

Prof. Sumesh Chander Chhabra

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Education

February 1977 **Ph.D.** (Chemistry of Natural Products) - Delhi University, Delhi, India

June 1973 **M.Sc.** in Chemistry - Kurukshetra University, Kurukshetra, India; First Class

June 1971 **B.Sc.** in Chemistry - Delhi University, Delhi; First Class

October 2009 **PCAP** (Postgraduate Certificate in Academic Practice), York St. John University, UK

Research

Have over **thirty five** years research experience in the specialized areas of isolation, structure elucidation (chemically and spectroscopically) and synthesis of natural products.

Title of the Ph.D. Dissertation: *Some New Polyhydroxyflavones from Dikamali Gum and Synthesis of Related Flavonoids.*

Continuing research work in the identification of biological active principles of East African medicinal plants, and on Marine Pollution.

Teaching

Teaching different Courses in **Regular**, **Open Learning** and **School Based Programmes** to undergraduate and graduate students.

Courses: SCH-102, SCH-202; SCH-302; SCH-303; SCH-311; SCH 319; SCH-402;

SCH-413; SCH-414; SCH-432; SCH-504; SCH-532; SBC-412; MSG-63 in **Organic, Pharmaceutical, Environmental Chemistry**, e.g. Organic Chemistry I, Organic Chemistry II; Stereochemistry, Conformational Studies and Reaction Mechanisms; Chemistry of Carbohydrates, Peptides and Proteins; Organic Spectroscopic Methods; Food-based Industries; Modern Synthetic Methods, Pharmaceutical Chemistry, Medicinal Chemistry I & II; Environmental Aspects of Hydrology, Natural products to both undergraduate and postgraduate students.

Employment

May 2000 - todate **Professor** (Organic Chemistry) - Chemistry Department, Kenyatta University (KU), Nairobi, Kenya.

Feb.1994 - Apr. 2000 **Associate Professor** (Organic Chemistry) - KU.

Feb. 1988 - Jan. 1994 **Senior Lecturer** (Organic Chemistry) - KU

July 1980 - Jan.1988 **Senior Research Fellow** (Chemistry) - Phytochemical Section, Traditional Medicine Research Unit, Muhimbili Medical Centre, University of Dar es Salaam, Dar es Salaam, Tanzania.

Jan. 1979 - June 1980 **Lecturer/Research Fellow** (Chemistry) - as above.

Nov. 1978 - Dec. 1978 **Research Associate** - Multi-Chem Research Centre, Baroda, India.

Aug. 1977 - Oct. 1978 **Scientists' Pool Officer** - Chemistry Department, Delhi University.

July 1973 - July 1977 **Junior Research Fellow** - Chemistry Department, Delhi University.

Visits to European Universities

May - June 1999 **Visiting Professor** (Natural Products) - Department of Biotechnology, Kaiserslautern University, Kaiserslautern, Germany.

April - July 1996 **Visiting Professor** (Organic Chemistry) - Department of Natural Products, University of Barcelona, Barcelona, Spain.

Supervision

Ph.D. Students

Awarded: 13

In Progress: 3

COMPLETED

2010 Mr. L.W. Gitu

Biological and Phytochemical Studies of Medicinal Plants, *Antidesma venosum* (Euphorbiaceae) and *Kotschya africana* (Fabaceae) Used in Traditional Medicine in Kenya.

