

CURRICULUM-VITAE OF DR. ANIL JOHN J.

Technical Officer, KSCSTE-JNTBGRI, Palode, Thiruvananthapuram

Name : **Anil John J.**

Designation : Technical Officer Gr.IV

Department : Phytochemistry & Phytopharmacology Division

Institute : KSCSTE- Jawaharlal Nehru Tropical Botanic Garden and Research Institute
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Age &Date of Birth : 49, 31/05/1974

Sex : Male

Marital Status : Married

Education - Academic

Sl No.	Institution	School/ University	Degree Awarded	Year	Grade
1.	Kerala Secondary School Board	Govt. H.S. Poovar	SSLC	1989	First Class
2.	V.T.M.N.S.S.College, Dhanuvachapuram	University of Kerala	Pre-Degree	1991	First Class
3.	V.T.M.N.S.S.College, Dhanuvachapuram	University of Kerala	B.Sc.(Chemistry)	1994	First Class

4	Baselius College, Kottayam	MahatmaGandhiUniversity	M.Sc (Chemistry)	1997	First Class
5.	Gandhigram Rural University	Gandhigram Rural University	Ph.D.(Chemistry)	2009	

Professional Career

Sl No.	Post held	From	To	Institution
1	Technical Officer (Grade I)	June 1998	June 2003	Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Pacha-Palode, Thiruvananthapuram, Kerala, India – 695 562
2	Technical Officer (Grade II)	July 2003	June 2009	-do-
3	Technical Officer (Grade III)	July 2009	June 2014	-do-
4.	Technical Officer (Grade IV)	July 2014	continuing	-do-

Research Areas of Special Interest

- Isolation and characterization of secondary metabolites.
- Extraction and analysis of essential oils.
- Isolation and characterization of aroma chemicals from essential oils.
- *in vitro* anti-oxidant activity of extracts and isolates.
- Standardization of herbal drugs.
- Estimation of bioactive molecules and marker compounds.
- Development of new methods for HPTLC analysis of extracts and isolates.

Significant Achievements and Contributions

1. Studied the essential oil composition of four species of *Neolitsea*, two species of *Pittosporum*, three species of *Thottea*, three species of *Zingiber*, one species each of *Heracleum*, *Evodia*, *Clausena* and many other aromatic plants from the Western Ghats. The studies have resulted in the discovery of several new sources of essential oil bearing

- plants with potential for yielding aromatic compounds that may find use in perfumery, flavour and cosmetic industries.
2. Isolated and characterized many volatile components from these essential oils.
 3. **Involved in discovering fluorescence emissions from Prey Traps of Carnivorous Plants**
 4. Developed a new precise and rapid HPTLC method for the simultaneous estimation of glucose, fructose and sucrose
 5. Carried out phytochemical investigation of three hither to uninvestigated medicinal plants and the study resulted in the isolation of many valuable phytochemicals.
 6. Isolated and characterized a rare *O*-prenylated flavonoid from *Melicope* species.
 7. I was involved in discovering high zerumbone yielding *Zingiber* from Kerala.
 8. I was involved in finding the elite genotypes with high contents of madecassoside and asiaticoside, from sixty accessions of *Centella asiatica* of south India.
 9. Associated with discovering elite accessions of *Bacopa monnieri* with high content of Bacopaside I and Bacoside A
 10. I was involved in discovering the UV induced visual cues on grasses
 11. I was involved in the standardization of 12 therapeutically important medicinal plants under an ICMR Supported Project.
 12. I was also involved in developing technology for the production of aroma concentrate from flowers of *Hedychium coronarium*.

Research Experience

I have more than twenty five years research experience at Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Palode in the phytochemistry of medicinal and aromatic plants and in the standardization of herbal drugs of which fourteen years research experience are after awarding the Ph.D. Degree.

Experience in the Operation of Sophisticated Instruments

- Have enough experience in independently operating sophisticated instruments like Camag High Performance Thin Layer Liquid Chromatograph (HPTLC), Shimadzu and Nucon Gas Chromatograph (GC-FID), Shimadzu High Performance Liquid Chromatograph (HPLC), Buchi Medium Pressure Liquid Chromatograph (MPLC), Heto Lyophiliser, Shimadzu UV-Vis Spectrophotometer, ABB-Bomem FT-IR spectrometer, Rudolf Digital refractometer, Rudolf Digital Polarimeter etc.

Professional Trainings Received

1. I have successfully completed one-week training course on operation of High Performance Thin Layer Chromatograph in Anchrom Enterprises (I) Ltd, Mumbai, September 12-17, 2002.
2. Attended National Workshop on NMR Spectroscopy-Theory and Applications, organized by School of Chemistry, Madurai Kamaraj University, March 28-29, 2008.
3. Attended three days training programme on advanced HPTLC Techniques at Anchrom India Pvt. Ltd., Mumbai in October 2007.
4. Attended two day training programme on 'HPTLC- A Modern Analytical Tool' organized by The Asian and Mideast Institute of Chemists (AMIC) at Guru Nanak Khalsa College, Matunga (East), Mumbai, February 6-7, 2009.
5. Participated 3-day Workshop on NMR Techniques organized by Sophisticated Test and Instrumentation Centre (STIC), Cochin University of Science and Technology, Cochin, January 13-15, 2011.
6. Participated the Workshop on capacity Building in Scientific and Technical Writing Skills– Organised by TBGRI, March 21-25, 2011.
7. Attended three days training programme on 'Basic and Fundamentals of GC-2010 Plus' at Shimadzu Analytical (India) Pvt. Ltd., Mumbai, May 30-31, 2013.
8. Participated 2-day National Workshop on the application of ICP-MS organized by DST PURSE Programme, University of Kerala, Kariavattom Campus, Thiruvananthapuram, March 13-14, 2014.
9. Participated 2-day National Workshop on Mass Spectrometry NWMS 2015 organized by Inter University Instrumentation Centre and School of Environmental Sciences, Mahatma Gandhi University, Kottayam, December 10-11, 2015.
10. Participated the four day national workshop 'National Workshop on Magnetic Resonance and Imaging – NMRSI '2019' from 25th February 2019 to 28th February 2019 at University of Kerala, Kariavattom organised jointly by Department of Chemistry and SICC, University of Kerala.

