

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Curriculum Vitae

Gammaa Abdelgadir Mohamed Osman

Sudan Academy of Sciences (SAS)

E-mail:gammaaosman@yahoo.com

Place of birth: Khartoum.

Date of birth: 10/02/1967

Nationality: Sudanese

Sex: male

Marital status: Married

Language: Arabic: Mother tongue

English : Good written and spoken

Current position: Secretary of scientific affairs, Sudan Academy of Sciences (SAS)

Address: Sudan Academy of Sciences (SAS), Khartoum, Sudan P.O. Box 86. Khartoum. Sudan. Tel. 0918042153, fax 183 496602

Educational Background:

Ph.D. 2004 Department of Food Science and Technology, Faculty of Agriculture, University of Khartoum. Title of Thesis: Persistence and Influence of Selected Pesticides on Cottonseeds and Its Products.

M.Sc. 1998 Department of Food Science and Technology, Faculty of Agriculture, University of Khartoum. Title of Thesis: Biogas Production from Physically and Chemically Treated Agricultural Residues.

B.Sc (Honors) 1994 Second class division one, Majoring Biochemistry and Food Science, Department of Food Science and Technology, Faculty of Agriculture, University of Khartoum.

Research Experience

Associate Research Professor, Department of Environmental Pollution, Environment , Natural Resources and Desertification Research Institute, National Center for Research (2009 – present).

Assistant Research Professor, Department of Environmental Pollution, Environment and natural Resource Research Institute, National Center for Research (2004 – 2009).

Researcher, Department of Environmental Pollution, Environment and Natural Resource Research Institute, National Center for Research,(1998 – 2004).

Researcher Assistant, Department of Environmental Pollution, Environment and natural Resources Research Institute, National Center for Research, (1997- 1998).

Researcher Assistant, Department of Biomass Energy, Energy Research Institute. National Center for Research, (1994- 1996).

Administrative experience

Secretary of Scientific affairs, Sudan Academy of sciences (April 2015 - present).

Head of the Department of Environmental Pollution, Environment , Natural Resources and Desertification Research Institute, National Center for Research (2013 – 2015).

Coordinator of waste management M.Sc program, Council of Biological Science, Advanced Technologies and Environment, Sudan Academy of Science. (2006 – 2015)

Registrar of the of the Environmental Research and Studies Council, Sudan Academy of Science. (2004 – 2005)

Research Activities and interest:

- 1- Waste management and recycling (sewage water, sewage sludge, agricultural waste, food waste, obsolete pesticides, obsolete chemicals)
- 2- Phyto-remediation (use of plants for the remediation) of organic and inorganic pollutants.
- 3- Food irradiation as alternative to pesticides fumigants and food additives.
- 4- Food contaminants (detection and study the effect of different processing methods on pesticides residues, veterinary drugs residues, heavy metals)

Training Courses:

1- ISTIC Certified Training Programme on Science, Technology and Innovation(STI) Policy and Management for Developing Countries (ICPS) **8-15 September 2014 Kuala Lumpur, Malaysia.**

2. Mediterranean workshop on New Technologies of Recycling of Non Conventional Water in Protected Cultivation Opportunities and New Challenges for Arid and Semi -Arid Regions. - **28 April -1st May 2008 Agadir, Morocco.**

3- Training workshop on sustainable Management of Wastewater for Agricultural Production in Water Scarce Countries 11-15 November 2007, **ICARDA, Aleppo, Syria**

4- Training course on use of nuclear techniques in environmental researches and studies. Middle East center for radiated isotopes **Cairo, Egypt. 16 - 27 April 2005.**

5. Training workshop on Obsolete Pesticides Inventory, Higher Council for Environment and Natural Resources **Khartoum, Sudan. 25 - 30 September 2004.**

6. IAEA Regional training workshop on radiation treatment of industrial and municipal wastewater environment, **Tunis, Tunisia., 6 – 10 May 2002**