- 2008** Mrs. M.M. Njuguna Isolation and Characterization of Antimalarial Compounds from Some Medicinal Plants Used in Kenya.
- 2006** Mr. Jonah K. Birgen Postharvest disease of tomato fruits in Kenya and their control by use of antagonistic organisms.
- 2004** Mr. W. O. Gisesa Biological and phytochemical evaluation of medicinal plants used by Abagusii traditional medical practitioners.
- 2002** Mrs. M.W. Ndung'u Isolation and Characterization of Anti-Mosquito Compounds from Selected East African Meliaceae Plants.
- 2001** Mr. P.K. Tarus Isolation and Structure Elucidation of Bioactive Metabolites from Fungi, *Trichoderma* species and a Higher Plant, *Tephrosia aequilata*.
- 2000** Mr. A. Machocho Alkaloids from Kenyan Amaryllidaceae.
- 2000** Mr. J.O. Ouma Isolation and Structure Elucidation of Biologically Active Secondary Metabolites from Kenyan Fungi.
- 2000** Mr. A.W. Wanyonyi Phytochemical and Molluscicidal Studies on Kenyan *Solanum* Species.
- 1996** Mr. P. Okemo Antimicrobial Efficacy of Selected Medicinal Plants Used by Kenyan Herbal Doctors.
- 1995** Mrs. E.W.T. Wakori Investigation of Some Kenyan Plants with Potential Antifertility Activity.
- 1980** Miss Durga Kumari Phytochemical Study of *Schistocarpha bicolor* and *Gardenia* Gum and Synthesis of Some Recently Isolated Flavonoids.
- 1978** Miss S. Bhanumati Isolation, Characterisation and Synthesis of Isoflavonoids from the Rootbark of *Cajanus cajan*.
- WORKING**
John M. Kahindo Synthesis of (R)-1-methyl-4-(1-methylethenyl)cyclohexene multifunctional derivatives and their effects on *Jatropha Curcas* and algae biofuel blends properties.
- Mrs. E. Omulokoli Isolation and Structure Elucidation of Antimalarials from Kenyan Medicinal Plants.
- Mr. P.M. Mwangiru Antimicrobial, antituberculosis and antimalarial activity of medicinal plants from Central Kenya.

M.Sc. Students

Awarded: 24

In Progress: 4

COMPLETED

- 2012** Mr. Isigi Fredrick The potential of bioactive protectants of maize grains against *Sitophilus zeamias* in Western Kenya.
- 2012** Mr. Joel Mutai Evaluation of selected botanicals and diatomaceous earth as maize protectant against *Sitophilus zeamias* Motsch.
- 2010** Ms. A.W. Wagutu Development of Bio Diesel Fuel from Indigenous Oil Crops and its Physical and Chemical Properties for Use as Cooking Fuel In Kenya.
- 2010** Mr. E.M. Onyancha Phytochemical studies of *Teclea nobilis* used in Traditional Medicine in Kenya.
- 2007** Mr. C.N. Muthaura Evaluation of Safety Efficacy and Quality of Some Kenyan Medicinal Plants Used Traditionally for the Management of Malaria.
- 2007** Ms. Margaret W. Chege Screening measurement of indoor Radon-222 concentrations by gamma-ray spectrometry in Kenyatta University.
- 2006** Mr. Kibiti M. Cromwell Hypoglycaemic potential of some Kenyan plants used in traditional medicine in Laikipia and Mbeere Districts and Nairobi Province.
- 2005** Ms. C.N. Malele Phytochemical and antimalarial studies of plants used in traditional medicine in coast of Kenya.
- 2005** Ms. C.M. Ocharo Isolation and identification of antibacterial and antifungal substances from medicinal plants used in Kenya.
- 2005** Ms. Beth Ndunda Isolation and characterization of antibacterial and antifungal substances from Kenyan species of the genus *Croton*.
- 2004** Mr. J.S. Zowai The *in vitro* effect of selected Kenyan medicinal plants' extracts on *Mycobacterium tuberculosis*.
- 2004** Mr. P.W. Mulundi Isolation and identification of antifungal, antibacterial and nematicidal compounds from selected Kenyan *Croton* species used in traditional medicine.
- 2001** Mr. S.K. Bor Heavy Metals and Organochlorine Pollutants in

