

Prof. M. S. Rajab, PhD.

Position and address:

Vice Chancellor, Pwani University and Professor of Organic Chemistry, Department of Chemistry and Biochemistry, Pwani University.

Address: Pwani University, P. O. Box 195, 80108 Kilifi, KENYA.

Tel: (254) (41) 7525102/3/4/6; wireless (254) 20 2607288

Email: ms.rajab@pwaniuniversity.ac.ke; **principal@pwaniuniversity.ac.ke**,
ms.rajab@yahoo.com; rajab.ms@gmail.com;

Curriculum Vitae in Brief:

Prof. Mohamed S. Rajab, is a Professor of Organic Chemistry in the Department of Chemistry and Biochemistry, Pwani University. He is also the Vice Chancellor, Pwani University. He has a BSc in Chemistry (1st Class Honours) from the University of Nairobi and a PhD Organic Chemistry from the University of Maine (1988). He started his career as a researcher at the International Center of Insect Physiology and Ecology (ICIPE) in 1982. After completing his Ph.D in Chemistry in 1988, he worked as a research scientist at the Southwestern Medical Center in Dallas Texas undertaking research on the synthesis of bioactive molecules focusing on cholesterol derivatives used for cholesterol receptor studies.

Prof Rajab took up appointment as a Lecturer in Moi University, Department of Chemistry in 1989. During his tenure at Moi University, he held various administrative positions including Chairman of Department; Dean of Faculty and Ag. Principal of Chepkoilel Campus. As one of the pioneer staff in Moi University, he was involved in the setting up of administrative structures for Chepkoilel Campus. In 1997, he spent time in the U.S.A as a Senior Fulbright Research Fellow at the University of Louisiana, Baton Rouge. In 1999, he was appointed by the then Head of State, as the Deputy Vice-Chancellor in charge of Administration in Kenyatta University. As Deputy Vice Chancellor he participated in the development of various policy documents during the period between 1999 to 2007. He served in this position for 10 years until he took up appointment and moved to Pwani University College in November, 2007 as its first Principal.

As the Principal of Pwani University College he has been involved in the development of key policy documents including the Strategic Plan, Master Plan, among several other policy documents. He has served in several boards including the Jomo Kenyatta Foundation, National Museums of Kenya, Kenya Agricultural Research Institute among others and is currently a member of the Kenyatta University and Pwani University College Councils. He attended specialized training on leadership and the management of institutions of higher learning in Oxford, University of Abertay in Dundee, University of Warwick and Galilee College in Israel. Prof Rajab has also trained on good corporate governance both locally and overseas.

Other than his university administrative experience, Prof. Rajab has research interests in natural products chemistry. He has attended and presented scientific papers at over 100 learned conferences and workshops, and published more than 30 papers in refereed journals.

CURRICULUM VITAE

I. PERSONAL DATA

NAME : Mohamed Said Rajab
NATIONALITY : Kenyan
DATE OF BIRTH : 10th August 1959.
MARITAL STATUS : Married with five children

PRESENT ADDRESS : Pwani University
P O Box 195, Kilifi, KENYA

CELL PHONE : 0733 730361

E-mail : ms.rajab@yahoo.com

II. GOAL

Following the award of a Charter to Pwani University by H.E. President Mwai Kibaki on 31st January 2013 and my appointment as the Ag. Vice Chancellor, my immediate goal was to start the process of transforming the newly established university to a world class institution.

III. QUALIFICATIONS

B.Sc. Chemistry, First Class Honours
University of Nairobi, Kenya (1982)

Ph.D. Organic Chemistry, University of
Maine, U.S.A (1988)

IV. PROFESSIONAL HISTORY

Feb 2013 to date Ag. Vice Chancellor, Pwani University.
Nov.2007-Jan 2013 Principal, Pwani University College
2002-2007 Deputy Vice-Chancellor (Administration), Kenyatta University.
2000-2002 Deputy Vice Chancellor (Administration) and Ag. Deputy Vice-Chancellor (Finance, Planning & Development)
1998-1999 Professor and Dean, Faculty of Science and Ag. Principal Chepkoilel Campus, Moi University
1996 -1998 Dean, Faculty of Science, Moi University
1996-1997 Visiting Senior Fulbright Fellow at the Louisiana State University, Department of Chemistry.
1994-1995 Associate Professor and Head, Department of Chemistry, Moi University.
1990 -1994 Senior Lecturer and Head, Department of Chemistry, Moi University.
1989 -1990 Lecturer, Department of Chemistry, Moi University.
1988 -1989 Postdoctoral Research Scientist, South Western Medical Centre, Dallas, U.S.A.

