APPLIED STATISTICS
Newsletter

Published by the Institute of Applied Statistics, Sri Lanka

Level 2, No. 275/75 Prof. Stanley Wijesundera Mawatha, Colombo 07

Tel/Fax: 011-2588291 email: office@iappstat.lk

ISSN 1391- 4995 February 2014

Second AGM and Academic Sessions of the IASSL

Prof. Sarath Peiris is at the helm

The Second Annual General Meeting of the Institute of Applied Statistics, Sri Lanka was held in last November at the OPA Auditorium with a considerable number of members participating. Prof Sarath Peiris, Head of the Dept. of Mathematics, Faculty of Engineering, University of Moratuwa has been elected unanimously as the third President of the Institute of Applied Statistics, Sri Lanka for the year 2014.

Prof. Sarath Peiris

Prof. Peiris is a founder member of the former Applied Statistics Association of Sri Lanka (ASASL) which has been incorporated by Parliament Act. No. 38 of 2011, as the Institute of Applied Statistics, Sri Lanka, (IASSL). He is a well experienced person having served in every Executive Committee of the ASASL since its inception in 1999 in various capacities and in the first Executive Council of the IASSL

Therefore the members are confident that the various programs commenced during the last two years will be continued without any hindrance; and also more and more new programs will be started to meet the objectives of the IASSL. He also has a great responsibility in handling the scheduled mega event next year, the International Statistics Conference 2014.

Prof. Peiris is a First Class Hons. Graduate in BSc. from the University of Colombo. He won the Commonewelath Scholarship to New Zealand and obtained M.Sc (Statistics) from the University of Canterbury, New Zealand. He obtained his Ph.D (Applied Statistics) from the University of Colombo. He is a Fellow of the Royal Statistics Society, UK.

Prof. Peiris has vast experience in Applied Statistics in various fields and published 40 articles in International and National refereed journals and about 50 conferences papers. He has supervised PhD and M Phil students in Applied Statistics and many M Sc projects of his students . His main research areas are climate change, multivaraite analysis and time series analysis

Applied Statistics Newsletter wishes to congratulate him on his success at the last AGM and also wishes IASSL to prosper going from strength to strength during his tenure as President.

Feature article

Bootstrapping: A Computer Based Alternative for Classical Inference

Prof. W. N. Wickremasinghe
Department of Statistics, University of Colombo

In statistics, bootstrap is a method for assigning measures of accuracy to sample estimates. It allows estimation of the sampling distribution of almost any statistic using very simple methods just by using a random sample drawn from some population. Introduced by Bradley Efron in 1979 originally to estimate bias and standard errors, bootstrapping was later refined to handle other applications such as confidence intervals, hypothesis testing, regression, time series, multivariate testing, and many more. Generally, bootstrap falls in the broader class of re-sampling methods and is particularly useful when the distribution of a statistic is complicated or unknown. If the distribution is known, bootstrap can provide more accurate estimates of error than traditional methods in most cases.

Prof. Wickremasinghe

The simplest application starts with taking a random sample of size '*n*', $\underline{x} = \{x_1, x_2, \ldots, x_n\}$, from some population, and putting it in a 'box'. In bootstrap method, the 'population' is in fact the observed sample which is inside the box. Then, we take another sample of size '*n*' **with replacement** from the box, say, $\underline{x}^* = \{x_1^*, x_2^*, \ldots, x_n^*\}$, called a 'bootstrap sample', and then derive the value of any statistic of interest ($\hat{\theta}$), be it the mean or median or even the variance or anything else, from this bootstrap sample. We repeat this process *B* times depending on the application (usually between 1000 – 10,000), with the help of a computer. Let $\underline{x}^{*b}$ be the b^{th} bootstrap sample and $\hat{\theta}^{*b}$ be the bootstrap estimate of some statistic, for $b = 1,2,...B$. Then,

bootstrap SE of $\hat{\vartheta} = [\sum_{b=1}^{B} (\hat{\theta}^{*b} - \hat{\theta}^{*(.)})^2 / (B-1)]^{1/2}$ where $\hat{\theta}^{*(.)}$ is the mean of the *B* values of $\hat{\theta}^*$. For accurate estimation of standard error, about 200 bootstrap samples have been shown to be enough.