- Tissues of Marine Fauna along the Coast of Mombasa Island, Kenya.
- 2000** Mr. G.N. Wanyoike Antimalarial Screening and Chemical Studies of Some Antimalarial Plants Used in Tradition Medicine in Kenya.
- 1999** Ms. Mildred Oyugi Heavy Metals and Pesticides in Marine Sediment, Seawater and Seaplants Along the Mombasa Coastline.
- 1998** Ms. P. Saggar Weevil Repellent Constituents of *Chrysanthemum cinerarefolium* (Pyrethrum) for Grain Protection against *Sitophilus zeamais* (Maize Weevil) as a Substitute for Methyl Bromide.
- 1997** Mr. S.M. Kimani Analysis of Air-borne volatiles in wild host *Pennisetum purpureum* (K.) Schumach. and wild non-host *Melinis minutiflora* Beauv. of *Chilo partellus* (Swinhoe).
- 1996** Mr. N.M.N. Wekesa Determination of Ascorbic Acid in Kenyan Fresh and Processed Fruit and Vegetables by Differential Pulse Polarography and High Performance Liquid Chromatography.
- 1996** Mr. B.M. Kimei Determination of Some Chemically and Biologically Toxic Substances in Underground Waters within Nairobi and its Surroundings.
- 1995** Mrs. E. Omulokoli Preliminary Antimalarial Studies of Some Kenyan Medicinal Plants.
- 1994** Mr. O.J. Omolo Elemental Analysis of Traditional Medicinal Plants Used to Treat Anaemia in Kenya.
- 1993** Mrs. M.W. Ndung'u Constituents of Essential Oils of Some Kenyan Plants of Family Capparidaceae and Their Maize Weevil (*Sitophilus zeamais*) Repellency Properties.
- 1993** Mr. M.K. Tsanuo Bioassay Guided Chromatographic Isolation and Structural Elucidation of Antifeeding Compounds against *Chilo partellus* (Swinhoe) Found in the Fruits of *Elaeodendron buchananii* L.-
supervised for corrections to be carried out in the thesis as advised by the Examiners Board during his Defence Meeting (6.5.93).
- 1992** Mrs. T.R.A. Akeng'a Composition of Essential Oils of Some Aromatic Plants Growing in Kenya and Their Potential in the Development of an Essential Oil Industry.

WORKING

Mr. K.L. Ng'eno	Ethnobotanical and Phytochemical Studies of Indigenous Plants as Grain Protectants against <i>Sitophilus Zeamais</i> (Maize weevil).
Ms. C.W. Muthee	Determination of Aflatoxin Producing Fungi and Storage Pests in Maize and their Management by Indigenous Kenyan Plants.
Mr. S.G. Giluku	Phytochemical and biological studies of selected Kenyan Plant Species of <i>Rutaceae</i> , <i>Euphorbiaceae</i> and <i>Pittosporaceae</i> Families used in Traditional Medicine.
Mr. Isaac O. Onyango	Isolation and Identification of Antimicrobial Compounds from Kenyan Plants Used in Traditional Medicine.

Undergraduate Research Projects

Completed: 16

2009 Mr. Jack Gitari Murimi	Bio-ethanol production from waste sweet potatoes.
2009 Mr. Peter Macharia	Production and analysis of biodiesel from Nyeri and Kiambu districts using <i>Croton megalocarpus</i> seeds.
2009 Ms. Sally E. Eteye	Use of plant extracts as protectants against maize weevil (<i>Sitophilus zeamais</i>).
2009 Mr. Japheth O. Ochando	Analysis of <i>n</i> -methylcarbamates pesticides on Ngong river along the industrial area section of the river.
2009 Mr. Edward N. Ndegwa	Production of ethanol (power alcohol) from maize stalk juice.
2009 Mr. Nicholas O. Onyango	Extraction of antimicrobial drug component of <i>Conyza floribunda</i> of Asteraceae family and determining its antimicrobial activities.
2008 Mr. Peter Macharia	Production And Analysis of biodiesel from Nyeri and Kiambu Districts using <i>Croton megalocarpus</i> seeds.
2008 Jacob Obonyo	Evaluation of talc as an alternative to water washing during biodiesel production.
2008 Mr. Japheth O. Ochando	Analysis of <i>n</i> -methylcarbamates pesticides in Ngong river along the industrial area section of the river.
2008 Mr. Jacob Obonyo	Evaluation of talc as an alternative to water washing during biodiesel production.
2008 Mr. Nicholas O. Onyango	Extraction of antimicrobial drug component of <i>Conyza floribunda</i> of Asteraceae family and determining its antimicrobial activities.

