

THE ANNUAL MEETING IN MIAMI

The seventieth Annual Meeting of the American Mathematical Society was held at the University of Miami, Coral Gables, and Miami, Florida, on January 23–27, 1964, in conjunction with meetings of the Mathematical Association of America. All sessions were held at the University of Miami with the exception of the Gibbs Lecture, which was held at the Everglades Hotel. Registration at the meeting was 1493, including 1196 members of the Society.

The thirty-seventh Josiah Willard Gibbs Lecture was delivered by Professor Lars Onsager of Yale University at 8:00 P.M. on Friday, January 24, 1964. His lecture was entitled *Mathematical problems of cooperative phenomena*. President Doob presided.

Professor Deane Montgomery of the Institute for Advanced Study delivered his retiring Presidential Address, *Compact groups of transformations* at 9:00 A.M. on Friday, January 24. Professor Montgomery was introduced by Professor R. L. Wilder.

By invitation of the Committee to Select Hour Speakers for Summer and Annual Meetings, hour addresses were given by Professor Morton Brown, of the University of Michigan, at 9:00 A.M. Thursday, January 23, and Professor Heisuke Hironaka of Brandeis University at 2:00 P.M., Friday, January 24. Professor Brown, who was introduced by Professor J. H. Curtiss, spoke on *Topological manifolds*. Professor Hironaka spoke on *Singularities in algebraic varieties* and was introduced by Professor R. D. James.

There were four special sessions of invited twenty-minute papers as follows: in geometry, organized by Herbert Busemann and with speakers Herbert Busemann, Louis Auslander, R. H. Bruck, L. W. Green and T. F. Branchoff; in finite groups, organized by Walter Feit and with speakers Walter Feit, Daniel Gorenstein, Marshall Hall, Donald Livingstone, and M. Suzuki; in homological algebra organized by D. A. Buchsbaum with speakers Maurice Auslander, Hyman Bass, D. A. Buchsbaum, Peter Freyd, and R. O. Swan; in partial differential equations with speakers D. G. Aronson, David Gilbarg, Peter Lax, Ralph Phillips, and Leon Ehrenpreis, organized by David Gilbarg.

There were 26 sessions for contributed papers, at which the following presided: Casper Goffman, Walter Rudin, Lowell Paige, Jack Segal, B. L. Sanders, Donald Potts, Allan G. Anderson, Melvin Henriksen, Edward Duda, Bill Jenner, Emmett Low, A. T. Butson, W. T. Kyner, Seymour Ginsberg, John Nohel, P. E. Bédient, Donald Austin, E. H. Connell, R. P. Hunter, Howard Taylor, Paul

Mostert, O. Shisha, W. W. Comfort, R. W. Bagley, John Maxfield, K. H. Hofmann. Abstracts of the papers presented in person appear in the Notices of the American Mathematical Society for January, 1964.

There was a President's tea and reception sponsored by the University of Miami for the mathematicians and their families on Friday afternoon in the Richter Library Lecture Hall.

The Council met on Wednesday, January 22, 1964, at 4:10 P.M.

The Secretary announced the election of the following two hundred and two persons to ordinary membership in the Society:

Alexander, Annie L. (Mrs. H. L.), University of Oregon;
 Allen, Stephen I., University of Massachusetts;
 Bachmuth, Seymour, Fairleigh Dickinson University;
 Baker, James D., General Dynamics Corporation, Forth Worth, Texas;
 Ballard, David J., Massachusetts Institute of Technology;
 Bechtel, Marley E., Cornell Aeronautical Laboratory, Buffalo, New York;
 Bemiller, Stephen G., University of California, Davis;
 Bernacchi, Robert M., Illinois Institute of Technology;
 Biddle, James S., Ohio State University;
 Bloom, Clifford O., New York University;
 Bodden, William E., Marquette University;
 Boggess, William P., Arthur Andersen and Company, Chicago, Illinois;
 Boyer, Donald D., The U. S. Army Band, Ft. Myer, Virginia;
 Briggs, Lenora D. (Mrs. A. H.), Chadron State College;
 Brillhart, John D., University of San Francisco;
 Bucy, Richard S., RIAS, Baltimore, Maryland;
 Butler, Ronald G., Radford College;
 Camion, Paul F., International Business Machines Corporation, Yorktown Heights, New York;
 Campbell, John J., Booz-Allen Applied Research, Bethesda, Maryland;
 Childress, Noel A., University of Mississippi;
 Cohen, Henry B., University of Pittsburgh;
 Cole, James F., Chrysler Leasing Corporation, Detroit, Michigan;
 Crider, Marion E., West Georgia College;
 Cross, Robert G., Litton Systems, Incorporated, Beverly Hills, California;
 Csorgo, Miklos, Princeton University;
 Davis, Robert D., University of Richmond;
 Daykin, Donald R., International Business Machines Corporation, Endicott, New York;
 Deangelo, Sam M., Illinois Institute of Technology;
 Delaney, James A., Xavier University;
 Devers, William P., Curtiss-Wright Corporation, Caldwell, New Jersey;
 Devilliers, Raul A., Allen University;
 Diaz, Octavio, A. and T. College of North Carolina;
 Dibello, Louis V., University of Rochester;
 Dixon, Edmond D., West Georgia College;
 Dragila, Pavel, Scoala de Constructii, Timisoara, Rumania;
 Duke, John W., Texas Technological College;

