

ಸಂತ ಆಗ್ನೆಸ್ ಕಾಲೇಜು (ಸ್ವಾಯತ್ತ)
ಮಂಗಳೂರು
(ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯಕ್ಕೊಳಪಟ್ಟ ಸ್ವಾಯತ್ತ ಕಾಲೇಜು)



ST AGNES COLLEGE (AUTONOMOUS)
MANGALURU
(An Autonomous College of Mangalore University)

Re-accredited by NAAC with A+ Grade – CGPA 3.65/4 (Cycle 4)
College of Excellence by UGC, New Delhi Star College Status under DBT, MST, New Delhi

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Dear Principal/ Researchers / faculty members/ students,

St. Agnes College is a premier institution which from its inception has imparted higher education to the women of South India. It has ever since proved to be a standard bearer of repute in the field.

The department of Statistics, St. Agnes College, Mangalore, aims to increase the awareness of the power and impact of Statistics on all aspects of society and to promote the importance of Statistics and its techniques .In this direction and also to mark the centenary year of the college the department has initiated an effort in building the skills of faculty members, Research scholars and students of the institutions covering constituent colleges of all the universities of our country to boost their knowledge in the field of Structural Equation Modeling.

Towards this, we have launched A National Level Workshop on **“Structural Equation Modeling”** for Students, Teachers and Research scholars on **12 and 13 July, 2019**

In recent years educational researchers and teachers use a statistical technique Structural Equation Modeling (SEM) to explore the complex and dynamic nature of interactions in educational research and practice. SEM is becoming a powerful analytical tool and making methodological advances in multivariate analysis. These statistical tools are important both for its theoretical content and application value

A National Level Workshop is organized to popularize the scope of Statistical techniques and to enhance the Statistical literacy by imparting knowledge on data reduction techniques and modeling. Also to assist those who desire to equip themselves with the knowledge of Statistical tools used in modern times and its newer applications.

St. Agnes College always strives at excellence in the field of education. From the past 99 years it has provided many opportunities to its students and staff to develop their interests and improve their knowledge in various fields. The National Level Workshop on **“Structural Equation**

Modeling' will be a forum for the students, research scholars and staff to promote the creativity and development in the field of modeling techniques.

Topics to be covered: *Scaling techniques, Exploratory factor analysis, Confirmatory factor analysis (EFA and CFA). SEM- Model Fit Indices and Path Analysis.*

Note: *A Statistical Software SPSS AMOS will be provided to the participants*

Registration Fee:

- a) **For students :Rs.500/-**
- b) **For research scholars : Rs.1000/-**
- c) **Faculty members: Rs.1500/-**

Fee should be paid by NEFT: The Apostolic Carmel Educational Society

Account Number: 02442200000022
Bank Name: Syndicate Bank
Branch: St Agnes College, Mangalore
IFSC: SYNB0000244

Note :1) No refunds or withdrawals will be permitted under any circumstances.

2) Accommodation will be provided on request (charges apply)

3) Please inform (message) the co-ordinator the transaction identification number after payment of the Registration fee

For Correspondence :

Mrs Shubharekha
H.O.D & Co-ordinator
Department of Statistics
St Agnes College, Mangaluru-2
Email: shubharekha@stagnescollege.edu.in
Phone: 9448549122

The filled application form along with the NEFT Transaction ID Number should be sent on or before 25 June, 2019 to the above address.

MRS SHUBHAREKHA
H.O.D OF STATISTICS

SR DR M. JESWINA A. C.
PRINCIPAL

ST. AGNES COLLEGE, MANGALORE
(Autonomous)

DEPARTMENT OF STATISTICS

A NATIONAL LEVEL WORKSHOP ON
“STRUCTURAL EQUATION MODELING”

RESPONSE FORM

Yes, I / we would like to confirm my / our participation for A **National Level Workshop** on
“STRUCTURAL EQUATION MODELING” organized by St. Agnes College, Mangalore

Sl. No.	Name/ Designation	Name of the institution	Address with Phone/ Email	NEFT with transaction id. No. and date
1				
2				
3				
4.				
5.				

PLEASE RETURN THE FORM TO US DULY FILLED ON OR BEFORE 25 JUNE, 2019

Structural equation modeling is a multivariate statistical analysis technique that is used to analyze structural relationships. This technique is the combination of [factor analysis](#) and [multiple regression analysis](#), and it is used to analyze the structural relationship between measured variables and latent constructs. This method is preferred by the researcher because it estimates the multiple and interrelated dependence in a single analysis. In this analysis, two types of variables are used endogenous variables and exogenous variables. Endogenous variables are equivalent to dependent variables and are equal to the independent variable.

Structural Equation Modeling (SEM) is a statistical approach to testing hypothesis about the relationships among observed and latent variables. The use of SEM in research has increased in psychology, sociology, and economics in recent years. In particular educational researchers try to obtain the complete image of the process of education through the measurement of personality differences, learning environment, motivation levels and host of other variables that affect the teaching and learning process. With the use of survey instruments and interviews with students, teachers and other stakeholders as a lens, educators can assess and gain valuable information about the social ecology of the classrooms that could help in improving the instructional approach, classroom management and the learning organizations. A considerable number of research have been conducted to identify the factors and interactions between students' characteristics, personal preferences, affective traits, study skills, and various other factors that could help in better educational performance. In recent years, educational researchers use Structural Equation Modeling (SEM) as a statistical technique to explore the complex and dynamic nature of interactions in educational research and practice. SEM is becoming a powerful analytical tool and making methodological advances in multivariate analysis. This book presents the collective works on concepts, methodologies and applications of SEM in educational research and practice. The anthology of current research described in this book will be a valuable resource for the next generation educational practitioners.

Structural equation modeling (SEM) is a form of [causal modeling](#) that includes a diverse set of mathematical models, computer algorithms, and statistical methods that fit networks of constructs to data.^[1] SEM includes [confirmatory factor analysis](#), [confirmatory composite analysis](#), [path analysis](#), [partial least squares path modeling](#), and [latent growth modeling](#). The concept should not be confused with the related concept of [structural models in econometrics](#), nor with [structural models in economics](#). Structural equation models are often used to assess unobservable 'latent' constructs. They often invoke a measurement model that defines [latent variables](#) using one or more [observed variables](#), and a structural model that imputes relationships between latent variables.^{[1][3]} The links between

constructs of a structural equation model may be estimated with independent [regression equations](#) or through more involved approaches such as those employed in LISREL.

Use of SEM is commonly justified in the social sciences because of its ability to impute relationships between unobserved constructs (latent variables) from observable variables. To provide a simple example, the concept of [human intelligence](#) cannot be measured directly as one could measure height or weight. Instead, psychologists develop a hypothesis of intelligence and write [measurement instruments](#) with items (questions) designed to measure intelligence according to their hypothesis. They would then use SEM to test their hypothesis using data gathered from people who took their intelligence test. With SEM, "intelligence" would be the latent variable and the test items would be the observed variables.

the session will be for two days

day 1 will be for theoretical inputs on scaling techniques, exploratory factor analysis and confirmatory factor analysis (EFA and CFA). it includes basic, steps, procedure and model fit indices.

day ii will be for hand on exercise with EFA and CFA data.

the agenda will be sent to you in a day or two.

v.ramanathan