2007	Mr. P.M. Kamau	Production of bio-diesel from used vegetable oils.
2003	Mr. Nenjamin M. Masenge	Artemisinin and essential oil profile of <i>Artemisia annuya</i> grown in Kenya.
2002	Mr. Isaac O. Onyango	Phytochemical studies and screening for antibacterial, antifungal and brine shrimp lethality of three Kenyan <i>Croton</i> species.
1999	Mr. Martin Thuo	Antiplasmodial screening and phytochemical screening of three Kenyan medicinal plants.
1999	Ms. C.M. Ocharo	<i>Maytenus heterophylla</i> - A possible remedy for malaria.
1998	Ms. N.J. Luhindi	The brine shrimp bioassay guided screening and fractionation of four traditional medicinal plants.

SCHOLARSHIPS AND AWARDS

1. Partnership for Higher Education in Africa (PHEA) Educational Technology Initiative (ETI) – Project 4 – Creation of Chemistry and Communication Skills e-Learning Modules - British Council Funded, 2009 to date.
2. The Lake Victoria Research (VicRes) Project, entitled, “*Management of aflatoxins and storage pests in maize using solar, biomass and indigenous pesticides technologies in Lake Victoria Basin*” was awarded and funded by the Lake Victoria Development Partnership (LVDP) funded by Sida/SAREC and implemented by Inter-University Council for East Africa (IUCEA) for the year 2004/2005 – US\$ 50,000. Renewed for the year 2006/2007 – US\$ 50,000. Renewed for the year 2007/2008 – US\$ 50,000.
3. African Institute for Capacity Development (AICAD) grant (AICAD/RD-06/FPP/03-017) for KShs. 500,000/= for the project, “Bioprospecting for phytochemicals to control maize weevil *Sitophilus zeamais* as a strategy for increasing food security in Kenya” for 24 months from September 2003.
4. Kenya Agriculture Research Institute, Ministry of Agriculture, Government of Kenya and World Bank jointly awarded KShs. 2,505,000/= for the Project ARF/CSWP/1002009/1, entitled, “Phytochemical and biological studies of the genus *Croton* for the development of agrochemical and pharmaceutical products” for 24 months from May 2001.
5. Vice-Chancellor's Publications Award of KShs. 65,000/= for publications during the period 1996 to 2000 has been awarded by the Vice-Chancellor, Kenyatta University, Nairobi, Kenya (2000).
6. Vice-Chancellor's Research Grant Award 1997/98 of KShs. 500,000/= for the project, "Exploitation of Some Kenyan Medicinal Plants for antimalarial and Larvicidal Properties" has been awarded by the Vice-Chancellor, Kenyatta University, Nairobi, Kenya (1998).
7. Vice-Chancellor's Research Grant Award 1996/97 of KShs. 500,000/= for the project, "Marine Pollutants - Heavy metals, Polychlorinated Biphenyls and Organochlorine Pesticides in Marine

Sediments, Seawater, Seagrasses and Fauna along the Coast of Mombasa Island, Kenya" was awarded by the Vice-Chancellor, Kenyatta University, Nairobi, Kenya (1997).

