

**C U R R I C U L U M V I T A E**  
**A R I O L A B A C U ( G R A Z H D A N I )**

**PERSONAL INFORMATION**

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- Nationality: Albanian
- Date of birth: 1972
- Place of birth: Tirana, Albania
- Citizenship: Albanian

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**EDUCATION**

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- University of Tirana, Faculty of Natural Sciences and Biological Research Institute-Academy of Sciences, Albania, PhD, 2003.
- MAICh –CIHEAM (Center for Advanced Mediterranean Studies) 1997-2000. Postgraduate studies: Department of Natural Products and Biotechnology.

Diploma of Post Graduate Studies (DSPU) in Natural Products received in 1998.

Master of Sciences in Molecular Biology (MSc) received in 2000.

- University of Tirana, Faculty of Natural Sciences, Department of Biology, 1990 – 1995.  
Bachelor of Sciences (BSc) in Biology received in 1995.

## TEACHING

- Full-time lecturer near the Department of Biotechnology, Faculty of Natural Sciences, University of Tirana.
- Part-time lecturer near the Dept/of Biology, Faculty of Natural Sciences, University of Tirana.
- Part-time lecturer near Non-Public University KRISTAL.

## PRESENTATIONS

1. F.Babani, E.Kongjika, A.Bacu, O.Koja, K.Kristo. Evaluation of trophic state of some Albanian lakes. International Conference on Lakes and Nutrient Loads. 24-26 April 2009, Pogradec. Oral presentation.
2. A.BACU, A.,<sup>1</sup> LOESER, C.,<sup>2</sup> APPENROTH, K.<sup>3</sup> Amplified Fragment Length Polymorphisms (AFLPs) group populations of *Salvia officinalis* of Albania in accordance to their geographical origin. International conference of Alb-Shkenca, FYROM, 2009. Poster.
3. **Kongjika E., Bacu A., Babani F., Zekaj Zh.** “Biodiversity of Albanian populations of some aromatic medicinal plants in molecular, biochemical, histological level and some alternatives of *ex situ* conservation”. 21-23 Prill 2008, VIII Convegno Nazionale “ La Biodiversita-una risorsa per sistemi multifunzionali”, University of Salento, Italy. Poster.
4. **Bacu A.**, Dervishi A.Celami A., Kongjika E. , Ibro V. “*Medicago sativa* populations of Albania, aspects of their genetic relatedness”. Third Conference of Institute Alb-Shkenca, Tiranë 1-3 September, 2008. Poster.
5. <sup>1</sup> **A. Bacu**, <sup>2</sup>**F. Thomaj**, **C. Loeser**<sup>3</sup>, **K. Appenroth**<sup>3</sup>. AFLP-s and RAPD-s reveal important differences among olive (*Olea europea* L.) varieties of Albania. International Conference on Biological & Environmental Sciences; 26-27 September 2008 Tirana, Albania. Proceedings Published at *Journal of Natural Sciences*, 2008. Poster presentation.
6. **Kongjika E., Bacu A., Mata V., Bakiri F., Kokali E.** Micropropagation and “In vitro” Conservation of the Germplasm of some spontaneous species (endemic, endangered and of economic values)”. International Conference on Biological & Environmental Sciences; 26-27 September 2008 Tirana, Albania. Proceedings Published at *Journal of Natural Sciences*, 2008. Poster presentation.
7. **Kongjika E., Bacu A., Damiano C.** Improvement and preservation of Albanian underutilized fruit trees. International Seminar, Scientific and Technological Collaboration Albania-Italy, 2005-2007. Tirana May 2008. Oral presentation.
8. **Kongjika E., Bacu A., Babani F., Ricciardi L., Lotti C., Mata V., Bakiri A., E. Kokali:** “Valorizzazione, propagazione e conservazione ex situ del germoplasma di specie vegetali spontanee e di interesse economico”. Programma di iniziativa comunitaria Pic Interreg III a 2000-2006 – Italia – Albania. Asse II – misura 2.1 – Azione 3 “progetto esecutivo e piano di gestione

dell'organismo intergovernativo (o.i.) mediterraneo per la ridiffusione in ambito mediterraneo di specie endemiche terrestri ed acquatiche" (*progetto ceratonia.*) Conferenza intermedia del "progetto ceratonia" Bari, 8 - 9 settembre 2008.