Awards/ Honours

- Received the **Best Poster Presentation Prize** in the Asian Symposium on Medicinal Plants, Spices & Other Natural Products (ASOMPS) XIII, (IICT, Hyderabad- Nov. 3-6, 2008) for the research paper: ‘**J. Anil John**, B. Sabulal, M.G. Sethuraman and V. George, Chemical investigation of *Pittosporum viridulum*, an endemic species’.
- **Dr. P.D. Sethi Award 2010:** The research paper : “Thomas, M.T.,Rajani Kurup, **Anil John, J.**, Sreeja, P.C., Mathew, P.J., Dan, M. and Sabulal, B. Elite genotypes/chemotypes, with high contents of madecassoside and asiaticoside, from sixty accessions of *Centella asiatica* of south India and the Andaman Islands: For cultivation and utility in cosmetic and herbal drug applications. *Ind. Crops Prod.*, 32, 545-550, 2010” has won the first prize of Dr. P.D. Sethi Award-2010 for the best research work on application of TLC/HPTLC in pharma and herbal analysis.
- Recognized as Research Guide in Chemistry – Kerala University (2012)
- Certificate of Appreciation (**Dr.P.D. Sethi Memorial Annual National Award 2017**) was awarded to the research paper entitled Elite genotypes of *Bacopa monnieri*, with high contents of Bacoside A and Bacopaside I, from southern Western Ghats in India. *Industrial crops and products*, 98, 76-81. (2017). This award is given to best research papers on application of TLC / HPTLC in pharma, herbal or other chemical analysis.

Research Projects carried out / being pursued

1. “Phytochemical Investigation of Tropical Medicinal Plants with a View to Develop Drugs, Pharmaceutical Products, Chemicals, Industrial Raw Materials etc.”
Plan Funded Project (2003-2007)- Co-PI
2. “Studies on Tropical Aromatic Plants with a View to Discover New Sources of Essential oils for Perfumery, Cosmetics, Flavor and Drug Industry”.
Plan Funded Project (2003-2007)- Co-PI
3. Chemical Prospecting of Plants in the Kerala Region of Western Ghats for Bioactive Molecules.
Plan Funded Project (2008-2012)- Co-PI

4. Development of Fragrances, Aroma Chemicals and Flavouring Agents from Tropical Aromatic Plants.
Plan Funded Project (2008-2012)- Co-PI
5. Chemical Prospecting of the Plants in Kerala Region of the Western Ghats for Bioactive Molecules (2013-2018) Co-PI
6. Chemical Prospecting of the Aromatic Plants of the Kerala Region of the Western Ghats for Bioactive Molecules(2013-2018) Co-PI
7. Sustainable Utilization of Medicinal, Aromatic and Other Potential Economic Plants of the Kerala Region of Western Ghats Through Phytochemical and Pharmacological Means (2018-) Co-I

Invited Talk

1. Gave an invited talk on 'Introduction to Phytochemistry' in the National Seminar on Recent Trends in Chemistry "Chemino 2011" on 11th February 2011 at Annai Velankanni College, Tholayavattam, Tamil Nadu.
2. Gave an invited talk on 'Practical Aspects of Thin Layer Chromatography in Phytochemistry' in the State Level Seminar on Newer Methodologies in Pharmaceutical Sciences at Jamia Salafiya Pharmacy College, Pulikkal, Malappuram on 5th April 2014
3. Delivered an invited lecture on 'An Introduction to GC-MS' in the Three day National Seminar on Spectroscopy: An Interdisciplinary Approach organized by IQAC, University College, Thiruvananthapuram on 4th December 2019
4. Delivered lecture on 'Chemistry of Carnivorous Plants' in the One day Webinar & Demonstration on Carnivorous Plants: Chemistry and Diversity, Organized by JNTBGRI on September 30, 2020 for High school students
5. Delivered lecture on 'Basics of Phytochemistry' in the One day Webinar & Demonstration on Carnivorous Plants: Chemistry and Diversity, Organized by JNTBGRI on September 30, 2020 for High school students
6. Delivered a lecture on "Introduction to Phytochemistry' in the National Workshop on Phytochemical and Phytopharmacological Methods on January 10, 2023 at KSCSTE-JNTBGRI, Palode, Thiruvananthapuram.

7. Delivered a lecture on "Application of Chromatographic Techniques in Phytochemistry" in the National Workshop on Phytochemical and Phytopharmacological Methods on January 11, 2023 at KSCSTE-JNTBGRI, Palode, Thiruvananthapuram.

