Elkamil Hamed Mohamed Tola

Personal Information

First Name Elkamil
Family Name Tola
Full Name Elkamil Hamed Mohamed Tola
Nationality Sudanese
Date Of Birth 01.01.1963
Place Of Birth Alhugna (Shendi), Sudan
Status Married, 4 Children

Current Address:
Precision Agriculture Research Chair (Parc)
College Of Food And Agricultural Sciences
King Saud University
Riyadh 11451, Saudi Arabia
E-Mail: Klhtola63@Yahoo.Com & Etola@Ksu.Edu.Sa
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Education

2002 Ph.D. Agricultural Engineering, Hohenheim University, Germany.
Dissertation: Performance of different no-till furrow openers under different soil and crop residue conditions

1995 M.Sc. Agricultural Engineering, University of Khartoum, Sudan.
Dissertation: Effect of Four Tillage Treatments on Soil Physical Properties and Wheat Production

1985 B.Sc. Agricultural Engineering, University of Khartoum, Sudan

Professional Experience

Assistant Professor
April 2011 - Date Precision Agriculture Research Chair (PARC), College of
Food and Agricultural Sciences, King Saud University.

Assistant Professor,

Jan 2009 – March 2011 Department of Agricultural Engineering, Faculty of Engineering,
University of Khartoum, Sudan

Visiting Researcher
May 2008 – Jan 2009 Agricultural Machinery Research and Design Centre (AMRDC), University of South Australia, Australia.

Assistant Professor,
November 2007 – April 2008 Department of Agricultural Engineering, Faculty of Engineering, University of Khartoum, Sudan.
Postdoctoral Researcher,
Nov. 2005 - November 2007 Crop Production Engineering Laboratory, Graduate School of Agriculture, Hokkaido University, JAPAN

Head

January 2005- October 2005 Department of Agricultural Engineering, Faculty of Engineering and Architecture, University of Khartoum, Sudan.

Assistant Professor,
September 2002- October 2005 Department of Agricultural Engineering, Faculty of Engineering
and Architecture, University of Khartoum, Sudan.
Coordinator - First Year Class,

September 2004- February 2005 Faculty of Engineering and Architecture, University of Khartoum,
Sudan.

Coordinator - Second Year Class,
November 2002- September 2004 Faculty of Engineering and Architecture, University of Khartoum,
Sudan.

Instructor (Lecturer),
June 1996 – September 2002 Department of Agricultural Engineering, Faculty of Engineering
and Architecture, University of Khartoum, Sudan.

Teaching and Research Assistant,
November I990 – June 1996 Department of Agricultural Engineering, Faculty of Engineering
and Architecture, University of Khartoum, Sudan.

Operation and Maintenance Engineer,

1986 – 1990 Port-Sudan Vegetable Oil Industries, Khartoum, Sudan &
Agricultural Engineer,
Seliet Food Production Co. Ltd., Khartoum North, Sudan.

Part-time Teaching Assistant,
1985 – 1986 Department of Agricultural Engineering, Faculty of
Engineering
and Architecture, University of Khartoum, Sudan.

Supervision

(i) Postgraduate
(1) Osama Abdalla Hajahmed (2010). Development of an opto-electronic monitoring system
for assessment of planter seed metering performance. M.Sc. Thesis, University of Khartoum.
(2) Zahir Ahmed Ali Talha (2010). Pneumatic system for granular fertilizer flow rate control.
M.Sc. Thesis, University of Khartoum.
(ii) Undergraduate (B.Sc. Dissertations)
(1) Mohamed Hamed, Mohamed Abdelrahman, and Suliman Omer (2009-2010). Development
of a Hydraulic System for Seed Depth Adjustment. Faculty of Engineering, University of
Khartoum, Sudan.
(2) Amr Elmadih and Falza Omer (2009-2010). Development of an electric drive system for
planter seed metering. Faculty of Engineering, University of Khartoum, Sudan.
(3) Aamir Alobeid, Mohamed Ali, and Yousif Abdelmalik (2009-2010). Development of a
Granular Fertilizer Rate Monitoring System. Faculty of Engineering, University of Khartoum,
Sudan.
(4) Emmanuel Dariet, Mussaab Said, and Yassir Abbass (2008-2009). Highlights on zero tillage
cropping system and its progress in Sudan. Faculty of Engineering, University of Juba,
Sudan.
(5) Malaz Awad and Yousif (2008-2009). Development of a system to measure granular fertilizer
output rate. Faculty of Engineering, University of Khartoum, Sudan.
(6) Gano Wilson, Grace Rudolf, Adam Juma, and John Abu (2004-2005). Theoretical

