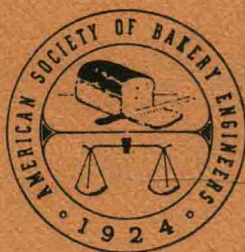


**PROCEEDINGS**  
of  
**The Sixty-Third Annual Meeting**  
of the  
**AMERICAN SOCIETY OF BAKERY ENGINEERS**  
**1987**



MARCH 1-4, 1987  
CHICAGO, ILLINOIS

**PROCEEDINGS**  
**of the**  
**Sixty-Third Annual Meeting**  
**AMERICAN SOCIETY**  
**OF**  
**BAKERY ENGINEERS**

**March 1-4, 1987**

**Chicago Marriott Hotel, Chicago, Illinois**

*We gratefully acknowledge the cooperation of the business papers in the baking and allied fields for generously contributing space to describe the activities of the Society during the year. Our special appreciation to those which gave careful coverage to our Annual Meeting.*

*We extend our sincere thanks to the members of the Bakers Courtesy Club of Chicago who served during the Annual Meeting as ushers, microphone monitors and maintained the information desk. On behalf of our members, the Society thanks the "ASK ME" men for serving.*

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PROCEEDINGS  
of the  
Sixty-Third Annual Meeting  
AMERICAN SOCIETY  
OF  
BAKERY ENGINEERS

March 1-4, 1987

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Printed in U.S.A.

The American Society of Bakery Engineers is a non-profit organization dedicated to the advancement of the bakery industry. The Society's primary purpose is to promote the exchange of information and ideas among bakery engineers and to provide a forum for the presentation and discussion of technical papers. The Society's activities include the publication of the Journal of Bakery Engineering, the holding of annual meetings, and the sponsorship of technical seminars and workshops. The Society's membership is open to all individuals who are engaged in the bakery industry, and its dues are set at a level that is affordable to all members. The Society's headquarters are located in Chicago, Illinois, and its offices are located in various other cities throughout the United States. The Society's website is located at <http://www.asbe.org>.

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# American Society of Bakery Engineers

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ROBERT A. FISCHER, PRESIDENT

JAN SNEESBY AARON, EDITOR

2 North Riverside Plaza  
Chicago, IL 60606

## **63rd ANNUAL MEETING**

CHICAGO MARRIOTT HOTEL

March 1-4, 1987

Chicago, Illinois

### **Introduction to the 1987 PROCEEDINGS**

This issue of the PROCEEDINGS—as was the case with all previous issues—is intended as more than a transcript of the program for the Annual Meeting; it is a valuable reference source for technical information on bakery production. All members of ASBE receive a single copy as a privilege of membership and most of them consider the PROCEEDINGS as an indispensable addition to their libraries.

As a technical reference book, this volume includes reproductions in complete form of all papers which were presented, transcripts of all the discussions following each paper, reproduc-

tions of the slides shown during the presentation of the papers, as well as any handout material distributed. This volume also contains a Subject Index for the 1987 Program, a list of papers presented from 1975 to 1987, and lists of Technical Bulletins and EIS Reports issued since 1975.

Besides the technical data, there is a registration list for the 1987 Meeting. A handy Table of Contents has been provided for ease in locating specific papers, reports and sections.

Total registration for the 63rd Annual Meeting was 1,078 not including ladies who accompanied registrants and who received complimentary badges.

**TODAY'S  
CHALLENGE—  
TOMORROW'S  
ACHIEVEMENT**

**63rd  
ANNUAL  
MEETING**

## FOR YOUR INFORMATION

For your convenience in locating the various rooms in the Chicago Marriott assigned for our use, we list the floors:

### PROGRAM MEETING ROOMS

Salon II—Seventh Floor  
Monday A.M. Session  
Monday P.M. Session  
Tuesday A.M. Session  
Tuesday P.M. Session  
Wednesday A.M. Session

### OTHER

Ohio State and Northwestern Rooms—Sixth Floor  
Advisory Committee Meeting  
Purdue and Wisconsin Rooms—Sixth Floor  
Luncheon for Advisory Committee  
Ohio State and Northwestern Rooms—Sixth Floor  
Executive Committee Meeting (Sun.)  
Salon II—Seventh Floor  
Program Participants' Meeting  
North Foyer—Seventh Floor—ASBE Office  
Lincolnshire I—Sixth Floor—Property Room  
Foyer—Seventh Floor—Registration  
Chicago Ballrooms A, B, C & D—Fifth Floor  
Bakery Foods Display  
Los Angeles and Miami Rooms—Fifth Floor  
Executive Committee Meeting (Wed.)

