

**Conference Board of the Mathematical Sciences**  
**One Hundred and Twenty-seventh Meeting of the Council**  
**Friday, May 6, 2022**  
**Held at the AMS DC Office, 700 Pennsylvania Ave, SE**  
**Washington, DC**

- 8:30–9:00 Coffee and Tea will be available
- 9:00–9:15 **Introductions and Overview of Meeting** – Dave Levermore
- 9:15–10:00 **Business Meeting of the Council**
1. Interim Secretary-Treasurer's Report – Charles Steinhorn
    - a. Approval of Minutes of the Meeting of December 3, 2021 (appendix A)
    - b. FY 2022 Half-Year Financial Report (appendix B, p. 7)
    - c. Approval of FY2023 budget (appendix B, p. 7)
  2. Director's Report – Charles Steinhorn (appendix C)
  3. Nominating committee report and vote on Secretary, Treasurer and EC member-at-large
  4. Announcements  
USNC/MI update — Sol Friedberg (remote)
- 10:00–10:30 TPSE activities — Michael Dorff, Director of Strategy and Implementation
- 10:30–10:45 Break
- 10:45–12:00 What's Modern about Modern Mathematics — Dave Kung, Dana Center
- 12:00–1:00 Lunch
- 1:00–1:30 College Admissions and Mathematics — Pam Burdman, Just Equations
- 1:30–2:00 BMSA's [Illustrating Math](#) project— Tammy Kolda (Chair) and Michelle Schwalbe (Director), Board on Math. Sciences and Analytics  
(Tammy will be remote; Michelle in person)
- 2:00–2:45 Update on CBMS 2021 Survey and Discussion about the 2025 Survey  
— Ellen Kirkman (appendix D)
- 2:45–3:15 Break
- 3:15–5:00 How can CBMS engage more effectively in Workforce issues?
- 5:00–6:00 Reception

Anne Dudley	AMATYC	adudley@amatyc.org
Laura Watkins	AMATYC	laura.watkins@amatyc.org
Ruth Charney	AMS	president@ams.org
Catherine Roberts	AMS	croberts@ams.org, exd-staff@ams.org
Tyler Kloefkorn	AMS	tjk@ams.org
Leona Harris	AMS	lah@ams.org
Shari Stockero	AMTE	stockero@mtu.edu
Megan Burton	AMTE	meb0042@auburn.edu
Ron Wasserstein	ASA	ron@amstat.org
Katherine Ensor	ASA	ensor@rice.edu
Donna Lalonde	ASA	donnal@amstat.org
Michael C. Laskowski	ASL	laskow@umd.edu
Reed Solomon	ASL	solomon@math.uconn.edu
Russell Miller	ASL	Russell.Miller@qc.cuny.edu
Joleigh Honey	ASSM	Joleigh.Honey@schools.utah.gov
Kathryn Leonard	AWM	kathryn@awm-math.org
Darla Kramer	AWM	darla@awm-math.org
Beatrice Luchin	BBA	abluchin@bbamath.org
John Staley	BCPS	johnstaley64@gmail.com
Dayle Rebelein	CBMS	darebelein@vassar.edu
Mike Steele	CBMS EC	msteele@nsf.gov
C. David Levermore	CBMS EC	lvrmr@math.umd.edu
Charlie Steinhorn	CBMS Director	steinhorn@vassar.edu
Shelly Jones	BBA and CBMS EC	jonessem@mail.ccsu.edu
Joan Ferrini-Mundy	CBMS EC	joan.ferrinimundy@maine.edu angelamichaud@maine.edu
Sol Garfunkel	COMAP	s.garfunkel@comap.com
Uri Treisman	Dana Center	uri@austin.utexas.edu
Dave Kung	Dana Center	dtkung@smcm.edu
Elyse Gustafson	IMS	erg@imstat.org
Krzysztof (Chris) Burdzy	IMS	burdzy@uw.edu
Jessica Utts	IMS	jutts@uci.edu
Jennifer Quinn	MAA	jjquinn@uw.edu
Michael Pearson	MAA	mpearson@maa.org
Deirdre L Smeltzer	MAA	dlsmeltzer@maa.org
Cindy Lawrence	MoMath	executivedirector@momath.org, ea@momath.org
Tim Nissen	MoMath	nissen@momath.org
Kirsten Bohl	MSRI	kbohl@msri.org
Aris Winger	NAM	Executive-director@nam-math.org
Omayra Ortega	NAM	president@nam-math.org
Kathie Bailey	NAS	KBailey@nas.edu

