

contents

3	Note from the Editor	
in memoriam: J. Scott Armstrong (1937-2023)		
5	Iconoclast and Champion of Science for Practical Purposes	<i>Kesten Green</i>
8	Lessons from a Mentor and Friend	<i>Andreas Graefe</i>
9	Scott Armstrong's Scientific Legacy	<i>Arch Woodside</i>
forecast evaluation		
10	The Forecaster's Evaluation Dilemma	<i>Malte Tichy</i>
ijf research		
15	Combining Probability Predictions	<i>Ville A. Satopää</i>
forecast modeling		
21	Estimating Predictive Probability of Success	<i>Shaun Comfort</i>
29	Accuracy vs. Runtime with Multiple Seasonalities	<i>Stephan Kolassa</i>
tutorial		
35	Linear Regression with a Time Series View Part 1: Simple Linear Regression	<i>Ken Fordyce</i>
public policy		
40	How Well Can Social Scientists Forecast Societal Change?	<i>Igor Grossmann, Christoph Bergmeir & Peter Slattery</i>
special feature: decision intelligence		
47	A Case for a More Decision-centric IBP	<i>Niels van Hove</i>
52	How Decision Intelligence Integrates Forecasting, AI, and Data into Complex Decisions	<i>Lorien Pratt, David Roberts, Nadine Malcolm, Brian Fisher, Katie Barnhill, Daniela Jones & Michael Kudenov</i>
book reviews		
58	<i>Sales & Operations Planning – An Executive Update</i> by Robert A. Stahl	<i>Patrick Bower</i>
60	<i>Power and Prediction: The Disruptive Economics of Artificial Intelligence</i> by Ajay Agrawal, Joshua Gans, and Avi Goldfarb	<i>Ira Sohn</i>
64	<i>Demand Forecasting for Executives and Professionals</i> by Stephan Kolassa, Bahman Rostami-Tabar, and Enno Siemsen	<i>Simon Spavound</i>
spotlights		
66	Sevvandi Kandanaarachchi	
68	Ruben Crevits	
opinion-editorial		
69	In Pursuit of Consumption-Based Forecasting	<i>Charles Chase & Kenneth Kahn</i>

Foresight
Advisory
Board

Chairman: Jim Hoover, *University of Florida*
Carolyn Allmon, *Teleflex Inc.*
Ellen Bonnell, *Analytics Consultant*
Charles Chase, *SAS*
Mark Chockalingam, *Valtitude/Demand Planning LLC*
Ruben Crevits, *OMP*
Robert Fildes, *Lancaster Centre for Forecasting*
Ram Ganeshan, *College of William and Mary*
Igor Gusakov, *GoodsForecast*
Sevvandi Kandanaarachchi, *CSIRO*
Jonathon Karelse, *NorthFind Management*
Joe McConnell, *McConnell Chase Software*
Polly Mitchell-Guthrie, *Kinaxis*
Steve Morlidge, *CatchBull Ltd.*
Dilek Önkal, *Northumbria University*
John Pope, *Investment Economics*
Johann Robette, *Vekia*
Christian Schäfer,
Cooperative State University of Baden-Württemberg
Jerry Shan, *LinkedIn*
Sujit Singh, *Arkieva*
Marina Sologubova, *Estée Lauder*
Eric Stellwagen, *Business Forecast Systems*
Nicolas Vandeput, *SupChains*
Lawrence Vanston, *Technology Futures*

IIF Membership & Subscriptions
Pam Stroud, IIF Business Director
forecasters@forecasters.org

Foresight is published by the International Institute of Forecasters, with the purpose of advancing the practice of forecasting. We encourage submissions from industry practitioners, software and consulting vendors, and academic researchers. Manuscripts should be written in language accessible to analysts, planners, managers, and students. All manuscripts are peer reviewed and edited for clarity and style.

See the Guidelines for Authors (page 80) for full details on suitable topics, manuscript preparation, and manuscript submission.

Foresight welcomes advertising. However, journal content is solely at the discretion of the editors and will adhere to the highest standards of objectivity. Where an article describes the use of commercially available software or a licensed procedure, the author must disclose any interest in the product. Articles whose principal purpose is to promote a commercial product or service will be rejected.

©2024 International Institute of Forecasters (ISSN 1555-9068)

Editor-in-Chief

Deputy Editor

Associate Editors

Column Editors

Michael Gilliland

Stephan Kolassa

Simon Clarke

Fotios Petropoulos

Aris Syntetos

Shari De Baets

Judgmental Forecasting

Jeff Baker

Forecasting Practice

Patrick Bower

Practitioner's Corner

Elaine Deschamps

Government & Public Policy

Anne-Flore Elard

Support Systems

Paul Goodwin

Hot New Research

Tao Hong

Energy & Environment

Niels van Hove

Decision Intelligence

Malvina Marchese

Financial Forecasting

Ira Sohn

Long-range Forecasting

Evangelos Spiliotis

Machine Learning & AI

Foresight Staff

Pam Stroud

Marketing & Sponsorship

Liza Woodruff

Design & Production

Ralph Culver

Manuscript Editor

Mary Ellen Bridge

Copy Editor

Holly Lancaster

Marketing & Communications

Foresight Business Office:
53 Tesla Avenue
Medford, MA 02155 USA

note from the editor

FORESIGHT STAFFING CHANGES



Sharing a laugh with Bill Tonetti, IBF New Orleans, 2007

Our appreciation to Bill Tonetti, who is stepping down from the *Foresight* Advisory Board after serving since our first issue in 2005. Through his presence at Demand Works and more recently at Netstock, Bill has been an ongoing supporter of *Foresight*'s mission and a valuable contributor to the FAB. Thank you, Bill!