Some Examples(Source: *Introduction to the Bootstrap* by Efron and Tibshirani)

1. Standard Error (SE)of the Mean

The survival times in days after a test surgery, for a sample of 7 mice randomly assigned to a treatment group are: {94, 38, 23, 197, 99, 16, 141}. The estimated standard error of the sample mean, using well known formula $\sqrt{\frac{s^2}{n}}$ is 25.24.

Now, one can estimate the bootstrap standard error of the sample mean using formula given above. This was, 23.63 for B =100; 22.32 for B = 250; and 23.02 for B = 1000.

2. Standard Error of the Median

When sampling from a skewed distribution, median is more appropriate than the mean as a measure of the center. In such cases, one can estimate the standard error of the sample median by deriving the median of each bootstrap sample instead of the mean and then using the bootstrap standard error formula. This needs a bigger value for *B* than for the mean.

3. Confidence Intervals for the Relative Risk (Risk Ratio)

In a controlled, randomized, double-blind study to see if small aspirin doses would prevent heart attacks in healthy middle-aged men, the number of strokes was also tracked. Following are the stroke results:

	strokes	subjects
aspirin group	119	11037
placebo group	98	11034

The relative risk (risk ratio) is $\hat{\theta} = \frac{119/11037}{98/11034} = 1.21$. Though it looked like taking aspirin is more risky than taking the placebo, 95% confidence interval for the true stroke ratio **using classical inference** is, $0.93 < \theta < 1.59$ which includes the neutral value of $\theta = 1$ at which aspirin is no better or worse than placebo. Now bootstrap method can be conveniently used to approximate this confidence interval as follows: Create two populations, first consisting of 119 ones and 11037 – 119 = 10918 zeros; and the second consisting of 98 ones and 11034 – 98 = 10936 zeros. Then, draw with replacement a sample of 11037 from population 1 and a sample of 11034 from population 2. Each of these is a bootstrap sample.

Contd…….3

About the Author

Prof. Wickramasinghe is an active member of IASSL. He served in the Executive Committee of the previous ASASL and now he serves in various statutory committees of IASSL

Presidents speak at the AGM

We produce below the speeches made by the two presidents; Prof. L H P Gunarathne, the outgoing President and Prof. Sarath Peiris, the new President at the last AGM of the IASSL.

Outgoing President said „„„„„

"The period I have served as the President has been significant in many respects, both globally and for the IASSL. Globally it is the International Year of Statistics (IYS) which is participated by Statistics organizations in 113 countries around the world. As stated by the organizers of the IYS, the main reason for the celebration of IYS is re-recognition of Statistics as a subject that has powerful and far-reaching effects on everyone in the society. We were able to lay the foundation to achieve IAS goals under the theme of the President -2013, "Towards statistically literate society". Along this line, we have continued our outreach activities such as newsletter and journal, Statistics Olympiad competition, teacher training programs and seminars. A Diploma program and a monograph series have been launched in 2013.

Could IASSL play even more of a global and local role than it has been doing? I believe it could, not only by publishing high quality scientific research, but also by involving more with the policy arena. The services of Statisticians are much more needed today than any time in the history. This is because there are drastic changes happening in our society today. For instance, information technology and infrastructure record a tremendous progress together with the life style changes. Similarly, there will be climate change related disaster risks, widening income disparities and social upheavals. The policy formulation to address these issues should be based on correct statistical analysis.

As this year draws to a close, I thank my fellow council members for their cooperation during my tenure."

And …… This is what the incoming President had to say…

"Thank you for electing me uncontested as your President for 2014. It is indeed a great and unexpected honour to me. I feel it is honored and excited to be the 3rd President of the IASSL which I consider it as a leading institute under the umbrella of OPA. We as professionals can get involved in many issues facing our country. I wish that I will be able to fulfill do justice to the confidence you have in me. Of course, I really need your cooperation and I am confident that you all will support me in spite of variance differences (statistical variability) among us. I take this position , in spite of more work and responsibilities in my university. I may not be able to devote time as Mr. Palitha Sarukkali who has been a very devoted person to the Institute. In fact he kindly agr eed to take the role of Chairperson of the International Conference in 2014 and and I will act as Vice Chairman.

IASSL is the national professional and scientific association for about 375 members of which majority are university academics. The success can only be achieved by building on the Stratgy and Action Plans of past years. The review and updating of last years plans to meet current circumstances and the development of new initiatives forms the basis of this year's Strategy and Action Plan will be beneficial for this years work.