Heidi Schweingruber	NAS	HSchweingruber@nas.edu
Michelle Schwalbe	NAS	MSchwalbe@nas.edu
Tammy Kolda	NAS	mlg@math.ucla.edu
Ana Ferreras	NAS	AFerreras@nas.edu
Lida Beninson	NAS	LBeninson@nas.edu
Amy Stephens	NAS	astephens@nas.edu
Sol Friedberg	NAS	solomon.friedberg@bc.edu
Padhu Seshaiyer	NAS	pseshaiy@gmu.edu
Paul Gray	NCSM	pgray@mathedleadership.org
Ken Krehbiel	NCTM	kkrehbiel@nctm.org
Trena Wilkerson	NCTM	twilkerson@nctm.org
David Manderscheid	NSF	dmanders@nsf.gov
Tie Luo	NSF	tluo@nsf.gov
Hank Warchall	NSF	hwarchal@nsf.gov
Sylvia M. Butterfield	NSF	smbutter@nsf.gov
Mike Ferrara	NSF	mferrara@nsf.gov
Sandra Richardson	NSF	srichard@nsf.gov
Ted Coe	NWEA	ted.coe@gmail.com
Suzanne Weekes	SIAM	weekes@siam.org
Susanne Brenner	SIAM	brenner@math.lsu.edu
Greg Heidrich	SOA	gheidrich@soa.org
Roy Goldman	SOA	roygo@earthlink.net
Nora Ramirez	TODOS	exec@todos-math.org
Linda Fulmore	TODOS	lmfulmore@yahoo.com
Florence Glanfield	TODOS	fglanfield@gmail.com
Lorraine Howard	WME	Lorraine.howard@wilkes.edu
Pamela Burdman	Just Equations	pamela@justequations.org
Michael Dorff	TPSE	mdorff@tpsemath.org
Ellen Kirkman	CBMS Survey	kirkman@wfu.edu
Paul Zorn	MAA	zorn@stolaf.edu

## Appendix A

### **Minutes of the 126th Meeting of the Council of the Conference Board of the Mathematical Sciences Held at the AMS DC Office, 700 Pennsylvania Ave, SE Washington, DC Friday, December 3, 2021**

The following were present for all or part of the meeting, some via Zoom (as noted).

Executive Committee: David Levermore, Chair; Joan Ferrini-Mundy, Chair-Elect; Charles Steinhorn, Secretary-Treasurer; Shelly Jones, Member-at-Large; Michael Steele, Member-at-Large.

Council Members: Kathryn Kozak, AMATYC; Ruth Charney, AMS; Megan Burton, AMTE; Donna Lalonde, ASA; Charles Steinhorn, ASL; Joleigh Honey, ASSM; Kathryn Leonard, AWM; Shelly Jones, BBA; Sol Garfunkel, COMAP; Jessica Utts, IMS; Jennifer Quinn, MAA; Omayra Ortega, NAM; Paul Gray, NCSM; Trena Wilkerson, NCTM; Cindy Lawrence, MoMath; Susanne Brenner, SIAM; Roy Goldman, SOA; Linda Fulmore, TODOS; Lorraine Howard, WME.