Research Papers Published

1. **Anil John, J.**, Shiburaj, S., Sethuraman, M.G. and George, V.
Composition and antimicrobial activity of the essential oil from *Pittosporum neelgherrense* bark.
J. Trop. Med. Plants, **6**, 45-48, 2005.
2. Sabulal, B., Dan, M., **Anil John, J.**, Kurup, R., Pradeep, N.S. Valsamma, R.K. and George, V.
Caryophyllene-rich rhizome oil of *Zingiber nimmonii* from South India: Chemical characterization and antimicrobial activity.
Phytochemistry, **67**, 2469-2473, 2006. (impact factor : 3.35)
3. **Anil John, J.**, Shiburaj, S., Sethuraman, M.G. and George, V.
Chemical composition and antibacterial activity of the essential oils from the leaf, bark and fruit of *Neolitsea cassia*
J. Trop. Med. Plants, **7**, 251-255, 2006.
4. **Anil John, J.**, Vrujesh, P.K., Sethuraman, M.G. and George, V.
Chemical composition of the leaf and fruit oils of *Heracleum candolleianum*
J. Essent. Oil Res., **19**, 358-359, 2007.(impact factor : 0.815)
5. **Anil John, J.**, Vrujesh, P.K., Pradeep, N.S., Sethuraman, M.G. and George, V.
Chemical composition and antibacterial activity of leaf oil of *Neolitsea foliosa* var. *caesia*
J. Essent. Oil Res., **19**, 498-500, 2007 (impact factor : 0.815)
6. **Anil John, J.**, Vrujesh, P.K., Dan, M., Pradeep, N.S., Sethuraman, M.G. and George, V.
Chemical composition and antibacterial activity of leaf and bark oils of *Neolitsea scrobiculata* (Meisn.) Gamble.
Indian Perfumer, **50**, 61-64, 2007.
7. **Anil John, J.**, Vrujesh, P.K., Pradeep, N.S., Sethuraman, M.G. and George, V.
Constituents and antibacterial activity of the essential oils from the leaf and bark of *Pittosporum viridulum*
J. Essent. Oil Res., **19**, 591-593, 2007.(impact factor : 0.815)
8. Sabulal, B., Dan, M., **Anil John, J.**, Rajani Kurup, Sreeja, P.C., Pradeep, N.S., Valsamma, R.K. and George, V.
Phenylbutanoid-rich rhizome oil of *Zingiber neesanum* from the Western Ghats, South India: Chemical characteristic and antimicrobial activity.
Flavour Fragr. J., **22**, 521-524, 2007.(impact factor : 1.761)
9. **Anil John, J.**, Pradeep, N.S., Sethuraman, M.G. and George, V.

- Chemical composition and antibacterial activity of the fruit oil of *Neolitsea foliosa* var. *caesia*
J. Med. Arom. Plant Sci., **29**, 123-126, 2007.
10. **Anil John, J.**, George, V., Pradeep, N.S. and Sethuraman, M.G.
 Chemical composition and antibacterial activity of the leaf, bark and fruit oils of *Neolitsea fischeri* Gamble
J. Essent. Oil Res., **20**, 279-282, 2008. (impact factor : 0.815)
 11. **Anil John, J.**, George, V., Pradeep, N.S. and Sethuraman, M.G.
 Composition and antibacterial activity of the leaf and fruit oils of *Pittosporum neelgherrense* Wight & Arn.
J. Essent. Oil Res., **20**, 380-382, 2008. (impact factor : 0.815)
 12. **Anil John, J.**, Oswin Jose, J., George, V., Pradeep, N.S. and Sethuraman, M.G.
 Volatile constituents and antibacterial activity of leaf oil of *Thottea pomudiana*.
J. Essent. Oil Res., **20**, 460-463, 2008.(impact factor : 0.815)
 13. **Anil John, J.**, Oswin Jose, J., George, V., Pradeep, N.S. and Sethuraman, M.G.
 Composition and antibacterial activity of leaf oils of two *Thottea* species.
J. Trop. Med. Plants, **9**, 119-124, 2008.
 14. Sabulal, B., Dan, M., Thaha, A.R.M., **Anil John, J.**, Rajani Kurup, Prasanth, B., Lim, C.K.
 High yields of zerumbone from *Zingiber zerumbet* of Western Ghats in South India.
Flavour and Fragr. J., **24**, 301-308, 2009. (impact factor : 1.761)
 15. **Anil John, J.**, Pradeep, N.S., Sethuraman, M.G. and George, V.
 Volatile constituents and antibacterial activity of bark oil of *Neolitsea foliosa* var. *caesia*
J. Trop. Med. Plants, **10**, 181-184, 2009.
 16. **Anil John, J.**, Arun Kumar, R., Sherin A.R., Sreeja P.C., Arun Chandrasekhar, Sabulal, B. and Subramoniam, A.
 Antipyretic, analgesic, anti-inflammatory, antioxidant activities of two major chromenes isolated from *Melicope lunu-ankenda*
J. Ethnopharmacol., **130**, 267-271, 2010. (impact factor : 2.939)
 17. Thomas, M.T., Rajani Kurup, **Anil John, J.**, Sreeja, P.C., Mathew, P.J., Dan, M. and Sabulal, B.
 Elite genotypes/chemotypes, with high contents of madecassoside and asiaticoside, from sixty accessions of *Centella asiatica* of south India and the Andaman Islands: For cultivation and utility in cosmetic and herbal drug applications
Ind. Crops Prod., **32**, 545-550, 2010.(impact factor : 3.208)
 18. Deepaa, C.V., Subhashini Sripathi, K., **Anil John, J.**, George, V. and Narmatha, K.
 Chemical composition and antibacterial activity of the essential oil from the aerial parts of *Aristolochia tagala*
J. Trop. Med. Plants, **11**, 93-95, 2010.
 19. Sabulal, B., Anil John, J., Thaha, A.R.M., Rajani, K. and Dan, M.
 Chemistry of volatiles in *Zingiber* species from Western Ghats of Kerala.