8. Marquis Who's Who in the World 1997 14th edition.
9. A research grant of Shs. 30,000/= for the project, "Isolation and Characterization of Flavonoids from the Kenyan Species of the Genus *Rhus* of Family Anacardiaceae" was awarded by the Deans Committee, Kenyatta University, Nairobi, Kenya (1993).
10. A research grant of Shs. 8,750/= for phase 1 on the project, "Phytochemical and Molluscicidal Studies of Some Kenyan Medicinal Plants" was awarded by the Deans Committee, Kenyatta University, Nairobi, Kenya (1989).
11. Centre of Advanced Studies in Chemistry, University Grant Commission Scholarship for research leading to Ph.D. at Delhi University, Delhi, India (1973 -1977).
12. Kurukshetra University Postgraduate Scholarship for M.Sc. study at Kurukshetra University, Kurukshetra, India (1971-1973).

CONSULTANCY

- External Examiner, Chemistry Department, Kabianga University College, 2012/2013 to date.
- Editor – for a number of National and International Journals, 1989 to date.
- External Examiner for a number of Ph.D. & M.Sc. theses from different Universities of East Africa, India and South Africa, 1989 to date.
- External Examiner, Institute of Traditional Medicine, Muhimbili University of Health and Allied Sciences, 2008/2009 to 2011/2012.
- External Examiner, Chemistry Department, Catholic University of Eastern Africa, 2010/2011.
- External Examiner, Chemistry Department, Jomo Kenyatta University of Agriculture and Technology, 2008/2009 to 2011/2012.
- External Examiner, Department of Chemistry & Biochemistry, Moi University, 2008/2009 to 2011/2012.
- Resource Person - Use of Computers in Management of Educational Institutions - A course conducted by Computer Centre, Kenyatta University for Head Masters and Education Officers of Secondary Schools in Kenya during vacations; 1995-todate.
- To Tanzania Industrial Studies and Consulting Organisation in the preparation of a feasibility study on the *Manufacture of Soft Drinks Concentrates in Tanzania*, Dar es Salaam, Tanzania; 1985.
- Local consultant in UNIDO project on *Medicinal and Aromatic Plants for Industrial Development*, Dar es Salaam, Tanzania; 1983-1985.

Publications

RESEARCH PAPERS

1. Eucleanal A and B: Two new naphthalene derivatives from *Euclea divinorum*.
Margaret Mwihaki Ng'ang'a, Hidayat Hussain, Sumesh Chhabra, Caroline Langat-Thoruwa, Ahmed Al-Harrasi, Karsten Krohn and Ivan Robert Green
Chinese Chemical Letters 2012 **23**, 576–578.
2. Eucleanal: A new naphthalene derivative from *Euclea divinorum*.
Margaret Mwihaki Ng'ang'a, Hidayat Hussain, Sumesh Chhabra, Caroline Langat-Thoruwa, Karsten Krohn, Javid Hussain, Ahmed Al-Harrasi, and Ivan Robert Green
Natural Product Communications 2012 **7**, 193-194.
3. Drypetdimer A: A New Flavone Dimer from *Drypetes gerrardii*.
Margaret Mwihaki Ng'ang'a, Hidayat Hussain, Sumesh Chhabra, Caroline Langat-Thoruwa, Muhammad Riaz and Karsten Krohn
Natural Product Communications 2011 **6**, 1115–1116.
4. Performance of a domestic cooking wick stove using fatty acid methyl esters (FAME) from oil plants in Kenya.
A.W. Wagutu, T.F.N. Thoruwa, S.C. Chhabra, C.C.L. Thoruwa and R.L.A. Mahunnah
Biomass and Bioenergy 2010, 34, 1250-1256.
5. Antiprotozoal activity and cytotoxicity of metabolites from leaves of *Teclea trichocarpa*.
E.S.K. Mwangi, J.M. Keriko, A.K. Machocho, A.W. Wanyonyi, H.M. Malebo, S.C. Chhabra and P.K. Tarus
Journal of Medicinal Plants Research 2010 **4**, 726–731.
6. *Jatropha curcas* L. as a source for the production of biodiesel in Kenya.
A.W. Wagutu, S.C. Chhabra, C.L. Thoruwa, T.F. Thoruwa and R.L.A. Mahunnah
In: *Aspects of African Biodiversity*. Eds. J.O. Midiwo and J.M. Clough. Proceedings of the Pan Africa Chemistry Network Biodiversity Conference, Nairobi. 10th to 12th Sept. 2008.
Published 2010. The Royal Society of Chemists Publishing, Cambridge, UK. Pgs 152-159.
7. Indigenous oil crops as a source for production of biodiesel in Kenya
A.W. Wagutu, S.C. Chhabra, C.L. Thoruwa, T.F. Thoruwa and R.L.A. Mahunnah
Bulletin of Chemical Society of Ethiopia. 2009, 23, 359-370.
8. Margaret Mwihaki Ng'ang'a, Hidayat Hussain, Sumesh Chhabra, Caroline Langat-Thoruwa and Karsten Krohn
Chemical Constituents from the Root Bark of *Ozoroa insignis*.
Biochemical Systematics and Ecology 2009 **37**, 116-119.
9. Chege, M.W., Rathore, I.V.S., Chhabra, S.C., and Mustapha, A.O.
The influence of meteorological parameters on indoor radon in selected traditional Kenyan dwellings.
Journal of Radiological Protection 2009 **29**, 95-103.