- Elliott, Jacqueline E., University of Miami;
Ely, Robert B., III, Insurance Company of North America, Philadelphia, Pennsylvania;
Embree, Earl O., Morgan State College;
Ercolano, Joseph L., International Business Machines Corporation, Yorktown Heights, New York;
Ewbank, James R., St. Benedict's College;
Farr, Edwin H., Martin Company, Baltimore, Maryland;
Feeney, George J., Rand Corporation, Santa Monica, California;
Feldstein, M. Alan, University of California, Los Angeles;
Fineman, Mark S., Massachusetts Institute of Technology;
Flaxman, Abraham J., Illinois Institute of Technology;
Fleddermann, Harry T., Biscayne College;
Ford, Jo W. (Mrs. R. M.), Auburn University;
Funk, Walter C., Erie County Technical Institute;
Gabai, Hyman, University of Illinois;
Galvan-Pumarejo, Joaquin, Mt. Angel College;
Gilmore, P. A., Goodyear Aircraft Corporation, Akron, Ohio;
Glaser, Frederic M., University of Chicago;
Glier, Germana I., City University of New York, Hunter College;
Gratzer, George A., Pennsylvania State University;
Greenberg, Oscar W., University of Maryland;
Greenberg, Philip J., Polytechnic Institute of Brooklyn;
Harris, John H., University of Kansas;
Hart, Robert N., MacMurray College;
Hazlewood, Emmett A., Texas Technological College;
Hemminger, Robert L., Vanderbilt University;
Hendrix, Gertrude, University of Illinois;
Henney, Dagmar R., University of Maryland;
Higbie, Leslie C., California Institute of Technology;
Hoke, Albert T., Columbia University;
Hood, Rodney T., Franklin College;
Huckaba, James A., State University of Iowa;
Hukle, George W., Pearl Harbor Naval Shipyard, Pearl Harbor, Honolulu;
Humphreys, James E., Yale University;
Hutter, Richard J., Manhattan College;
Huttleston, David A., University of Nebraska;
Insel, Arnold J., University of California, Berkeley;
Ishaq, Mohammad, Lucknow University, Lucknow, India;
Janko, Zvonimir, Australian National University, Canberra, A.C.T., Australia;
Johnson, Jerry D., University of California, Davis;
Johnson, Robert C., Oregon State University;
Kaiser, James F., Bell Telephone Laboratories, Incorporated, Murray Hill, New Jersey;
Kazliner, David J., System Development Corporation, Santa Monica, California;
Keesing, Henry D., City University of New York;
Kent, Darrell C., Washington State University;
Kirwan, William E., II, Rutgers, The State University;
Knaus, Darrel E., International Business Machines Corporation, Little Rock, Arkansas;
Knight, Robert Lee, Texas Highway Department;

- Ko, Ohseun P. (Mrs. Y. H. K.), Computer Application Incorporated, Care of: Institute for Space Studies, NASA, New York, New York;
- Kosovich, John J., Trinidad State Jr. College;
- Kshirsagar, Shri, Temple University;
- Laitone, Edmund V., University of California, Berkeley;
- Lange, Stephen, Storm King School, Cornwall-on-Hudson, New York;
- Larson, Charles E., North American Aviation, Incorporated, Anaheim, California;
- Leahy, John V., University of Pennsylvania;
- Lebovitz, Norman R., University of Chicago;
- Lederman, David M., Bell Telephone Laboratories, Whippany, New Jersey;
- Leonard, Jon N., U. S. Naval Ordnance Test Station, China Lake, California;
- Ludwig, Robert L., University of California, Los Angeles;
- Luft, Erhard, University of British Columbia, Vancouver, B. C., Canada;
- Lynch, William C., Case Institute of Technology;
- Lynn, Yen-Mow, New York University;
- McLeod, Alexander H., The Macmillan Company, New York, New York;
- McPherson, James D., U. S. Naval Academy, Annapolis, Maryland
- Maddox, Billy H., University of South Carolina;
- Makky, Sadia Murad, The Boeing Company, Renton, Washington;
- Manove, Michael E., Harvard University;
- Mar, Henry S., Highline College;
- Margolis, Mayer, System Development Corporation, Lexington, Massachusetts;
- Mayhew, Mary L. (Mrs. B. H.), University of Kentucky;
- Merrill, Samuel, III, Yale University;
- Miller, Sanford S., University of Minnesota, Morris;
- Minichiello, John K., George Washington University;
- Mond, Bertram, Wright Patterson Air Force Base;
- Morris, Ifor, University College of North Wales, Bangor, North Wales;
- Morris, Peter C., State College of Iowa;
- Mott, Joe L., University of Kansas;
- Munick, Herman, Grumman Aircraft Eng. Corp., Bethpage, New York;
- Murakami, Haruo, Kobe University, Mikage, Kobe, Japan;
- Murdock, Terence H., RCA Service Company, Cocoa Beach, Florida;
- Murphy, Joseph H., U. S. Army Nuclear Medical Research Department, Europe, A.P.O. 180, New York, New York;
- Nahikian, Howard M., North Carolina State of the University of North Carolina;
- Nash, Charles D., Jr., University of Maine;
- Nashed, M. Zuhair, Georgia Institute of Technology;
- Newcomb, Clyde G., Sr., 1148 RT, APO 334, San Francisco, California;
- Newman, J. Nicholas, David Taylor Model Basin, Navy Department, Washington, D. C.
- Nishizaki, Henry H., United Tech. Center, Sunnyvale, California;
- Paarlberg, Teunis J., Masuonomet Regional High School, Topsfield, Massachusetts;
- Padro, Jose R., University of Puerto Rico, Rio Piedras, Puerto Rico;
- Pan, Rev. John B., National Taiwan University, Taipei, Taiwan, Republic of China;
- Papangelou, Dr. Fredos I., Catholic University;
- Pape, Leah A., Denver Public School, Lincoln High, Denver, Colorado;
- Paul, Richard S., Pennsylvania State University, Hazleton Campus;
- Pedersen, Niels W., Matematisk Institut, Aarhus Universitet, Aarhus, Denmark;
- Petersen, Bent E., University of British Columbia, Vancouver, B. C., Canada;
- Pinero, Alfredo, University of Puerto Rico, Rio Piedras, Puerto Rico;