- J. Med. Arom, Plant Sci.*, **32**, 470-473, 2010.
20. Gayathri, V., Asha V.V., **Anil John, J.** and Subramoniam, A.
Protection of immuno-compromised mice from fungal infection with a thymus growth stimulatory component from *Selaginella involvens*, a fern
Immunopharmacology and Immunotoxicology, **33**, 351-359, 2011. (impact factor : 1.109)
 21. Santhosh Kumar, E.S. and **Anil John, J.**
Discovery of *Pittosporum viridulum* Nayar & Al. (Pittosporaceae) from Kerala and a note on their undescribed flowers.
Indian Journal of Forestry, **34**, 175-176, 2011.
 22. Ramesh, V.K., Sethuraman, M.G., Gopan Raj, **Anil John, J.** and George, V. Chemical Composition of the leaf, stem and root oils of *Pleiospermium alatum*
J. Essent. Oil Res., **23**, 1-4, 2011. (impact factor : 0.815)
 23. **Anil John, J.**, Rajani Kurup S.R., Pradeep, N.S. and Sabulal, B.
Chemical composition and antibacterial activity of the leaf oil of *Clausena indica* from south India
J. Essent. Oil Bearing Plants, **14**, 776-781, 2011. (impact factor : 0.19)
 24. Bino Kingsley, R., Ajikumaran Nair, S., **Anil John, J.**, Manisha Mishra, Brindha, P. and Subramoniam, A.
Effect of *Stereospermum tetragonum* DC. in alloxan induced diabetic rats.
Journal of Pharmacology and Pharmacotherapeutics, **3**, 191-193, 2012.
 25. Sonu Jacob, **Anil John J.**, Leena Thomas and Sabulal, B.
In vitro pharmacological activity of the whole plant *Naragamia alata*.
Asian J. Research Chem., **5**, 265-269, 2012.
 26. C.V. Deepaa, Jean Claude Chalchat and **J. Anil John**
Chemical Composition of the Essential Oil from the Leaves of *Acalypha fruticosa*
J. Essent. Oil Bearing Plants, **15**, 609-613, 2012. (impact factor : 0.19)
 27. R. Kurup, **A. J. Johnson**, S. Sankar, A. A. Hussain, C. Sathish Kumar and B. Sabulal
Fluorescent prey traps in carnivorous plants
Plant Biology, **15**, 611-615, 2013. (impact factor : 2.405)
 28. Sabulal Baby, **Anil John Johnson**, Balaji Govindan, Sujith Lukose, Bhaskaran Gopakumar and Konnath Chacko Koshy
UV induced visual cues in grasses
Scientific Reports, **3**, 2738, 2013 (impact factor : 5.078)
 29. Sony George, S. Ajikumaran Nair, **Anil J. Johnson**, Ramaswamy Venkataraman, Sabulal Baby
O-prenylated flavonoid, an antidiabetic constituent in *Melicope lunu-ankenda*
Journal of Ethnopharmacology **168**, 158-163, 2015 (impact factor : 2.939)
 30. Sabulal Baby, **Anil John Johnson**, Balaji Govindan
Secondary metabolites from *Ganoderma*
Phytochemistry **114**, 66-101, 2015 (impact factor : 3.35)

31. G. Balaji, **J Anil John**, S. Ajikumaran Nair, B. Gopakumar, M.S. Karuna, R. Venkataraman, K.C. Koshy and B. Sabulal
Nutritional properties of the largest bamboo fruit *Melocanna baccifera* and its ecological significance
Scientific Reports, 6, 26135, 2016 (impact factor : 5.078)
32. Zachariah, Elavinamannil Jacob, B. Sabulal, Deepa Nair Krishnan Nair, **Anil John Johnson**, and Chakkalathundiyl Sasi Praveen Kumar. "Carbon dioxide emission from bamboo culms." *Plant Biology*, **18**, 400-405, 2016. (impact factor : 2.405)
33. Christopher Cinthya, **Anil John Johnson**, Paravanparampil Jacob Mathew and Sabulal Baby
Elite genotypes of *Bacopa monnieri*, with high contents of Bacoside A and Bacopaside I, from southern Western Ghats in India
Industrial Crops and Products, 98, 76-81, 2017
34. **Anil John J.**, Renjith R. and Sabulal B.
Secondary metabolites from *Ophiorrhiza*
The Natural Products Journal, 8, 248-267, 2018
35. Pradeep Kumar R., **Anil John**, Praveen Kumar, Dinesh Babu, KV, Evans, DA
Larvicidal efficacy of *Adiantobischrysen* from *Adiantum latifolium* against *Oryctes rhinoceros* through disrupting metamorphosis and impeding microbial mediated digestion
Pest management Science, 74, 1821-28, 2018
36. Govindan, B., **Anil John J.**, Viswanathan, G., Ramaswamy, V., Koshy, K. C., & Sabulal B.
Secondary metabolites from the unique bamboo, *Melocanna baccifera*
Natural Product Research, **33**, 122–125, 2019
37. Ajikumaran Nair S., Reshma V.R. Nair, Aroma P.R. Nair, Akhila S. Nair, Sabu T., **Anil John J.**, Sabulal Baby
Antidiabetes constituents, cycloartenol and 24-methylenecycloartanol, from *Ficus krishnae*, Plos One, **15**, e0235221, 2020
38. Kavitha, K. J., **Anil John, J.**, & Evans, D. A. (2020). Stigmasterol-3-O-glucoside, an allelopathic molecule responsible for pest resistance of Thenkaali (AAB), a *Musa* cultivar against *Odoiporus longicollis* [Olivier]. *Current Science* (00113891), 118(6).
39. Kunjumon, R., **Anil John J.**, Sukumaryamma Remadevi, R. K., & Baby, S. (2022). Assessment of major centelloside ratios in *Centella asiatica* accessions grown under identical ecological conditions, bioconversion clues and identification of elite lines. *Scientific Reports*, 12(1), 1-11.
40. Kunjumon, Renju, **Anil John Johnson**, Rajani Kurup Sukumaryamma Remadevi, and Sabulal Baby. "Influence of ecological factors on asiaticoside and madecassoside contents and biomass production in *Centella asiatica* from its natural habitats in south India." *Industrial Crops and Products* 189 (2022): 115809.

41. Koshy, K. C., Gopakumar, B., Sebastian, A., Ajikumaran Nair, S., **Anil John J.**, Govindan, B., & Baby, S. (2022). Flower-fruit dynamics, visitor-predator patterns and chemical preferences in the tropical bamboo, *Melocanna baccifera*. Plos One, **17**, e0277341.
42. Johnson, A. J., Venukumar, V., Varghese, T. S., Viswanathan, G., Leeladevi, P. S., Remadevi, R. K. S., & Baby, S. (2022). Insecticidal properties of *Clausena austroindica* leaf essential oil and its major constituent, trans-anethole, against *Sitophilus oryzae* and *Tribolium castaneum*. *Industrial Crops and Products*, **182**, 114854.
43. Ajikumaran Nair, S., Anil John J., Sabu, T., Gokul, B.S., Yeshwanth, H.M., Sabulal, B. (2023). Sharpshooter' in Botanic Garden: The tale of a rare plant-insect interaction. *Plant Biology*. <https://doi.org/10.1111/plb.13516>
44. Kunjumon, Renju, Anil John Johnson, Rajani Kurup Sukumaryamma Remadevi, and Sabulal Baby (2023). " Dammarane-type triterpenoid saponin-rich elite genotypes of *Bacopa monnieri* from south India and their edaphic-ecological preferences" *Industrial Crops and Products* 202: 117075.
45. Akhil S.K., Rajani Kurup S.R., Anil John J., Vinayak V., Thania S.V., Sabulal B. (2023). *Elettaria cardamomum* leaves, an underutilized resource: Chemical profile of its essential oil and insecticidal activity. *J. Essent. Oil Res.* **35**, 393-405
46. Reshma Vijayakumari Raveendr Nair, Ajikumaran Nair Sadasivan Nair, Anil John Johnson, Ananthakrishnan Jayakumaran Nair, Sabulal Baby. (2023) Antiproliferative activity of secondary metabolites isolated from *Humboldtia unijuga* Bedd. *Medicinal Chemistry Research*, **32**, 1163-1177