analysis
of the disc harrow manufactured by GIAD Company (Sudan). Faculty of Engineering, University
of Juba, Sudan.
(7) Mohamed Najmeldein and Siham Hassan (2004-2005). Effect of seed depth on plant
growth. Faculty of Engineering, University of Khartoum, Sudan.
(8) Gameel Ahmed (2004-2005). Farm machinery testing methods in the Sudan. Faculty of
Engineering, University of Khartoum, Sudan.
(9) Wael M. Abdalla, Mohamed TajelSir (2003-2004). Precision Farming in the Sudan. Faculty
of Engineering, University of Khartoum, Sudan.
(10) Wamda ElFatih, Ammar Ahmed (2003-2004). The potentials and success-ability of zero tillage
in the Sudan. Faculty of Engineering, University of Khartoum, Sudan.

Post Graduate Thesis Examiner

1. Hussein Yousif (2009). Development of a hydraulic trainer bench. M.Sc dissertation, University
of Khartoum, Sudan, supervised by O. A. Rahama and A. F. Kheiralla
2. Azhar Hamid Salih Khalifa (2010). Vehicle tracking system for sugar cane hauling in Kenana scheme. M.Sc dissertation, University of Khartoum, Sudan, supervised by A. S. Ganawa and A. F. Kheiralla.
3. Huda Hassan Taha Ibrahim (2010). Spatial variability of soil physiochemical properties related
to yield for Guned sugarcane scheme. M.Sc dissertation, University of Khartoum, Sudan, supervised
by A. S. Ganawa and A. F. Kheiralla
4. Manal Mohamed Magzoub Mohamed (2010). Spatial variability of soil mechanical and physical
properties related to yield for Guneid sugarcane scheme. M.Sc dissertation, University of Khartoum,
Sudan, supervised by A. S. Ganawa and A. F. Kheiralla
5. Zahir Ahmed Ali Talha (2010). Pneumatic system for granular fertilizer flow rate control. M.Sc.
Thesis, University of Khartoum, Sudan, supervised by E. Tola.

6. Mwahib ElSeid Mohamed (2010). Status of Agricultural Mechanization in Alrahad, New Halfa
and Gezera Schemes. M.Sc. Thesis, University of Khartoum, Sudan, supervised by M. A. Ahmed.
7. Faiz Bashir ElBadawi Mohamed (2010).

8. Osama Abdalla Hajahmed (2010). Development of an opto-electronic monitoring system for assessment
of planter seed metering performance. M.Sc. Thesis, University of Khartoum, Sudan, supervised by E. Tola.
9. Amna Abbas Hassan Osman (2011). Economic Comparative Study of Zero Tillage Cropping System with Conventional one at Agadi Area, Blue Nile State – Sudan. M.Sc. Thesis, University of Khartoum, Sudan, supervised by H. A. Elobied.

Journals Referee

(i) Journal of the Japanese Society of Agricultural Machinery (JSAM)
(ii) Journal of Biosystems Engineering: The official scientific Journal of the European Society of Agricultural
Engineers.

Past Research Projects

(1) Effect of tillage treatments on soil physical properties and wheat production (Sudan, 1992 – 1995).
(2) Performance of different no-till furrow openers under different soil and crop residue conditions
(Germany, 1998 – 2002).
(3) Modification of a soil plane used for measuring the seed row incorporated crop residue and seed depth under no-till conditions (Germany, 2000 – 2002).
(4) Potentials and success-ability of zero tillage in the Sudan (Sudan 2003 – 2004).
(5) Precision Farming in the Sudan (Sudan 2003 – 2004).
(6) On-the-go fertilizer application rate control system. Crop Production Engineering Laboratory, Graduate School of Agriculture, Hokkaido University. Japan, (Japan 2005-2007).
(7) Seed depth control system. Crop Production Engineering Laboratory, Graduate School of Agriculture,
Hokkaido University, Japan. (Japan 2005-2007).
(8) Measurement and evaluation of seed furrow geometrical characteristics using the laser measurement
system. Crop Production Engineering Laboratory, Graduate School of Agriculture, Hokkaido University, Japan. (Japan 2005-2007).
(9) Assessment of the performance of zero tillage system compared to conventional tillage systems
under the soil and climatic conditions of Hokkaido University Farm, Japan. (Japan 2005-2007).
(10) Investigation into the mechanics of angled disc openers for improved residue cutting in zero-till
cropping systems. Agricultural Machinery Research and Design Centre, University of South Australia. (Australia 2008-2009).
(11) Development and evaluation of optical sensor based system for the assessment of a row planter seed metering system (Sudan 2009-2010).