7. International training workshop on use of nuclear techniques in studies of pesticides in eco-environment, **Beijing, China. 10 - 21 September 2001**

8. National training workshop on Environmental Impact Assessment, Higher Council for Environment and Natural Resources **Khartoum, Sudan. 17 – 29 January 1999.**

Supervision:

I had supervised the following students for M.Sc.(full and partial research) and they had finished their degree successfully, after the submission of a Thesis for the Sudan Academy of Science , Sudan

As Main Supervisor:

1- Yousif Mohamed Elnor M. Sc. Student, Ethanol production from different varieties of sweet sorghum genotypes, Sudan Academy of Science (full research - 2010)

2- Abass Mohamed Elmahi The current status and management, of obsolete pesticides, in Gezira state. Sudan Academy of Science (Full research - 2012).

3- Sahar hassan awad M. Sc. Student, Characterization of treated wastewater, Sudan Academy of Science (partial research - 2010)

4- Aisha Abdelmagid majzoub M. Sc. Student, Current state and management of obsolete pesticides in Khartoum state, Sudan Academy of Science (partial research - 2010)

5- Osman Mohamed Elmahdi M. Sc. Student Phytoremediation of lead contaminated – environment by Maize seedlings, (partial research - 2011)

6- **Gaafar Mohamed Abdella** M. Sc. Student, Evaluation of the quality of drinking water in Graet Omdurman city, Sudan Academy of Science (partial research - 2011)

7- **Eptihal Abdelrahim Hassan** M. Sc. Student, Status and management of obsolete chemicals in Sudanese educational institutes Sudan Academy of Science (partial research - 2011)

8- **Inas Ahmed Alaas** M. Sc. Student, Screenog of plant species for growing under the environment of used motor oil Sudan Academy of Science (partial research - 2011)

9- **Mohamed Osman Omer** M. Sc. Student, Study of sugar cane bagasse production and management in Sudan Sudan Academy of Science (partial research - 2011)

10- **Gamar Ahmed Mohamed** M. Sc. Student, Evaluation of filter mud status and management in Sudan, Sudan Academy of Science (partial research - 2011)

11- **Musaab abdeen** Utilization of phragmites plant for purification of sewage wastewater and produced oil water. Sudan Academy of Science (partial research – 2012)

12. **Nadir Hassan Ali** Biogas production from fruit and vegetable wastes. Sudan Academy of Science (partial research – 2015)

As co-supervisor:

- 1- **Nagwa Mohamed Ibrahim.** Determination of malathion residues in tomato and cucumber by HPLC. MSc, student Sudan Academy of Science (Full research - 2012)

I have been supervising the following students for M.Sc. (full and partial research) and they have currently working to finished their degree at Sudan Academy of Science, Sudan.

- 1- **Abdelazeem Mohamed Ali Ahmed (PhD student)** Analytical approaches of treated sewage waste application in agriculture and their limiting factors Sudan Academy of Science (full research - date of registration was 2013)

- 2-**Muzdalifa Ahmed Omer,(M. Sc. Student)** potential source of pollution of surface water in Nyala locality, South Darfur. Sudan Academy of Science (full research - date of registration was 2012)

As co-supervisor

- 1- **Omer Mohamed Dafaalla (PhD student)** Study of efficiency of AAS for detection of heavy metals in environmental samples under different conditions Sudan Academy of Science (Full research - date of registration was 2011)
- 2- **Afaf Osman (PhD student)** Effect on conventional and domestic processes on malathion residues in okra fruits. ((Full research - date of registration was 2014)

Examination of M Sc. And PhD students :

As Internal examiner:

Ph.D students:

1-Hago E. Elhassan (2013) Estimation of the effect of chromium on growth and enzyme activity in some sorghum (sorghum bicolor) genotypes. PhD. Thesis, Sudan Academy of Science.

2-Tagelsir Awad Ahmed Digno (2013) Effect of oil produced water on under ground water environment. PhD. Thesis, Sudan Academy of Science.