10. Margaret Mwihaki Ng'ang'a, Sumesh Chhabra, Caroline Langat-Thoruwa, Hidayat Hussain and Karsten Krohn
Chemical constituents from the leaves of *Drypetes gerrardii*.
Biochemical Systematics and Ecology 2008 **36**, 320-322.
11. Phytochemical and Biological Studies of the Genus *Croton* for the Development of Agrochemical and Pharmaceutical Products. S.C. Chhabra, C.L. Throuwa, G.T. Thiong'o, T.R.A. Akeng'a, P. Wambua, B. Ndunda and I.O. Onyango
Journal of the Kenya Chemical Society 2007 **4**, 33-46.
12. Traditional phytotherapy of some remedies used in treatment of malaria in Meru district of Kenya.
C.N. Muthaura, G.M. Rukunga, S.C. Chhabra, G.M. Mungai and E.N.M. Njagi
South African Journal of Botany 2007 **73**, 402-411.
13. Antimalarial Activity of Some Plants Traditionally used in Meru district of Kenya
C. N. Muthaura, G. M. Rukunga, S. C. Chhabra, S. A. Omar, A. N. Guantai, J. W. Gathirwa, F. M. Tolo, P. G. Mwitari, L. K. Keter, P. G. Kirira, C. W. Kimani, G. M. Mungai and E. N. M. Njagi
Phytotherapy Research 2007 **21**, 860–867.
14. Traditional antimalarial phytotherapy remedies used by the Kwale community of the Kenyan Coast.
C.N. Muthaura, G.M. Rukunga, S.C. Chhabra, G.M. Mungaic, E.N.M. Njagi
Journal of Ethnopharmacology 2007 **114**, 377–386.
15. Antimalarial activity of some plants traditionally used in treatment of malaria in Kwale district of Kenya.
C.N. Muthaura, G.M. Rukunga, S.C. Chhabra, S.A. Omar, A.N. Guantai, J.W. Gathirwa, F.M. Tolo, P.G. Mwitari, L.K. Keter, P.G. Kirira, C.W. Kimani, G.M. Mungai, E.N.M. Njagi
Journal of Ethnopharmacology 2007 **112**, 545-551.
16. Organochlorine residues in tissues of marine fauna along the Coast of Kenya-Mombasa Island.
S.K. Bor, J.A. Simbauni, M.P. Oyugi, W.M. Njue and S.C. Chhabra
Bulletin of the Chemical Society of Ethiopia 2007 **21**, 145-149.
17. The analysis of the essential oils of *Coriandrum sativum* L. growing in Kiambu, Kenya.
Akeng'a, T.A. and Chhabra, S.C.
Journal of the Kenya Chemical Society 2005 **2**, 15-19.
18. Dissolved organic carbon (DOC) and coliform bacteria in underground waters in areas around Nairobi.
Baptista M Kimei, Sumesh C Chhabra and Gathu Nyagah
African Journal of Health Sciences 2004 **11**, 61-66.
19. Fermentation and antimicrobial activities of extracts from different species of fungus belonging to Genus, *Trichoderma*.
Paul K. Tarus, Sumesh C. Chhabra, Caroline Lang'at-Thoruwa and Alphonse W. Wanyonyi

African Journal of Health Sciences 2004 **11**, 33-42.