## FOR YOUR CONVENIENCE

Restaurants in Chicago Marriott  
Allie's Bakery  
La Plaza  
Upper Avenue Lounge  
JW's Steak House

### PRIZES ON DISPLAY

See the prizes for the Wednesday morning attendance drawings in the lobby window of the gift shop on the north side of the lobby.

## REGISTRATION

Please register promptly on arrival to prevent delays during meeting hours.

### Registration Hours

|           |                         |
|-----------|-------------------------|
| Sunday    | 11:30 A.M. to 5:00 P.M. |
| Monday    | 8:00 A.M. to 5:00 P.M.  |
| Tuesday   | 8:00 A.M. to 5:00 P.M.  |
| Wednesday | 8:00 A.M. to 10:00 A.M. |

### Registration Desk

Seventh Floor Foyer  
Please cooperate by keeping escalator landings free of crowds, and avoid group conversations in front of registration desks.

### Registration Fees at Meeting

|             |          |
|-------------|----------|
| Members     | \$ 80.00 |
| Non-Members | \$100.00 |

Registration includes Officers' Reception and Bakery Foods Display. Admittance to these events is limited to registrants—by badge only.

## INTRODUCTION

TO YOUR

## 63rd ANNUAL MEETING

It is a pleasure to welcome you to the 63rd Annual Meeting of the American Society of Bakery Engineers.

The program that you will be attending over the next three days was planned with you, the engineers, in mind. Chairman Hirt provided the foundation for the program with the theme, "Today's Challenge—Tomorrow's Achievement." Your input and ideas formed the core subject of each paper to be presented. The resulting program has attempted to address your current needs and provide insight into the future of the baking industry.

Please plan to attend the technical sessions and participate through the question and answer periods and program reaction sheets. Your involvement will maximize the benefits for everyone here.

Those of us who have been involved with bringing you this program are glad that you have chosen to be here for the 63rd Annual Meeting. It is our hope that you will gain at least one new piece of information that will be meaningful to your businesses when you leave this Meeting.

Thank you for your support, and enjoy the Meeting!

*Nancy G. Stahel*

NANCY G. STAHEL  
PROGRAM CHAIRMAN

*Jack F. Burris, III*

JACK F. B. BURRIS, III  
FIRST ASSISTANT  
PROGRAM CHAIRMAN

*Candida C. Ward*

CANDIDA C. WARD  
SECOND ASSISTANT  
PROGRAM CHAIRMAN

## AMERICAN SOCIETY OF BAKERY ENGINEERS

RIVERSIDE PLAZA BLDG.  
2 NORTH RIVERSIDE PLAZA CHICAGO, ILLINOIS 60606

## AN EXPLANATION OF BADGES AND RIBBONS

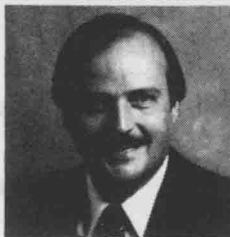
### Badge Inserts

White with blue lettering  
A colored dot denotes a new member (who has joined since 9/1/86)  
A receipt for registration fee is stamped on back of insert

### Ribbons

White for overseas visitors  
Silver, coral, ruby & gold for members with 25 years or more of continuous membership  
Blue for members on the program  
Green for Committee Chairmen, Advisory Committee and Executive Committee members

## OFFICERS 1986-1987



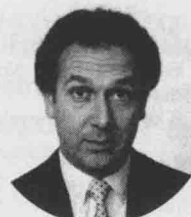
**NORMAN F. HIRT**  
Chairman



**J. W. HICKENBOTTOM**  
Second Vice-Chairman



**FRANK J. MARTIN**  
First Vice-Chairman



**JOHN P. DEL CAMPO**  
Third Vice-Chairman



**ROBERT A. FISCHER**  
President  
Acting Secretary-Treasurer

## PROGRAM CHAIRMEN 1986-1987



**JACK F. B. BURRIS, III**  
First Assistant Chairman



**NANCY G. STAHEL**  
Program Chairman



**CANDIDA C. WARD**  
Second Assistant Chairman

### OFFICERS OF AFFILIATES TO ASBE

#### ASIAN SOCIETY OF BAKING

Chairman ..... Henry Yu Ah  
First Vice-Chairman ..... Leonardo B. Figueroa  
Secretary ..... Cesar C. Calma  
Treasurer ..... Tecson H. Alonzo