9. **Bacu A., Kongjia E., Damiano C.** Interspecific variability of RAPD of some pomegranate cultivars (*Punica granatum* L.) growing in central and northwestern Albania. International Seminar, Scientific and Technological Collaboration Albania-Italy, 2005-2007. Tirana May 2008. Oral presentation.
10. **Ariola Bacu, Alfred Mullaj, Fatbardha Babani, Efigjeni Kongjika.** Sherbela (*Salvia officinalis*) of Albania: Evaluation of inter populations variability via molecular methods. Second Conference of Institute Alb-Shkenca, Prishtina-2007. Poster.
11. **<sup>1</sup>BACU A., <sup>2</sup> THOMAJ F., <sup>2</sup> IBRO V.** Molecular characterization of some cultivars of *Olea europea* L. of Central Albania based on AFLPs and RAPDs. Second Conference of Institute Alb-Shkenca, Prishtina-2007. Poster.
12. **Zhaneta (Trojani) Zekaj & Ariola Bacu.** Chromosomal and molecular diversity of the cytotypes of the endemic *L.valentinum* Pau subsp vloreense Papparisto et Qosja. Second Conference of Institute Alb-Shkenca, Prishtina-2007. Poster.
13. **Bacu.A.** "Training on Organic Agriculture as seen by a molecular biologist", Banja Luka, 5-6 June 2007. "Strengthening of Services to Farms and Institutional Support for the Development of Organic Agriculture", Community Initiative Program INTERREG III. Kuntese.
14. **Bacu A.** Ndryshueshmëria brënda llojit e disa bimëve aromatike mjekësore në këndvështrim molekular. Workshop: "Scientific evaluation of aromatic-medicinal plants. Perspectives of cultivation. 18.01.06, Academy of Sciences, Tirana. Oral Presentation.
15. **Babani F., Bacu A., Kongjika E. 2005.** Molecular and biochemical characterization of three different ecotypes of *Oreganum vulgare* grown in Albania. XVII International Botanical Congress, Vienna, AUSTRIA.
16. **Bacu A., Babani F., Kongjika E.** Characterization of different ecotypes of *Salvia officinalis* grown in Albania. XVII International Botanical Congress, Vienna, AUSTRIA. 2005.
17. **Kongjika E., Zekaj.Z., Bacu A., Caushi E., Preci B. 2005.** Endemic *Aster albanicus* species: a case study on its tissue culture and possible genetic changes induced. XVII International Botanical Congress, Vienna, AUSTRIA
18. **Kongjika E., Bacu A.** Scientific evaluation of the biotechnological product –criterion for biosafety. First National Meeting on Biosafety. "Compilation of the National Framework on Biosafety". PNUD. Janar 2005. Oral Presentation.
19. **Bacu A.:** "Use of molecular, biochemical, and biophysical methods for the identification and detection of GMOs-Current situation and needs in Albania.National Conference "Safe Use of Biotechnological Products." 28.10.2005, Tirana. Oral Presentation.
20. **Kongjika E., Caushi E., Bacu A., Mata V.** In vitro genetic bank of some spontaneous species of Albania. Scientific session. Academy of Sciences of Albania. Tirana, 23 December 2005. Oral Presentation.
21. **Bacu A.** "RAPDs results of three natural populations of *Leucojum valentinum* Pau subsp vloreense Papparistoi & Qosja. Workshop on the results of the National Project for Research and Development 03-05:"Evaluation of biodiversity of spontaneous flora of Albania in chromosomal level". University "Aleksandër Xhuvani", Elbasan, 9.12.05. Oral Presentation.

