

The official newsletter of the International Society for Bayesian Analysis.

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The ISBA NEWSLETTER  
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ISBA is a Scientific Society encouraging the interface between Bayesian Statistic methods and all other areas of science and policy-making.

**ANNOUNCING ISBA ON-LINE**  
**The Bayesian Analysis E-Print**  
**Archive:**  
**BAYES-AN@XXX.LANL.GOV**

In order to further the goals of the Bayesian community, the International Society for Bayesian Analysis (ISBA) is announcing two new initiatives in electronic communication: 1) a World Wide Web (WWW) site for ISBA; 2) a Bayesian Analysis E-Print Archive. These initiatives are coordinated by Carlos Rodriguez of the State University of New York in Albany (Department of Mathematics and Statistics) and by Richard Silver of the Los Alamos National Laboratory (Theoretical Division).

The new World Wide Web (WWW) address for ISBA is:

<http://omega.albany.edu:8008/isba/>

This site will contain information about ongoing activities of ISBA including membership, officers, conferences, announcements, registration, etc. It will also provide hyperlinks to other sites of general interest to the Bayesian community such as the E-Print Archive. Computer facilities are provided by the State University of New York at Albany.

The Bayesian Analysis E-Print Archive has been put into operation as of June 1, 1995. It uses computer facilities located at the Los Alamos National Laboratory and software there developed by Paul Ginsparg. These facilities have been used since 1991 to run highly successful electronic preprint (or e-print) archives for physics and related fields. The Bayesian Analysis E-Print Archive is the newest of 26 archives on the Los Alamos system currently serving approximately

25,000 regular subscribers and handling 45,000 electronic transactions per day. Financial support for the archive is provided by the National Science Foundation and the Los Alamos National Laboratory. This e-print system has received considerable recent media attention because of its revolutionary impact on scientific publication. See, for example, the December '94 issue of Scientific American.

An e-print archive provides a fully automated system for the archiving and distribution of electronic preprints. Preprints are submitted electronically to the system, which assigns them reference numbers. A note of caution: a submitted manuscript can not be withdrawn; it can only be replaced with a retraction. The system allows the original submitter of a paper to incorporate ongoing corrections and addenda (and adds an entry to the daily listings with an author-supplied synopsis of any changes). A cross referencing feature is available to establish linkages among archives in different disciplines. Most manuscripts submitted to the e-print archive are eventually published in conventional refereed paper journals. The e-print archive makes the manuscripts available to archive users via a wide variety of conventional means of network access such as e-mail, world wide web (WWW), ftp, etc. Remote users can, for example, get help on available commands, obtain the full texts of papers, obtain postscript files of figures, obtain listings for given periods, and search for author names or keywords.

All researchers who use or develop methods of Bayesian Analysis are invited to submit electronic preprints to the Bayesian Analysis E-Print Archive. ISBA requests that the first page of all manuscripts contain the name and affiliation of the

author, an abstract, the date of submission, and key words provided by the author. The first page should also categorize the manuscript according to one or more of the following:

Application [Specified by Authors] Computational Techniques  
Computer Programs  
Control Theory  
Decision Analysis  
Empirical Bayes  
Entropy/Maxent  
Estimation  
Forecasting/Prediction  
Historical Study  
Information Theory  
Invariance  
Model Formulation  
Model Selection  
Mathematical Methods  
Non-parametrics & Semi-parametrics  
Other [Specified by Authors]  
Prior Distributions  
Robustness  
Sequential Analysis  
Signal & Image Processing  
Testing  
Theory/Foundations

For purposes of standardization users are encouraged, but not required, to submit text in TeX or LaTeX format, with figures in unencoded tar-compressed Postscript files. (If necessary, papers may also be submitted with a note indicating that non-electronic figures are to be obtained directly from the authors.) Standard macros are available from xxx.lanl.gov to make submission easy and reliable. Manuscripts can also be submitted in Postscript and Adobe PDF format. The help package available from xxx.lanl.gov gives guidance for both TeX and non-TeX submissions, as well as both Unix and non-Unix computer platforms (such as PC's, Mac, VMS, etc.). Archive subscribers are notified regularly by e-mail of new submissions. Listings, retrievals, and searches of preprints may be performed at any time without subscribing to the regular mailing service. Usage of the archive is free of charge.