I have in my mind to start annual one day Statistic Academic Sessions to provide a ch ance to our youn g statistician s to presnt their research findings.

I do not expect to involve in more theoritical things. What we are lacking is how to use statistical theory develpoed to solve many problems in Sri Lanka

I do not want to take more time of yours and Once again I would like to thank you all and wish all the best to you all and the IASSL. "

Contd. from page 2

Feature Article

From these derive the bootstrap estimate of $\hat{\theta}$ as the ratio of proportion of ones in the two populations. Efron and Tibshirani generated 1000 bootstrap samples and computed the value of $\hat{\theta}$ in each. Then a rough 95 % confidence interval was derived by taking the 25th and 975th largest of the 1000 values. This interval was (0.93, 1.60) which was almost the same as the classical interval!

The above are just a few examples of bootstrap applications. It is important to note that bootstrap is not a replacement but an alternative, for traditional methods. To obtain accurate results, one has to know how many 'bootstrap samples' (B) are needed for each application. Recent developments provide clues on this aspect. One also has to be cautious about situations where bootstrap method fails. For example, testing hypotheses using bootstrap is less accurate than those with permutation tests. Also, when the sample is not random, bootstrap fails.

NEWS IN BRIEF

250th Anniversary of the Bayes Theorem

On December 17th, 2013, a special celebration of the 250th anniversary of the presentation (December 23, 1763) of Thomas Bayes' seminal paper next "An Essay towards solving a Problem in the Doctrine of Chances" was held at Duke University in conjunction with O-Bayes 13 and EFab@ Bayes250.

Speakers for the anniversary celebration were legendary contributors to the Bayesian literature, spanning a range of fields.

American Statistical Association (ASA) is 175 years Young!

American Statistical Association (ASA) is celebrating its 175th year throughout the year 2014 with very special events.

ASA was formed in Boston, Massachusetts, in 1839 and its first president was a Lawyer and Congressman Mr. Richard Fletcher. Since then 109 presidents steered ASA to be a very prestigious professional association, the second oldest, in the USA.

ASA has been a very good friend of the IASSL during the recent past. It had contributed towards our National and International Statistics conferences by way of sponsorships. At the last International Conference held in 2011, President of the ASA Dr. Nancy Gellar was the Keynote speaker. Next International Statistics Conference will be scheduled for this December to which Prof. Ronald L. Wassertein, Executive Director of the ASA will participate as the Keynote Speaker.

We sincerely wish ASA a bright and prosperous future in serving the global statistics community.

Statistician of the week award under International Year of Statistics Program

Prof. Pushpa Wijekoon of the Dept. of Statistics & Computer Science of the University of Peradeniya has been selected as the Statistician of the week beginning from 5th December 2013 by the International year of Statistics organizing committee.

Professor Wijekoon has more than 31 years teaching and research and development experience in statistics and computer science and has published more than 50 journal articles, extended abstracts and one-page abstracts. She is a life member of several scientific associations and institutes.
At the international level she has served as reviewer of reviewed journals, proceedings and newsletters, including Statistical Papers, Model Assisted Statistics and Applications, Communications in Statistics—Theory and Methods, and Institute of Electrical and Electronics

Prof. Wijekoon

Engineers Signal Processing Letters. Professor Wijekoon has served as coordinator/resource expert for many national workshops, training programs and seminars and helped develop undergraduate and postgraduate curriculum programmes at her University's Postgraduate Institute of Science.

Prof. Wijekone is an active member of the IASSL Council and currently serves as its Chief Editor.

Applied Statistics Newsletter wishes her very bright future and success in her every endeavor.

Winners of the National Statistics Olympiad 2013

.

Following students who won the National Olympiad 2013 under Junior and Senior categories were awarded at the last Annual General meeting held last year.