Papers presented in Conference/Symposia

1. George, V., **Anil John, J.**, Dan, M. and Sabulal, B. Phytochemical characterization of ecotypes of medicinal plants. Seminar on biotechnological interventions in medicinal plants of Kerala. Kerala Agricultural University, Vellayani, November 7, 2000.
2. Rameshkumar, K.B., **Anil John, J.**, Rajasekharan, S. and George, V. Empowerment of tribal communities through value addition of aromatic plants- A novel experiment. XIII Swadeshi Science Congress, Kalpetta, November 6-8, 2003.
3. **Anil John, J.**, Gopan Raj, Sethuraman, M.G., Shiburaj, S. and George, V. Chemical and antimicrobial studies on essential oil of *Pittosporum neelgherrense* Wight & Arn. stem bark. National Seminar on Recent Trends in Isolation, Characterization, Synthesis and Biological Studies of Organic Compounds, GRI- Madurai, March 5-6, 2004.
4. Gopan Raj, **Anil John, J.**, Shiburaj, S. and George, V. Zerumbone rich essential oil from *Zingiber zerumbet* (L.) rhizome. National Seminar on Recent Trends in Isolation, Characterisation, Synthesis and Biological Studies of Organic Compounds, GRI- Madurai, March 5-6, 2004.

5. Ganeshan, S., George, V., Rajasekharan, S., Latha, P.G. and **Anil John, J.**
Indian Biodiversity Scenario: Its Relevance in Ayurveda and Support to Modern Medical Sciences.
2nd World Ayurveda Congress & Arogya 2006, November 9-12, 2006, Pune.
6. George, V. and **Anil John, J.**
The role of ethnomedical leads in drug discovery
International Conference on Ethnopharmacology and alternative medicine - Jointly organised by National Society of Ethnopharmacology and Amala Cancer Research Centre, Thrissur, Kerala, January 20-26, 2007.
7. **Anil John, J.**, George, V., Sethuraman, M.G. and Pradeep, N.S.
Composition and antibacterial activity of leaf oils of four *Neolitsea* species from Kerala: a Comparative Study.
28th Annual Conference of Indian Association of Biomedical Scientists, Bharathidasan University, Tiruchirappalli, September 20-22, 2007.
8. George, V. and **Anil John, J.**
Saraca asoca – an Excellent Biosynthesiser of Phytochemicals.
National Seminar on Conservation, Cultivation and Sustainable Utilisation of *Saraca asoca*, Kerala Forest Research Institute, Peechi, October 16-17, 2007.
9. Sabulal, B., Dan, M., Thaha, A.R.M., **Anil John, J.**, Rajani Kurup, S.R., Prasanth, B. and Subramoniam, A.
High yield of zeumbone in the volatile oils of *Zingiber zerumbet* from Kerala.
Annual Conference of Southern Regional Indian Pharmacological Society, Jawaharlal Institute of Postgraduate Medical Education & Research, Pondicherry, July 11-13, 2008.
10. Sabulal, B., **Anil John J.**, Thaha, A.R.M., Rajani Kurup, S.R. and Dan, M.
Chemistry of volatile constituents in *Zingiber* spp. of Kerala.
National Seminar on Medicinal Plants, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram, July 24-25, 2008.
11. **Anil John, J.**, Sabulal B., Sethuraman, M.G., and George, V.
Chemical investigation of *Pittosporum viridulum*, an endemic species
Asian Symposium on Medicinal Plants, Spices and Other Natural Products (ASOMPS) XIII, Indian Institute of Chemical Technology (IICT), Hyderabad, India 3-6 November 2008.
12. **Anil John, J.**, Sherin A.R., Sreeja P.C., Arun Kumar, R. and Sabulal, B.
Biologically-active chromenes from *Evodia lunu-ankenda*
International Seminar on Herbal Drug Research: Present and Future Prospects, JSS College of Pharmacy, Ooty, Tamil Nadu, India December 4&5, 2009.
13. Prasanth, B., Sabulal B., Rajani Kurup, **Anil John, J.** and Dan, M.
Chemical characterization and bioactivity studies on essential oil from rhizomes of *Zingiber zerumbet*
International Seminar on Herbal Drug Research: Present and Future Prospects, JSS College of Pharmacy, Ooty, Tamil Nadu, India 4 & 5 December 2009.
14. Sabulal, B., **Anil John, J.**, Thaha, A.R.M., Kurup, R. and Dan, M.