- Pitt, Joel H., State University College, New Paltz;
Poe, Robert L., Kansas State Teachers College;
Prakash, Usha B., The Mitre Corporation, Bedford, Massachusetts;
Praptono, Gadjah Mada University, Jogjakarta, Indonesia;
Rasala, Richard A., Harvard University;
Ratib, Ismail M., Sh. Ein Shams, Ezbet El NakhI, Cairo, Egypt, U.A.R.;
Reddy, William L., Syracuse University;
Reyes, Ladislao L., Alpha Insurance and Surety Company, Manila, Philippines;
Rieger, John F., Federal Aviation Agency, Oklahoma City, Oklahoma;
Rieman, George F., Jr., Pennsylvania State University, Ogontz Campus;
Roberts, Joel L., Harvard University;
Roberts, Lawrence G., University of British Columbia, Vancouver, B. C., Canada;
Robins, Robert E., Polytechnic Institute of Brooklyn;
Robinson, George A., Argonne National Laboratory, Argonne, Illinois;
Robkin, Eugene E., University of California, Los Angeles;
Roeder, David W., Atomics International, Canoga Park, California;
Roper, Raymond H., Hospitals Commission of New South Wales, Sydney, N.S.W.,
Australia;
Rosenblum, Fred, Polytechnic Institute of Brooklyn;
Rue, James S., Iowa State University;
Sanderson, Brian J., Yale University;
Scarpellini, Bruno J., Battelle Memorial Institute, Mede Drize, Geneva, Switzerland;
Scheid, Robert C., U. S. Government, C.I.A., Washington, D. C.
Scheuneman, John, Purdue University;
Schick, Harold F., General Precision, Aerospace, Little Falls, New Jersey;
Schweber, Kenneth, New York City Health Department, Bronx, New York;
Scully, Rev. Bernard M., Fairfield University;
Setzer, Richard C., System Development Corporation, Falls Church, Virginia;
Shaw, Li-Kung, Buenos Aires, Argentina;
Shields, Paul C., Wayne State University;
Shikata, Yoshihiro, University of California, Berkeley;
Singh Varma, Henry O., Katholieke Universiteit, Driehuizerweg 200, Numegen,
Netherlands;
Sister Elizabeth Ann Maloney, College of Saint Elizabeth;
Sister Rita Jean Tauer, College of St. Catherine;
Smith, Margaret J., University of New Mexico;
Smith, Oliver A., U. S. Naval Oceanographic Office, Suitland, Maryland;
Soemantri, R., University of California, Los Angeles;
Stear, Edwin B., Lear Siegler Incorporated, Santa Monica, California;
Stong, Marilyn S., Federal Aviation Agency, Oklahoma City, Oklahoma;
Stout, John, New York, New York;
Streleski, Theodore L., Lockheed Missiles and Space Company, Sunnyvale, Cali-
fornia;
Svehla, Robert L., Martin Company, Denver, Colorado;
Tan, Hao Sung, Illinois Institute of Technology;
Taneri, Denis A., Polytechnic Institute of Brooklyn;
Tang, Francis Chi-Yu, Illinois Institute of Technology;
Targonski, G. Ivan, Fordham University;
Tee, Pin-Pin, Virginia Polytechnic Institute;
Teicher, Henry, Purdue University;
Thomas, Merle J., Jr., Merle Thomas Corporation, Washington, D. C.;