Junior Category

1 A. M. C. Isuru Abeyratne – Nalanda College, Colombo
2 - Y. M. W. H. M. R. T. D. R. B. Kiridana - Swarnajayanthi Maha Vidyalaya, Kegalle
3 - W. P. Nirupadie Weerasinghe – Kegalle Balika Vidyalaya,

Senior Category

1. G. I. S. Pathmendra Fonseka – Royal College, Colombo
2 - C. Iresha Karunarathna – Devi Balika Vidyalaya, Colombo
3 - J. L. M. Pramoda Jayasekara – Embilipitiya President's College, Embilipitiya

Undergraduate and Postgraduate Research Projects

Undergraduates

1. Mr. K. Kandasamy - University of Moratuwa

Runner-ups – Ms. I. D. M. Sajeewani- University of Colombo
Ms. H. D. Kottage - University of Colombo
Mr. A. N. Meyen - University of Colombo

Postgraduates

Winner: - Ms. K. V. N. N. Jayalath –
Post Graduate Institute of Agriculture Peradeniya

Contd …. Page 9

EDITORIAL

Statistics, Past, Present and Future

Statistics originated long after Mathematics, which was used first as a technique of counting. Statistics as data has a long history, but as an academic discipline of study and research has a comparatively short history in spite of the fact that some popular statistical theories are few centuries old.

For instance, Probability theory was developed by Blaise Pascal and Pierre de Fermat in the 17th century; the method of least squares was introduced by Adrien-Marie Legendre in 1805, Bayer's theorem was introduced in 1763. In 20th century, Sir Francis Galton introduced the concepts of Standard Deviation, Correlation and Regression whilst Karl Pearson introduced the Correlation Coefficients.

Karl Pearson started the world's first university statistics department at the University College, London in early 20th century. Academic Courses leading to degrees in statistics have been introduced in most leading Universities of the world some seven decades ago. Prior to this, in early part of the last century statistical theories were used by graduate students who read Mathematics. In spite of this delay, since then, it has developed as a powerful blend of science, technology and art for solving problems in all areas of human endeavor, Nowadays statistics is used in many areas from scientific research, to economic development through optimum use of resources, from increasing industrial productivity to medical diagnosis and legal practice, and also in optimum decision making in planning at individual and industrial levels, to name a few.

The current statistical methodology based on probabilistic models applied on small data sets; data mining appears to be inadequate to meet the needs of the society in terms of quick processing of data and making the information available for practical purposes. Ad hoc methods are being put forward under the little data mining by computer scientists and engineers to meet the needs of customers. The task will review the state of the art and controversies in statistics and discuss possible future developments corresponding to the availability of big data sets, enormous computing power and efficient optimization techniques.

The future of statistics will be dominated by information & communication technology interacting with intelligent systems, massive databases, and complex information processing networks.

The capstone event of the International Year of Statistics was a two-day, invited Workshop on the **Future of the Statistical Sciences** held in London on 11- 12 November 2013. This workshop was showcasing the importance of statistics and highlighted the extraordinary opportunities for statistical research in the coming decade. The term **Data Science** was emerging very prominently at the workshop.

The emerging companies were in the opinion that they need a work force that could solve problems with big data and statisticians were not fitting the situation. However, at the workshop there was consensus that statistics discipline is in fact is in a position to meet these new challenges. It is believe that in the Era of Big Data, Statistics will become more important, as the foundation of Data Science.

In fact "Data Science has been identified as Statistics in the Computer and Internet era".

Therefore Statisticians will still probably continue to play a behind the scenes role in many of the big decisions made by influential groups and individuals.

IASSL Council - 2014

The following 17 members were elected to the Council of the IASSL for the year 2014, at the second Annual General Meeting. This consists of seven (7) Office Bearers, four (4) Chairpersons of Statutory Committees and six (6) elected members.

Office Bearers

President : Prof. T. S. G. Peiris
Vice President : Dr. H D Sumanasekera
Immediate Past President: Prof. L H P Gunarathna
Secretary : Mrs. C. R. Fernando
Asst. Secretary : Mrs. Padma Yatapana
Treasurer : Mr. R. A B Abeygunawardana
Asst. Treasurer: Mrs. D A B N Amarasekera

Chairpersons of Statutory Committees

Editorial Board : Prof. Pushpa Wijekoon
Statistics Popularization Dr. Rupika Abeynayake
Research & Dev Prof. Roshini Sooriarachchi
Academic Training Mr. D J C Suriarachchi
House & Finance Mgt: Dr. H D Sumanasekera -(Ex.Officio)

Elected Council Members

Mr. Palitha Sarukkali
Dr, T. Sivananthawerl
Dr. Y.P.R.D. Yapa
Mr. Gayan Dharmarathna
Dr. A.P.G.S.De Silva
Dr. (Ms) C.D.Tilakaratana