(12) Development and evaluation of a DC Motor based system for row planter metering system (Sudan 2009-2010).

Areas of Research Interest

(3) Sustainable agriculture, (2) Conservation tillage techniques (Zero Tillage), (3) Precision farming
technologies, (4) Agricultural machinery design and performance assessment.

Refereed Journal Publications

(1) Tola E. H. M. and K. Köller (2005). Spatial distribution of the no-till Opener induced seed row
incorporated crop residue and soil loosening. Journal of Agricultural Mechanization in Asia, Africa
and Latin America (AMA) vol. 36(1): 66-70.
(2) Tola E. H. M. (2006). Agriculture in the Sudan. Journal of Hokkaido Branch of Agricultural Machinery,
Japan, vol. (46): 93-97.
(3) Tola E. (2006). Vergleich unterschiedlicher Saschare von Direktsaatmaschinen bei unterschiedlichen Bodenzustanden (Comparison of different direct seeding furrow openers under different soil conditions). Journal of Landtechnik, 61 - SH/2006), Germany: 314-315.
(4) Tola E., T. Kataoka, S. Hata. Selection of furrow opener for zero tillage. Journal of Hokkaido Branch of Agricultural Machinery, Japan, vol. (47): 19-25.
(5) Tola E., T. Kataoka, M. Burce, H. Okamoto, S. Hata. Granular fertiliser application rate control system with integrated output volume measurement. Journal of Biosystems Engineering 101(2008): 411-416.
(6) Burce M.,T. Kataoka, E. Tola, H. Okamoto, Y.Shibata. Yield report for soybeans under No-Tillage and Conventional Tillage Field; Phase 1 in 2007 and 2008. Journal of Hokkaido Branch of Agricultural Machinery, Japan, vol. (49): 21-26.

Books

(1) Tola E. H. M. (2002). Performance of various no-till furrow openers under different soil and crop residue conditions. Muellerbader GmbH, Filderstadt, Germany. ISBN 3-86186-397-9.
(2) Michael Ashworth, Jack Desbiolles, and ElKamil Tola (2010). Disc seeding in zero-till farming
systems – A review of technology and paddock issues. Western Australian No-Tillage Farmers' Association (WANTFA). Northam, Western Australia. ISBN 978-0-646-52876-2

Conference Proceedings

(1) Tola E. H. M., J. Müller, and K. Köller (2000). Spatial distribution of crop residues in the seed
row as affected by different no-till furrow opener combinations. Proceedings of the ISTRO 15th Conference on Tillage at the Threshold of the 21st Century: Looking Ahead. July 2 – 7, 2000, Fortworth, Texas, USA.
(2) Tola E. H. M., J. Müller, and K. Köller (2000). Soil Loosening in the seed zone as affected by
different no-till furrow openers under different soil conditions and crop residue cover rates. Proceedings of the ISCO 2000, October 22 – 27, 2000, Buenos Aires, Argentina.
(3) Tola E. H. M., J. Müller, and K. Köller (2000). Soil bin experiments to evaluate crop residue removers attached to no-till single disc openers in terms of seed zone soil loosening. Proceedings of the International Agricultural Engineering Conference, December 4 – 7, 2000, Bangkok, Thailand.
(4) Tola E. H. M., J. Müller, and K. Köller (2001). Seed row crop residue incorporated by a no-till
hoe opener as affected by the initial soil strength and soil moisture. Proceedings of the 29th international
symposium on Agricultural Engineering "actual task on Agricultural Engineering"
06-09.02.2001, Opatija, Croatia.
(5) Tola, E. H. M.; J. Müller; and K. Köller (2001). Crop residue management by a no-till single disc opener under different soil and residue conditions. XXIX CIOSTA – CIGR V Congress 25 – 27 June 2001, Krakow, Poland.
(6) Tola E. H. M., J. Müller, and K. Köller (2001). No-till seed furrow geometry and soil loosening
as affected by furrow opener type, initial soil strength and moisture, and crop residue cover rate. Agricultural Engineering 2001, VDI (Verein Deutscher Ingenieure), Agricultural Engineering
for a Sustainable Land Utilisation", 9-10 November, 2001, Hanover, Germany.
(7) Tola E. H. M., J. Müller, and K. Köller (2003). Direct seeding furrow openers and crop residue
management. Proceedings of the 16th Triennial Conference of the International Soil Tillage Research Organization (ISTRO), Brisbane, July 13-18, Australia.
(8) Tola E. H. M., T. Kataoka, and S. Hata (2006). Highlights on the selection of zero tillage equipment. Annual meeting of Hokkaido Branch of the Japanese Society of Agricultural Machinery,
July 13-15, Obihiro, Japan, p. 15-16.
(9) Tola E. H. M., T. Kataoka, M. Saito, and S. Hata (2006). Applications of precision farming technologies for successful zero tillage system. Bio – Robotics III, September 9 –10, Sapporo, Japan, p. 219-221.
(10) Kataoka T., E. Tola, M. Saito, and S. Hata (2006). Precise seeding for no tillage crop management
system. System Integration Conference (SI2006), The Society of Instrument and
Control Engineers, December 14 –16, Sapporo, Japan, p. 328-329.
(11) Tola E., T. Kataoka, M.. Burce, H. Okamoto (2007). Development of a granular fertilizer