Additional society representatives: Anne Dudley, AMATYC; Catherine Roberts, AMS; Shari Stockero, AMTE; Ron Wasserstein, ASA; Darla Kremer, AWM; Beatrice Moore-Luchin, BBA; Michael Pearson, MAA; Deirdre Smeltzer, MAA; Ken Krehbiel, NCTM; Kathleen Kavanagh, SIAM; Suzanne Weekes, SIAM; Nora Ramirez, TODOS.

Invited Guests: Kathie Bailey, NAS; Ted Coe, NWEA; Sol Friedberg, USNC/MI; Eric Friedlander, USNC/Math (via Zoom); Tim Hendrix, Meredith College; Abbe Herzig; Tyler Kloefkorn, AMS; Dave Kung, Dana Center; Kathryn Leverenz, Mathematics Institute of Wisconsin; Rachel Levy, North Carolina State Data Science Academy; Sandra Richardson, NSF; Karen Saxe, AMS; Michelle Schwalbe, NAS.

Staff: David Bressoud (via Zoom)

Reports from the presenters are available at <https://www.cbmsweb.org/council-meeting-materials/>

#### **I. Business Meeting**

Chair Dave Levermore welcomed those who were present and outlined the agenda.

- 1. Update on new CBMS Director.** Dave Levermore reported on the delay in the search process. A new call for applications and nominations for the position, with a December 30, 2021 deadline was announced. A reconstituted search committee consisting of Joan Ferrini-

Mundy (chair), Diane Briars, Shelly Jones, and Dave Kung also was announced.

2. **Approval of Minutes.** The minutes of the May 2021 CBMS Council meeting were approved unanimously.
3. **Financial Report and FY 2022 Dues Assessment.** Charlie Steinhorn presented the FY 2021 financial report. The proposed FY2022 dues were presented and approved as presented.
4. **Director's Report.** David Bressoud submitted an extensive written report distributed with the agenda materials that includes reflections on his 5 years as the CBMS Director. Bressoud also gave an oral report delivered via Zoom. He updated the Council on the Regional Research Conferences. In the summer of 2022, 8 conferences are planned, 5 of which originally were scheduled for the summer of 2021 but were postponed due to the pandemic. He also provided an update on the CBMS Survey, distributed in Fall, 2021, remarking in particular on the poor response rate to date. He also discussed the ongoing planning for the CBMS Forum that will take place May 1–3, 2022.

## 5. Announcements.

Sol Friedberg gave an update on the work of the USNC/MI, specifically about a grant proposal that has been submitted to the Spencer Foundation to advance racial equity in mathematics instruction.

The AMATYC leadership reported that the 2026 Annual Conference has been moved from Florida due to the passage of legislation banning transgender youth in Florida from participating in school sports consistent with their gender identity.

## II. Discussion and vote on the CBMS DEI statement

Tim Hendrix, Abbe Herzig, and Dave Kung led a discussion on the final version of the CBMS DEI statement, a draft version of which had been presented and discussed at the May meeting. With one minor edit, the statement was approved. Formally, the following 3-part motion was adopted by the Council, with two abstentions and one vote against:

1. The CBMS Council endorses the *CBMS Statement on Equity, Diversity, and Inclusion in the Mathematical Sciences* included as Appendix F in the Council Meeting agenda, as amended to insert “early childhood” before “elementary” in the last line on p.1
2. Upon approval of (1), the Statement will be posted on the CBMS website as having been endorsed by the Council.
3. Upon approval of (1), CBMS Council members (the leaders of the CBMS organizations) may bring the Statement to their respective organizations for possible endorsement. The names of those member organizations that endorse the Statement will be listed on the CBMS website.

### **III. Data Science Presentation**

Rachel Levy, Executive Director of North Carolina State's Data Science Academy, gave an overview of the data science landscape in relation to the mathematical sciences in anticipation of the data science discussion in the afternoon (see Section V, below).