IASSL Statutory Committees - 2014

House & Finance Management Committee

1 Dr. H D Sumanasekera (Ex. Officio - Chairperson)
2 Mr. R A B Abeygunawarane - Ex. Officio
3 Mrs. C R Fernando - Ex. Officio
4 Mrs. D. A. B. N. Amarasekara - Ex. Officio
5 Mr. Palitha Sarukkali
6 Dr. A. P. G. S. De Silva
7 Prof. Asoka Dangolla
8 Mr. Hansa Perera

Editorial Board

1 Prof.Pushpa Wijekoon - Chairperson
2 Mr. Palitha Sarukkali
3 Dr. Y. P. R. D. Yapa
4 Prof. W. N. Wickramasinghe
5 Prof. R. Sooriyarachchi
6 Dr. Chandanie Navaratna

Statistics Popularizing Committee

1. Dr. N. R. Abeynayake – Chairperson
2. Mrs. D. A. B. N. Amarasekara – Ex Officio
3. Mr. Mahasen Dehideniya
4. Mr. P. Dias
5. Mr. Priyadarshana Dharmawardhana
6. Mr. M. D. N. Gunaratne
7. Dr. Amara Satharasinghe
8. Mr. Palitha Sarukkali

Academic Training Committee

1. Mr. D. J. C. Sooriyaarachchi - Chairperson
2. Mrs. D. A. B. N. Amarasekara - Ex Officio
3. Dr. Chandanie Navaratna
4. Mr. R. A. B. Abeygunawardana
5. Mr. Keminda Herath
6. Mr. Gayan Dharmarathna
7. Mr. P. Dias
8. Dr. N. R. Abeynayake

Research & Development Committee

1. Prof. R. Sooriyarachchi
2. Mrs. D. A. B. N. Amarasekara - Ex Officio
3. Dr. Kanthi Perera
4. Prof. W. N. Wickramasinghe
5. Mr. Keminda Herath
6. Prof. L. H. P. Gunaratne
7. Mr. A. M. Razmy
8. Mr. R. R. Jayaratna

This is the third Executive Council of IASSL elected at the last Annual General Meeting and came into function on 1st January 2014.

Induction of the third President of the Institute of Applied Statistics, Sri Lanka

The theme for 2014: Statistics for Life

The induction of the newly elected Prof. T S G Peiris as the third President of the Institute of Applied Statistics, Sri Lanka was held on 9th January 2014, in a grand scale, with the participation of number of distinguished personnel at the Sri Lanka Foundation Institute, Colombo 07.

Hon. S B Dissanayaka, Minister of Higher Education of Sri Lanka graced the occasion as the Chief Guest. Prof. A K W Jayawardena, Vice Chancellor, University of Moratuwa was the Guest of Honour.

Induction of Prof. Peiris as the third president of the IASSL was administered by the outgoing president, Prof. L H P Gunarathna,

Following are some extracts of the Presidential speech of new president Prof. Peiris.

"I consider it is a great honor and privilege on me to be the 3rd President of the IASSL, which is one of the leading professional institutes in Sri Lanka. At the same time, I am conscious of the vast responsibility laid to me to run the Institute with utmost dedication and diligence. I am confident that I will be able to fulfill justice to the confidence you have on me.

Prof. Peiris then revealed his plan for the year 2014.

"Organize the 2nd International Statistics Confernce in a grand scale with more participants from more countries. It has been fixed from 28-30 December 2014 at the Galadari Hotel.

Extend the Diploma program to a three year B Sc Degree in Statistical Applications with the approval of UGC and in colloboration with a foreign university.

Though there are two statistics questions in the GCE (A/L) Combined Mathematics paper, a majority of students > 75%) do not answer those two questions. The main reason is the lack of knowledge of statistics among mathematics teachers. This is true in many leading schools as well. Thus, we plan to train AL mathematics teachers in statistics in consultation with the Ministry of Education.

These indicate value of the use of statistics every where in today's modern world. Now I turn to my theme, I would like to work for the year 2014. As I love statistics and use statistics for everything, I would like all of us to consider the theme for the year 2014 as STATISTICS FOR LIFE"

Hon. M inister, our Institute has a clear vision to serve the country. During the last two years we have proved it. Today, because of our strong foundation, we should think of expanding our boundaries while strengthening ongoing activities. In expanding our horizons, we may have the both local and global focuses.