22. **Bacu A.** "Introduktimi i metodave të reja serologjike dhe molekulare për vlerësimin e diversitetit biologjik (*Medicago sativa*) dhe detektimin e fitopatologjive virale (dru-frutore). Sesion Shkencor: Vlerësimi dhe Përdorimi i Qëndrueshëm i Burimeve Natyrore". 23.12.05. Akademia e Shkencave, Tiranë. Kumtesë.
23. **Sotiri P., Kongjika E., Bacu A.** Shtimi i fondit gjenetik të disa specieve drufrutore të florës spontane autoktone të florës spontane dhe landracave primitive autoktone, Sesion Shkencor: "Vlerësimi dhe Përdorimi i Qëndrueshëm i Burimeve Natyrore", Tiranë, 23 Dhjetor 2005. Kumtesë.
24. **Bacu A.** Participation at "Ad Hoc Technical Expert Group on Risk Assessment", 15-18 November 2005, Rome, Italy. UNEP-GEF.
25. **Bacu-Grazhdani A., Kongjika E., Mullaj A.;** Use of RAPD and SSR for the identification of polymorphism among ecotypes of *Salvia officinalis* and *Salvia triloba* grown in Albania, 2004. *Acta Physiologiae Plantarum*, Vol.26, No 3 and poster presentation at the FESPB Congress held in Cracow, Poland in August 2004.
26. **E.D.Ladoukakis, F.Lefort, P.Sotiri, A.Bacu, M. Nikolandonakis, E. Kongjika and K.A. Roubelakis-Angelakis.** 2004. Genetic Characterization of Albanian Grapevine Cultivars by Microsatellite Markers. COST 8581<sup>st</sup>, Switzerland. Oral Presentation.
27. **Bacu A.<sup>1</sup>, Babani F. <sup>1</sup>, Kongjika E.<sup>2</sup>, Proko A.<sup>3</sup>, Mullaj A.<sup>4</sup>, Haska H.<sup>5</sup>,Marko O. <sup>5</sup>** Vlerësimi i polimorfizmit gjenik dhe fiziologjik të ekotipeve shqiptare të *Salvia officinalis* dhe *Salvia triloba*; një studim i realizuar me synim kultivimin e mundshëm të këtyre secieve në toka të varfra. National Conference of Mountain Ecosystems, 4-6.11.2004, Tirana. Oral Presentation.

### ARTICLES

1. **Grazhdani-Bacu A., Makris.A, Owen C.,** 2000. Cloning and characterization of new gene fragments of MTP-s isolated from *Salvia officinalis*, *Biological Studies*, Vol 4, 3-12.
2. **Grazhdani A., Makris. A, Owen C.;** 2003. Use of the restriction analysis as a useful tool for the identification of the differences among PCR amplified products of TPS gene fragments.
3. **Grazhdani-Bacu A., Makris.A, Owen. C,** 2004. Expression patterns of two unique MTP gene fragments isolated from *Salvia officinalis* and *Salvia fruticosa*, *Biological Studies* 8/2004: 3-8.
4. **Kongjika E., Çausi E., Preçi B., Bacu A.,** Indirect organogenesis of endemic sps *Aster albanicus* degen subsp. *paparistoi* qosja during the "in vitro" cultivation. *Biological Studies* 9/2004: 3 – 10.
5. **E. D. Ladoukakis, F. Lefort, P. Sotiri, A. Bacu, M. Nikolandonakis, E.Kongjika and K.A. Roubelakis-Angelakis.** 2004. Genetic Characterization of Albanian Grapevine Cultivars by Microsatellite Markers. *Journal International des Sciences dela Vigne et du Vin* 39(3), 109-119.