### **IV. Update from USNC/Math**

Eric Friedlander, the Chair of the USNC/Math reported (via Zoom) on the US bid to host the 2026 International Congress of Mathematicians in Philadelphia, during that city's celebration of the 250<sup>th</sup> anniversary of the Declaration of Independence. Friedlander noted that the US proposal is the only one being submitted.

### **V. Discussions of CBMS Interest Group Topics**

The CBMS Executive Committee and Director held information gathering sessions with the member organizations in February and March. As a result of these conversations, interest groups were formed on the following topics with conveners in parentheses: dealing with the effects of the COVID-19 shutdown (Mike Steele); developing the school to workforce pipeline (Shelly Jones); and the role of the mathematical sciences in data science (Charlie Steinhorn). Each of these topics was discussed in an hour-long sessions facilitated by the interest group participants. At the conclusion of the data science discussion, it was decided that a small working group drawn from CBMS member organizations be formed to focus on the topic (as of the writing of these minutes, the working group has yet to be formed).

## Appendix B

FY 2021 Actual and FY 2022 Budget Shown for Comparison  
see the director's report (Appendix C) for discussion of FY 2023 budget

<b>Income</b>	<b>FY 2021 Actual Budget</b>	<b>FY 2022 Suggested Budget</b>	<b>FY 2022 First half actual</b>	<b>FY 2023 Suggested Budget</b>
Dues	\$60,782	\$65,000	\$30,156	\$65,000
Interest	\$15	\$100	\$5	\$100
Royalties	\$95	\$1,000		\$1,000
NSF Regional Research Conferences				
Salaries	\$15,356	\$30,000	\$8,446	\$30,000
Indirect Costs	\$1,943	\$6,000		\$8,000
Forum 6				
Salaries				
Indirect Costs				
Other				
<b>Total Income</b>	<b>\$78,191</b>	<b>\$102,100</b>	<b>\$38,607</b>	<b>\$104,100</b>

<b>Expense</b>	<b>FY 2021 Actual Budget</b>	<b>FY 2022 Suggested Budget</b>	<b>FY 2022 First half actual</b>	<b>FY 2023 Suggested Budget</b>
Compensation				
Director	\$45,000	\$45,000	\$15,000	\$35,000
Administrative Coordinator	\$12,866	\$16,500	\$3,000	\$20,000
Postage and Shipping	\$32	\$200	\$1,050	\$500
Supplies	\$250	\$3,000	\$95	\$3,000
Internet	\$1,282	\$1,200	\$1,030	\$600
QuickBooks license	\$755	\$800	\$478	\$850
Website	\$30	\$300		\$500
Council Meetings				
Travel	\$0	\$10,000	\$5,090	\$10,000
Food and Other Meeting Expenses	\$0	\$10,000	\$5,004	\$10,000
Staff Travel	\$455	\$7,000	\$182	\$12,000
Accounting Fees	\$3,625	\$3,500	\$2,825	\$3,500
Auditing Fees	\$0	\$2,500		\$2,500
Insurance	\$715	\$750	\$715	\$750
Unbudgeted Expenses				
Bank Service Charges	\$15			
Advertising			\$480	
Lecture stipend			\$3,000	
<b>Total Expense</b>	<b>\$65,025</b>	<b>\$100,750</b>	<b>\$37,949</b>	<b>\$99,200</b>
Operating Surplus or (Deficit)	\$13,167	\$1,350	\$658	\$4,900

### Notes

a - These are only paid every third year. This was in anticipation of auditing fees of approximately \$7500 in FY 2023.

