# Research Publications, Conferences, Blog articles

# Research Grants

1. CSIR major project titled “Modeling and Analysis of the Dynamics of Diabetes Mellitus in Indian Population and Control Measures”

Rs. 17.9 lakhs, Duration - 3 years, June 2016 - June 2019.

1. UGC major project titled “Cardiovascular Disease in human population: Mathematical modeling and analysis of its incidence, risk factors, and preventive strategies

Rs.8.44 lakhs, Duration- 3 years, Feb 2011- Feb. 2014.

# Publications

1. Padma Murali, P. R. Deepa, Raghavan Subramanyan, A.J. Farida Farzana, M. Nithya Lakshmi, Murali Raman, Mathematical Modeling of Coronary Artery Disease (CAD): Analysis Reveals HbA1c and Total Cholesterol to be Significant Risk Predictors, Applied Mathematics, Vol. 7, No.1, pp. 1-4, 2017 <http://article.sapub.org/10.5923.j.am.20170701.01.html>
2. Padma Murali and P. R. Deepa, A Bio-mathematical Approach to Evaluate the Risk Burden of Hypertension and Hyperlipidemia in Diabetic Cardiovascular Disease, American Journal of Bioinformatics Research, Vol. 2, No. 5, pp. 86-91, 2012. <http://article.sapub.org/10.5923.j.bioinformatics.20120205.03.html>
3. Padma Murali and Rajiv Kumar, Modeling and Analysis of Prion Dynamics in the presence of a Chaperone, Mathematical Biosciences, Vol. 213, pp. 50 - 55, 2008. <https://doi.org/10.1016/j.mbs.2008.02.002>
4. Padma Murali and Rajiv Kumar, A Mathematical Model of the spread of the SARS Epidemic using the Double Epidemic Hypothesis, Advances in Mathematical Sciences Journal, Vol.1, No. 3, pp. 1-10, 2009.
5. Padma Murali and Rajiv Kumar, Modeling, Analysis and Simulation of Neospora Caninum Infection in Cattle, In the proceedings of International Conference on Mathematics and Computer Science, Loyola College, Chennai, Tamil Nadu, Jan. 5-6, pp. 467- 471, 2009.
6. Padma Murali and Rajiv Kumar, A Mathematical Model of Microbial Growth in a Chemostat, Journal of the Indian Mathematical Society, Vol. 77, Nos. 1-4, pp. 89-116, 2010.
7. Padma Murali and Rajiv Kumar, Analysis of an Age Dependent Epidemic Model, Journal of Informatics and Mathematical Sciences, Vol. 4, No. 2, pp. 137-156, 2012.
8. Padma Murali and Murali Raman, Modeling the Dynamics of Amyloid Formation of Islet Beta Cells under Therapeutic Interventions and its Role in Discovery of Novel Target for Drug Action, International Journal of Life sciences and Medical Research, Vol.3, No.1, pp. 1-10, 2013.

# Blog Articles

1. Padma Murali, An Overview of Pooled Testing Procedures with Application to Covid-19 Pandemic, April, 2020, <https://dr-padmamurali.medium.com/an-overview-of-pooled-testing-procedures-with-applicationto-covid-19-pandemic-c01cc8fec617>
2. Padma Murali, Could Pooled Testing help Covid-19 Pandemic, April, 2020, Online Platform – Medium.com, <https://dr-padmamurali.medium.com/could-pooled-testing-help-covid-19-pandemic-379268c09656>
3. Padma Murali, Data Modeling of Coronary Artery Disease (CAD), <https://dr-padmamurali.medium.com/data-modeling-of-coronary-artery-disease-cad-using-discriminant-analysis-97f3e457728d>
4. Padma Murali, An Introduction to Mathematical Modeling of Infectious diseases: The S-I-R Model, <https://dr-padmamurali.medium.com/the-s-i-r-model-in-studying-the-dynamics-of-infectious-disease-transmission-96898bf2eb90>
5. Padma Murali, Effective Assignment Submission in Online classes, https://medium.com/ @dr.padmamurali/effective-assignment-submissions-in-online-classes-5e405132956c

# Padma Murali, Question Strategies for a Learner- Centered Education, https://medium.com /@dr.padmamurali/question-strategies-for-a-learner-centered-education-ebe0f1d8055e