Troop, Clinton E., Crouse-Hinds Company, Syracuse, New York;
 Tsou, Shou T., University of Hong Kong, Hong Kong;
 Umen, Andrew J., Dartmouth College, Carpenter Extension;
 Vobach, Arnold R., University of Georgia;
 Wagner, Neal R., University of Illinois;
 Wainger, Stephen, Cornell University;
 Walsh, Virginia E., Ohio Wesleyan University;
 Waring, Joseph H., U. S. Naval Weapons Laboratory, Dahlgren, Virginia;
 Warms, Tom M., Brookline, Massachusetts;
 Warren, William E., Sandia Corporation, Albuquerque, New Mexico;
 Warsi, Nazir A., Savannah State College;
 Webber, Carroll A., Jr., East Carolina College;
 Weidner, Peter R., Albright College;
 Whitley, Robert J., New Mexico State University;
 Williams, Malcolm B., Johns Hopkins Applied Physics Laboratory, Silver Spring, Maryland;
 Wilson, Guy C., Thompson Ramo Wooldridge, Incorporated, Sierra Vista, Arizona;
 Wood, Arthur C., University of Hull, Cottingham Road, Hull, Yorks., England;
 Wright, Gordon P., Goodyear Tire and Rubber Company, Akron, Ohio;
 Yang, Kung-Wei, Indiana University;
 Young, Robert L., Wilson College;
 Zaretski, Philip M., Rensselaer Polytechnic Institute;
 Zauderer, Erich, New York University;
 Zirakzadeh, Aboulghassem, University of Colorado.

It was announced that the following had been admitted to the Society in accordance with reciprocity agreements with various mathematical organizations:

Wiskundig Genootschap te Amsterdam: Pieter C. Baayen, Theodorus J. Dekker.

Union Matematica Argentina: Per Baldaccini.

Sociedade de Matematica de Sao Paulo: Geraldo S. S. Avila, Newton C. A. Da Costa, Rubens G. Lintz.

The London Mathematical Society: James M. Anderson, Jack Howlett, John F. C. Kingman, Ronald R. Laxton, David H. Smith, Alan J. White.

Société Mathématique de France: Henri Morel.

Deutsche Mathematiker Vereinigung: Dr. Egbert Brieskorn, Hans C. Joksch, Konrad Jorgens, Dr. Luise-Charlotte Kappe, Dr. Wolfgang P. Kappe, Wilhelm Maak, Dieter Pumplun, Ulrich B. C. Staude.

Gesellschaft für Angewandte Mathematik und Mechanik: Eberhard D. Lanckau, Paul Roos.

Indian Mathematical Society: Yogendra K. Choudhary, Bannikuppe M. Puttaswamaiah, N. Ramabhadran, K. Savithri.

Unione Matematica Italiana: Goffredo Pacioni.

Mathematical Society of Japan: Eiichi Abe, Masataka Imai, Hideyuki Matsumura, Akihiko Morimoto, Tadashi Ohkuma.

Schweizerische Mathematische Gesellschaft: Valentin A. Poenaru.

The following four hundred and seventy-eight persons have been elected to membership in the Society on nomination of institutional members as indicated:

- Arizona State University*: William L. Morse.
University of Arizona: Robert H. Devore, Vuryl J. Klassen, Robert R. Stevens.
Auburn University: William T. Ingram, Fred A. Massey, Robert J. Plemmons.
Boston College: Ralph L. Fox, Jr., Cornelius J. McCann.
Bowdoin College: Albert F. Gilman, III.
University of British Columbia: Ernest J. Cockayne, Denton E. Hewgill, Charles R. Kerr, Peter G. Norton, Pierre Robert, Li Pi Su, Graham K. Zelmer.
Brooklyn College: Robert G. Blumenthal, Sheldon M. Ross, Shaul Stahl.
Polytechnic Institute of Brooklyn: David M. Hurwitz, Richard C. Reth.
Bucknell University: Donald G. Ohl.
California Institute of Technology: Gerald L. Bradley, Edward T. Cline, Nicholas A. Derzko, Fergus J. Gaines, Robert Gordon, Charles A. Greenhall, John A. Holbrook, Gordon E. Keller, William P. Kolodny, Lawrence C. Moore, Jr., Norman M. Rice.
University of California at Berkeley: Jose U. Alves, Thomas F. Banchoff, Guy M. Benson, Peter H. Blum, Jayanthi Chidambaraswamy, Rolando B. Chuaqui, Daniel B. Demaree, Asghar S. Farooqui, David Friedman, Maurice E. Gilmore, Siegfried K. Grosser, Robert E. Jaffa, David P. Kraines, John D. Kroon, Maurice A. Landman, Martin A. Moskowitz, Charles F. Osgood, Richard R. Patterson, David C. Peterson, David H. Root, Peter Russell, Harold M. Stark, Ponnaluri Suryanarayana, Richard J. Venti, Vivian Wai-Mai Yoh.
University of California at Los Angeles: Fook H. Eng, Alessandro Figa-Talamanca, William L. Johnson, Robert N. Meehan, Malcolm S. Soule, Arnold L. Villone, Kenneth K. Warner.
University of California at Riverside: Lynn G. Gref, Eugene W. Johnson, Norman F. Robinson, Howard H. Stratton.
University of California at Santa Barbara: Mohammad S. Ali, Henry C. Bollinger, Joseph H. McBeth.
Case Institute of Technology: Allen T. Hopper, Robert L. Johnston, John H. M. Whitfield.
University of Chicago: Eugene B. Fabes, Shmuel Kaniel, Umberto Neri, Evelio T. Oklander, James A. Schafer, Richard L. Wheeden.
University of Cincinnati: Ralph L. Fairchild, Armand V. Smith, Jr.
Columbia University: Phyllis J. Cassidy, Yiu-Hung Chan, Ralph A. Gellar, Ernest Gilde, Harriet F. Handel, Julien O. Hennefeld, Jerald J. Kovacic, Irwin Schochetman.
University of Connecticut: Abiy Kifle, Charles J. Mozzochi, James P. Perneski, Arthur G. Reis, Jr.
Cornell University: Marcel Herzog, David S. Moore, James C. Owings, Jr., Robert W. Robinson, John R. Sims, John S. Wang, Carol E. Wolf (Mrs. E. L.).
Dartmouth College: Joseph T. Buckley, Robert L. Pendleton.
Duke University: Robert D. Fray, Wilbur H. Purcell, Jr., David P. Roselle, Jerry E. Vaughan, Bruce R. Wenner.
Florida State University: Oscar T. Jones, Charles L. Seebeck.
Fordham University: Nicholas T. Losito, Robert F. Vivona.
Frederick College: Joan C. Barrett.
University of Georgia: John L. Bryant, Peter W. Harley, III, Robert C. Lacher, Alice L. Youngblood.
Harvard University: Stephen A. Cook, John Dauns, Stephen J. Gewirtz, Sandy Grabiner, Kenneth R. Hoffman, Ralph W. McKinnis,
Harvey Mudd College: Bruce P. Conrad, John E. Deeter, Warren H. Major.