**Net Assets as of March 31, 2022**

cash on hand	\$109,763 <b>b</b>
accounts receivable	
dues	\$18,625
other	
accounts payable	\$0
Net	\$128,388

**b** This includes \$24,634 of grant funds restricted, held for the 2022 Forum; \$85,128.62 is unrestricted.

**Investments**

Vanguard Balance Sept 30, 2019	\$146,272
Vanguard Balance Mar 31, 2020	\$164,576
Vanguard Balance Sept 30, 2020	\$172,424
Vanguard Balance Mar 31, 2021	\$180,666
Vanguard Balance Mar 31, 2022	\$181,876
Total Unrestricted Net Assets	\$310,264

## Appendix C

### **Directors' Report** — Charles Steinhorn

#### **Preamble**

I was honored to be selected as the new CBMS Director, succeeding David Bressoud. Following in David's and Ron Rosier's footsteps is a humbling assignment. During my twelve years as CBMS Secretary-Treasurer, I witnessed firsthand the superb stewards of CBMS that they were. Their work has positioned CBMS to serve the mathematical sciences community even more effectively in the years ahead and to increase its impact. This is my task now.

I have had the privilege as CBMS Secretary-Treasurer to meet and collaborate with many amazing people: my fellow members, past and present, of the CBMS Executive Committee, the presidents and executive directors of the CBMS member organizations, and many others who tirelessly work to advance the mathematical sciences and mathematics education at all levels. I am eagerly looking forward to directing my energies to work together with you as we tackle the range of issues facing the mathematical sciences community and seize the opportunities that present themselves to us.

#### **Transition: from February 1<sup>st</sup> until now**

My term as Director began on February 1<sup>st</sup>. CBMS and I are fortunate that Dayle Rebelein, my valued assistant for the [Teaching Experiences for Undergraduates](#) program on which I serve as the principal investigator, agreed to assume the administrative assistant position for CBMS. Dayle is at a time in her life when she can be selective about what she chooses to do, and CBMS definitely piqued her interest. Dayle is exceptionally able and delightfully personable, as you will see as you have more contact with her.

The period from January until the May Council meeting is, by David Bressoud's assessment, the busiest period for the CBMS Director. Added to the Director's usual responsibilities, final planning and organization for the May 1-3 Pathways Forum required substantial attention from me.

With some tasks ordinarily handled in January remaining to be done, Dayle and I had to hit the ground running at the beginning of February. Fortunately, my long service as the Secretary-Treasurer made me well aware of much of the business of CBMS, even if not the full rhythm and timeline of the Director's work. There also were multiple "start-up" tasks needing to be completed to transfer responsibility from David and his assistant, Javon Barnes, to Dayle and me. Some of these took longer than one might expect, a few others still remain to be completed, and some---e.g., establishing a bank account---impacted the completion of some of the Director's usual tasks---e.g., the invoicing of dues. I now fully expect that the "start-up" phase will be completed by the end of May, or early June at the latest. David has my deep gratitude for his devotion to CBMS as well as his grace, counsel, and humor during this period. I will count on his advice and wisdom well beyond this initial transition period.

I am glad to see that the NSF-CBMS Research Conferences program is beginning to emerge from cancellations and postponements caused by the pandemic. Of the six conferences planned for 2021, only one was held. The remaining five are now scheduled to take place this summer,

joined by two new awardees. Even so, another conference planned for this summer has now been postponed (or possibly cancelled) due to local issues with Covid protocols.

Planning and organization of the May 1-3 Pathways Forum has occupied a great deal of David's and my time. Although David planned to formally conclude his term as Director at the end of December, he intended see the Forum through its conclusion, and deserves credit not only for his leadership in planning the program, but also for most of the logistical arrangements. Dave Kung and Lindsay Fitzpatrick of the Dana Center together with David and I developed the Forum program and finalized and recruited all the speakers for the plenary and breakout sessions. Writing now, a little less than a week prior to the event, I am optimistic that it will help propel the 19 state teams who have worked so hard on this project to realize the important goals we share. This is a long-term effort that will require CBMS' continued attention well beyond the forum.

