



ANNUAL REPORT 2019-2020

Xavier Research Foundation

Xavier Research Foundation (XRF) is one of the novel initiatives of St Xavier's College management to promote interdisciplinary research, publication and extension activities. It is a research center of eminence to promote cutting edge pursuits to solve peoples' problems and to protect the environment. Four Scientists, two Emeritus Scientists, two project fellows and a technician are working full time at XRF. XRF is awaiting recognition by M.S. University as Interdisciplinary research centre.

Research Publications:

1. S. Esakkimuthu, S. Nagulkumar, S. Sylvester Darwin, K. Buvanesvaragurunathan, TN. Sathya, K.R. Navaneethakrishnan, T.S. Kumaravel, S.S. Murugan, Osamu Shirota, K. Balakrishna, P. Pandikumar, S. Ignacimuthu. 2019. Antihyperlipidemic effect of iridoid glycoside deacetylasperulosidic acid isolated from the seeds of *Spermacoce hispida* L. - A traditional antiobesity herb. *J Ethnopharmacol.* 245: 112170.
2. A. Stalin, S. Kandhasamy, B. Senthamarai Kannan, R.S. Verma, S. Ignacimuthu, Y. Kim, S. Qingsong, Y. Chen, P. Palani. 2020. Synthesis of a 1, 2, 3-bistriazole derivative of embelin and evaluation of its effect on high-fat diet fed-streptozotocin-induced type 2 diabetes in rats and molecular docking. *J. Bioorg. Chem.* 96: 103579.
3. A.R. Ganesan, M.S.G. Mohan, B. Balasubramanian, I.H. Kim, P. Seedevi, K. Mohan, S. Kanagasabai, M. Valan Arasu, N. A. Al-Dhabi, S. Ignacimuthu. 2019. Marine invertebrates proteins: A recent update on functional property. *J. King Saud University - Science.* 32: 1496-1502.
4. P.N. Christy, S.K. Basha, V.S. Kumari, A.K.H. Bashir, M.Maaza, K. Kaviyarasu, M.V. Arasu, N.A. Al-Dhabi, S. Ignacimuthu. 2020. Biopolymeric nanocomposite scaffolds for bone tissue engineering applications—A review. *J. Drug Deliv. Sci. Tech.* 55: 101452.

5. S. Quaik, A. Embrandiri, B Ravindran, K. Hossain, N. Ismail, N.A. Al-Dhabi, M.V. Arasu, S. Ignacimuthu. 2019. Veterinary antibiotics in animal manure and manure laden soil: Scenario and challenges in Asian countries. *J. King Saud University - Science*. 32: 1300-1305.
6. R. Mariselvam A.J.A. Ranjitsingh C. Thamaraiselvi S. Ignacimuthu, 2019. Degradation of AZO dye using plants based silver nanoparticles through ultraviolet radiation. *J. King Saud University - Science*. 31: 1363-1365.
7. T.P.A. Krishna, T. Maharajan, G.V. Roch, M. Ramakrishnan, S.A. Ceasar, S Ignacimuthu. 2019. Hybridization and hybrid detection through molecular markers in finger millet [*Eleusine coracana* (L.) Gaertn.] *J. Crop Improvement*. DOI: 10.1080/15427528.2019.1709596.
8. T.W. Raja, V. Duraipandiyam, S. Ignacimuthu, N.A. Al-Dhabi. 2019. Current Trends in the Treatment of Systemic Lupus Erythematosus. *Current Pharmaceut. Design*. 26: 1-8.
9. A.R. Ganesan, M.S. Guru, B. Balasubramanian, K. Mohan, W.C. Liu, M.V. Arasu, N.A. Al-Dhabi, V. Duraipandiyam, S. Ignacimuthu, P. Seedeve, M.P. Sudhakar. 2019. Biopolymer from edible marine invertebrates: A potential functional food. *J. King Saud University -Science*. 32:1772-77.
10. Hillary, V.S.E., Ceasar S.A., Ignacimuthu, S. 2020. Genome engineering in insects: focus on the CRISPR/Cas9 system. *In: Genome Engineering via CRISPR-Cas9 System*, (Eds) Vijai Singh and Pawan K. Dhar. Academic Press, London 219-250.
11. S. Ignacimuthu and K.S. Arulsamy. 2020. We greened our villags, *In: Eds Rappai Poothokara, SJ and Lancelot D’Cruz, SJ Sparsh – Down to earth experiences with mother earth*, New Leader Publications, Chennai, pp 187-190.
12. S. Ignacimuthu and Gabriel Paulraj. 2020. Natural Insecticide Ponneem, *In: Eds Rappai Poothokara, SJ and Lancelot D’Cruz, SJ, Sparsh – Down to earth experiences with mother earth*, New Leader Publications, Chennai, pp 191-194.
13. S. Ignacimuthu, 2020. Launch of Xavier Sanitizer, JIVAN, April 2020, p. 34.
14. S. Ignacimuthu and Joji Reddy, 2020. Meeting of Jesuits in Science, April 2020, p.32.
15. S. Ignacimuthu, 2020. People oriented research brings hope to poor.

www.mattersindia.com 20 April, 2020.

16. S.Ignacimuthu, 2020. Book Reviews, Annual Review of Entomology, 2019. Current Science, 118: 1622-1623.

List of book published: 1

அருட்தந்தை ச. இஞ்ஞாசிமுத்து, மு. அய்யனார். பெ. பாண்டிகுமார், மு. செல்லப்பாண்டியன் நாட்டார் மற்றும் மலையக மக்களின் அனுபவ மருத்துவமுறைகள். 2019. பி.இரத்தின நாயகர் அன் சன்ஸ், சென்னை 600 079. ISBN 978-81-932588-4-2.

List of patents filed: 1

S.No.	Title	Inventors
1	A derivative thiosemicarbazone with antibacterial properties (E-2/854/2020-CHE)	Fr Dr S. Ignacimuthu, T. Willam Raja, V. Duraipandiyar. K. Balakrishna

List of Ongoing Projects: 2

S.No	Title	Year	Amount	Agency
1	Promoting Organic farming practices to enhance livelihood of farmers in Tirunelveli district	2019-2021	22,90,000/-	Jesuitian Weltweit, Germany
2	Isolation and characterization of active constituents from <i>Tricholoma giganteum</i> Masee., for the treatment of Non-alcoholic Fatty Liver Disease,	2018-2021	13.45,000/-	SERB, New Delhi

Complete genome sequence deposited to GenBank: 1

Muzafar Riyaz, Rauf A. Shah, Sivasankaran, K and Ignacimuthu, S. 2020. Complete mitochondrial genome sequence of *Eudocima salamina* Cramer, 1777 ERILMC-038 GenBank Accession No- MT048385.

List of Product : 1

XS - Xavier Sanitizer – A herbal organic product. The technology has been transferred to BIOMEITEZ, a small company in Nagercoil to manufacture and distribute; Jesuit centre develops hand sanitizer to help poor. www.mattersindia.com 20 April, 2020