - secondary advisor)	12
Academic Advisory - concluded (Ph.D. thesis - primary advisor)	18
Academic Advisory - concluded (Improvement/Specialization Courses Monography)	1
Academic Advisory - concluded (Improvement/Specialization Courses Monography)	5
Academic Advisory - concluded (Course Conclusion Paper - primary advisor)	2
Academic Advisory - concluded (scientific initiation)	17
Academic Advisory - concluded (scientific initiation)	16
Academic Advisory - concluded (postdoctorate supervision)	23
Academic Advisory - concluded (other kinds - primary advisor)	9
Academic Advisory - concluded (other kinds)	66

Events

Participation in events (congress)	47
Participation in events (seminar)	1
Participation in events (symposium)	19
Participation in events (meeting)	6
Participation in events (other)	56
Event Production (congress)	3
Event Production (other)	13
Participation in graduate boards (Master's)	12
Participation in graduate boards (Doctorate)	5
Participation in judging commission boards (professor)	1

Other relevant publications

Other relevant works	90
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