#### AUSTRALIAN SOCIETY OF BAKING

Chairman ..... Ralph L. O. Plarre  
First Vice-Chairman ..... John Murphy  
Second Vice-Chairman ..... Michael B. Dennis  
Third Vice-Chairman ..... Brian O'Callaghan  
Secretary-Treasurer ..... Desmond D. Hennessy

#### BRITISH SOCIETY OF BAKING

Chairman ..... Albert Waterfield  
First Vice-Chairman ..... Anthony A. Hodges  
Second Vice-Chairman ..... J. Brown  
Third Vice-Chairman ..... Peter R. Ward  
Secretary ..... Martin P. Roebuck  
Assistant Secretary ..... Helen Jones  
Treasurer ..... F. G. Kinton

## PRE-MEETING SCHEDULE OF EVENTS

### SUNDAY, MARCH 1, 1987

- 11:00 A.M.—ADVISORY COMMITTEE MEETING  
Ohio State and Northwestern Rooms  
Sixth Floor  
(Committee members only)
- 1:00 P.M.—ADVISORY COMMITTEE LUNCHEON  
Purdue and Wisconsin Rooms  
Sixth Floor  
(Committee members only)
- 2:00 P.M.—EXECUTIVE COMMITTEE MEETING  
Ohio State and Northwestern Rooms  
Sixth Floor  
(Committee members only)
- 2:30-4:30—LADIES' TEA  
Great America I & II  
Sixth Floor
- 4:00 P.M.—PROGRAM PARTICIPANTS' MEETING  
Salon II  
Seventh Floor  
(Speakers, session chairmen and meeting chairmen only)

## POST-MEETING SCHEDULE OF EVENTS

### WEDNESDAY, MARCH 4, 1987

- 2:00 P.M.—EXECUTIVE COMMITTEE MEETING  
Los Angeles and Miami Rooms  
Fifth Floor  
(Committee members only)

### THURSDAY, MARCH 5, 1987

- 8:00 A.M.—PROGRAM COMMITTEE MEETING  
Kansas City Room  
Fifth Floor  
(Committee members only)

### SCHEDULE OF LADIES' ACTIVITIES

#### SUNDAY, MARCH 1, 1987

- 2:30-4:30 P.M.—Ladies' Tea  
Great America I & II  
Sixth Floor

#### MONDAY, MARCH 2, 1987

- 5:30-7:00 P.M.—Officers' Reception  
Salon III  
Seventh Floor

#### TUESDAY, MARCH 3, 1987

- 10:30 A.M.-4:00 P.M.—Ladies Program and Luncheon  
Fifth Floor

## MONDAY MORNING PROGRAM

March 2, 1987

### SALON II (Seventh Floor)

- 9:30—Meeting Room Opens—Greet Old and New Friends
- 9:45—Call to Assembly and Greetings  
BENJAMIN A. DeIORIO, UTICA, NY  
Meeting Chairman
- Introduction of Officers  
BENJAMIN A. DeIORIO, Meeting Chairman
- America The Beautiful  
ANDREW MAIER, II, READING, PA
- God Bless America  
Audience led by ANDREW MAIER, II
- Invocation  
ERNEST T. STEVENS, BIRMINGHAM, AL
- The Chairman Comments  
NORMAN F. HIRT, MAUMEE, OH
- The President Reports  
ROBERT A. FISCHER, CHICAGO, IL
- Program Preview  
NANCY G. STAHEL, MINNEAPOLIS, MN
- Annual Business Meeting  
Conducted by NORMAN F. HIRT  
Chairman
- Knowing Your Society  
Financial Committee  
JOHN C. MACALPINE III, PHILADELPHIA, PA
- Presentations and Introductions
- Introduction of Keynote Speaker  
JOSEPH W. HICKENBOTTOM, MAYWOOD, NJ
- Opening Address  
HOWARD E. FRAGA, WOODBRIDGE, NJ
- Announcements  
BENJAMIN A. DeIORIO, Meeting Chairman
- Adjournment

### JOINING THE SOCIETY

A non-member who joins the Society before registering for the 63rd Annual Meeting can register as a member.

The Membership Committee maintains a desk in the registration area during the registration hours. Committee members are on hand to explain the benefits of membership and to assist in signing up new members.