6. **Bacu A., Babani F.** Molecular characterization of *Salvia officinalis* and *Salvia triloba* grown in Albania. *AJNTS (Albanian Journal of Natural and Technical Sciences)*, **2005**.
7. F.Babani, V.Toska, K.Koci, A.Bacu, E.Misiri. Genetical and chemical characterization of four populations of *Salvia officinalis*. *Stud. Biol.* No10, 69-77, 2005.
8. Bacu A.” Use of molecular, biochemical and biophysical methods for the detection and identification of GMO-s. Actual situation and needs in Albania. National Conference: The safe use of Biotechnological Products”. *Studime Biologjike*. 2006.
9. **Bacu A., Thomaj F., Ibro V.** Karakterizimi molekular i disa kultivarëve të ullirit (*Olea europea L.*) të Shqipërisë së Mesme bazuar në AFLP. *Buletin of the Academy of Sciences of Kosova*, **2008**.
10. **Trojani, Zh. & Bacu, A.** Caryological and molecular data reveal differences among three closely grown populations of *Leucojum ionicum* of Southern Albania. *AJNTS (Albanian Journal of Natural and Technical Sciences)*, **2008**.
11. **Bacu A., Kongjika E., Damiano C.** “Interspecific variability of RAPDs of some pomegranate cultivars (*Punica granatum l.*) growing in Central and Northwestern Albania”. **2008**.*AJNTS (Albanian Journal of Natural and Technical Sciences)*, 2009.
12. E. Kongjika, A. Bacu, V. Mata, C. Damiano. Micropropagation and “in vitro” conservation of some Albanian fruit trees under utilization”. Special Edition of Journal of Ministry of Science and Education 2008 on bilateral Projects.
13. **Kongjika E., Bacu A., Babani F., Zekaj Zh.** “Biodiversity of Albanian populations of some aromatic medicinal plants in molecular, biochemical, histological level and some alternatives of *ex situ* conservation”. *Italus Hortus*, **2008**. Proceedings of the VIII National Congress “ La Biodiversita-una risorsa per sistemi multifunzionali”.
14. A. Bacu, V. Mata, E. Kongjika, F. Babani, L. Dinga, F. Bakiri, **2008**, “Micropropagation and “in vitro” conservation of the germplasm of some aromatic-medicinal species”, Proceedings of “*International Conference on Biological and Environmental Sciences*”.
15. E. Kukali, V. Mata, A. Bacu, F. Bakiri, E. Kongjika, **2008** “Micropropagation and “in vitro” conservation of some albanian fruit trees under utilization”, Proceedings of “*International Conference on Biological and Environmental Sciences*”.
16. <sup>1</sup> A. Bacu, <sup>2</sup> F. Thomaj, C. Loeser<sup>3</sup>, K. Appenroth<sup>3</sup> AFLP-s and RAPD-s reveal important differences among olive (*Olea europea L.*) varieties of Albania. Proceedings of *International Conference on Biological and Environmental Sciences*, 2008.

## MONOGRAPHS

**Haska, Grazhdani- Bacu, Marko. "SAGE", 2005.**

**Kongjika, Babani, Mullaj, Zekaj, Bacu, 2006. ISBN 99943-656-7-3**

"Scientific evaluation of aromatic-medicinal species. Perspectives of cultivation".

**Zh.Trojani-Zekaj, A.Mullaj, A.Bacu, P.Hoda, S.Turku. 2006.**

"Cytological and molecular evaluation of some endemic, rare, and endangered plant species of Albania".

**Zh.Zekaj, A.Mullaj, A.Bacu, P.Hoda. 2007.**

"Characterization of plant species of albanian flora via cytological and molecular methods". ISBN 978-99956-10-03-6

**A.Bacu-Grazhdani. "Practics of Molecular Biotechnology.Textbook. ISBN 978-99943-46-39-4. Mars 2008.**

## PARTICIPATION IN PROJECTS

Application of some methods of Molecular Biology to identify diversity at members of the family *Lamiaceae*. 2002-2004. Academy of Sciences. Project Coordinator.

Biological differences at wheat populations cultivated in Albania. Academy of Sciences 1999-2005. Collaborator.

The effect of egzogenous nucleic acids at different agricultural cultures. Academy of Sciences.1999- 2005. Collaborator.

Potencial evaluation, identification of biodiversity at molecular level, "in vitro" and "in vivo" propagation of some aromatic plant species with aim the cultivation of chosen chemotypes of

some aromatic-medicinal plants in poor soils of Albania. National Program for Research and Development (PKKZH) 2003-2005. Collaborator.

Evaluation of the biodiversity of some species of the spontaneous Flora of Albania in chromosome level. National Program for Research and Development (PKKZH, 2003-2005). Collaborator.