1985 -1988 Research Associate, University of Maine, U.S.A.
1983 -1985 Research officer, I. C. I. P. E.

IV. OTHER RELEVANT TRAINING

- i. Training course for Directors, organized by Centre for Corporate Governance sponsored by Kenya Agricultural Research Institute, July, 2007.
- ii. Training on Corporate Governance -Imperial Hotel, Kisumu, Kenya, December 2006.
- iii. Training on good corporate governance, organized by the CID department, Anti-Corruption Police Unit, May 2003.
- iv. Training for Trainers on ICT in Distance Education-Sponsored by UNISA/UNESCO-Pretoria, South Africa, Sept to Dec 2003.
- v. Training on Policy formulation and practical usage of ICTs in distance Education- Sponsored by IITE-UNESCO, Nairobi- Kenya, October 2002.
- vi. Company Directors Course-Organized by the Commonwealth Association for Corporate Governance- Mombasa, Kenya, April 2002.
- vii. Jomo Kenyatta Foundation Board of Directors workshop on corporate governance organized by the Public Sector Corporate Governance Trust, January 2001.
- viii. University Management Course- Organized by Association of African Universities – Cairo, Egypt, October 2001.
- ix. Training on “Leadership and Strategic Change in Higher Education” University of Abertay – Dundee, Scotland, August 2001.
- x. Oxford -Warwick University, U.K – Training in Management of Higher Education, July 2000.
- xi. Course on Strategic Management- Sponsored by Jomo Kenyatta Foundation, KCB Management Centre, Nairobi-Kenya, May 2001.
- xii. Galilee College, Israel – Training in Management of Higher Education, July 1999.
- xiii. Successfully completed a course on Molecular Modelling and QSAR Studies – Louisiana State University, Chemistry Department, Baton Rouge-1998.
- xiv. Attended a UNIDO-ICS organized workshop on Computational Combinatorial Chemistry at the Department of Chemistry, University of Capetown, S.A, 1998.

V. HONOURS AND AWARDS

- i) Sheikh Abdalla Saleh Farsy Memorial award for the best Muslim Science Scholar in Kenya, 1984.
- ii) University of Maine Research Fellowship, 1987.
- iii) NIH Postdoctoral Fellowship Grant, South Western Medical Centre at Dallas, 1988.
- iv) Moi University, Research Grant, IOM Equipment Grant, 1990, Vegetable Oil Protein Systems Research Grant, 1992, TWAS Spare parts Grant 1993, awarded various computer accessories.
- v) IFS Research Grant to evaluate anti-hypertensive 1994, awarded US\$10,850.
- vi) The prestigious Fullbright Research Grant to study biologically active plants, awarded US\$ 28,000, 1997-1998.

- vii) Received donation of Chemistry Glassware and Equipment from Max Planck Institute (Part of Prof Heinz Rembold Laboratory) worth \$ 150,000.
- viii) Co-researcher with Dr. Onesmo ole-Moiyoi of the ICIPE on *Herpes Zoster*, awarded \$ 150,000 for the period 2002-2003.
- ix) Co-researcher with Dr. Onesmo ole-Moiyoi of the ICIPE on *Herpes Zoster*, awarded US \$ 96,000 for the period 2003-2004 research ongoing
- x) Several other grants inform of books equipment etc which I have in turn donated.

VI. WORK EXPERIENCE

1. Teaching and Research Experience:

a) I.C.I.P.E., Kenya

1983-1985, Research Officer in Chemistry and Bioassay Research Unit, International Centre of Insect Physiology and Ecology.

b) University of Maine, U.S.A.