Help on how to use the archive may be obtained by sending an e-mail message with the subject "help" and a blank message body to the Internet address "bayes-an@xxx.lanl.gov" e.g.,

To: bayes-an@xxx.lanl.gov  
Subject: help

To subscribe to the bayes-an archive, send e-mail with a blank message body

To: bayes-an@xxx.lanl.gov  
Subject: subscribe <your full name>  
replacing <your full name> by your full name (spaces and initials allowed) as you wish it to appear in the distribution list. Preprint notifications will then be sent to the e-mail address from which you subscribed. A copy of this announcement is obtainable by sending

To: bayes-an@xxx.lanl.gov  
Subject: get isba-announce.txt

The system also permits anonymous FTP access to papers and macros stored in the data base at xxx.lanl.gov.

Access is also available via the World Wide Web (WWW) using browsers such as Netscape and Mosaic, although submissions can be made only by e-mail at present. Two WWW addresses are available for the Bayesian Analysis e-print archive: <http://omega.albany.edu:8008/ISBA/ForLanl.html/>

and

<http://xxx.lanl.gov/archive/bayes-an/>

These include detailed help pages, usage statistics, frequently asked questions, etc.

An examination of the physics e-print archives at:

<http://xxx.lanl.gov/>

will provide some background to ISBA's choice of the Los Alamos e-print system. The philosophy and experience behind the e-print archive is presented at:

<http://xxx.lanl.gov/blurb/>

Some of the information can also be obtained by sending a message via e-mail:

To: bayes-an@xxx.lanl.gov  
Subject: get blurb

We hope that you will take advantage of this opportunity to establish a world-wide electronic Bayesian community. You are invited to use and

contribute to ISBA On-Line and the Bayesian Analysis E-Print Archive!

Carlos Rodriguez      Richard N. Silver  
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## CONFERENCES

### ***Update on ISBA95: The Third World Meeting of the International Society for Bayesian Analysis***

It's not too late to sign up for ISBA95 in Oaxaca, Mexico on September 29-30, 1995. Preregistration indicates that we will have over 110 participants and a fascinating program which will include presentations by Keith Abrams (UK), Esmail Amiri (UK), Barry Arnold (USA), Sanjib Basu (USA), Jose Bernardo (Spain), Carlo Berzuini (Italy), Jim Berger (USA), Don Berry (USA), Julian Besag (USA), William Bishop (USA), Hamparsum Bozdogan (USA), Alicia Carriquiry (USA), Sid Chib (USA), Cindy Christiansen (USA), Jose Andres Christen (Mexico), Younshik Chung (Korea), Merlise Clyde (USA), Gauri Datta (USA), Enrique de Alba (Mexico), John Deely (New Zealand), Aart De Vos (Holland), Dipak Dey (USA), Mario Di Bacco (Italy), Hadi Dowlatabadi (USA), Jan du Plessis (Republic of South Africa), Ward Edwards (USA), Arturo Fernandez (Spain), Don Fraser (Canada), Antonio Garcia-Ferrer (Spain), José Garrido (Canada), Seymour Geisser (USA), Ed George (USA), John Geweke (USA), Malay Ghosh (USA), Daniel Gianola (USA), Wally Gilks (UK), Mithat Gonen (USA), Victor Guerrero (Mexico), Shanti Gupta (USA), Eduardo Gutierrez-Pena (Mexico), Chansik Hong (Korea), Telba Irony (USA), Paul Johnson (USA), Douglas Jones (USA), Athanassios Katsis (USA), Gordon Kaufman (USA), Jim Koziol (USA), Partha Lahiri (USA), Tom Leonard (USA), Ernst Linder (USA), Jun Liu (USA), Lawrence Marsh (USA), Max Mendel (USA), Rob McCulloch (USA), Manuel Mendoza (Mexico), Jeffrey A. Mills (USA), Chung-Ki Min (USA), Peter Mueller (USA), Elias Moreno (Spain), Mario Ojeda (Mexico), Giovani Parmigiani (USA), Stephen Peck (USA), Maria Eglee Perez (Venezuela), Luis R. Pericchi (Venezuela), Andy Pole (USA), Jim Press (USA), Jose Mario Quintana (USA), Itzhak Ravid (Israel), Charles J. Romeo (USA), Peter Rossi (USA), Bruno Sanso (Venezuela), Juana Sanchez (USA), Agustin