rate
control system. Annual meeting of Hokkaido Branch of the Japanese Society of Agricultural Machinery, September 19-21, Obihiro, Japan, p. 48-49.
(12) Tola E., T. Kataoka, H. Okamoto, S. Hata (2008). The response of soybean establishment to the initial soil strength. International Symposium on 'Application of Precision Agriculture for Fruits and vegetables', January 6-9, 2008, Orlando, Florida, USA
(13) Kataoka T., M. E. Burce, H. Okamoto, Y. Shibata, E. Tola (2009). Sugar Beet yield comparison
between conventional tillage and zero tillage fields in Hokkaido Japan. ISTRO 18th Triennial Conference, June 15-19, 2009, Izmir – Turkey: (T1 – 037), 1-8.
(14) Tola E., J. Desbiolles (2009). Performance of disk blades in zero tillage context: Part 1 – Rolling coulter configurations. ISTRO 18th Triennial Conference, June 15-19, 2009, Izmir – Turkey: (T1 – 028), 1-14.
(15) Tola E.(2010). Highlights on zero tillage cropping system. Conservation Agriculture Workshop ,
Ministry of Agriculture and forest, Sudan & Common Market for Eastern and Southern Africa (COMESA), Khartoum Sudan 29-31 March 2010.
(16) Tola E, and M. N. Malik (2010). Sudan: Overview of Conservation Agriculture Challenges and Achievements. Workshop for Developing a regional Conservation Agriculture Hub for North Africa. Conservation Agriculture: Challenges and Opportunities in the North African region.
ICARDA centre – Tunis, 26-27 July 2010

Workshops, Seminars, And Annual Meetings

(1) Symposium of Adapted Farming in West Africa, Hohenheim University, Germany, July 5-7, 2000.
(2) Deutscher Tropentag, Hohenheim University, Germany, October 11-12, 2000.
(3) CTA International Seminar. Information Support for Sustainable Soil Fertility Management, October 21-24, 2003, Arnhem, the Netherlands.
(4) Annual Meetings and Workshops of Agricultural Engineering in the Sudan, 2002-2005.
(5) Annual Meeting of Hokkaido Branch of the Japanese Society of Agricultural Machinery, July 13-15, 2006, Obihiro, Japan.
(6) Conference of Teramechanics, Japanese Society of Terramechanics, November 10-11, 2006, Kagoshima, Japan.
(7) Annual Meeting of Hokkaido Branch of the Japanese Society of Agricultural Machinery, September
19-21, 2007, Obihiro, Japan.
(8) Graduate Studies and Scientific Research Conference, University of Khartoum, Khartoum, Sudan, 27/02 – 03/03/2010.
(9) Conservation Agriculture Workshop , Ministry of Agriculture and forest, Sudan & Common Market for Eastern and Southern Africa (COMESA), Rotana Salam Hotel , Khartoum Sudan 29-31 March 2010.
(10) Workshop for Developing a regional Conservation Agriculture Hub for North Africa.

Conservation
Agriculture: Challenges and Opportunities in the North African region. ICARDA centre – Tunis, 26-27 July 2010.