1985-1988, Research Associate, Department of Chemistry, University of Maine

c) South-western Medical Centre at Dallas, U.S.A.

1988-1989, Postdoctoral research fellow, Department of Molecular genetics, Centre for Genetic diseases.

d) Louisiana State University, U.S.A.

1996 - 1998, Awarded the prestigious Fulbright fellowship to carry out research in the United States.

e) Moi University, Eldoret, Kenya

- i) 1989 - 1990, lecturer, Department of Chemistry
- ii) 1990 promoted to senior lecturer and Head, Department of Chemistry.
- iii) 1995, promoted to Associate Professor of Chemistry.
- iv) 1996 - 1999, promoted to Dean, Faculty of Science.
- v) 1996-1999, Acted as Principal, Chepkoilel Campus on several occasions.

f) Kenyatta University, Nairobi, Kenya

2007(Nov) – 2013(Jan), Principal, Pwani University, College, A constituent college of Kenyatta University.

- (i) 1999 (March) – 2007(Nov), Deputy Vice-chancellor (Admin.)
- (ii) Acted as Vice-Chancellor on several occasions between March, 1999 to Nov. 2007.

2. University Administrative Experience

- i) Head, Department of Chemistry 1990-1995.
- ii) Was acting Dean of the Faculty of Science in various occasions between 1990-1995.
- iii) Acting Principal, Chepkoilel on several occasions between 1995 to 1999.
- iv) Dean of the Faculty of Science 1996 to March 1999.
- v) Deputy Vice-Chancellor (Administration)-Kenya University, 1999 to Nov. 2007
- vi) Secretary to the Kenya University Staff Retirement Benefits Scheme since 1999 to date.
- vii) Chaired various intra and inter universities committees on university policy matters. Currently chairman of two council committees namely the junior staff disciplinary committee and the university housing committee in addition to several university ad hoc committees.
- viii) Principal, Pwani University College, 2007 (Nov.) – Jan 2013.
- ix) Ag. Vice-Chancellor, Pwani University Jan 2013-todate.

3. Other Related Experience

- i) External examiner University of Nairobi, Department of Chemistry between 1999-2002.
- ii) External Examiner Maseno University from 2002 to date.
- iii) Member of the Board of Directors of the Jomo Kenyatta Foundation from August 1999 to 2005.
- iv) Member of the Board of Directors of National Museums of Kenya between 1999 to August 2002.
- v) Member of the National Bioethics Committee- International Centre for Insects Physiology and Ecology from 2004 - 2007.
- vi) Member of the steering committee Mombasa Islamic University
- vii) Chairman IPUCCF negotiating committee 2006/2007.
- viii) Chairman, finalization committee of the Mombasa Islamic University (2007).
- x) Member of the IPUCCF negotiating committee from 2007 to date.

VII RESEARCH AND TEACHING EXPERIENCE

1. Current Research and Student Supervision

- i) Computational studies on chemical transformations –with Mr Kibe Macharia. Mr. Kibe has now graduated with a PhD in Chemistry.
- ii) Structure activity studies on clerodane diterpenes as anti-hypertensive agents – ongoing with Mr John Ndegwa, a member of staff in Moi University.
- ii) A comparative study on the quality of meat from thomsons gazelle (*Gazela thomsoni*) and the domestic goat (*Capra hircus*) on the Athi-Kapiti plains of Machakos district and the Laikipia Plateau in Laikipia District – with Christina O. Otieno. Mrs. Otieno has now graduated with a PhD from Moi University.
- iii) Evaluation of tetranor-triterpenes as anti-TB agents –Mr A. Maloba, Department of Biochemistry, Kenya University has now obtained his Msc. Degree.
- v) Computational studies of steroidal anti-TB drugs – Kibe Macharia on going.

- vi) Further studies on *Plumeria alba* exudates for the treatment of *Herpes zoster* - research grant proposal is being finalized.