Sevilla (USA), Romano Scozzafava (Italy), Ram Shanmugam (USA), Arkady Shemyakin (Russia), Richard N. Silver (USA), Nozer Singpurwalla (USA), Debajyoti Sinha (USA), Refik Soyer (USA), Adrian Smith (UK), Bill Strawderman (USA), George Tiao (USA), Ruey Tsay (USA), Robert Tsutakawa (USA), Detlof von Winterfeldt (USA), Abrie Van der Merwe (Republic of South Africa), Julia Varshavsky (USA), Brani Vidakovic (USA), Hajime Wago (Japan), Yao Wang (USA), Sergio Wechsler (Brazil), Mike West (USA), David Wolf (USA), Lara Wolfson (USA), Robert Wolpert (USA), Weng Kee Wong (USA), Martin R. Young (USA) and Arnold Zellner (USA).

ISBA95 is shaping up to be a lively and exciting meeting. Don't miss it!

## INVITED SESSIONS AND ORGANIZERS (Marked by \*)

### **Reference Priors And Bayes Factors**

Chair: Manuel Mendoza, ITAM

1. Jim Berger, Purdue University and Jose Bernardo\*, Univ. of Valencia  
*Reference Priors And Reference Decisions*
2. Aart De Vos, Vrije, Amsterdam,  
*Fair Bayes Factors For The Regression Model*
3. AFM Smith, Imperial College London,  
*A Radical Re-Look At Bayes Factors*

### **Bayesian Reliability Analysis**

Chair: Thomas A. Mazzuchi, George Washington University

1. Nozer D. Singpurwalla, George Washington University, *Burn-in Testing*
2. Max Mendel, Univ. of California-Berkeley, *The Bayesian Basis of Probabilistic Physics of Failure*
3. Refik Soyer\*, George Washington Univ., *Bayesian Computations for a Class of Reliability Growth Models*

### **Bayesian Simulation Methodology**

1. Julian Besag, Univ. of Washington, *Partial Conditioning In Markov Chain Monte Carlo*
2. Jun Liu, Stanford University, *Sequential*

### *Learning Through Multiple Imputations*

3. Carlo Berzuini, Nicky Best & Wally Gilks\*, MRC, Cambridge, *Efficient Markov Chain Monte Carlo Analysis Of Sequential Observations*

### **Bayesian Analysis of Environmental Problems**

1. Detlof von Winterfeldt, University Southern California, *Decisions Related To Health Effects From Magnetic Fields*

2. Hadi Dowlatabadi, Carnegie Mellon Univ., *Bayesian Approaches To Climate Mitigation Policy*

3. Stephen Peck\*, EPRI Managing, *Uncertainty, The Tropospheric Ozone Challenge*

### **Bayesian Analysis in Finance**

1. Andy Pole, Caxton Corporation, *Modelling Implied Volatility Surfaces For Risk Assessment*

2. Agustin Sevilla, Chancellor Capital, *Management Multifactor Equity Models In A Bayesian Setting*

3. Jose Mario Quintana\*, Bankers Trust, *Global Asset Allocation: Stretching Returns By Shrinking Forecasts*

### **Bayesian Model Selection and Hypotheses Testing**

1. H. Aslanidou, D. Dey, Univ. of Connecticut and D. Sinha, University of New Hampshire, *Model Selection for Multivariate Survival Data*