- Howard Payne College*: James C. Hamilton, Hal B. Lane, Jr., James D. Smallwood.
Illinois Institute of Technology: Herbert I. Whitlock.
Illinois State Normal University: David F. Beran, John N. Heintz, Thomas J. Miles.
University of Illinois: Stephanie B. Brewer, Stanley P. Gudder, Bertram Huppert, Alfred Inselberg, Arnold Learner, Lois E. Minning, Charles E. Morris, Jr., Wayne B. Nelson, Bert A. Taylor, Carroll O. Wilde.
Institute for Advanced Study: Luke H. Hodgkin, Mikio Ise, Richard C. Jeffrey, Tomio Kubota, Henrik L. Selberg.
Iowa State University: Robert C. Bueker, Leland D. Graber, Edgar A. Rutter, Jr.
State University of Iowa: Joseph B. Fugate.
Johns Hopkins University: James C. Alexander, Charles R. Backus, Douglas Clark, Edwin G. Clawsey, Claude L. Fennema, Jr., Nicholas M. Katz, Laszlo S. Nicolson, Philip O. Presley.
University of Kentucky: David J. Caveny, Edward L. Hutton, Schultz Riggs, Donald C. Taylor.
Le Moyne College: Leon L. Maltby, Vicor C. K. Sung.
Louisiana State University in New Orleans: Richard D. Byrd, Betty J. Fricken, Jerome Teles.
McGill University: Mira Bhargava, James P. Henniger, Wesley J. Kotze, Diana F. Wei (Mrs. B.).
McMaster University: Ernest R. Bishop.
Macalester College: Dennis R. Daluge, Alan H. Kvanli, Charles A. Turner.
University of Manitoba: Kenneth W. Armstrong, Thomas F. Holens, Ronald I. Verrall.
University of Maryland: Karl E. Gustafson, Roland R. Kneece, Jr., James R. Kuttler, Thomas L. Lincoln, John K. Oddson, John T. Poole, Vidar C. Thomee, Rudolf Vyborny, James A. Yorke.
Massachusetts Institute of Technology: Stephen L. Bloom, Alan R. Brodsky, Stuart P. Hastings, Richard B. Holmes, Edward M. Keenan, Ralph D. Kopperman, Stuart M. Newberger, David M. R. Park, Alan B. Poritz, Herbert B. Putz, Bertram Raphael, Ronald G. Rehm, Simon Rosenblat, Robert Segal, Thomas O. Sherman.
University of Massachusetts: Joseph J. Bucuzzo, Edward A. Connors, Richard A. Howland.
Michigan State University: Franklin D. Demana, Ronald H. Wenger.
University of Michigan: Stephen B. Agard, Glen D. Anderson, Thomas F. Bickel, James E. Falk, John S. Locker, Paul E. Schupp, Gerald D. Taylor, Robert W. West.
University of Minnesota: Kenneth N. Berk, James D. Kuelbs, Richard J. Milgram, George S. Monk, Donald Z. Spicer.
Mississippi State University: James S. Champion, Sammy J. Tramel, George T. Vance.
University of Missouri: James W. England, Harvey W. Greene.
Montana State College: C. Robert Emmett, Robert D. Engle, Dennis E. Garoutte, Keith M. Joyce, Walter V. Philipp, Hugh D. Sullivan, George W. Trickey.
Montana State University: Denny D. Culbertson.
University of Nebraska: Kenneth A. Heimes, Ronald M. Mathsen, Robert J. Schwabauer.
University of Nevada: Betty Jo Cosby, Gus M. Griffin.
University of New Hampshire: Carmyn F. Barrett, David W. Cohen, Philip M. Locke.
University of New Mexico: Wallace E. Franck, Jr., Marion E. Moore, Paul Nelson, Jr.