MSc. students

1-Shagan B. A. Ali (2008) Removal of Chromium from tannery wastewater by adsorption using bagasse fly ash. MSc. Thesis, Sudan Academy of Science

2-Abdelazeem M. A. Ahmed (2010) Effect of sanitation system on ground water of Khartoum state. MSc. Thesis, Sudan Academy of Science

3-Amal Mohamed Ibrahim (2012) study on drinking water quality in Kassal state , Sudan Academy of Science

4-Mohamed Mahgoub Mohamed Saeed (2012) Detection of hydrocarbon emission in Khartoum state. MSc. Thesis, Sudan Academy of Science

5-Badawi Ahmed Badawi student (2013) determination of quality of seed and seed oil of zizpus. . MSc. Thesis, Sudan Academy of Science

6-**Alnil Ali Elfaki Ali** student (2013) Evaluation of wastewater treatment plants in Alhuda town, Khartoum state. MSc. Thesis, Sudan Academy of Science

7. **Amel Ali Mohamed Ibrahim (2015)** MSc. Thesis, Sudan Academy of Science.

8- **Abdelazeem S. Abass** (2015) assessment and control of hydrogen sulphide in drinking water of Dongla locality. MSc. Thesis, Sudan Academy of Science.

As External Examiner:

1-**Lemya Bashir Adam** student (2011) Effect of different fertilizers regimes on the growth parameters and flavonoids profiles of two cultivars of *Catharanthus roseus* University of Khartoum, Sudan

2- **Hamed Abdelwahab Hamid** student (2012) Quality attributes of two tea profiles of two cultivars University of Khartoum, Sudan

3-**Hiba Osman Ibrahim Khayri** student (2013) Assessment of nutritional status of Sudanese primary school

4-**Ebtisam Ahmed Abubaker Mohamed** student (2014) study of chemical composition and antioxidant capacity of Sudanese propolis from two locations. University of Khartoum, Sudan

5-**Wala Elfadel Ahmed** student (2014) Acrylmide formation and nutritive value as affected by different pre- frying process . University of Khartoum, Sudan.

6-**Baha Eldein Hayder Yasein** (2014) Monitoring of pesticide residues in tomato fruits cultivated in greenhouses in Khartoum state. University of Khartoum, Sudan.

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Teaching experience :

Courses taught to under graduate students:

-Food biochemistry, Department of Home Science , Faculty of Education, University of Khartoum, Sudan, 2005 – 2007

2- -Food analysis, Department of Home Science , Faculty of Education, University of Khartoum, Sudan, 2014 – Now

2- Food Chemistry / Biochemistry (Laboratory techniques), Department of Food Science and Technology. Faculty of Agriculture, University of Khartoum, 1995 – 2010

1-General Chemistry, Faculty of natural resources, University of Juba, Sudan, 1998 - 2007

2-Physical chemistry, Faculty of Agriculture , University of Elazhari, Sudan 2003- 2005.

1- Environmental microbiology, Faculty of Science, International University of Africa, Sudan. 2006 – present.

Courses taught to post graduate students:

1- Solid waste treatment, Waste management and technology M.Sc program, Sudan Academy of Science,. 2007 – present.

2- Waste biotechnology, Waste management and technology M.Sc program, Sudan Academy of Science,. 2007 – present

3- Lab techniques, Food quality control, MSc program, Faculty of Agriculture, University of Alazhari, 2014 – present

Publications:

In refereed Scientific Journals:

1- Amro B. Hassan, Nagat , S. Mahmoud, Randa, A. A. Elagib , Mohamed A. H. Rushdi, Gammaa A. M. Osman, (2013) Effect s of radiation processing on invitro protein digestibility and availability of calcium, phosphorus and iron of peanut Radiation Physics and chemistry 91: 200-202.