## MONDAY AFTERNOON PROGRAM

March 2, 1987

**SALON II**  
(Seventh Floor)

**1:15—Meeting Room Opens—Meet the Muppets**

**1:20—Call to Assembly**

FRANK J. MARTIN, THOMASVILLE, GA  
Meeting Chairman

**—Introduction to Technical Production Session**

IRWIN COOPER, TOTOWA, NJ  
Session Chairman

**—Role of Dietary Fiber in Cancer Risk Reduction**

LAWRENCE GARFINKEL, AMERICAN CANCER SOCIETY,  
NEW YORK, NY  
Diet and cancer with special reference to fiber

**—Discussion**

**—New Fiber Technology**

PETER C. STEWART, CANADIAN HARVEST PROCESS  
(1986) LTD., ST. THOMAS, ONTARIO, CANADA  
Fiber additives for all aspects of the baking industry

**—Discussion**

**—Calcium Fortification**

DR. SIMON S. JACKEL, PLYMOUTH TECHNICAL SERVICE/ASSOCIATES, WESTPORT, CT  
Methods and effects of calcium addition to bakery foods and impact on labeling

**—Discussion**

**—Cookies for Profit**

RICHARD CROW, JACK'S COOKIE CO., CHARLOTTE, NC  
Production and marketing by wholesale bakers

**—Discussion**

**—Package Power**

ERNEST L. KALE, PACKAGE PRODUCTS FLEXIBLE, CHARLOTTE, NC  
Marketing of bakery products through packaging design and materials

**—Discussion**

**—Adjournment**

## MONDAY EVENING PROGRAM

March 2, 1987

**SALON III**  
(Seventh Floor)

**5:30-7:00—Officers' Reception**

GEORGE E. LAURANCE, MINNEAPOLIS, MN  
Reception Chairman

ASBE Chairman Hirt and the other officers, with their ladies, look forward to meeting fellow members and guests at this annual social event. Chairman Laurance has planned this event with your enjoyment in mind.

## TUESDAY MORNING PROGRAM

March 3, 1987

**SALON II**  
(Seventh Floor)

**9:45—Meeting Room Opens—The Muppets Return**

**9:50—Call to Assembly**

JOSEPH W. HICKENBOTTOM, MAYWOOD, NJ  
Meeting Chairman

**—Introduction to Technical Production Session**

GARY L. CAIN, DALLAS, TX  
Session Chairman

**—Whey Proteins for the Baking Industry**

CARLOS R. S. SANCHEZ, THE KROGER CO., HIGHLAND HEIGHTS, KY  
Functionality, selection, and usage

**—Discussion**

**—Gluten Products for the Baking Industry**

DAVID N. PFEFER, WILKE INTERNATIONAL, INC., OVERLAND PARK, KS  
Functionality, selection, and usage

**—Discussion**

**—New Developments in Frozen Dough Technology**

DR. MARY EVENSON, CHEF FRANCISCO, EUGENE, OR  
Summary of recent research: freezing, thawing, additives

**—Discussion**

**—Freezing and Thawing of Unbaked Products**

PAUL J. SIDELEAU, COUNTRY HOME BAKERY, INC., BRIDGEPORT, CT  
Maintaining quality in unbaked frozen products

**—Discussion**

**—Adjournment**

## TUESDAY AFTERNOON PROGRAM

March 3, 1987

### SALON II (Seventh Floor)

1:45—Meeting Room Opens—More of the Muppets

1:50—Call to Assembly

JOHN P. DEL CAMPO, WILMINGTON, DE  
Meeting Chairman

—Introduction to Technical Production Session

DALE S. LECRONE, JACKSON, MI  
Session Chairman

—Cake Mixing Technology

GORDON WILKINSON, WESTERN BAKERY IMPORTS,  
SAN FRANCISCO, CA  
Continuous versus batch mixing

—Discussion

—Automated Sweet Goods Production

ALLEGRA CANNON, CHAS. FREIHOFFER BAKING CO.,  
INC., ALBANY, NY

The latest in high-speed mixing, automated ingredient handling, lamination and automated panning

—Discussion

—Water Migration

DR. ROBERT G. MORLEY, DELPHI CONSULTANT SERVICES, INC., STONE MOUNTAIN, GA

Balancing moisture in bakery products and icings to help control moisture migration from one to the other

—Discussion

—Automated High Volume Dough Mixing

MICHAEL D. BOOTH, PEERLESS MACHINERY CORP.,  
SIDNEY, OH

Using the computer to improve efficiency and product quality in batch mixing operations

—Discussion

—Automation of Specialty Roll Products

RAYMOND P. CUMMINGS, G. P. A. ORLANDI,  
FRANKLIN LAKES, NJ

New Developments in bakery equipment design

—Discussion

—Adjournment

## TUESDAY EVENING PROGRAM

March 3, 1987

CHICAGO BALLROOMS A, B, C AND D  
(Fifth Floor)