2. Selected Research and Student Supervision Undertaken

- i) Effects of selected medicinal plant extracts against opportunistic bacteria isolated from septic herpetic lesions among HIV and AIDS patients – recently finalized (2006) with Mamo Umuro Abudo, Msc student.
- ii) Efficacy of selected medicinal plant extracts compared to conventional anti viral drugs against herpes simplex virus – recently finalized (2006) with Omondi A. Radol, Msc student.
- iii) Anti-tick properties of selected East African plants against the brown ear tick *Rhipicephalus appendiculatis* – Bakari s. Kaoneka Ph.D student under ICIPE, ARPPIS program.
- iv) Isolation and Characterization of Larvicidal components against mosquito larvae from *Calodendrum Capensi* – with Mr Ambrose K. Kiprop completed (2002), Dr. Kiprop is now the Dean by Faculty of Science, Moi University.
- v) Blood pressure responses of extracts of plants in the family meliaceae – with Dr Maurice Odek-Ogunde (1996 – 2004).
- vi) Studies on safe chemical control strategies against the European cypress aphid *Cinara cupressi* in Kenya – with the late Prof. Joe Mwangi (2002)
- vii) Decolorization of a pulp and paper mill effluent in Webuye Kenya by a combination of electrochemical and coagulation methods – with Mr B.O. Orori, Msc student completed (2004).
- viii) Computational studies on chemical transformations –with Mr Kibe Macharia. Mr. Kibe has now graduated with a PhD in Chemistry.
- ix) A comparative study on the quality of meat from thomsons gazelle (*Gazela thomsoni*) and the domestic goat (*Capra hircus*) on the Athi-Kapiti plains of Machakos district and the Laikipia Plateau in Laikipia District – with Christina O. Otieno. Mrs. Otieno has now graduated with a PhD from Moi University.
- x) Evaluation of tetranor-triterpenes as anti-TB agents –Mr A. Maloba, Department of Biochemistry, Kenyatta University has now obtained his Msc. Degree.

3. Other Teaching Experience

- i) Developed the following courses at both undergraduate and post graduate level- Analytical Chemistry, Natural Products Chemistry, Alicyclic and Heterocyclic Chemistry, Organic Synthesis and Organometallic Chemistry and coordinated the development of M.phil. and Ph.D. programme in Chemistry and Chemistry courses synopses in the Bs. Education Programme at Moi University.
- ii) Supervised over 30 final year B.sc. Research Projects.

- iii) Taught several courses in Organic and Analytical Chemistry at both Undergraduate and Postgraduate level.

VIII MEMBERSHIP TO LEARNED SOCIETIES

- i) Member: The American Society of Pharmacognosy; The American Chemical Society; Natural Products Research Network for East and Central Africa, Kenya Chemical Society.
- ii) Member Kenya National Academy of Sciences
- iii) Member of the Editorial Board, Kenya Chemical Society Journal.
- xi) Member, Kenya Chemical Society.
- xii) Honorary member, Fulbright Scholar Association – 1996.
- xiii) Member of the American Biographical Institute-1999.