20. The kill kinetics of *Ximenia caffra* *sond.* (*Olacaceae*) extracts against selected bacteria and fungi.
P.O. Okemo, W.E. Mwatha and S.C. Chhabra
Journal of Tropical Microbiology, 2004 **3**, 88-94.
21. Augustamine Type Alkaloids from *Crinum kirkii*.
Alex K. Machocho, Jaume Bastida, Carlos Codina, Francesc Viladomat, Reto Brun, Sumesh C. Chhabra
Phytochemistry, 2004 **65**, 3143-3149.
22. Heavy metal contaminants in tissues of marine fauna along the coast of Mombasa Island - Kenya.
Bor, S.K., Simbauni, J.A., Kinyua, A.M., Njue, W.M. and Chhabra, S.C.
East African Journal of Physical Sciences, 2004 **5**, 61-68.
23. Anti-plasmodial activity of some Kenyan medicinal plant extracts singly and in combination with chloroquine
Muregi, F.W., Chhabra, S.C., Njagi, E.N.M., Lang'at-Thoruwa, C.C., Njue, W.M., Orago, A.S.S., Omar, S.A. and Ndiege, I.O.
Phytotherapy Research, 2004 **18**, 379-384.
24. Brine shrimp toxicity and antiplasmodial activity of five Kenyan medicinal plants.
Wanyoike, G.N., Chhabra, S.C., Lang'at-Thoruwa, C.C. and Omar, S.A.
Journal of Ethnopharmacology, 2004 **90**, 129-133.
25. A novel glycosidic steroidal alkaloid from *Solanum aculeastrum*.
A.W. Wanyonyi, Tarus, P.K. and S.C. Chhabra
Bulletin of the Chemical Society of Ethiopia 2003 **17**, 61-66.
26. Molluscicidal and antimicrobial activity of *Solanum aculeastrum*.
Wanyonyi, A.W., Chhabra, S.C., Mkoji, G.M., Njue, W.M. and Tarus, P.K.
Fitoterapia 2003 **74**, 298-301.
27. Heavy metals and pesticides in marine sediment, seawater and seaplants along the Kenya-Mombasa coastline.
Oyugi, M.P., Chhabra, S.C., Njue, W.M., Kinyua, A.M.
Journal of Trace and Microprobe Techniques 2003 **21**, 147-159.
28. *In vitro* antiplasmodial activity of some plants used in Kisii, Kenya against malaria and their chloroquine potentiation effects.
Muregi, F.W., Chhabra, S.C., Njagi, E.N.M., Lang'at-Thoruwa, C.C., Njue, W.M., Orago, A.S.S., Omar, S.A. and Ndiege, I.O.
Journal of Ethnopharmacology, 2003 **84**, 235-239.
29. Ring A-seco mosquito larvicidal limonoids from *Turraea wakefieldii*.