4:45-7:00 P.M. Bakery Foods Display

HAROLD D. FORTNER, Elmwood Park, IL  
Chairman  
ALAN R. DEE, Franklin Park, IL  
Assistant Chairman

FRANK SBERNA, Pickerington, OH  
Regional Chairman—East  
GEORGE H. COIN, Rock Island, IL  
Regional Chairman—Mid-Central  
ROLAN E. FLETCHER, Norcross, GA  
Regional Chairman—South  
JAMES D. KNOX, Oakland, CA  
Regional Chairman—West  
TOM MACDONALD, Franklin Park, IL  
Regional Chairman—Northwest  
BRUCE E. CRISS, Gibsonia, PA  
Regional Chairman—Central

DARYL W. BLOCK, Coal Valley, IL  
WILLIAM J. CROWTHER, Westmont, IL  
KATHY M. DIERICKX, Franklin Park, IL  
WILLIAM A. HOFFMAN, Chicago, IL  
JOHN R. JANSEN, Kankakee, IL  
GEORGE J. KIEFER, Huron, SD  
RICHARD L. KOENIG, Franklin Park, IL  
MELVIN W. MUELLER, Mt. Prospect, IL  
ROBERT C. RADUENZ, Minneapolis, MN  
ROGER W. STRAND, Minneapolis, MN

The Bakery Foods Display covers the widest possible variety of bakery foods from all corners of our country and from all over the world. It has practical significance in acquainting us with progress in our specialized field of production. It also instills in us the pride in the achievement of our industry and its contribution to human nutrition.

The Display opens at 4:45 P.M. Tuesday, March 3, 1987. ADMISSION BY BADGE ONLY. Samples in the general display area are to be VIEWED ONLY and may not be opened. Samples in the "tear-apart room" are open and can be examined closely. At 7:00 P.M. when the display closes, all samples will be turned over to the Salvation Army for local consumption.

We acknowledge with grateful appreciation the cooperation of our friends in the allied trades, who collected most of the bakery products for this Display. We also thank the donors of this merchandise. Their help makes this Display possible. Our thanks to our members who sent in the samples of their products.

## WEDNESDAY MORNING PROGRAM

March 4, 1987

### SALON II (Seventh Floor)

9:00—Meeting Room Opens—Muppets Adjourn

9:05—Call to Assembly

NORMAN F. HIRT, MAUMEE, OH  
Meeting Chairman

—Introduction to Technical Production Session

STANLEY C. WALULEK, UNIONDALE, NY  
Session Chairman

—Energy Resources

MICHAEL P. POLSKY, INDECK ENERGY SERVICES, INC.,  
WHEELING, IL  
Cogeneration, natural gas purchasing, and peak shaving for cost savings and efficiency in the baking industry



—Discussion

—Attendance Prize Drawing

—Transportation Routing by Computer

KENNETH S. THOMPSON, THE ROVER TECHNOLOGY CO., BALA-CYNWYD, PA

Computer routing to maximize efficiency for all vehicles

—Discussion

—Attendance Prize Drawing

—Computer Uses for Plant Maintenance

TERRY M. SCHULTZ, MAIER'S BAKERY, READING, PA  
Equipment histories, preventive maintenance programs, parts inventory and scheduling

—Discussion

—Attendance Prize Drawing

—Company Right-to-Know Programs

SHIELA M. SACKMAN, AUTHOR

DAVID W. DOLAN, PRESENTER

CONTINENTAL BAKING CO., ST. LOUIS, MO

Foundation, requirements, difficulties in implementing, and potential ramifications and liabilities to the employer

—Discussion

—Attendance Prize Drawing

—Installation of Officers

—Chairman's Comments and Appointments

—Attendance Prize Drawing

—The Lord's Prayer

ANDREW MAIER, II, READING, PA

—Final Adjournment

## SCHEDULE OF NON-ASBE-MEETING FUNCTIONS

### MONDAY, MARCH 2, 1987

#### American Institute of Baking Alumni Association Breakfast

7:30 A.M.—Indiana and Iowa Rooms—Sixth Floor  
Michael W. Moore, Chairman

#### KSU-FSU Bakery Science and Management Alumni Association Breakfast

7:30 A.M.—Denver and Houston Rooms—Fifth Floor  
Dennis L. Wilson, Chairman

### TUESDAY, MARCH 3, 1987

#### Allied Trades of the Baking Industry, Inc. Early Bird Breakfast

8:00 A.M.—Salon III—Seventh Floor  
Steven B. Smith, Chairman

### Canadian Members Luncheon

11:45 A.M.—Denver and Houston Rooms—Fifth Floor  
George Hillier and Sidney R. Rowell  
Chairmen