- Chemistry of volatiles in *Zingiber* species from the Kerala region of western ghats
International Symposium on Current Status and Opportunities in Aromatic and Medicinal
Plants
Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow, India February
21-24, 2010.
15. Sony George, **Anil John, J.** and Sabulal B.
Biologically active O-prenylated flavonoid from *Melicope lunu-anlenda*
23rd Kerala Science Congress, 2011, Thiruvananthapuram, January 29-31, 2011.
 16. **Anil John, J.**, Sethuraman, M.G., Sabulal, B., Pradeep, N.S. and George, V.
Composition and antibacterial activity of bark oil of *Pittosporum viridulum*
International Conference on Biologically Active Molecules (ICBAM-2012), Gandhigram
Rural Institute- Deemed University, Gandhigram, Tamil Nadu, March 8-10, 2012
 17. Bino Kingsley, R., Ajikumaran Nair, S., **Anil John, J.**, Manisha Mishra, Brindha, P. and
Subramoniam, A.
A promising iridoid glycoside from *Stereospermum tetragonum* DC., a tropical medicinal
tree, for the treatment of diabetes mellitus.
International Conference on Biologically Active Molecules (ICBAM-2012), Gandhigram
Rural Institute- Deemed University, Gandhigram, Tamil Nadu, March 8-10, 2012.
 18. Balaji G., **Anil John J.**, Ajikumaran Nair S., Gopakumar B., Venkataraman R., Koshy
K.C. and Sabulal B.
Nutritional assessment of *Melocanna baccifera* fruits.
International Conference on Medicinal Plants: Resource for Affordable New Generation
Healthcare, Central Institute of Medicinal and Aromatic Plants, Lucknow, India., March
20-22, 2015
 19. Gokul B.S., **Anil John J.**, and Sabulal B.,
Phytochemical Investigation of the Indian Pitcher Plant, *Nepenthes khasiana*
International Conference on Research Initiatives in Chemistry for Sustainable
Development (RICS-2019) organized by the Department of Chemistry,
The Gandhigram Rural Institute. March 18-19, 2019.
 20. Sibina L., Kavitha K.J., **Anil John J.**, Sabu K.K., and Evans D.A.,
Genetic and biochemical basis of pest resistance by a diploid Musa cultivar against
banana pseudostem borer and prospects for pest management
31st Kerala Science Congress, 02-03 February, 2019, Fatima Mata National
College, Kollam
 21. Kunjumon, R., **Johnson, A. J.**, Baby, S. (2020). Quantification of major centellosides in
the nootropic medicinal plant, *Centella asiatica*. International Conference on Advances in
Material Science and Chemistry (ICAMSC-2020)- Amrita Vishwa Vidyapeetham,
Amritapuri Campus, Clappana, Kollam (Oral Presentation).
 22. Kunjumon, R., Johnson, A. J., Dan, M., Baby, S. (2019). Search for elite lines of
Centella asiatica and *Bacopamonnieri* based on their bioactive constituents. Prof A.
Abraham Memorial Seminar at KSCSTE-JNTBGRI, Palode, Thiruvananthapuram (Oral
Presentation, Third Prize).

23. Greeshma BN, **Anil John J**, Ajikumaran NS, Chaithra P, Nihila L, Meenu MS, Sreejith PP, Sabulal B and Gayathri V. Designing *Thottea siliquosa* essential oil nanoparticles as wound healing and regeneration interface(**3rd Best poster Award**) Nobel laureate S&T seminar series 11th India-Japan Science and Technology Seminar. Organised by Sree Chitra Tirunal Institute for Medical Sciences & Technology and Indian JSPS Alumni Association (IJAA) on 6-7 December 2021.
24. Greeshma B N, **Anil John J**, Ajikumaran N S, Chaithra P, Nihila L, Meenu M S, Sreejith PP, Sabulal B, Gayathri V
Wound healing and tissue regeneration activities by *Thottea siliquosa* leaf essential oil and its nanoparticles
34th Kerala Science Congress, 10-12 February, 2022, Mar Ivanios College, Thiruvananthapuram.
25. Kunjumon, R., **Anil John J.**, Baby, S. Search for elite lines of Centellaasiaticabased on their bioactive constituents, International Conference on Sustainable Utilisation of Bioresources (ICSUB-2022) 10-15 January 2022. University of Kerala, Kariavattom, Thiruvananthapuram (Oral Presentation)
26. Gokul B S, **Anil John J**, V. Gayathri and B. Sabulal. Phytochemical investigation of the Indian pitcher plant, *Nepenthes khasiana*, 10-14 February 2023. 35th Kerala Science Congress, Kalpetta.
27. Greeshma B N, **Anil John J**, Ajikumaran N S, Chaithra P, Nihila L, Meenu M S, Sreejith PP, Sabulal B, Gayathri V Wound healing and tissue regeneration activities by *Thottea siliquosa* leaf essential oil and its nanoparticles, 10-14 February 2023. 35th Kerala Science Congress, Kalpetta.
28. Chandni C L, Gokul B.S, **Anil John J.**, Lizzy Mathew, B Sabulal (2022), Chemical characterization of extra floral nectar in *Nepenthes khasiana* Hook.f., International Conference on Research in Biological Sciences organized by IQAC, HHMSPB NSS College for Women, Neeramankara, Thiruvananthapuram, Kerala, on 18th March 2022.
29. Gokul B S, **Anil John J**, Ajikumaran Nair S, Gayathri V, Biju P G, Sabulal B Isolation and biological activity studies of two phenolic compounds from the Indian pitcher plant, *Nepenthes khasiana*, The 13th ICPS International Conference, organized by International Carnivorous Plant Society, Himeji City, Japan, May 26-28, 2023
30. Anil John J, Chandni C L, Gintu Thomas, Gokul B S, Rajani Kurup S R, Sabulal B
Chemical composition of extra floral nectar in *Nepenthes khasiana* pitchers, The 13th ICPS International Conference, organized by International Carnivorous Plant Society, Himeji City, Japan, May 26-28, 2023

Course Material Edited

1. George, V., **Anil John, J.** and Nair, G.M.
Biochemical Prospecting of Plant Resources.– Course Material for Contact Programme, 2002.