2. J.A. Varshavsky, Purdue University and Lily Laboratories, *Computational Aspects Of Intrinsic Bayes Factors*

3. L.R. Pericchi\*, Universidad Simon Bolivar, *The Selection Between Separate Models*

### **Bayesian Methods in Time Series**

1. Robert E. McCulloch and Ruey S. Tsay\*, University of Chicago, *Bayesian Model Selection for Nonlinear Time Series*

2. X.L. Meng and George C. Tiao\*, Univ., of Chicago, and D.M. Xu, Univ. of Oregon, *Inference About The AR(1) Coefficient On The Product Space*

3. Antonio Garcia-Ferrer, Universidad Autonoma de Madrid, *Using Long, Medium and Short Term Trends to Forecast Turning Points in the Business Cycle: International Evidence*

### **Bayesian Forecasting**

1. Jose Garrido, Concordia University and Rosario Romero, Universidad Carlos III de Madrid, *Robust Credibility with the Kalman Filter*

2. Enrique de Alba\*, ITAM, Mexico, *Bayesian Forecasting of IBNR Reserves*

3. Victor Guerrero, Instituto Autonomo de Mexico and Daniel Pena, Universidad Carlos III de Madrid, *Linear Combination of Information in Time Series Analysis*

### **Bayesian Analysis Of Discrete Data**

Chair: Gauri Sankar Datta, Univ. of Georgia

1. Malay Ghosh\*, Univ. of Florida, *A Unified Bayesian Analysis of Item Response Models*

2. Sid Chib, Washington University, *Bayesian Analysis of Correlated Binary Data*

3. Robert K. Tsutakawa, Univ. Of Missouri, *Problems In Bayesian Item Response Theory*

### **Beijing, China -- The 3rd ICSA Statistical Conference**

will be held at Fragrant Hill Hotel on August 18-20, 1995, (prior to the 50th Session of ISI) For information please contact Prof. Smiley W. Cheng of Univ. of Manitoba (Tel:204-474-8172;Fax:204-275-5011; E-mail: Smiley\_Cheng@UManitoba.CA)

Please note: ICSA stands for International Chinese Statistical Association

### **FROM THE MAILBAG**

**Dr. Tim Dunne**, Dept. of Math. and Stat., U. of Cape Town, Rondebosch 7700, South Africa, has agreed to be Chair of the Organizing Committee for the World Meeting of ISBA, ISBA96, to be held at the U. of Cape Town in December, 1996. A Program Chair and Program Committee will be appointed in the near future. Those with an

interest in serving, please send a note to Zellner, obtaining more information re the meeting can contact Dr. Dunne at: [dunne@uctvax.uct.za.ac](mailto:dunne@uctvax.uct.za.ac)

**ISBA's Council of Sciences** is getting organized. At least two of the activities we plan are organizing special sessions at national and international conferences--in statistics and also in the substantive fields--and arranging for the publication of volumes on Bayesian analysis and science. At the ISBA meeting in Oaxaca we are planning a session on Bayesian analysis in genetics. We appreciate your input on the utility of developing a volume for publication on this subject. Please convey your interest to Don Berry ([db@isds.duke.edu](mailto:db@isds.duke.edu)). Also, please suggest roles you feel the Council should play in promoting Bayesian endeavors and disseminating Bayesian ideas.

**ISBA's Council of Sciences:**

Mark Berliner (Statistics), [mb@osustat.mps.ohio-state.edu](mailto:mb@osustat.mps.ohio-state.edu)

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**Oaxaca will be the 50th meeting of NSF-NBER Seminar on Bayesian Inference in Econometrics & Statistics.** This series was inspired, developed, and organized by Arnold Zellner--with a little help from his friends. In anticipation of this event, participants in this seminar sought to honor Professor Zellner's

scholarly and organizational contributions by developing a volume dedicated to him. A volume entitled "Bayesian Statistics and Econometrics: Essays in Honor of Arnold Zellner," has been edited by Donald Berry, Kathryn Chaloner, and John Geweke and will be published by Wiley. We will celebrate the volume's publication and dedicate it at the Oaxaca meeting.