Use and preservation of some underutilized fruit-trees native to Albania. Min.of Science and Education, Protocol Italy-Albania, 2004-2007. Collaborator.

Morphobiological and genetical characterisation of albanian ecotypes of *Medicago sativa*". Ministry of Food and Agriculture. 2005-2006. Coordinator for the Academy of Sciences.

The use of the biotechnological methods for the genetic improvement, preservation, protection and enrichment of the germplasm,; Micropropagation "in vitro" and production of virus-free primary materials from some cultures of practical importance and of value for the local biodiversity. Academy of Sciences 2000-2006. Collaborator.

The use of the biotechnological methods for the genetic improvement, preservation, protection and enrichment of the germplasm,; Micropropagation "in vitro" and production of virus-free primary materials from some cultures of practical importance and of value for the local biodiversity. Academy of Sciences 2000-2006. Collaborator.

Use of AFLP-s, Amplified Fragment Length Polymorphisms for the study of polymorphisms at aromatic plant species of fam. *Lamiaceae*. 2006. DAAD Research Stay. Coordinator.

Identification, characterization, and standartisation of the endemic microorganisms of industrial and agricultural importance with aim the improvement of the national collection of microorganisms. National Program for Research and Development (PKKZH, 2003-2005). Collaborator

Introduction of the molecular methods for the traceability and evaluation of the quality of fruit-trees and their products. Academy of Sciences. 2005-2006. Coordinator.

Participation at the project:” Strengthening of Services to Farms and Institutional Support for the Development of Organic Agriculture”, Community Initiative Program INTERREG IIIA. Training course 20-27 May 2007, University of Bari, University of Lecce. Diploma received and presentation at the meeting of Banja Luka, 5-6 June 2007 titled ” Organic Agriculture Training as seen by a molecular biologist”. Collaborator.

Use of SNPs and SSRs for genetic diversity assessment within cultivated olive germplasm from WESTERN BALKAN COUNTRIES. FP6. SEE-ERA- INTAS Ref. Nr 06-1000031-10561, 2007-2009. Coordinator for the Albanian team.

BUILDING CAPACITY FOR EFFECTIVE PARTICIPATION IN THE BIOSAFETY CLEARING HOUSE. UNEP, GEF. 2007. Participation in the overall project and attendance in the workshop entitled:” Local workshop on the use of the Biosafety Clearing House”.

“Progetto esecutivo e piano di gestione dell’organismo intergovernativo Mediterraneo per la ridiffusione in ambito Mediterraneo di specie endemiche terrestri ed acquatiche” (CERATONIA), Programma di iniziativa Comunitaria PIC INTERREG IIIA Italia-Albania, Asse II, Misura 2.1, Azione 3. (2006-2008) Collaborator.

Evaluation of biodiversity in molecular level, characterisation of stress responses and phytosanitary status, preservation „ex situ“ and „in situ“ for some local fruit trees of low use. i disa specieve frutore spontane me përdorim të pakët of specific status. (PKKZH 2007-2009, ”Biodiversiteti dhe Mjediti”). Collaborator.

Evaluation of endemic and endangered species of Albanian flora, in chromosomal and molecular level. (PKKZH 2007-2009, ”Biodiversiteti dhe Mjediti”) . Collaborator..

Pilot project on the introduction of advanced technics of research for the investigation of plant biodiversity in populations level, model species *Salvia officinalis* L., (PKKZH 2007-2009 ”Biodiversiteti dhe Mjediti”). Coordinator.

Project of the Ministry of Science and Education ”Quality and Equality in Education” 2008. Coordinator.

## **CURRICULAS DIRECTED**

### **AT PROGRAMES RUNNED BY THE DEPARTMENT OF BIOTECHNOLOGY**

#### **1. Diploma of Second Level in Molecular and Industrial Biotechnology.**

**Subjects:** “Technics and Methodologies of Molecular Biotechnology”; “Molecular Markers and genetical polymorphisms ”; “Impact and management of GMOs”.

#### **2. PhD Program in Plant Biotechnology**

Subject: “Molecular Markers, their uses”.

#### **3. Master of First Level in Environmental Biotechnology**

Subject “GMOs their impact on environment”.