2- Asha Mohamed Ali Osman , Amro B. Hassan, **Gammaa A. M. Osman**, Nagat Mohammed, Mohamed A. H. Rushdi, Eiman E. Diab and Elfadi l E. Babiker (2014) Effect s of gamma irradiation and/o r cookin g on nutritional quality of faba bean (Vicia faba L) cultivars seeds J Food Sci Technol

2-Amro B. Hassan, Eiman E. Diab, Nagat S.Mahmoud, Randa A. E. Algib, Mohamed A. H. Rushdi, **Gammaa A. M. Osman**, (2013) Effect s of radiation processing on invitro protein digestibility and availability of calcium, phosphorus and iron of peanut Radiation Physics and chemistry 91: 200-202.

3- Hala A.A. Musa, Eltayeb E.A. Ahmed, **Gammaa A.M. Osman**, Hiba A. Ali and Jutta Ludwig-Müller (2012) Effect of gamma irradiation on some biochemical components of seed extract and Microbial load of fenugreek seeds. University of Khartoum Journal of Agricultural Sciences 20: :98 – 112

4- Hala A.A. Musa, Eltayeb E.A. Ahmed, **Gammaa A.M. Osman**, Hiba A. Ali and Jutta Ludwig-Müller (2011) Microbial load and stability of

some phytochemical components of selected Sudanese medicinal plants as affected by gamma irradiation. IJSN 2 (2) 2011:204 – 209

5- Abdelazim A. M. Nour , Khalid S. M. Khalid and **Gammaa A. M. Osman** (2011) Suitability of some Sudanese mango varieties for jam making AJSIR 2: 17 -23.

6- Eiman E. Diab , Hago E. Elhassan and **Gammaa A. M. Osman** (2010) Treated wastewater reuse for forest irrigation under nursery conditions. Sudan academy of Science Journal 3: 10-16

6- Hala A.A. Musa, Eltayeb E.A. Ahmed, **Gammaa A.M. Osman**, Hiba A. Ali and Jutta Ludwig-Müller (2010) Microbial load and phytochemicals stability of camel hay (*Cymbopogon schoenanthus* L leaves as affected by gamma irradiation. ABJNA, 1(4): 662-670

7._Mariam I.O. Mohammed, Abdelmoneim I. Mustafa and **Gammaa A.M. Osman** (2009) Evaluation of wheat breads supplemented with Teff (*Eragrostis tef* (ZUCC.) Trotter) grain flour. Australian Journal of Crop Science 3 (4):207-212.

8- A/Azim A. M. Nour S. E. A Hmed **Gammaa A. M. Osman** (2009) Effect of Gamma Irradiation on the Physico-chemical Characterstics of groundnut (*Arachis hypogaea*). Australian Journal of Basic and Applied Sciences.3:2856-8178.

- 9- Amro B. Hassan, **Gammaa A.M. Osman** , Mohamed. A.H. Rushdi, Mohamed M. Eltayeb and E.E. Diab (2009) Effect of Gamma Irradiation on the Nutritional Quality of Maize Cultivars (*Zea mays*) and Sorghum (*Sorghum bicolor*) Grains. Pakistan Journal of Nutrition 8 (2): 167-171
- 10- Mohamed M. Eltayeb Amro B. Hassn, **Gammaa, A. Mohamed** and Elfadil E. Babiker (2008) effect of processing followed by fermentation and HCl extractability of Ca, P, Fe and Zn of pearl millet cultivar. International Journal of Agricultural Research 3(5) 349 – 356.
- 11- Amro B. Hassn, **Gammaa, A. Osman** and Elfadil E. Babiker (2007) chymotrypsin digestion followed by polysaccharides conjugation or transglutaminase treatment on functional properties of millet protein. Journal of Food Chemistry 102: 257 – 262.
12. Khalid A. Hassan, Amro B. Hassn, Mohamed M. Eltayeb, Nafisa M. Elhassan, **Gammaa, A. Osman**, and Elfadil E. Babiker (2007) Solubility and functional properties of boiled and fried locust (*Anacridium melanorehodon*) as influenced by pH level . Journal of Food Technology, 5 (3) 205-209.
13. Khalid A. Hassan, Amro B. Hassn, Mohamed M. Eltayeb, **Gammaa, A. Osman**, Nafisa M. Elhassan and Elfadil E. Babiker (2007) Solubility and functional properties of boiled and fried Sudanese tree locust flour as a function of NaCl concentration. Journal of Food Technology, 5 (3) 210-214