IX SELECTED PUBLICATIONS IN INTERNATIONAL JOURNALS

1. Isolation, Identification and Structure - activity studies of limonoid insect antifeedants. Mohamed S. Rajab Ph.D. 1988.
2. A new limonoid insect antifeedant from the fruit of *Melia volkensii*. Mohamed S. Rajab, Michael D. Bentley, A. Randall Alford and Michael J. Mendel. *Journal of Natural Products*, 51, 168(1988).
3. A new limonoid from *Turraea robusta*. Mohamed S. Rajab, Michael D. Bentley, Ahmed Hassanali and Andrew Chapya. *Phytochemistry*, 27,2353(1988).
4. Structure - activity studies of modified *citrus* limonoids as antifeedants for the Colorado potato beetle *Leptinotarsa decemlineata* (say). Michael D. Bentley, Mohamed S. Rajab, A. Randall Alford, Michael J. Mendel and Ahmed Hassanali. *Entomologia Experimentalis et Applicata*, 49, 189-193 (1988).
5. Tetranortriterpenes from *Melia volkensii*. Mohamed S. Rajab and Michael D. Bentley. *Journal of Natural Products*, 53, 840-844 (1988).
6. Biomimetic formation of a nimbin class limonoid. Mohamed S. Rajab, Michael D. Bentley and Raymond C. Fort Jr. *Journal of Natural Products*, 51, 1292-1293 (1988).
7. Effects and modes of action of citrus limonoids against *Leptinotarsa decemlineata*. Young-Biao-Liu, A. Randall Alford, Mohamed S. Rajab and Michael D. Bentley. *Physiological Entomological*, 15, 37-45 (1990).
8. Citrus limonoids as insect antifeedants: A. Randall Alford, Young-Biao-Liu, Michael J. Mendel, Michael D. Bentley and Mohamed S. Rajab. *Deterrents of Toxins, Symp. Biol. Hung.* 39, (1990).
9. Limonoid model insect antifeedants. Michael D. Bentley, Mohamed S. Rajab, Michael, J. Mendel and A. Randall Alford. *Journal of Agricultural and Food Chemistry* 38, 1400 (1990).
10. Antifeedant effects of Citrus limonoids differing in A-ring structure on Colorado potato Beetle Larvae. Michael J. Mendel. A. Randall Alford, Mohamed S. Rajab and Michael D. Bentley. *Journal of Economic Entomology*, 84, 1158-1162 (1991).
11. Interference of Ugandensidial with mitochondrial oxidative phosphorylation in *in vitro*. Julius O. Olowookere and Mohamed

- S. Rajab. Bioscience Research Communications, 3 No. 2 (1991).
12. Tetranortriterpenes from *Turraea robusta* (Gurke), Michael D. Bentley, Forrest Gaul, Mohamed S. Rajab and Ahmed Hassanali. Journal of Natural Products, 55, 84-87 (1992).
 13. Synthesis of (\pm) - dihydrocalodendrolide. Mohamed S. Rajab and Michael D. Bentley. Bull. Chem. Soc. Ethiop., 6(1), 21-25 (1992)
 14. Further minor tetranortriterpenes from *Melia volkensii* (Gurke). Mohamed S. Rajab and Michael D. Bentley. Bull Chem. Soc. Ethiop., 6(2) (1992).
 15. Limonoids of *Melia volkensii* (Gurke). Mohamed S. Rajab. East African Journal of Sciences, 1, 1-7 (1992).
 16. Relationship of Citrus Limonoid Structure to Feeding Deterrence Against Fall Armyworm (*Lepidoptera*: Noctuidae) Larvae. Michael J. Mendel, A. Randall Alford, Mohamed S. Rajab and Michael D. Bentley. Environ. Entomol. 22(1): 167-173 (1993).
 17. Effect of the dialdehyde ugandensidial on mitochondrial phosphorylation. Mohamed S. Rajab and Julius O. Olowookere. Bull., Chem. Soc. Ethiop., 7(1), 17-21 (1993).
 18. Blood pressure responses of *Ajuga remota* (Benth) on experimentally hypertensive rats. Maurice Odek-ogunde, Mohamed S. Rajab, Gakuya J. Migwi and John M. Ndegwa. Planta Medica 59, 573-574.
 19. Ethnobotanical Approaches as Indigenous Strategies of the Farmer for pest Control in Africa. Mohamed S. Rajab. In New Strategies for Locust Control in Natural Product and Receptor Research. Eds. H. Rembold, J.A. Benson, H. Franzen, B. Weickel, F.A. Schulz. ATSAF, Ellerstr. 50, D-53119 Bonn, Germany, Geb. (1994).
 20. Formal Synthesis of (\pm) - Calodendrolide. Mohamed S. Rajab and Paul M. Guyo (1993). Bull. Chem. Soc. Ethiop., 8(1), (1994).
 21. Effect of the clerodane diterpene ajugarin I on experimentally hypertensive rats. Maurice Odek-Ogunde and Mohamed S. Rajab. (1994) - East African Journal of Medicine 71 (9) (1994).
 22. Calodendrolide, a degraded Limonoid from *Calodendrum capense*. Mohamed S. Rajab, Frank R. Fronczek, Joseph K. Rugut and Nikolaus H. Fischer, Acta. Cryst. (1998) C54, 950-953.
 23. Structural Revision of Harrisonin and 12 β -Acetoxyharrisonin, two Limonoids from *Harrisonia abyssinica*. Mohamed S. Rajab, Joseph K. Rugutt, Frank R. Fronczek and Nikolaus H. Fischer. Journal of Natural Products (1997) vol. 60, No. 8, 822-825.
 24. Antimycobacterial Activity of (E)-Phytol and Derivatives: A preliminary structure - Activity study. Mohamed S. Rajab, Charles L. Cantrell, Scott G. Franzblau and Nikolaus H. Fisher. Planta Medica 64 (1998) 2-4
 25. Triterpenoids from *Turraea holstii*. Mohamed S. Rajab, Dulcie A. Mulholland and Thabo V. Monkhe. Phytochemistry (1998).
 26. Limonoids from *Turraea holstii* and *Turraea floribunda*. Mohamed S. Rajab, Dulcie A. Mulholland, Thabo V. Monkhe and Phillip H. Coomber. Phytochemistry 49 (1998) 2585-2590.
 27. New Antimycobacterial Triterpenes from *Melia volkensii*. Charles L. Cantrell, Mohamed S. Rajab, Scott G. Franzblau and Nikolaus H. Fischer. Journal of Natural Products 64 (1999) 546-548.