Along with the lines I suggested, I believe more are yet to be done. It places me extra responsibilities on my shoulders. However, none of these could be accomplished without the support of the membership. Hon. Minister, we need your contionous support and w e are always ready to help the govenment in Research & Development to uplift the standard of living of the people in this country. With this notes let me conclude my presidential address."

Following Congratulatory Message has been sent by the President, American Statistical Association in the event of the Induction of the third president of IASSL.

Dear Statistical Colleagues in Sri Lanka,

On behalf of the American Statistical Association, congratulations on the induction of your third president, Professor T. S. G. Peiris, and congratulations on the successful launch of the Institute of Applied Statistics,

Sri Lanka. National statistical societies are extraordinarily important to the vitality of our profession, advancing statistics in their own countries and regions as well as around the world. The ASA congratulates all of you on your successes since your formation in 2011, and know that there will be many more successes to come.

We are honored to consider ourselves a partner with you in promoting the practice and profession of statistics. We enjoyed collaborating with you on the International Year of Statistics.

We look forward to continued collaborations in the years to come

Best wishes for a highly successful 2014.

Sincerely,
Nathaniel Schenker,

STATISTICS CROSSWORD –04

Fill the following crossword with Statistics / Mathematics and ICT terms. Send your solutions along with your mailing address and the contact telephone number to the Editorial Board, Institute of Applied Statistics, Sri Lanka, Professional Center, 275/75 Stanley Wijesundera Mw, Colombo 7

Prizes: 1st price - Rs. 5,000
2nd price - Rs. 3,000
3rd price - Rs. 2,000

The prizes are sponsored by the Sri Lanka Tea Board
Members of the Executive Council of IASSL and their immediate family members are not allowed to take part in this competition.

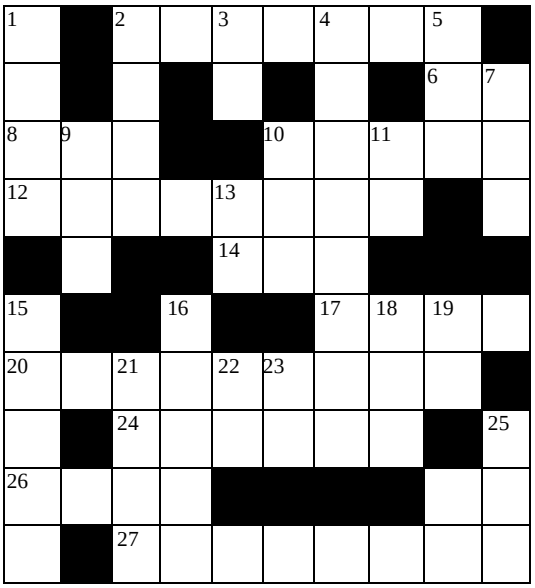
ACROSS

2 A Probability Distribution
6. A direction
8. Balance after all necessary monetary deductions
10. An assumed or demonstrated proposition used in an argument or in a proof.
12. These diagrams show the causes and effects of a specific event.
14. A computer network of financial institutions in the US that automatically carries out electronic transactions (abbr)
17. This is a discrete time stochastic process $\{e_t\}$ of the form $e_t = z_t s_t$ where the z_t's are iid over time, $E(z_t)=0$, $var(z_t)=1$, and s_t is an AR process.
20. A graphical representation of the distribution of data in terms of frequencies, as adjacent rectangles, erected over discrete bins,
24. This chart has the ability to separate "vital few" from the "trivial many" enabling one to focus on the important categories.
26. This function specifies a penalty for an incorrect estimate from a statistical model.
27. A model, object or quality considered as a basis for comparison