- Ndung'u, M., Hassanali, A., Hooper, A.M., Chhabra, S.C., Miller, T.A., Paul, R.L. and Torto, B.
Phytochemistry, 2003 **64**, 817-823.
30. Bioactive metabolites from *Trichoderma harzianum* and *T. longibrachiatum*.
Tarus, P.K., Chhabra, S.C. and Lang'at-Thoruwa, C.C., Wanyonyi, A.W.
Bulletin of the Chemical Society of Ethiopia, 2003 **17**, 185-190.
31. Flavonoids from *Tephrosia aequilata*.
Tarus, P.K., Machocho, A., Lang'at-Thoruwa, C.C. and Chhabra, S.C.
Phytochemistry 2002, **60**, 375-379.
32. Bioactive steroidal alkaloid glycosides from *Solanum aculeastrum*.
A.W. Wanyonyi, S.C. Chhabra, G. Mkoji, U. Eilert and W.M. Njue
Phytochemistry 2002 **59**, 79-84.
33. The kill kinetics of *Azadirachta indica* A. Juss. (Meliaceae) extracts on *Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa* and *Candida albicans*.
O.J. Omolo, S.C. Chhabra and G. Nyagah
African Journal of Science and Technology 2001 **2**, 113-118.
34. Iron content of some edible leafy vegetables and medicinal plants used traditionally for anaemia treatment in East Africa.
O.J. Omolo, S.C. Chhabra and G. Nyagah
African Journal of Health Sciences 2001 **8**, 55-60.
35. L-Ascorbic acid losses in Kenyan vegetables during cooking as determined by high performance liquid chromatography.
Wekesa, N.M.N., Chhabra, S.C. and Thairu, H.M.
Bulletin of the Chemical Society of Ethiopia 2001 **15**, 65-70.
36. Determination of L-ascorbic acid in fresh fruits and vegetables from different regions of Kenya by high performance liquid chromatography.
Wekesa, N.M.N., Chhabra, S.C., Nyagah, G. and Thairu, H.M.
East African Journal of Science 2000 **2**, 57-64.
37. New Variotin Analogues from *Aspergillus viridi-nutans*.
Omolo, J.O., Anke, H., Chhabra, S.C. and Sterner, O.
Journal of Natural Products 2000 **63**, 975-977.
38. Airborne volatiles from *Melinis minutiflora* P. Beauv., a non-host plant of the spotted stem borer.
Kimani, S.M., Chhabra, S.C., Lwande, W. and Hassanali, A.
Journal of Essential Oil Research, 2000 **12**, 221-224.
39. Spectroscopic determination of heavy metals, nitrates and nitrites in underground waters in areas around Nairobi.
Kimei, B.M., Chhabra, S.C. and Nyagah, G.
International Journal of BioChemPhysics, 1999 **8/9**, 34-38.

40. *Cleome hirta* Oliv. essential oil and its constituents as livestock tick (*Rhipicephalus appendiculatus*) and maize weevil (*Sitophilus zeamais*) repellents.
Ndungu, M., Chhabra, S.C. and Lwande, W.
Fitoterapia 1999 **70**, 514-516.
41. Determination of L-ascorbic acid in various Kenyan fresh and processed fruits and vegetables by high performance liquid chromatography.
Chhabra, S.C., Wekesa, N.M.N., Thairu, H.M. and Nyagah, G.
Journal of Agriculture Science and Technology 1999 **2**, 22-31.
42. Alkaloids from *Ammocharis tinneana*.
Machocho, A., Chhabra, S.C., Viladomat, F., Codina C. and Bastida, J.
Phytochemistry 1999 **51**, 1185-1191.
43. Preliminary antiplasmodial activity screening of extracts from some Kenyan medicinal plants.
Omulokoli, E., Chhabra, S.C. and Khan, B.
International Journal of BioChemiPhysics 1998 **6/7**, 4-6.
44. Antibacterial activity of plant extracts - a comparison of agar dilution and microtitre broth dilution methods.
Okemo, P.O., Mwatha, E.W., Chhabra, S.C.
Discovery and Inovations 1998 **10**, 106-110.
45. Alkaloids from *Crinum stuhlmanii*.
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MEMBERSHIP OF PROFESSIONAL BODIES

- Kenya Chemical Society
- Natural Products Research Network for Eastern and Central Africa (NAPRECA)
- American Chemical Society
- New York Academy of Science
- Tanzania Medical Association
- Indian Science Congress
- Indian Chemists Association