28. Antimycobacterial Compounds from *Ajuga remota*. Charles L. Cantrell, Mohamed S. Rajab, Scott G. Franzblau, Linda B. Adams, Frank R. Fronczek and Nikolaus H. Fischer. *Planta Medica* (1999) .
29. A new tetranortriterpenoid from *Harrissonia abyssinica*. Mohamed S. Rajab, Frank R. Fronczek, and J.K. Rugutt. *Dulcie Mulholland. Phytochemistry* (1999).
30. 11 α -Hydroxy Muzigadiolide, a Novel Drimane Sesquiterpene from the Stem Bark of *Warburgia ugandensis*. Mohamed S. Rajab and John M. Ndegwa. *Bull. Chem. Soc. Ethiop.* (1999).
31. Orori, B.O. Etiegni, L., Rajab, M.S., Situma, M.L., Ofosu-Asiedu, K. *Pulp & Paper Canada 106 (3): T50-55* (March, 2005). Decolorization of a pulp and paper mill effluent in Webuye Kenya by a combination of electrochemical and coagulation methods.
32. Isolation and characterization of larvicidal components. A.K. Kiprop , M.S. Rajab and F.M.E. Wanjala. *Bull Chem. Soc. Ethiop.* 2005, 19(I), 145-148.
33. Y.X.Zhang, S.H.Jackson, M.S.Rajab, F.R. Fronczek and S.F.Watkins. Cinnamolide-3- β ol hemihydrate and -3 β -hydroxycinnamolide acetate, two drimanolide-class sesquiterpene lactones from *Warburgia ugandensis*. *Acta Cryst* (2006) C62, 219-221.
34. Dimethyl-6-methylene-3-oxo-decahydronaphthol furan diyl diacetate. M. Mudyiwa. M. S. Rajab, F.R. Fronczek and S.F. Watkins. *Acta Cryst* (2012) E68, 2612-2613.

X. PRESENTATIONS

Over one hundred (100) presentations in international scientific conferences worldwide.

XI. OTHER PUBLICATIONS

1. Books

- i) Chemistry Laboratory Manual, with P. Thygarrajan and J. Redhead. Published by Desktop Publishing Unit, Moi University, Eldoret. March (1990).
- ii) Model questions and answers for K.C.S.E. Chemistry. In Preparation (2011).

2. Patents

Patent application pending with the Ministry of Trade and Industry-Kenya Industrial Property Institute – Prof Lazare Etiegni and Mr. Bernard Odongi Orori- Title: “An electro-coagulation method for colour removal in wastewater or water with low power consumption (2006).

3. Conference Proceedings

Over 30 papers in proceedings following presentations in local and international conferences.

4. Publications in preparation

- i) Antimycobacterial activity of (E)-Phytol and Derivatives: A structure activity study. (To be submitted to *Planta Medica*)

- ii) Basis of bioactivity of didehydes and modified dialdehydic systems. (To be submitted to Discovery and Innovation).