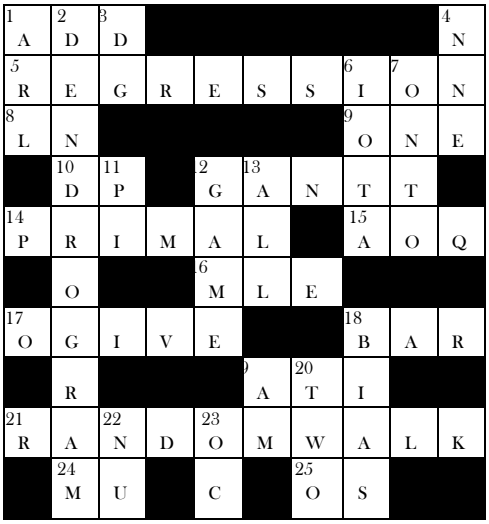
DOWN

1. Index to measure the statistical dispersion found in the income distribution of a certain group of residents.
2. Partial correlation coefficient between the dependent variable and an independent variable, adjusted for other independent variables.
3. Nine
4. $\overline{X}$ *and* R charts used in Quality Control are sometimes referred to as these charts.
5. Used by some computer programs to identify numerals in short.
7. Equality.
9. An activity in a network cannot be started before this time (abbr)
10. One hundred thousand
11. Moving Average of a time series
13. A unit of electrical current (abbr)
15. Complement of none
16. This statistic is used in testing Hypothesis when the population standard deviation is unknown.
18. Greatest statistician of our times who turned 92 last September
19. Roman 900
21. A statistical software package
22. A logic gate
23. Genetic Algorithm; an optimization technique in computer Science
25. Elements of the sequence $2n \pm 1$ for all n has this property in common

Closing date of Crossword 04:
15th May 2014



CROSSWORD 03 – Solution



Winners

1st Prize –(Rs. 5,000/-): MS. RANGIKA PIERIS
BATTARAMULLA
2nd Prize- (Rs. 3,000/-): MR. B K JAYASOORIYA
KADAWATA
3rd Prize-(Rs. 2,000): MRS. THILINI KALPANA
PILIYANDALA

International Year of Statistics has given birth to the "World of Statistics"

A Nobel Price like award for Statistical work

(News extracted from the Newsletter of Statistics2013)

International Year of Statistics (Statistics2013) was a very successful event with more than 2300 participants representing 128 countries engaged in a tremendous yearlong celebration of all things promoting statistics around the world.

The success of this prompted the Steering Committee of Statistics2013 to decide it was essential to continue beyond the end of 2013 the momentum generated by the global Statistics2013 movement. For this they have selected a new name for the movement "**The World of Statistics"** The mission of The World of Statistics will be to further advance the goals of the Statistics2013 campaign.

Nobel International Prize in Statistics

The five statistical societies that launched the International Year of Statistics have formed an organization called the International Prize in Statistics Foundation. The foundation will provide the framework that will ultimately lead to the annual presentation of a "Nobel-like" prize in statistical science, to be called the International Prize in Statistics. The award will recognize the major achievement of an individual or team in the field of statistics.

The primary objective of this major honor is to call public attention to the important role that statistics, data analysis, probability and understanding of uncertainty have played in the past and are playing today in the advancement of society, science, technology and human welfare with a decided focus on current developments. Another leading objective is to identify extremely penetrating and valuable insights and advancements in statistics that can help achieve the primary objective.

The International Prize in Statistics Foundation is seeking the financial commitment of individuals, businesses and organizations that would significantly advance the establishment of this new award and help to create an aura to match that of other prestigious scientific awards.

International Statistics Conference, Colombo 2014

(Organized by the Institute of Applied Statistics, gika Sri Lanka jointly with the Dept. of Bioinfomatics and Biostatistics of University of Louisville)

With the assumption of the Presidency of IASSL by Prof. T S G Peiris, former Chairperson of the LPC, Mr. Palitha Sarukkali, Past President, was appointed as its new Chairperson by the Executive Council of IASSL. The President, Prof. T S G Peiris and the Vice President of the IASSL, Dr. H D Sumanasekera will act as the Co-Chairs.

Meanwhile, Prof. K.B. Kulasekera of the University of Louisville has been appointed to chair the International Program Committee, IPC, with Prof. Nitis Mukhopadhyay of University of Connecticut, Prof. Saman Muthukumarana 0f University of Manitoba, Prof. Tim Swartz of the Simon Fraser University and Dr. Nihal Jayamaha of the Massey University have been appointed Co-Chairs of the IPC.

This second International Statistics Conference will be held on 28 – 30 December 2014 at the Galadari Hotel in Colombo. The Theme of this year's Conference is ***"Statistics and Society in the Information Age: Challenges and Opportunities"***

The plenary speakers at this conference will be Prof. Peter Hall of University of Melbourne, Prof. Marianne Frisen of University of Gothenburg and Prof. Michael Evans of University of Toronto. The Keynote speaker would be Prof. Ronald Wasserstien, Executive Director of the American Statistical Association.

Closed to 60 Academics have agreed to organize sessions on various topics whilst more than 15 have agreed to deliver guest lectures. .