Scholarships, Awards, And Honors

(1) International Centre for Agricultural research in the Dry Areas (ICARDA). Scholarship covered
the expenses for participating in the Workshop for Developing a regional Conservation Agriculture
Hub for North Africa. Conservation Agriculture: Challenges and Opportunities in the North African region. ICARDA centre – Tunis, 26-27 July 2010.
(2) The University of South Australia (UniSA) International Research Scholar Scheme (IRSS) scholarship. May 2008 – January 2009.
(3) The Grains Research and Development Corporation (GRDC) – Australia. Visiting Fellowship.
May 2008 – January 2009.
(4) The Japan Society for the Promotion of Science (JSPS), Postdoctoral Fellowship, November 2005 – October 2007.
(5) Technical Centre for Agricultural and Rural Cooperation ACP-EU. Scholarship covered the expenses for participating in the CTA International Seminar. Information Support for Sustainable Soil Fertility Management, October 21-24, 2003, Arnhem, the Netherlands
(6) Technical Centre for Agricultural and Rural Cooperation ACP-EU. Scholarship covered the expenses for participating in the 16th Triennial Conference of the International Soil Tillage Research
Organization (ISTRO), Brisbane, July 13-18, Australia.
(7) The German Academic Exchange Service – Deutcher Akademisher Austausch Dienst (DAAD),
Scholarship. Covered the expenses of my Ph.D. study in Germany, April 1998 – September 2002.
(8) Dr. Ali Ramadan Mahmoud Prize for Best Final Year Student in Agricultural Engineering, University
of Khartoum, 1985

Memberships

(1) American Society of Agricultural Engineers (ASAE).
(2) International Commission of Agricultural Engineers (CIGR).
(3) International Soil Tillage organization (ISTRO).
(4) Asian Association for Agricultural Engineering (AAAE).
(5) German Association of Engineers (VDI).
(6) International Erosion Control Association (IECA).
(7) Technical Centre for Agriculture and Rural Cooperation (CTA)
(8) Japanese Society of Agricultural Machinery (JSAM).

Computer Knowledge

Programming Languages: C Sharp
Computational Packages:
Statistical Analysis System (SAS), Data Analysis with Comprehensive Statistics Software (SPSS), Microcal Origin, and Surfer 8 (Contouring and 3D Surface Mapping), and SolidWorks.
Spreadsheets: Microsoft Excel
Word Processing: MSWord
E-Mail and Internet:
- Email tools include: MS Outlook and Pegasus.
- Web browsers include: MS Internet Explorer and Netscape Navigator.

Referees

(1) Dr. Jack Desbiolles (Agricultural Research Engineer – On-Farm Machinery Area Leader)
Address: Agricultural Machinery Research and Design Centre, University of South australia. Building J, Room 1-12. Mawson Lakes SA 5095, AUSTRALIA.
Jacky.desbiolles@unisa.edu.au
(2) Dr. Takashi KATAOKA (Associate Professor):
Address: Crop Production Engineering Laboratory, Graduate School of Agriculture, Hokkaido University, Sapporo, 060-8589 Japan. tkataoka@bpe.agr.hokudai.ac.jp
(3) Professor Karlheinz KÖLLER:
Address: Universität Hohenheim, Institut für Agrartechnik (440d), Verfahrenstechnik in der Pflanzenproduktion, D-70593 Stuttgart, Germany. koeller@uni-hohenheim.de
(4) Gasim Ibrahim HASSAN (Associate Professor):
Address: Department of Agricultural Engineering, Faculty of Engineering, University of Khartoum,
P.O. Box 321 Khartoum, Sudan. giha9@hotmail.com
(5) Dr. Abdelhafeez Mohamed Abdalla (Associate Professor):
Address: Department of Agricultural Engineering, Faculty of Engineering, University of Khartoum,
P.O. Box 321 Khartoum, Sudan.
(6) Dr. ElHaj Adam Yousif (Associate Professor):
Head, Department of Agricultural Engineering
Address: Department of Agricultural Engineering, Faculty of Engineering, University of Khartoum,
P.O. Box 321 Khartoum, Sudan.
(7) Dr. Abbas Yousif Eltigani (Associate Professor):
Address: Department of Agricultural Engineering, Faculty of Engineering, University of Khartoum,
P.O. Box 321 Khartoum, Sudan.
(8) Dr. Mohamed Abbaker Ahmed (Associate Professor):
Address: Department of Agricultural Engineering, Faculty of Engineering, University of

Khartoum,
P.O. Box 321 Khartoum, Sudan.

Languages

1. Arabic Language: Mother tongue
2. English Language
3. German Language
4. Japanese Language