One theme that emerged over the course of forum planning is the need for the state teams to receive support and training in messaging and communications. A combination of forum budget savings and the allocation of up to \$10,000 of reserve funds by the CBMS Executive Committee has provided a total of \$20,000 to engage a strategic communications firm. Dave Kung and I sought proposals from and interviewed 3 firms. We have engaged the firm [Burness](#) for this purpose. The Burness team has met several times with us prior to the forum in preparation for its work at the event, and during the forum they will give a plenary presentation, offer two breakout sessions, and provide extended time for informal consultation with the state teams. Following the forum, Burness will hold individual sessions with each of the state teams. We recognize that it would be valuable to provide longer term messaging support beyond the current contract with Burness; external funding for this purpose will be sought by Dave Kung and me.

### **Looking Ahead: the next six to twelve months**

During the summer, CBMS will need to begin the process of undergoing its regular triennial audit. A regular audit is essential to CBMS continuing to act as a fiscal agent eligible to be awarded NSF grants. I intend to use the same accounting firm we have used in the past for this purpose. The firm knows CBMS, and I expect the audit to go smoothly.

Over the next several months, together with members of the Executive Committee, I plan to meet with the leadership of the CBMS member societies. This was done during the winter of 2021---the first time this was undertaken during my years as Secretary-Treasurer---and I would like to see us continue to do this on a (semi-)regular basis. While I know most of the current presidents and executive directors, these meetings can provide us with a clearer understanding of the concerns and priorities of the member societies. This process can serve as a planning mechanism to inform topics for the Council meeting agendas and, ultimately, the activities and projects in which CBMS chooses to engage. I also plan to begin to attend meetings of more member societies (in addition to those I have regularly attended throughout my career) to deepen my understanding of those societies' work.

CBMS has, during the years I have been involved, maintained a strong relationship with NSF, in particular the Division of Mathematical Sciences and the Directorate of Education and Human Resources. CBMS also has had regular contact with several boards at the National Academies. I would like to see us develop stronger relationships with other Federal agencies that have

(potential) relevance to the mathematical sciences, and it will be a priority of mine to begin the legwork needed.

Additionally, last year virtual conversations were held involving the CBMS leadership, chairs and directors of some of the National Academies boards, and others, about the possibility of establishing a new board on mathematical sciences education at the National Academies. This is an initiative still in its early stages that I would very much like to see continue. Those of us with a long enough memory will recall the now-defunct Mathematical Sciences Education Board that ceased functioning in 2008, after 23 years in operation, leaving a hole that a new board could fill to address critical issues in this domain.

We learned during the pandemic that it is possible to work effectively on projects virtually. The CBMS interest groups that convened during the summer and fall of 2021 paved the way for the discussions at the December 2021 Council meeting on: the effects of the COVID-19; developing the school to workforce pipeline; and the role of the mathematical sciences in data science. At the end of the December data science discussion, it was agreed that a small working group drawn from CBMS member societies should be formed to consider possible CBMS activities or convenings centered around the mathematical and statistical components of data science. I will make this a high priority directly following the Council meeting. Additionally, the role of CBMS in workforce issues will be the focus of final session of the afternoon at this Council meeting.

Bringing together small groups remotely with well-defined tasks in the period between the twice-annual Council meetings can enable CBMS to move nimbly on important issues, and tap more deeply into its potential as a impactful umbrella organization. Based on conversations I have had in preparation for this Council meeting, I expect that we will decide to form at least a couple of such working groups charged with specific assignments.

CBMS also will need to submit a renewal proposal for our role in administering the NSF-CBMS Regional Research Conferences series sometime in the coming year. The timing will depend on whether we seek a no-cost extension from NSF, following the postponement and cancellation of conferences due to the pandemic. In preparing the proposal for current award, David Bressoud consulted widely in a effort to update and reshape the format of this longstanding conference series. Periodic assessment of long running programs is essential to their continued vitality, and I will plan to reach out to various constituencies with a stake in this program to appraise how well the changes have worked and seek suggestions that could be incorporated into the renewal proposal and eventually into the functioning of the conferences.