## **STUDENT CORNER NEWS**

As promised in the last issue, here is our inaugural look at the research projects pursued by graduate students and recent graduates in Bayesian statistics. If you would like to contribute an abstract to this ongoing feature, please contact Alyson Wilson at [alyson@isds.duke.edu](mailto:alyson@isds.duke.edu).

Agata Boratynska ([agata@hydra.mimuw.edu.pl](mailto:agata@hydra.mimuw.edu.pl))

### **BAYESIAN ROBUSTNESS IN THE $\epsilon$ -CONTAMINATED CLASS OF PRIORS**

The problem of measuring the Bayesian robustness when prior distributions are  $\epsilon$ -contaminated is considered. The total variation metric in the space of the posterior distributions as a global measure of robustness is discussed. An upper bound for the measure when the prior distributions vary in an  $\epsilon$ -contamination class is given. Examples are presented. (A. Boratynska (1995) to appear in *Statistics & Probability Letters*)

### **INFINITESIMAL ROBUSTNESS IN BAYESIAN STATISTICAL MODELS**

The problem of measuring the Bayesian robustness is considered. An upper bound for the oscillation of a posterior functional in terms of the Kolmogorov distance between the prior distributions is given. The norm of the Frechet derivative as a measure of local sensitivity is presented. The problem of finding optimal statistical procedures is presented. (A. Boratynska (1994) in *Applied Mathematics XXXVII*, 67-106)

### **ROBUST BAYESIAN ESTIMATION IN THE ONE-DIMENSIONAL NORMAL MODEL**

The paper addresses the problem of robust Bayesian estimation in the one-dimensional normal model. Some uncertainty about the prior is

assumed by introducing a class of priors  $\Gamma$ . The most robust estimator is to minimize the oscillation of the posterior risk when the prior runs over  $\Gamma$ . The most robust estimator under some restrictions is constructed to avoid too much loss in the posterior risk. (A. Boratynska and M. Meczarski (1994) in *Statistics & Decisions* 12, 221--230)

Suraj Rao (rao@stat.cmu.edu)

### **MONITORING A MULTI-STAGE SEQUENTIAL MANUFACTURING PROCESS: A BAYESIAN APPROACH**

Integrated circuit fabrication involves the implementation of hundreds of processing steps in a sequential manner. In-line measurements made after each of the crucial process steps can be used to assess the correctness of that step. Monitoring the in-lines from such a multi-stage process with unit step monitoring tools, such as Shewhart and CUSUM charts, proves to be inefficient.

We have developed a process monitoring system which is designed to be used for monitoring a multi-stage manufacturing process. Our process monitor, developed from a Bayesian framework, is based on a collection of models which represent the in-control and several failure modes of process operation. The transition of a process from an in-control mode to one of the possible failure modes of operation is modeled with a transition probability matrix. The various models and the transition probability matrix are used to calculate the predictive density of the future stage in-lines conditional on the earlier stage in-lines. This Bayesian monitor uses the predictive density to address three specific issues. First, it signals the onset of a change in the in-line distribution. Second, it indicates which aspect of the distribution might have changed. Third, it computes the predictive probability that in-lines from a future process step will meet preset specifications. For a process engineer, this last feature can become

a powerful tool for making yield based decisions.

Average run length calculations show that for a single step process, our Bayesian monitor is comparable to the Shewhart-CUSUM charts for detecting changes in the in-line distribution. For a multi-stage process, however, the Bayesian monitor can significantly reduce the detection time by using correlated information from earlier stages.

We have demonstrated the merits of the Bayesian monitor through several simulation examples. For an industrial application, we considered a dataset from a recently developed CMOS fabrication process at Texas Instruments Incorporated. This multi-stage dataset highlights another important feature of our Bayesian monitoring scheme. During the learning phase of the process, the process recipe was adjusted to correct the mean level of one of the earlier stage in-lines. Because of the correlation structure among the in-lines, this adjustment also affected the mean levels of some of the later stage in-lines. In this situation, the Shewhart-CUSUM charts for these later stage in-lines falsely signal an out-of-control condition. The Bayesian process monitor, however, adapts to the change in the process recipe and does not signal false alarms.