- New York University Courant Institute of Mathematical Sciences:* William A. Drumin, Charles I. Goldstein, Jan H. Krohn, Jacques Lewin, Adil G. Naoum, Ricardo Nirenberg, Horacio A. Porta, Kewal K. Puri, Lester A. Rubinfeld, Hiroki Tanabe.
- State University of New York at Buffalo:* Ruth E. Heintz (Mrs.), Donald W. Trasher, William L. Young.
- State University of New York at Harpur College:* David De Santis, Mary W. Diegert (Mrs. M. B.), Frank D. Rollo.
- University of North Carolina:* John A. Fridy, Kwangil Koh, Alice B. Maris (Mrs.), Peter R. Mueller-Roemer, Frank A. Roescher, Philip C. Tonne.
- North Texas State University:* David R. Read, Jack V. Shaw, Robert A. Womack.
- Northwestern University:* Frederick Brickell, Dr. Takasi Nagahara, J. Arthur Seebach, Jr., Linda A. Seebach (Mrs. J. A. Jr.).
- Ohio State University:* Robert L. Brabenec, Harold D. Brown, Charles J. Houghton, Don L. Orth, Hwang-Wen Pu.
- Ohio Wesleyan University:* William M. Conner.
- University of Oklahoma:* David W. Ballew, Allan C. Cochran.
- Old Dominion College:* Howard J. Selkin.
- University of Oregon:* Gregory F. Bachelis, George E. Dimitroff, Ethan F. Kennel, James W. McCoy, Thomas B. Paine, Michael B. Woodrooffe.
- University of Ottawa:* Tryambkeshwar D. Dwivedi, Willem Kuyk, Yel-Chiang Wu.
- Pennsylvania State University:* James C. Beidleman, Erika A. Mares, Francis L. Sandomierski, Samuel D. Shore.
- University of Pennsylvania:* Ronald Alter, Robert H. Cantor, Regina B. Cohen (Mrs. M.), Richard Z. Goldstein, John S. Kalme, Patricia C. Kenschaft (Mrs. R. P.), Eli M. Mandelbaum, Stephen M. Plafker, Frank H. Young.
- Princeton University:* Thomas Bloom, William A. Casselman, Paul R. Chernoff, Donald J. Collins, Robert M. Colman, George E. Cooke, Roger Lee Cooke, John B. Ferebee, Roy J. Fuller, Richard S. Hamilton, Raymond D. Holmes, Paul C. Kettler, Norman J. Levitt, Torrence D. Parsons, Martin L. Silverstein, Ens. Craig A. Stratton, Robert S. Strichartz, Dennis P. Sullivan, James R. Thompson, Carl S. Weisman, Norman J. Weiss, Horst E. Winkelkemper, Alexander Zabrodsky.
- Purdue University:* David Alcalay, John E. Buchanan, Bernard J. Cohen, John A. Eidswick, Joseph W. Jerome, Harvey L. Shapiro, David Trutt.
- Queens College:* Stephen T. Hardiman.
- Queen's University:* Harold Atkinson, Brian Dawkins, Malcolm P. Griffin.
- Reed College:* Conrad W. Hirsch, Norman L. Noble, Paul Putter, David B. Thompson.
- Rensselaer Polytechnic Institute:* Oddur Benediktsson, Robert G. Griswold, Peter V. O'Neil.
- University of Rhode Island:* Gail D. Broome (Mrs. W. B.), Stephen W. Schultz, Carmine J. Vallese.
- Rice University:* Jeff E. Lewis, Richard L. Saylor, Chang Char Tu.
- University of Rochester:* Catherine N. Colebrook (Mrs. L. D.), Stelios Negrepointis, Martha J. Siegel (Mrs. C.).
- The Rockefeller Institute:* William L. Buck, Daniel W. Stroock.
- Rutgers, The State University:* Robert B. Fraser, Jr., Matthew J. Hassett, Barbara A. Marcino, Gerald S. Ungar.
- Sacramento State College:* Edwin E. Haegele.
- Salem State Teachers College:* Domenic N. Gualtieri.
- San Diego State College:* Dennis C. McCall, Paul A. O'Meara, Rory Thompson.