## Appendix D

### Background for a Discussion of Future CBMS Surveys of Undergraduate Programs

The CBMS Surveys of undergraduate programs in the mathematical sciences have been conducted every five years since 1965. The surveys are supported by an NSF grant (currently roughly \$750,000) that is administered by the AMS. The reports of these surveys have been published in paperback form, and, beginning with the 1970 survey report, are online at:

<https://www.ams.org/profession/data/cbms-survey/cbms-survey>.

There are three survey instruments (for mathematics programs at two-year colleges, at four-year colleges and universities, and undergraduate statistics programs in statistics departments with a graduate statistics program) that are designed by committees appointed by CBMS. The 2015 and 2020 NSF grants included some funds for evaluating the survey reports, and some outside professional advice on the 2021 survey will be obtained when the report is completed.

Final touches were being made to the 2020 survey in March 2020 when COVID hit, and we decided Fall 2020 was not a good time to send out a comprehensive survey on what was not a normal year. Instead we sent out a brief survey on departments' responses to the changes prompted by the pandemic; the questionnaire and report on the survey are online at

<https://www.ams.org/profession/data/cbms-survey/cbms2020>

(and an article appeared in the January 2022 issue of the *Notices of the AMS*). Two policy briefs (one on Pathways and one on Distance Learning, using data from the 2015 survey) are also at that location, as we wanted to find other ways to attract attention to the CBMS survey results.

The 2020 survey had not been put online. We made some changes to the original draft, and in May 2021, just as the survey was to be put online and tested, our contractor, Westat, Inc., in a downsizing move, re-tired Brad Chaney, who had worked with us on the last two CBMS surveys. We have greatly missed Brad's experience with the CBMS surveys. The 2021 CBMS survey went out in October-November 2021, and we are still trying to collect responses from the survey.

The survey is a stratified sample of 4-year and 2-year math programs and a survey of the statistics programs. The response rates for 2015 (2010, 2005) are: 4-Year Math: 72 (74, 61)%, Statistics: 81 (70, 60)%, 2-Year Math: 49% enrollments and 54% other (51, 54)%. So far the 2021 survey has response rates: 4-Year Math: 30%, Statistics: 50%, 2-Year Math: 25%. Roughly 50% of both the 4-year Math and 2-year Math sample units have never opened the link to the survey (23% of the Stat institutions), despite repeated contacts by both Westat and our committee, so the poor response rate is not entirely a reaction to the particular questions asked.

The survey questionnaire is rather comprehensive, and collects data on enrollment (by course and the status (tenure track, not tenure track, graduate assistant) of the instructor). There are questions on dual enrollment, distance learning, and various aspects of the program (e.g. number of graduating majors, minors, requirements for a major, special services available etc.). There are also questions on teacher preparation requirements. There is detailed information on numbers of faculty, of various ranks, broken down by gender (for the 4-year math and stat programs this data is collected by the AMS in the *Annual Survey* that has a better response rate than the CBMS survey). We indicate that the audience for the results of the survey is departmental, programmatic, institutional, and system leaders, mathematical education researchers, policy makers, and the wider community of undergraduate educators.

Additional sources of data (though not exactly the same data we collect) are available; see

<https://www.ams.org/profession/data/other-sources/other-sources>.

While data on faculty demographics is collected each year in the Annual Survey for four-year programs, no such data exists for two-year programs.

Plans for a 2025 survey should begin soon, and would include the preparation of a proposal to NSF. The form of the CBMS surveys has been about the same over the past years, but given the poor response to the 2021 survey it would seem reasonable to think about doing something quite different (e.g. breaking the survey into smaller units, various parts gathered in different years – possibly collecting different information – collecting some data from the institution, rather than from the department – offering incentives for completing the survey – etc.). Perhaps a new contractor should be obtained. Should the report be available in paper form, as well as online? The real questions for CBMS are what data should be collected, and how and when should it be collected.

Ellen Kirkman  
Director of CBMS Surveys 2010, 2015, 2020-1  
April 14, 2022