Sujit Ghosh (sujitg@stat.uconn.edu)

### **ON LOCAL SENSITIVITY MEASURES IN BAYESIAN ANALYSIS**

The sensitivity of Bayes procedures to the choice of a prior distribution is a major concern for many Bayesians. Traditionally, the sensitivity analysis or the robustness issues in Bayesian inference can be classified into two broad categories, global and local sensitivity. In global analysis, one considers a class of reasonable priors and studies the variations of posterior features, whereas in local analysis, the effects of minor perturbations around some elicited priors are studied. A Bayesian analysis depends strongly on the modeling assumptions, which make use of both prior and likelihood. Even after fitting a standard statistical model to a given set of data, one does not feel comfortable unless some sensitivity checks are made for model adequacy. One way to measure the sensitivity of the present model is to perturb the standard model to a larger (global) or smaller (local) amount in potentially conceivable directions to determine the effect of such alterations on the analysis. Although to a strict Bayesian the prior is subjective, it is often difficult to specify or elicit a method that would yield a convincing prior.

The situation becomes more difficult for high dimensional parameters. Thus, to perform a complete Bayesian analysis, one must use some sensitivity measures to check model adequacy. To develop any reasonable sensitivity measures one needs to interpose certain basic concepts. For example, "What classes of perturbations are to be considered?," and "How do we assess the

discrepancies between the models generated through these perturbations?" Although there are several ways to perturb a model, we will confine ourselves to linear and geometric ffl-contamination. We observe that the local sensitivity measures are expressible in terms of certain Bayes factors. (D. Dey, S. Ghosh, and K. Lou (1995))

Lara Wolfson (lara@stat.cmu.edu)

### **ELICITATION OF PRIOR DISTRIBUTIONS FOR STATISTICAL MODELS**

The Bayesian paradigm in statistical inference is centered on the precept that opinions about certain quantities of interest are updated based on newly collected data, through the application of Bayes' Theorem. My thesis focuses on developing formal methods for quantifying these prior opinions in complicated models, where the relationships between various parameters make the direct assessment of parameters of the prior distribution problematic. I concentrate on the approach that postulates that subject matter experts can answer questions about quantiles of the posterior predictive distribution (in other words, they can provide assessments about future events, based on their current state of knowledge). The methods for elicitation of the conjugate prior in the normal linear model are extended to include aspects of Bayesian optimal design, as well as to deal with the unit root problem in time series. Issues of uncertainty in elicitation are addressed by considering the possibilities of measurement error, systematic underestimation of uncertainty, and the expert having a class of priors rather than a single distribution. Assessment of prior distributions that can distinguish between latent variables is demonstrated in the elicitation methods developed for the lognormal and gamma models with covariates. The methods are illustrated through an in-depth application to an environmental problem, where toxic lead contamination in soil has occurred. It is known that some level of lead contamination occurs due to various sources such as lead-based paint, but in this case, it is also known that an industrial facility contributed to the contamination. A prior distribution is elicited that distinguishes between the lead contamination that would have been present without the existence of the facility, and that due to the operation of the facility.

Ana Justel (ajustel@eco.uc3m.es)

### **GIBBS SAMPLING WILL FAIL IN OUTLIER**

### **PROBLEMS WITH STRONG MASKING**

This paper discusses the convergence of the Gibbs sampling algorithm when it is applied to the problem of outlier detection in regression models. Given any vector of initial conditions, theoretically, the algorithm converges to the true posterior distribution. However, the speed may slow down in a high dimensional parameter space where the parameters are highly correlated. We show that the effect of the leverage in regression models make impossible the convergence in sets of data with strong masking. The problem is illustrated in several examples. (A. Justel and D. Peña)

### **LIST OF ISBA OFFICERS**

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**Luke Tierney**, University of Minnesota