- 14- Gammaa, A. Osman, A. I. Mustafa and A. O. Abdelbagi (2006)** Effect of Clorpyrifos on oil, protein, minerals and antinutritional factors of cottonseeds. *Journal of Food Technology*, 4(1) 32-36.
- 15. Gammaa, A. Osman, A. H. ElTinay and Elyamen F. Mohamed (2006)** Biogas Production from Agricultural wastes. *Journal of Food Technology*, 4(1) 37-39.
- 16. Amro B. Hassn, Isam A. Mohamed Ahmed, Nuha M. Osman, Mohamed M. Eltayeb, Gammaa, A. Osman and Elfadil E. Babiker (2006)** Effect of processing treatment followed by fermentation on protein content and digestibility of pearl millet cultivar. *Pakistan Journal of Nutrition*. 5 (1) 86 - 89.
- 17. Gammaa, A. Osman, A. I. Mustafa and A. O. Abdelbagi** Effect of Metasystox application on cottonseeds quality. *Pakistan Journal of Nutrition*. 5 (5) 267 -270.
- 18. Gammaa, A. Osman, A. I. Mustafa and A. O. Abdelbagi** Persistence and biochemical signs of Malathion on cottonseeds. *Pakistan Journal of Nutrition*. 5 (5) 441 - 444
- 19.. Amro B. Hassan, Gammaa, A. Osman and Elfadil E. Babiker (2005)** Effect of domestic processing on antinutrients and availability of protein and minerals of lupin (*Lupinus termis*) seeds. *Journal of Food Technology*, 3(2) 263-265.

In Conferences:

1- Gammaa A. M. Osman ,Eiman E. E. Diab and Hajo E. ElHassan (2007)
Research on wastewater reuse in Sudan: the experience of Environment and Natural Resources Research Institute (ENRRI). Proceeding of Bridging Workshop Series : Sustainable Management of Wastewater for Agricultural Production in Water Scarce Countries 11-15 November 2007, **Aleppo, Syria**

2. Gammaa A. M. Osman ,Eiman E. E. Diab and Hajo E. ElHassan (2006)
Effect of Sewage Sludge Application on Growth, Yield and Metals accumulation. The second international conference of environmental science and technology, **Cairo, Egypt**

3. Eiman E. E. Diab Gammaa A. M. Osman , and Hajo E. ElHassan (2006)
Effect of Wastewater Application on Growth, Yield and Metal Accumulation in Vegetable Crops The second international conference of environmental science and technology, **Cairo, Egypt.**

1. Taha, I. M. and G. Abdelgadir (2002) Effect of treated sewage water on surrounding inhabitants. Dubia International conference on water resources, **Dubia, United Arab states.**

In Scientific Reports:

1- Amro Babiker, Gammaa Abdelgadir and Eiman Elrashid (2007) Effect of gamma Irradiation on chemical composition of Sorghum and Maize.