Filling Bill's spot on the FAB is Ruben Crevits, Lead Data Scientist at OMP in Belgium, and subject of one of this issue's Spotlight interviews.

Congratulations to Jeff Baker of Libra SCM, as he moves from the FAB to Column Editor for *Forecasting Practice*. Since his first article in 2021, Jeff has become a regular contributor to *Foresight* and a Practitioner Track speaker at the ISF. He is taking over for Stefan de Kok, who served in the CE role since 2021 and will remain as a frequent contributor (having authored three articles in 2023 with more to come in 2024).



Jeff Baker

TRIBUTES TO J. SCOTT ARMSTRONG (1937-2023)

On September 28 we lost a founder of the International Institute of Forecasters and one of the giants in our field, J. Scott Armstrong. We begin this issue with Scott's longtime collaborators **Kesten Green** and **Andreas Graefe** detailing Scott's career and broad contributions, as well as his generosity as a mentor and friend. **Arch Woodside** concludes our tributes with a summary of Scott's scientific legacy.

PREVIEW OF FORESIGHT ISSUE 72

On the topic of Forecast Evaluation, **Malte Tichy** argues that flawed evaluation procedures create an incentive to provide dishonest forecasts. His article describes how to address this *Forecaster's Evaluation Dilemma*.

In our Modeling section, **Ville Satopää** shows the ways of combining probabilistic predictions, by pulling the key takeaways from his research published in the *International Journal of Forecasting*. Then **Shaun Comfort**, one of the rare MDs to publish in *Foresight*, shares a Bayesian approach for estimating the predictive probability of success. **Stephan Kolassa** completes the section by looking at the various methods for handling multiple seasonality, and considers the accuracy vs. runtime trade-off.

The Tutorial section begins a two-part series by **Ken Fordyce** on linear regression from a time series viewpoint. In this issue, Ken covers simple linear regression, with multiple regression to be dealt with in Q2.

Our Public Policy section examines how well social scientists can forecast societal change. **Igor Grossmann**, **Christoph Bergmeir**, and **Peter Slattery** summarize their results from large-scale studies and a major forecasting competition.

Niels van Hove, our Column Editor for Decision Intelligence, has organized a special feature starting with his own article on decision-centric IBP. Then **Lorien Pratt** and colleagues illustrate the

prominent role forecasters can play in contributing to decision intelligence by introducing the Causal Decision Diagram.

We have three Book Reviews:

- **Patrick Bower** on Robert Stahl's *Sales & Operations Planning – An Executive Update*
- **Ira Sohn** on Ajay Agrawal, Joshua Gans, and Avi Goldfarb's *Power and Prediction: The Disruptive Economics of Artificial Intelligence*
- **Simon Spavound** on Stephan Kolassa, Bahman Rostami-Tabar, and Enno Siemsen's *Demand Forecasting for Executives and Professionals*

Our Spotlight features two of our newest *Foresight* Advisory Board members:

- **Sevvandi Kandanaarachchi** of CSIRO in Australia
- **Ruben Crevits** of OMP in Belgium

And in our sole Opinion-Editorial this issue, **Charlie Chase** of SAS and **Ken Kahn** of Old Dominion University make an appeal for the use of consumption-based forecasting.

CALL FOR PAPERS – SPECIAL FEATURE ON FORECASTING FOR THE CIRCULAR ECONOMY

In 2024 *Foresight* will be publishing a special feature section on “Forecasting for the Circular Economy.” We welcome articles and commentaries on this topic. The circular economy involves strategies such as repair, remanufacturing, and recycling – all aimed at minimizing reliance on increasingly scarce resources. Proper management of the circular economy requires supplementary forecasts of the reverse “loop” (forecasts of return rates and condition) to drive scheduling and replenishment, and other decisions. For an example, see the *Foresight* article “Forecasting for Remanufacturing” (Goltsos and Syntetos, Issue 56, 10-17).

Questions should be directed to the section organizers, Aris Syntetos (syntetosa@cardiff.ac.uk) and Thanos Goltsos (goltsosa@cardiff.ac.uk). Manuscript submissions are due July 1, 2024.

CALL FOR PAPERS – THE INTERNATIONAL SYMPOSIUM ON FORECASTING

The 2024 ISF will be held in Dijon, France, June 30 - July 3 (isf.forecasters.org). Abstract submissions are now being accepted for both Regular and Invited tracks. Submissions are due by March 22, with notification of acceptance/rejection on April 2.



— Mike Gilliland
Dragonfly Farm
Seagrove, NC
USA