- San Fernando Valley State College*: Francis N. Eastman, Hans Kaspar.
South Dakota School of Mines and Technology: Melvin L. Klasi, Martin R. Steffen.
Southern Illinois University: Larry T. Cook.
Stanford University: Pan-Chin Y. Chang (Mrs. S. H.), David C. Clark, Robert E. Gaines, Roger A. Horn, Peter C. Loh, Robert E. McGinn, Michael D. Perlman, Michael C. Reed, Gunnar Sjodin, Stanly L. Steinberg, Neil S. Trudinger, James H. Ware.
Stephen F. Austin State College: Julius M. Burkett, Elton L. Chaney.
Stevens Institute of Technology: Thomas J. McLeo, William R. Parzynski, Paul H. Rank, Jr.
University of Tennessee: James M. Dolan, Gordon G. Johnson, Carroll L. Wiginton.
University of Texas: Alfred E. Borm, Joe E. Cude, Virgil C. Kowalik, Ervin Y. Rodin, Donald E. Ryan, David P. Schawe.
University of Tulsa: Deane B. Lofton.
University of Toronto: Robert A. Adams, Andrew Adler, Jean-Robert Derome, Edward J. Norminton, Gregory E. Tanyi.
Trenton State College: Walter Ehrenpreis.
Trinity College: Victor Meyers, Edward J. Mosher, Wilson H. Taylor.
University of Utah: Robert N. Bryan, Lynn C. Kurtz, David J. Uherka.
Virginia Polytechnic Institute: John R. Hanson, Vyron M. Klassen, Robert H. Tolson.
University of Virginia: Robert O. Burdick, Richard A. Duke, Eugene Stone.
Washington University: Donald L. Curlovic, Susan M. Keightley, Robert W. Latzer, Edward P. Lester, Gordon A. Stegink, Giovanni A. Viglino.
University of Washington: Neil R. Gray, Shelby G. McCauley, Kondagunta Sundaresan.
Wayne State University: Leon C. Bruer, Milton N. Parnes.
Wesleyan University: Myron W. Curtis, Harvey B. Keynes, John H. Winstead.
Western Michigan University: Roger L. Elyea, Tjioe H. Kwan, Leroy H. Waterman.
Western Washington State College: Barbara S. Lehman (Mrs. H. S.).
College of William and Mary: Beverly R. Campbell (Mrs. L. E. S.), Leon F. Sagan.
University of Wisconsin at Madison: Harvey D. Abramson, Alex C. Bacopoulos, Bruce C. Berndt, Thomas A. Chapman, Charles Kam-Tai Chui, Robert F. Craggs, Charles F. Dunkl, Jacob H. Gerlach, Richard E. Goodrick, Charles A. Green, Richard A. Jensen, Charles C. Kissinger, Jr., Thomas J. Kyrouz, Stephen L. Langston, Thomas L. McFarland, Don A. Mattson, James C. Perry, Arthur W. Roberts, Frederick Rowbottom, Christopher Todd, Joseph M. Weinstein, Francis D. Williams.
University of Wisconsin at Milwaukee: David G. Norris, Motupalli Satyanarayana, Gulam M. Shah.
Yale University: Douglas R. Anderson, Lynne R. Barnes, Melvyn S. Berger, Robert B. Burckel, Joseph C. Ferrar, Ronald P. Infante, Nabil A. Khabbaz, Ferdinand D. Veldkamp, Daya N. Verma.
Yeshiva University Belfer Graduate School of Science: Hershel M. Farkas, Jonathan I. Ginsberg, Joel Grossman, Eli A. Passow, Rabbi Elazar M. Teitz, Gerald R. Weinstein.

The following Presidential appointments were reported:

As a Committee to Nominate members of the Council to run for the Executive Committee for 1964: Raoul Bott, Chairman, P. T. Bate-man, and C. B. Tompkins.

Representative to the United States National Commission for UNESCO for a three-year term: G. B. Price.

As an Arrangements Committee for the Meeting at the University of Massachusetts, August, 1964: A. E. Anderson, Chairman; H. L. Alder, R. H. Breusch, H. G. Jacob, Lorraine D. Lavalley, Torsten Norvig, Everett Pitcher, R. W. Wagner, and G. L. Walker.

To continue on the Applied Mathematics Committee until December, 1966: G. E. Forsythe, V. Bargmann. As Chairman for 1964, A. Schild.

As a Nominating Committee for the 1964 election: Daniel Zelinsky, Lipman Bers, J. L. Kelley, W. S. Massey, Lee A. Rubel.

To the Committee to Select Hour Speakers for Summer and Annual Meetings: I. J. Schoenberg; for Eastern Sectional Meetings: G. D. Mostow; for Southeastern Sectional Meetings: Leonard Carlitz; for Western Sectional Meetings: Irving Reiner; for Far Western Sectional Meetings: A. L. Whiteman.

The Secretary reported that the following persons had accepted invitations to deliver hour addresses at meetings of the Society: Louis de Branges at the University of Wisconsin, November, 1963; Morton Brown and Heisuke Hironaka, Miami, January, 1964; Joseph Cohn and Harry Furstenberg, New York, April, 1964; A. Renyi, J. C. C. Nitsche, and L. Fejes-Tóth, Chicago, April, 1964.

It was reported that D. H. Lehmer would give the Gibbs Lecture in January, 1965 and Martin Schwarzschild would give the 1966 Gibbs Lecture.

It was reported that the following members represented the Society: As representative at the National Council for Accreditation of Teachers Education Conference, November, 1963: A. L. Putman; as delegate at the National Academy of Science Centenary Meeting: Saunders MacLane; as representative at the Seventy-Fifth Anniversary Convocation of the Georgia Institute of Technology: Henry A. Robinson; as representative at the inauguration of Calvin A. Van der Werf as President of Hope College: James H. Powell; as delegate at the meeting of the Association for Higher Education, Washington, D. C., November, 1963: Leon Cohen.

The Council set meetings at Chicago in January, 1966 and Houston in January, 1967.

The Chelsea Publishing Company and Consultants Bureau Enterprises, Inc., were elected as Institutional Associates in the Society.

The Council voted to accept the recommendation of the Applied Mathematics Committee that the Society hold in the summer of 1965 a Summer Seminar in Relativity Theory, Cosmology, and Astrophysics.