Annual Scientific Reports of the Environment and natural Resources Research Institute the National Center for Research, Khartoum

2- Gammaa Abdelgadir, Eiman Elrashid and Hago Elzain (2006) Use of sewage sludge in agriculture as fertilizer. Annual Scientific Reports of the Environment and natural Resources Research Institute the National Center for Research, Khartoum

3- Eiman Elrashid, Gammaa Abdelgadir and Hago Elzain (2006) Effect of treated wastewater on vegetable growth. Annual Scientific Reports of the Environment and natural Resources Research Institute the National Center for Research, Khartoum

4 - Eiman Elrashid, Gammaa A. M. Osman (2005) Heavy metals accumulation in vegetable tissues irrigated with treated wastewater. Annual Scientific Reports of the Environment and natural Resources Research Institute the National Center for Research, Khartoum

5- Gammaa A. M. Osman, and Eiman Elrashid (2005) Effect of Sewage Sludge Application on metals accumulation in vegetable tissues. Annual Scientific Reports of the Environment and natural Resources Research Institute the National Center for Research, Khartoum

6- Gammaa Abdelgadir. A. I. Mustafa and A. O. Abdelbagi (2004) Residues of Dursban and its effect on cotton seeds. Annual Scientific Reports of the Environment and natural Resources Research Institute.. the National Center for Research , Khartoum.

7- **Gammaa Abdelgadir.** A. I. Mustafa and A. O. Abdelbagi (2003) Effect of processing on pesticides residues in cottonseeds oil. Annual Scientific Reports of the Environment and natural Resources Research Institute.. the National Center for Research , Khartoum.

8 – **Gammaa Abdelgadir** and Izat M. Taha (2000) Effect of anaerobic fermented sewage sludge on rocket plant. Annual Scientific Reports of the Environment and natural Resources Research Institute.. the National Center for Research , Khartoum.

9 Eiman E. **Gammaa Abdelgadir.** and Elsaied, S. (1999) Production of organic fertilizer from domestic waste. Annual Scientific Reports of the Environment and natural Resources Research Institute the National Center for Research , Khartoum..

10. Eiman Elrashid. **Gammaa Abdelgadir.** Muna Abdelmoeim,. and Izat M. Taha.. (1998) Use of treated sewage water in cultivation of Abusabien feed (Sorghum bicolor) Annual Scientific Reports of the Environment and natural Resources Research Institute the National Center for Research, Khartoum.

Scientific books:

1. Elfadil E. Babiker and **Gammaa, A. Mohamed.** (2005) Analysis of protein (in Arabic) **University of Khartoum press, Sudan.**

Administrative duties:

- 1- Head of Environmental Pollution, Environment and natural Resources Research Institute, National Center for Research, (2013- present).
- 2- Registrar of the Coordination Board of the Environmental Research and Studies, Sudan Academy of Science. (2004 – 2005)
- 2- Coordinator of waste management M.Sc program, Coordination Board of Biological Science, Advanced Technologies and Environment, Sudan Academy of Science. (2006 – Present)

Membership in scientific and professional Committees

Internal:

- 1- Member and repertoire of the Coordination Board of the Environmental Research and Studies, **Sudan Academy of Science**. (2004 – 2005)
- 2- Member and repertoire of the Committee for the approval of technologies and research output.. **National Center for Research**, (2005)
- 3- Member of the Committee for the preparation and follow up of the performance report of Sudan Academy of Science., **Sudan Academy of Science**. (2004 – 2006)
- 4- Member of the Committee for the preparation of the proposal of M.Sc. program in Waste management and Engineering , **Sudan Academy of Science**. (2006)
- 5- Member of the examination committee, Coordination Board of Biological Science, Advanced Technologies and Environment, Sudan **Academy of Science**. (2006 – present)

External:

- 1- Member of the scientific committee of pesticides , Sudanese Standards and Metrology Organization.(SSMO) (2005 – present).

- 2- Member of the Multi-stakeholders National Coordination Committee (MNCC) for the preparation of National Implementation Plan, Higher Council for Environment and Natural Resources , (2004-2008)
- 3- Member of the National Committee for Environmental Information network, Higher Council for Environment and Natural Resources , (2006-2008)
- 4- Member of the Committee for Eco- Information network, UNISCO chair for Eco – techniques, Computer man College, (2007 – present)
- 5- Member and repertoire of Secretaries board of Alemarat College for Technical studies. (2000 – Present)