**Herman K. van Dijk**, Erasmus University

**Michael West**, Duke University

## **OTHER OFFICIALS**

**Donald A. Berry**, Duke University  
Chair, Council of Sciences

**John F. Geweke**, University of Minnesota  
Chair, Publications Committee

**Joseph B. Kadane**, Carnegie Mellon University  
Chair, Constitutional Committee

**Jeffrey H. Dorfman**, University of Georgia  
Newsletter Editor

Below is a provisional draft of the ISBA Constitution prepared by Jay Kadane, Chair of the Constitution Committee and his committee members, Susie Bayarri, Tom Leonard, Adrian Smith and Herman van Dijk. It is provisional and all members are invited to send any comments they may have to Jay Kadane (JK20@stat.cmu.edu)

## **DRAFT CONSTITUTION INTERNATIONAL SOCIETY FOR BAYESIAN ANALYSIS**

1. Purpose: The purpose of the International Society for Bayesian Analysis (ISBA) is to foster the study of Bayesian statistical and decision analysis, its relation to other methodologies, and its applications to scientific, industrial and social problems.

2. Officers: a. The officers of ISBA are a President Elect, President, Past President, Executive Secretary, Treasurer, Vice Meetings Chair, Meetings Chair, and Past Meetings Chair.

b. Each year a President Elect is elected by a vote of the membership, to take office for a term of one year. The President Elect then succeeds to the office of President for a term of one year. The President succeeds to the Office of Past President for a term of one year.

c. The Executive Secretary and Treasurer are elected by the membership for staggered three year terms.

d. The President Elect appoints a Vice Meetings Chair, who serves for a year, succeeds to the office of Meetings Chair for a year, and then succeeds to the office of Past Meetings Chair for a year.

3. Duties of officers as a Group:

a. The elected officers of ISBA (President Elect, President, Past President, Secretary and Treasurer) constitute the Executive Committee of the Board, which shall follow the general policies established by the Board and shall conduct the affairs of the Society between meetings of the Board.

b. The Executive Committee shall report to the Board at each Board Meeting.

c. The Executive Committee shall periodically formulate recommendations for action by the Board.

4. Duties of the Officers Individually:



a. The President chairs meetings of the Board, Executive Committee and General Membership. In the absence of the President, the President Elect chairs; in the absence of both, the Past President chairs.

b. The Secretary records the actions taken at meetings of the Board, Executive Committee and General Membership. In the absence of the Secretary, the chair of the meeting appoints a recording Secretary for that meeting, who shall transmit the minutes of that meeting to the Secretary. The Secretary keeps lists of officers, Board members, Committee members and Society members, and sends and counts ballots when mail votes are taken.

c. The Treasurer oversees the receipt and disbursement of all funds of ISBA, ensures that proper financial records are kept, and makes periodic financial reports to the Board.

d. The Meetings Chair arranges and co-ordinates all activities associated with meetings in which ISBA is involved, and chairs the Meetings Council, consisting of the Vice Program Chair, Program Chair and Past Program Chair.

#### 5. The Board of Directors:

a. In addition to the elected officers, the Board consists of twelve persons elected for staggered three year terms.

b. The Board is the policy-making group in ISBA. Temporary ISBA Committees may be created, charged, and appointed by Board resolution.

c. The Board shall maintain the tax-exempt, charitable status of ISBA.

#### 6. Elections: a. Only ISBA members are eligible for elections.

b. Elected Officers do not receive salaries from ISBA

c. A Nominating Committee, chaired by the Past President and whose other members are appointed by the Board, shall nominate one or more members for each office. The Bylaws provide mechanisms for additional nominations by member petition.

d. The bylaws may specify a minimum number or proportion of the membership needed to have a valid election.

#### 7. Amendment and Procedures:

a. This Constitution takes precedence over the Bylaws, which take precedence over resolutions of the Board.

b. The Constitution may be adopted and amended by a two-thirds vote of those ISBA members who return ballots in a mail vote.

c. The Bylaws may be amended by majority vote in two successive Board meetings, with at least a two-week interval between the meetings. Standing ISBA Committees are created in the Bylaws.

d. Board resolutions may be adopted by majority vote of the Board.

## ***AWARDS***