Chapters in books

1. S. Ganeshan, V. George, S. Rajasekharan, P.G. Latha and **J. Anil John** - Indian Biodiversity Scenario: Its Relevance in Ayurveda and Support to Modern Medical Sciences *In: Sanjivani Medical Times*, pp. 50-54, Vijnana Bharati Publication, Pune.
2. V. George and **J. Anil John**. The role of Ethnomedical Leads in Drug Discovery *In: Ethnopharmacology Recent Advances*. Ed. P. Pushpangadan, V. George and K.K. Janardhanan, Daya Publishing House, Delhi, pp. 79-85, 2008.
3. V. George, B. Sabulal and **Anil John J.** Ethnomedicinal Plants in Parasitic Infections, *In: Ethnomedicinal Plants: A source of Complementary Therapeutics*. Ed. D. Chattopadhyay and S.G. Pandalai, Research Signpost Publication, Trivandrum, pp. 53-116, 2010.
4. **Anil John, J.**, Sethuraman, M.G., Sabulal, B., Pradeep, N.S. and George, V. Composition and antibacterial activity of bark oil of *Pittosporum viridulum*, *In: Biologically Active Molecules*. Ed. N.S. Nagarajan, Excel India Publishers, New Delhi, pp. 28-30, 2012.
5. Bino Kingsley, R., Ajikumaran Nair, S., **Anil John, J.**, Manisha Mishra, Brindha, P. and Subramoniam, A. A promising iridoid glycoside from *Stereospermum tetragonum* DC., a tropical medicinal tree, for the treatment of diabetes mellitus, *In: Biologically Active Molecules*. Ed. N.S. Nagarajan, Excel India Publishers, New Delhi, pp. 269-271, 2012.
6. Kunjumon, R., **Anil John J.**, & Baby, S. (2022). *Bacopa monnieri* (Brahmi): Phytochemistry and Use in Traditional Ayurvedic Formulations. *In: Chemistry, Biological Activities and Therapeutic Applications of Medicinal Plants in Ayurveda*, Ed. Augustine Amalraj; Sasikumar Kuttappan; Karthik Varma, The Royal Society of Chemistry, 176-200, 2022.

M.Sc./B.Sc. Degree Dissertations Supervised

Along with Head, Phytochemistry and Phytopharmacology Division, supervised the Dissertations of:

1. Ms. Chithra M. A., M. Sc. Bio-Chemistry, School of Biosciences, M.G. University, Kerala (2006).
2. Ms. Ann Susan Kurian, M. Sc. Bio-Chemistry, Dhanalakshmi Srinivasan College of Arts & Science for women, Tamil Nadu (2008).
3. Mr. Mukesh M., M. Sc. Bio-Chemistry, Malankara Catholic College, Kaliyakkavilai, Tamil Nadu (2009).
4. Ms. Dhanya S.S., M. Sc. Bio-Chemistry, VHNSN College, Virudhunagar, Tamil Nadu (2010).
5. Ms. Sonu Jacob, M.Pharm. Pharmaceutical Chemistry, Amrita Vidyapeetham University, Kochi, Kerala (2011)
6. G Athira, B. Sc. Biochemistry And Industrial Microbiology, National College of Arts and Science, Thiruvananthapuram (2014)

7. Reshma R.M. B. Sc. Biochemistry And Industrial Microbiology, National College of Arts and Science, Thiruvananthapuram (2014)
8. Ms. Aparna Abhimanyu, M. Sc. Biochemistry, MACFAST, Tiruvalla “Phytochemical and antioxidant activity study of *Centella asiatica*” (2016)
9. Mr. Ajinsha J.S. Gandhigram Rural Institute M.Sc Dissertation (1 month)
10. Ms. Asiya Hudha A. B., MSc. Biochemistry, A.J College of Science and Technology Thonnakkal, Thiruvananthapuram
11. Ms. Huda Basheer, MSc. Biochemistry, Mar Athanasius College (Autonomous), Kothamangalam
12. Ms. Abhina V S, MSc. Chemistry, Mar Ivanios College, Thiruvananthapuram. Isolation and quantification of 20-hydroxyecdysone, a molting hormone, from *Diploclisia glaucescens* (Blume) Diels (2020)
13. Ms. Feba Lalu, MSc. Chemistry, Mar Ivanios College, Thiruvananthapuram. Distribution of plumbagin, a plant derived naphthoquinone, in *Nepenthes khasiana* (2020)
14. Ms. Parvathy S L, M Pharm. Al Shifa College of Pharmacy, Malappuram. Study of Essential oil in *Clausena austroindica* (2020)
15. Chandhni CL, M.Phil. Botany, St. Theresa’s College, Ernakulam (2022) was given guidance for her M.Phil dissertation on the topic Chemical characterisation and toxicity analysis of extra floral nectar in *Nepenthes khasiana* Hook. F.

Training given

- Ms. Kavitha, KJ, Research Scholar, Dept. of Zoology, University College, Thiruvananthapuram has given three months training on the extraction, isolation and characterization of secondary metabolites from *Musa* cultivars. (2017)
- Training was given to Mr. James Daniel and Mr. Gopu G., Students of MGHSS Chadayamangalam on isolation of carotenoids from *Azolla*. (2017)
- Mr. Pradeep Kumar, FIP Fellow, Womens College Thiruvananthapuram has given one month training on the extraction, isolation and characterization of secondary metabolites from medicinal plants.
- Ms. Sunitha S., Research Scholar, DB College, Sasthamcotta has given four months training on the extraction, isolation and characterization of secondary metabolites from *Vitex altissima*. (ASPIRE Fellow) (2018)