### ATBI Directors Luncheon Meeting

12 Noon—Scottsdale Room—Fifth Floor  
John N. Riesch, President

## ASBE POLICIES AND GENERAL INFORMATION

### COMMERCIALISM POLICY

If you have a question to ask or a statement to make during the sessions, request a microphone, rise, state, your name, city, and state, and then proceed. It is the FIRM POLICY of the Society that everyone appears as an individual and not as the representative of any commercial organization; hence, there shall be no commercial exploitation of any product, machine, equipment, brand name, firm name, patent, publication or service from either the speakers' platform or the floor.

### ALLIED ACTIVITIES

All hospitality rooms are to be closed during all business sessions. It is also expected that commercial promotion of company or brand names will not be indulged in through such media as signs, room displays, motion pictures, general distribution of printed literature, samples, or advertising novelties. The usual cooperation of all allied firms in this policy which has been such an important factor in the success of our Meetings in past years is anticipated again this year.

### BAKERY FOODS DISPLAY

Under no circumstances is anyone permitted to remove any bakery products from the display area either while the Display is open or after it closes.

### JOINING THE SOCIETY

This is an excellent time to join the Society. Application blanks are available at the Membership Desk and signed applications will be accepted. A temporary receipt will be provided. Your official dues card, membership certificate and printed material will be mailed after the Meeting.

### PAYMENT OF DUES

Those desiring to pay dues during the Annual Meeting may do so at the Special ASBE Office located conveniently on the Seventh Floor. ASBE personnel will be on duty, and will give you a temporary receipt. Your dues card and membership certificate will be mailed to you after the Meeting.

### WEAR YOUR BADGE!

You will be admitted to the Meeting ONLY if you are wearing your badge. Wear it proudly on the upper portion of your right lapel; it is your identification that you have registered for the 63rd Annual Meeting.

## COMMITTEES 1986-1987 EXECUTIVE COMMITTEE

Norman F. Hirt, Maumee, OH  
Frank J. Martin, Thomasville, GA  
Joseph W. Hickenbottom, Maywood, NJ  
John P. Del Campo, Wilmington, DE  
Robert A. Fischer, Chicago, IL  
Benjamin A. Delorio, Utica, NY  
William T. McCurry, Shawnee Missions, KS  
Thomas F. Cable, Denver, CO  
Richard T. Richter, San Antonio, TX  
Bernard M. Russ, Minneapolis, MN  
J. Bowman Williams, Jr., Dallas, TX  
Edgar R. Lowe, South Williamsport, PA  
John J. Rader, Portland, OR  
Stanley R. Frisch, Highland Mills, NY  
Thomas E. Lewis, Maple Grove, MN  
Edgar T. Fields, Cherry Hill, NJ  
Thomas A. Shannon, Poland, OH  
Steven M. Feder, St. Louis, MO  
Roger W. Masa, Fairview Park, OH

## STANDING COMMITTEES

Financial—John C. MacAlpine, III, Philadelphia, PA  
Publications—Herman Saussele, Jr., St. Louis, MO  
Technical Information Service—Simon S. Jackel, Westport, CT  
Manual—Paul W. Kamman, Park Ridge, IL  
Sanitation—William E. Pieper, Oak Lawn, IL  
Nominating—Benjamin A. Delorio, Utica, NY  
Membership—Richard C. Freihofer, St. Louis, MO  
Planning and Steering—Byron R. Baird, Fort Worth, TX  
Insurance—James A. Boge, Park Ridge, IL  
Hotel Housing—Ross Holton, Chicago, IL  
Educational—William A. Hoffman, Chicago, IL  
Public Relations—John C. Morris, Wilmette, IL  
Safety Z-50—Robert C. Anderson, Port Washington, NY  
Standardization of Terms and Index—M. Rella Dwyer, Park Ridge, IL  
Exposition Booth—William H. Fife, Jr., Rolling Meadows, IL  
Group Trip—Lon D. Zimmerman, St. Louis, MO

## COMMITTEES—1987 PROGRAM

### PROGRAM COMMITTEE

Nancy G. Stahel, Minneapolis, MN  
Chairman  
Jack F. B. Burris, III, High Point, NC  
First Assistant Chairman  
Candida C. Ward, Norcross, GA  
Second Assistant Chairman  
Norman F. Hirt, Indianapolis, IN  
Frank J. Martin, Thomasville, GA  
Joseph W. Hickenbottom, Maywood, NJ  
John P. Del Campo, Wilmington, DE  
Robert A. Fischer, Chicago, IL