The Editors of the Transactions reported that due to a backlog of papers it appears desirable to publish three additional volumes totaling 1600 pages during academic year 1964–65 and a recommendation on this would be presented at the next Council Meeting. The Editors asked for the advice of the Council on whether the Transactions should be more selective. It was the consensus of opinion that there should be a gradual increase in the selectivity of papers for the Transactions.

The Council discussed at some length the question of By-Title abstracts, and voted to limit to one to an author the number of such abstracts in any issue of the Notices, joint authors to be treated as a separate category. The Council also expressed satisfaction with the present practice of the limitation of the number of ten minute papers at major meetings.

The Council received an interim report of a committee appointed to study the financial aspects of Mathematical Reviews. The Committee recommended, among other things, that the Society make substantial contributions from its own funds to the support of Mathematical Reviews. A final report from the Committee is expected at the April Council Meeting.

There was a business meeting of the Society at 1:30 P.M. Thursday, January 23, in Room 110, University College, President Doob presiding.

Representing the selection committee, Professor R. H. Bing made the first and second awards of the Veblen Prize in Geometry to Dr. C. D. Papakyriakopoulos of Princeton University and Professor Raoul Bott of Harvard University. The memoirs on which Dr. Papakyriakopoulos' award were made were *On solid tori*, Proc. London Math. Soc. **7** (1957), 281–299, and *On Dehn's lemma and the asphericity of knots*, Ann. of Math. **66** (1957), 1–26. Those of Professor Bott were *The space of loops on a Lie group*, Michigan Math. J. **5** (1958), 35–61, and *The stable homotopy of the classical groups*, Ann. of Math. **70** (1959), 313–337.

President Doob then made the tenth award of the Bocher Prize in Analysis to Professor Paul J. Cohen, of Stanford University for his paper *On a conjecture of Littlewood and idempotent measures*, Amer. J. Math. **82** (1960), 191–212.

All three prize winners gave short talks on their works.

The Secretary reported briefly on the affairs of the Society. At the call for new business, Professor N. D. Kazarinoff made the following motion:

Resolved:

“That Mathematical Reviews be an autonomous activity of the American Mathematical Society and that Mathematical Reviews shall be operated on the following basis:

“The power to edit, produce, and sell that journal known as Mathematical Reviews is given by the American Mathematical Society to the Mathematical Reviews Editorial Board: The Mathematical Reviews Editorial Board grants executive authority to carry out all activities and business entailed in editing, producing, and selling Mathematical Reviews to the Executive Editor and Business Manager under its direction. The Mathematical Reviews Editorial Board with the support and advice of its Executive Editor and Business Manager presents annually on June 15 a complete financial report to the Treasurer of the American Mathematical Society and a budget by March 15. The annual budget of Mathematical Reviews is that budget approved by the Trustees.

“The Treasurer of the American Mathematical Society grants the annual subsidy to Mathematical Reviews in twelve equal installments. The first two are paid on June 1. The remaining are paid one at the end of each of the following 10 months.

“The Editorial Board is empowered, subject to approval by the Trustees, to ask for and receive grants from the American Mathematical Society, U. S. Government, sponsoring societies, and private sources for the support of Mathematical Reviews.”

Professor Doob ruled the motion out of order as not appropriate to come before a Business Meeting. Professor Zippin requested that the motion appear in the Minutes of the Business Meeting.

Professor M. S. Hendrickson inquired about the selection of papers to be given in the special sessions at the Miami Meeting and whether any had been selected from In-Person abstracts submitted for presentation. Professor Green explained that all abstracts submitted for presentation at the Miami Meeting had been examined by the Associate Secretary in charge of the program and those in each of the subject fields of the special sessions were referred to the chairman in charge of the session. As a result several of the papers presented at these sessions were selected from the submitted abstracts.

Professor Deane Montgomery then introduced a motion that it was the sense of the Business Meeting that Mathematical Reviews should get more autonomy. Professor Green then pointed out that new business could not be acted on without prior notice unless unanimous consent was obtained. Professor L. J. Paige argued that it was inappropriate to take action when there was a Committee of the Society charged with investigating this matter and introduced a

motion to table Professor Montgomery's resolution, which was passed.

Professor Lipman Bers called the attention of those present to the presence at the Meeting of Professor H. A. Lavrent'ev, Vice President of the Soviet Academy of Sciences.

The Meeting adjourned at 3:15.

JOHN W. GREEN,
Secretary
MORTON L. CURTIS,
Associate Secretary

LOS ANGELES, CALIFORNIA
TALLAHASSEE, FLORIDA

THE FEBRUARY MEETING IN NEW YORK

The American Mathematical Society held its six hundred ninth meeting on February 29, 1964 at the Washington Square Campus of New York University. 179 persons registered, including 158 members of the Society.

By invitation of the Committee to Select Hour Speakers for Eastern Sectional Meetings, Professor Heisuke Hironaka of Brandeis University gave an address entitled *Formal, analytic, henselian and algebraic structures*. Professor M. L. Curtis introduced the speaker.

There were five sessions for contributed papers at which thirty-eight papers were presented. The chairmen of these sessions were Professors M. D. Burrow, H. B. Curry, M. H. Martin, R. D. Richtmyer, and Selby Robinson.

EVERETT PITCHER,
Associate Secretary

BETHLEHEM, PENNSYLVANIA