- Mrs. Ajitha T., Research Scholar, University College, Thiruvananthapuram has given four months training on the extraction, isolation and characterization of secondary metabolites from *Musa* cultivar (ASPIRE Fellow) (2018)
- Ms. Smitha Rani S.P. Research Scholar, M.G. College, Thiruvananthapuram has given four months training on the extraction, isolation and characterization of secondary metabolites from *Syzygium* species and extraction of essential oil from the same species and its analysis. (ASPIRE Fellow)
- Ms. Arathy R. M.G. College, Thiruvananthapuram has given training on preliminary phytochemical methods (ASPIRE Fellow)
- Ms. Archana S. Nair, Kendriya Vidyalaya, Pattom Higher Secondary school (1 month)
- Ms. Roshni A.S. Ph.D. Scholar, Christian College, Kattakakada was given one month training on phytochemical methods, extraction of plant materials, fractionation and isolation of phytochemicals (2021)
- Prajitha T. (2022), Research Scholar, University College, Palayam, Thiruvananthapuram was given one month training on phytochemical methods, extraction of plant materials, fractionation and isolation of phytochemicals using various chromatographical techniques..
- Swathi K.V. (2022), M.Sc. Biotechnology, Dr. Janaki Ammal Campus, Kannur University was given two months training on extraction of plant materials, fractionation and isolation of phytochemicals using various chromatographical techniques.
- Farzana M. Sha (2022), M.Sc. Agricultural Entomology, College of Agriculture, Vellayani was given training on extraction of essential oils and its characterisation and quantification of components using GC-FID and GC-MS.
- Ms. Merin James, B. Pharm., Nirmala College of Pharmacy, Muvattupuzha was given one month training on phytochemical analysis of plant extracts and essential oil analysis.
- Ms. Rakhy Jolly, B. Pharm., Nirmala College of Pharmacy, Muvattupuzha was given one month training on essential oil analysis and phytochemical analysis of plant extracts.
- Kumari. Sruthi. S. Nair and Master. Arav. B, XI students, Kendriya Vidyalaya Army Cantt, Pangode, Thiruvananthapuram were given guidance for their work ‘Prey capture and pitcher fluid influenced digestion in *Nepenthes khasiana*’ for National Children’s Science Congress 2022.

Seminars/Conferences/ Trainings organized:

Associated in organizing:

1. A Contact programme of two weeks’ duration for 15 selected young scientists from different universities of India on ‘Chemical Prospecting of Bio-resources’ with the assistance of Department of Science and Technology (DST), New Delhi. from June 1 to 14, 2000.
2. The National Seminar on Indigenous Knowledge Strategies for Kerala from 7th to 9th October, 2002 at Kanakakkunnu Palace, Trivandrum.

3. Contact Programme for Young Scientists from May 13-26, 2002 on 'Biochemical Prospecting of Plant Resources' with the assistance of DST, New Delhi.
4. Training for tribal youth on essential oil isolation. Large scale essential oil extraction units (50L.capacity) were installed at Achencoil and Kottoor and one week training was given to selected tribal youths on extraction of essential oil from aromatic plants. 2003
5. Two weeks training programme for M. Sc. Plant Science students of MACFAST, Tiruvalla, 2008.
6. Associated with organizing Third National Seminar on Indian Medicinal Plants Organised by National Society of Ethnopharmacology at Pankaja Kasthuri Ayurveda Medical College, Thiruvananthapuram from 11th to 13th March 2004.
7. Associated with organizing a conference on 'New frontiers in plant taxonomy and biodiversity conservation' at Thiruvananthapuram from December 29 to 31, 2004 [Organised jointly by The Tropical Botanic Garden and Research Institute of Thiruvananthapuram (TBGRI) and the Indian Association for Angiosperm Taxonomy (IAAT)]
8. Assisted in organizing the 27th Annual Conference of Indian Association of Biomedical Scientists and National Symposium on Current trends in the Development of Herbal drugs November 25-27, 2006 at Thiruvananthapuram.
9. Associated with organising two weeks training programme for M. Sc. Plant Science students of MACFAST, Tiruvalla, 2008
10. Associated with organizing of 21st Kerala Science Congress, Kollam, January 28-31, 2009
11. Associated with organizing of the National Seminar on Botanic Gardens "Garden and People" organized by TBGRI, 26-28 November 2009.
12. Associated as an official in the 'Bala Sastra Congress' 2010, organized by Kerala Sastra Sahitya Parishad, held at TBGRI on May 2010.
13. Associated with organizing the **Open House 2011** which is held from 6 to 10, December 2011 at JNTBGRI. Actively involved in setting the 'Phytochemistry and Phytopharmacology Division stall and demonstrated the basic phytochemical techniques to the students who visited the stall.
13. Associated with organizing of 25th Kerala Science Congress, Thiruvananthapuram, January 28-31, 2009 and also in organizing National Science Expo at Kanakakunnu, Thiruvananthapuram.
14. Associated with organizing of 26th Kerala Science Congress, KVASU, Wayanad, January 28-31, 2014- Member -Focal Theme Committee
15. Associated as an official in the 'District Bala Sastra Congress' 2016, organized by Kerala Sastra Sahitya Parishad, held at JNTBGRI on 22 and 23 January 2016. As part of this

- guided a team of students in carrying out a research project on ‘Extraction and Isolation of Pigments from *Curcuma longa*’ and based on this Project three of the team members got selection to take part in state level Bala Sasthra Congress.
16. Actively involved in organizing Vasantholsavam 2018, the flower show held from January 7-16 at Kanakakunnu Palace Ground Thiruvananthapuram (Member, Exhibits Committee)
 17. Actively participated in organizing Vasantholsavam 2019 (Flower show), at Kanakakunnu Palce ground and Sooryakanthi Fair ground from January 11-20 at Kanakakunnu Palce ground and Sooryakanthi Fair ground. (Joint Convenor (Judging))
 18. Actively involved in organizing Vasantholsavam 2019-2020 (Flower show), at Kanakakunnu Palce ground and Sooryakanthi Fair ground from December 21,2019 to January 5, 2020. Worked as Joint Convenor (Judging) for conducting various completions in connection with the Flower show.
 19. As part of Scientific Social Responsibility Programme Two day Orientation Programme on Chemistry and Biology of Plant Carnivory was organised for UG and PG Science students on March 3 and 4 2022 at JNTBGRI, Palode, Thiruvananthapuram. (Co-convenor)
 20. Actively involved in organizing 'National Workshop on Phytochemical and Phytopharmacological Methods' organised for PG students and Research Scholars, January 10-13, 2023 at JNTBGRI, Palode, Thiruvananthapuram. (Joint-convenor)
 21. Actively involved in organizing Flower show as part of Keraleeyam 2023 in Thiruvananthapuram from November 1-7 to January 2023.

REFERENCES

Dr. V. George
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3-Ravi Nagar
Ambalamukku, Peroorkada P.O.,
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16 November 2023
Thiruvananthapuram

(Dr. Anil John J.)