### PROPERTY COMMITTEE

Thomas E. Keffer, Crete, IL  
Property Manager  
Albert L. Bachman, III, Kankakee, IL  
Mary Louise Benell, Indianapolis, IN  
Robert P. Bernoski, Mansfield, TX  
Donald F. Bianchi, Mt. Prospect, IL  
Christopher V. Cipriani, Raleigh, NC  
Richard A. Danko, Teaneck, NJ

James P. Funk, Dyer, IN  
William F. Geist, Rockford, IL  
Edward J. Whatley, Mt. Royal, NJ  
Assistant Property Managers

## BAKERY FOODS DISPLAY

Harold D. Fortner, Elmwood Park, IL  
Chairman  
Alan R. Dee, Franklin Park, IL  
Assistant Chairman  
George H. Coin, Rock Island, IL  
Bruce E. Criss, Gibsonsia, PA  
Rolan E. Fletcher, Norcross, GA  
James D. Knox, Oakland, CA  
Tom MacDonald, Franklin Park, IL  
Frank Sberna, Pickerington, OH  
Regional Chairmen  
Daryl W. Block, Coal Valley, IL  
William J. Crowther, Westmont, IL  
Kathy M. Dierickx, Franklin Park, IL  
William A. Hoffman, Chicago, IL  
John R. Jansen, Kankakee, IL  
George J. Kiefer, Huron, SD  
Richard L. Koenig, Franklin Park, IL  
Melvin W. Mueller, Mt. Prospect, IL  
Robert C. Raduenz, Minneapolis, MN  
Roger W. Strand, Minneapolis, MN  
Committeemen

## OFFICERS' RECEPTION

George E. Laurance, Minneapolis, MN—Chairman

## AUDIO TAPE CASSETTES OF TECHNICAL PAPERS

For the first time in the 63-year history of ASBE, audio tape cassettes of the technical papers will be available for purchase.

With this Program Booklet is an order form to be used to purchase the cassettes.

Purchases can be made in person at the booth located on the seventh floor in the northeast corner of the center foyer.

Following the Annual Meeting, a similar order form will be included in a mailing to the entire membership.

ASBE is pleased to make these tapes available at a reasonable cost through the facilities of:

First Tape, Inc.  
742 N. Wells Street  
Chicago, IL 60610

All tapes must be ordered from First Tape, Inc.; no tapes will be sold nor available from the ASBE office.

## PAST PRESIDENTS

(Year of election shown)

1924—Richard Wahl, Palm Bay, FL  
1925—C. J. Patterson (deceased)  
1926 & 1927—E. B. Price (deceased)  
1928—George W. Tassie (deceased)  
1929—Gordon H. Darnell (deceased)  
1930—Louis E. Caster (deceased)  
1931—Ross E. Anderson (deceased)  
1932—Robert L. Gerdes (deceased)  
1933—Carl S. Pickering, San Diego, CA  
1934—Edward M. Joy, Clearwater, FL  
1935—F. B. Evers, Sr., Nashville, TN  
1936—W. J. Ocken (deceased)  
1937—John Roberts, Beaumont, TX  
1938—Roger Brandenburg (deceased)  
1939—William Hauck (deceased)  
1940—Walter T. Molloy (deceased)  
1941—Cecil C. Cadwell (deceased)  
1942—Wm. F. Gossadge, Lee's Summit, MO  
1943—Willard H. Geller (deceased)  
1944-1945—Albert J. Faulhaber, Longboat Key, FL  
1946—Guy T. Shiverdecker, Kettering, OH  
1947—Jake M. Albright (deceased)  
1948—Otto Richter, San Antonio, TX  
1949—Harold T. Moody (deceased)  
1950—Don F. Copell (deceased)  
1951—Earl B. Cox (deceased)  
1952—Fred Weberpals, Queens Village, NY  
1953—M. J. Swortfiguer (deceased)  
1954—Wallace K. Swanson, Atlanta, GA  
1955—Martin Eisenstaedt (deceased)  
1956—Arthur G. Hackett, Venice, FL  
1957—Harold M. Freund, Beverly Hills, CA  
1958—Andreas F. Reising, New Orleans, LA  
1959—H. Alvin Meyer, Jackson, MS  
1960—Clayton C. Daley, Berwick, PA  
1961—Robert Nicolait, Santa Barbara, CA  
1962—Robert G. Dibble (deceased)  
1963—John A. Wagner, Sarasota, FL  
1964—Walter T. Gase (deceased)  
1965—Irwin O. Rohrbach, Reading, PA  
1966—George H. Gugler, Yucca Valley, CA  
1967—Lawrence E. Pile (deceased)  
1968—William C. Kollman, Wilton, CT  
1969—William H. Ziemke, San Jose, CA  
1970—Carl C. Hauswald, Jr., Baltimore, MD  
1971—Robert C. Brink, Milford, OH  
1972—Louis J. Richter, San Antonio, TX  
1973—Paul W. Kamman, Park Ridge, IL  
1974—Charles B. Clark, Fort Smith, AR  
1975—Eugene D. Swenson, Winter Haven, FL  
1976—Donald S. Noot, St. Louis, MO  
1977—John L. DeKeizer (deceased)  
1978—Byron R. Baird, Fort Worth, TX  
1979—Frank H. Otway, Springfield, OH  
1980—R. Richard Schlipf, LaCrosse, WI  
1981—Ernest T. Stevens, Birmingham, AL