1. **Padma Murali, Divya Desams of South India in the Pasurams of Periazhwar,** https://medium.com/ @dr.padmamurali/divya-desams-of-south-india-in-the-pasurams-of-periazhwar-8dae78177cbc
2. Padma Murali, Ragamalikas of Muthuswami Dikshitar, https://medium.com/@dr.padmamurali /ragamalikas-of-sri-muthuswami-dikshitar-e8ccd20699f0
3. Padma Murali, Compositions of Sri Thyagaraja and Sri Muthuswami Dikshitar on Kshetram Tirupathi, Proceedings of Two-Day National Seminar", Indian Music - Cultural and Philosophical Perspectives, jointly organised by SIES College of Arts, Science & Commerce and Sri Shanmukhananda Bharatiya Sangeetha Vidyalaya, Mumbai, Feb. 25-26, 2017.
4. Padma Murali, Saint Thyagaraja’s Compositions on Nava Vidha Bhakthi, Shanmukha, Vol. XLIV, No. 2, 2017.

# Conferences

1. Padma Murali, A Mathematical Model to Evaluate the Risk of Cardiovascular Disease in Diabetic Population,

7th Workshop Dynamical Systems Applied to Biology and Natural Sciences (DSABNS 2016), University of Evora, Portugal, Feb. 2016

1. Padma Murali, MPDE'17: Global Change in Ecology-Models in Population Dynamics and Ecology, Mathematical Modeling of Coronary Artery Disease (CAD): Analysis Reveals HBA1C and Total Cholesterol to be Significant Risk Predictors,

University of Cape Town, Cape Town, South Africa, September 4-8, 2017

1. Padma Murali and Rajiv Kumar, Semigroup Solution of a General Nonlinear Model in a Banach Space, at Second International Conference on Nonlinear Systems,

Modeling, Analysis and Simulation, Dec. 19 - 22, 2006, Nanded, Maharashtra

1. Padma Murali and Rajiv Kumar, Modeling and analysis of prion dynamics in the presence of a chaperone,

National Symposium on Mathematical Methods Applications, Dec. 22, 2007, IIT Madras, Tamil Nadu.

1. Padma Murali and Rajiv Kumar, A Mathematical Model of the Spread of the SARS Epidemic using the Double Epidemic Hypothesis,

Golden jubilee National Symposium on Mathematical Methods and Applications, Dec. 22, 2008, IIT Madras, Tamil Nadu.

1. Padma Murali and Rajiv Kumar, Modeling, Analysis and Simulation of Neospora CaninumInfection in Cattle,

International Conference on Mathematics and Computer Science, Jan.5-6, 2009, Loyola College, Chennai, Tamil Nadu.

1. Padma Murali, Modeling the Dynamics of Amyloid Formation of Islet Beta Cells under Therapeutic Interventions and its Role in Discovery of Novel Target for Drug Action,

International Conference on Mathematical and Theoretical Biology, January 23-27, 2012 at Pune, INDIA. (A meeting co- organized by The society for Mathematical Biology and Indian Institute of Science Education and Research, Pune).

1. Nidhi Chaudhary, Padma Murali, Rajiv Kumar, Dynamics of Formation of Foam Cells from LDL Cholesterol and the Inhibitory Effects of Therapeutic Agents like Statins,

International Conference on Mathematical Modeling and Computer Simulation, IIT Madras, December 2014.

1. Nidhi Chaudhary, Padma Murali, Rajiv Kumar, Modeling the Dynamics of Amyloid Formation of Islet Beta,

Symposium on Modeling and Computational Fluid Dynamics, BITS Pilani - Pilani Campus, April 2015.

1. Nidhi Chaudhary, Padma Murali, Rajiv Kumar, Global stability of a Model of Formation of Amyloidosis in the presence of a Therapeutic Agent,

International conference on Recent Advances in Mathematical Biology & Applications, Aligarh Muslim University, June 2015.

# Other Activities and Achievements

* Reviewer for Elsevier Journal – Clinical Epidemiology and Global Health
* Member of British Society for Research in Learning Mathematics
* Member of Society for Mathematical Biology, Member of Advisory Board, Computational Mathematics, BioInfo Publications
* Association of Mathematics Teachers of India, Marathwada Mathematical Society, Association of Computing Machinery,
* Completed certificate programs in Introduction to Project Management, Lean Management and Project Management Professional (PMP) Certification Training Programme