Registration for the Conference

A registration fee for a foreigner has been fixed at US$ 250 for the three days and US$ 50 for the Banquet dinner. The fees for local participants would be Rs. 12,000.

News in brief **Contd…..**

Presidential Award winners for Research

Nine IASSL members won the Presidential awards for Research work they have done at a ceremony held on Friday 17th January 2014.

The members are Prof. Rosihni Sooriarachchi, Prof. T S G Peiris, Prof. S. Samita, Mrs. Chandrika Fernando, Prof. L H P Gunarathna, Mr. Keminda Herath, Dr. Udith Jayasinghe-Mudalige, Mrs. T U S Peiris and Dr. S. Sooriyagoda.

Applied Statistics News letter is proud of them and wishes every success in their future involvements in Research activities.

Great Statisticians of the Past - 3

(Extracted from articles in the Web)

Thomas Bayes

1701 – 1761

Thomas Bayes was an English mathematician, statistician and Presbyterian minister, known for having formulated a specific case of the theorem that bears his name: Bayes' theorem. Bayes never published what would eventually become his most famous accomplishment; his notes were edited and published after his death by Richard Price.

Thomas Bayes was the son of London Presbyterian minister Joshua Bayes and was possibly born in Hertfordshire. He came from a prominent nonconformist family from Sheffield. In 1719, he enrolled at the University of Edinburgh to study logic and theology. On his return around 1722, he assisted his father at the latter's chapel in London before moving to Tunbridge Wells, Kent, around 1734. There he was minister of the Mount Sion chapel, until 1752.

It is speculated that Bayes was elected as a Fellow of the Royal Society in 1742 on the strength of the ***Introduction to the Doctrine of Fluxions***, as he is not known to have published any other mathematical works during his lifetime.

In his later years he took a deep interest in probability. Professor Stephen Stigler, historian of statistical science, feels that he became interested in the subject while reviewing a work written in 1755 by Thomas Simpson, but George Alfred Barnard thinks he learned mathematics and probability from a book by Abraham de Moivre. His work and findings on probability theory were passed in manuscript form to his friend Richard Price after his death.

Bayes' solution to a problem of inverse probability was presented in "**An Essay towards solving a Problem in the Doctrine of Chances**" which was read to the Royal Society in 1763 after Bayes' death. Richard Price shepherded the work through this presentation and its publication in the *Philosophical Transactions of the Royal Society of London* the following year. This was an argument for using a uniform prior distribution for a binomial parameter and not merely a general postulate. This essay contains a statement of a special case of Bayes' theorem.

In the first decades of the eighteenth century, many problems concerning the probability of certain events, given specified conditions, were solved. For example: given a specified number of white and black balls in an urn, what is the probability of drawing a black ball? Or the converse: given that one or more balls has been drawn, what can be said about the number of white and black balls in the urn? These are sometimes called "inverse probability" problems.

Bayes' "Essay" contains his solution to a similar problem posed by Abraham de Moivre, author of ***The Doctrine of Chances*** (1718).

In addition, a paper by Bayes on asymptotic series was published posthumously.

By 1755 he was ill and by 1761 had died in Tunbridge. He was buried in Bunhill Fields Cemetery in Moorgate, London, where many nonconformists lie.

PHOTO GALARY

Second Annual General Meeting

Prof. Samita was awarded a Fellowship by the Presiden

Induction of the Third President

TOP - From L to R: Prof. L H P Gunarathna (Immediate Past President) Prof. A K W Jayawardane (Keynote speker) Prof. T S G Peiris (President – IASSL), Hon. S B Disanayake (Chief Guest) Mrs. Chandrika Fernando (Secretary – IASSL)

LEFT- Winners of Postgraduate & undergraduate projects with the Chief Guest, key note speaker and the President

Institute of Applied Statistics, Sri Lanka
Wishes to thank the members and the well wishers who
Attended 2nd AGM and the
Induction ceremony of the 3rd President

Section of the audience at the induction ceremony on 9th January 2014 at the SLFI

APPLIED STATISTICS

Newsletter

Official News letter of the Institute of Applied Statistics, Sri Lanka

Helping Professional Development of the Sri Lankan Statisticians

Institute of Applied Statistics, Sri Lanka
Level 02, Professional Center
275/75 Prof. Stanley Wijesundera Mawatha
Colombo 07