## PAST CHAIRMEN

1982—Francis M. Covey, Hot Springs Village, AR  
1983—Frederick J. Bower, Winston-Salem, NC  
1984—Frank R. Goley, Dallas, TX  
1985—Benjamin A. Delorio, Utica, NY

## PAST PROGRAM COMMITTEE CHAIRMEN

(Year of program shown)

1929—E. B. Nicolait (deceased)  
1930—G. Cullen Thomas (deceased)  
1931—Peter G. Pirrie (deceased)  
1932—W. E. Doty (deceased)  
1933—C. A. McDuffee (deceased)  
1934—Ross E. Anderson (deceased)  
1935—Charles P. Oliver (deceased)  
1936—R. W. Brooks (deceased)  
1937—W. E. Doty (deceased)  
1938—Harold Hall, Port Angeles, WA  
1939—O. S. Otting, New Smyrna Beach, FL  
1940—George T. Carlin, Furman, AL  
1941—G. Richard Ludlow (deceased)  
1942—F. J. Coughlin, Cincinnati, OH  
1943—Arthur E. Grawert (deceased)  
1944—Henry P. Montminy (deceased)  
1945-1946—Carl W. Steinhauer (deceased)  
1947—J. H. Debs, Chicago, IL  
1948—Tyler R. Stevens, Essex Junction, VT  
1949—Glenn E. Hargrave (deceased)  
1950—Charles E. Riley (deceased)  
1951—Jack S. Devanny, Pensacola, FL  
1952—Len P. Kenney (deceased)  
1953—Elmer F. Glabe, Northbrook, IL  
1954—Jones E. Mapes (deceased)  
1955—T. E. Lauder (deceased)  
1956—Len Franzen (deceased)  
1957—Ray Thelen, San Diego, CA  
1958—Clifton R. Scarborough, Shawmut, AL  
1959—Lewis P. MacAdams (deceased)  
1960—Irwin O. Rohrbach, Reading, PA  
1961—James M. Doty (deceased)  
1962—Harry D. Gardner, Albion, MI  
1963—Ralph E. Manewal (deceased)  
1964—Lloyd L. Fisher, Sun City Center, FL  
1965—Zenas Block, Jessup, MD  
1966—William F. Schroeder (deceased)  
1967—Frank R. Schwain (deceased)  
1968—Philip W. Orth, Jr., Oak Creek, WI  
1969—G. N. Bollenback, Washington, DC  
1970—Gerald Reed, Milwaukee, WI  
1971—Donald K. Dubois, Manhattan, KS  
1972—Herman Saussele, Jr., St. Louis, MO  
1973—Richard M. Beaverson, Dallas, TX  
1974—Ernest O. Cain, Dallas, TX  
1975—Frank E. Johnson, Wayne, NJ  
1976—Lyle C. Woods, Olathe, KS  
1977—Armand P. Cicciu, Schenectady, NY  
1978—Frank J. Fischer, Coppell, TX  
1979—J. W. Doty, North Kansas City, MO  
1980—A. Charles Roland, III, St. Louis, MO  
1981—F. Robt. Grant, St. Louis, MO  
1982—A. G. Oszlanyi, Minneapolis, MN  
1983—Edward A. Stigler, LaPorte, IN  
1984—Anthony N. Inzerillo, Chicago, IL  
1985—William T. McCurry, Shawnee Mission, KS  
1986—Joseph W. Hickenbottom, Maywood, NJ

## BE A BOOSTER MEMBER

To our members—if you have an associate or acquaintance who would benefit from membership in the Society—give him or her an application or contact the ASBE office for one.