In 2021, MSA . . .

... celebrated the second Minerals Day on October 11, 2021, as part of Earth Science Week.

... launched the Buseck Lectures thanks to the generosity of MSA member Dr. Peter R. Buseck.

... thanked 2021 President Mark Ghiorso for his leadership and welcomed 2022 President Pamela Burnley.

... continued to post online teaching resources for virtual courses in mineralogy, petrology, and geochemistry.

... grew our social media presence by adding an Instagram account.

♦ ... formed MSA’s first Diversity, Equity, and Inclusion Committee.

... held its 2020 and 2021 MSA Awards Ceremonies via Zoom and recorded them for the MSA YouTube Channel.

... surveyed its student members to gauge their interest in an MSA mentorship program.

♦ ... Awarded three student research grants (one crystallography and two mineralogy/petrology).

... surveyed its academic membership about the status of mineralogy and petrology in higher education.

... published 166 science papers from 33 countries in the American Mineralogist.
2021 was year two under pandemic restrictions, but MSA adjusted, adapted, and kept going. “Going virtual” became the new way of things, and MSA did its best to take advantage of the expanded reach afforded by this new way of holding meetings and events. A bonus benefit was the ability to record sessions via Zoom for sharing on the MSA YouTube Channel.

**The MSA Lecture Program expanded in a new and exciting way.** Long-time MSA member Dr. Peter R. Buseck made a very generous gift to MSA to launch two new features of the Distinguished Lecture Program: A Public Lecture and a New Directions in Mineralogy and Petrology Lecture. MSA extends its sincerest thanks to Dr. Buseck for making the new lectures possible.

**MSA established its first DEI Committee.** MSA Council formed a Diversity Task Force in 2020 to explore ways in which the organization could address the needs of those who are typically underrepresented in the geosciences. The Task Force made so much progress during 2020 that MSA Council voted to convert the Task Force into a standing Diversity, Equity, and Inclusion (DEI) Committee in 2021.

**MSA publications continued to do well.** As in 2020, *American Mineralogist* once again received a very large number of submissions in 2021. *Elements* magazine published thematic issues on Speleothems, the European Alps, and Geoscience Beyond the Solar System, among other exciting topics.

**MSA recognized medalists and awarded student research grants.** Our student recipient of the Kraus Crystallographic Grant was Si Athena Chen of Penn State University. Winners of the Mineralogy/Petrology Research Grant were Eva Baransky, Northern Arizona University and Juliet Ryan-Davis of Cal Tech. MSA held two virtual awards ceremonies late in 2021 for the 2020 and 2021 medalists. These sessions were recorded and are available on MSA’s YouTube Channel.

**Education programs reached audiences at all levels.** The Mineralogy4Kids website was completely re-built and relaunched in 2021. MSA celebrated the second annual Minerals Day on October 11 with the theme: *Cool Careers in the Geosciences*. Two new downloadable career posters and a series of recorded webinars were available via the Minerals Day website. In addition, MSA continued to add to its Online Teaching Resources collection to assist anyone teaching geoscience courses.
MISSION

The Mineralogical Society of America (MSA) was founded in 1919 for the advancement of mineralogy, crystallography, geochemistry, petrology, and promotion of their uses in other sciences, industry, and the arts. MSA encourages fundamental research about natural materials; supports the teaching of mineralogical concepts and procedures; and works to raise the scientific literacy of society on issues involving mineralogy in the widest sense. The Society encourages the preservation of mineral collections, displays, mineral localities, type minerals and scientific data. MSA represents the United States internationally with regard to the science of mineralogy.

To accomplish its goals, the Society publishes journals, magazines, and books, as well as uses short courses, lectureships, Internet website, awards, grants, symposia, and meetings for professionals, students, and the public. MSA depends on the involvement of all individuals who are concerned with the health and direction of the field of mineralogy. The society cooperates with other scientific and organizations, and continually explores and adopts new programs and policies to better serve its members.

MEMBERS

Membership in the Society is open to any person interested in mineralogy and related sciences regardless of residence or citizenship. Individuals from all 50 states, the District of Columbia, several territories, and about 40 countries belong to the Society, giving it and its publications an international aspect. In addition to joining a global community of mineralogists and petrologists,

MSA Members receive online access to American Mineralogist, print and electronic access to Elements magazine, and discounts on publications and registrations.

The membership of the Society comprises Honorary Fellows, Fellows, Members, Early Career, Students, Senior Fellows and Members, and Sustaining Fellows and Members. All members are eligible to participate in Society affairs.

In 2021, membership was 1,893.
The Mineralogical Society of America (MSA) was founded in 1919 in Boston, MA by Dr. Edward H. Kraus of the University of Michigan. Twenty-eight mineralogists attended the organizational meeting of MSA on December 30, 1919 at the Harvard University Geological Museum. The first meeting of the Executive Council was the next day, at which time, a vote was taken to make The American Mineralogist, first published in 1916, the Society’s journal.

MSA had its first annual meeting in 1920. Thereafter, MSA focused its attentions on improving the journal and the financial health of the society, a task made easier by a gift from Washington Roebling in 1927, but then more difficult by the Great Depression and WW II. Except for initiating the Roebling Medal in 1937 and the MSA Award in 1950, MSA remained much the same for years.

From the time of the organization’s 50th anniversary, however, MSA started to expand its programming: Special publications in the 1960s; short courses, Reviews, and research grants in the 1970s; Lecture Program, AMU Awards, and a stand-alone office in the 1980s, Distinguished Public Service Medal, monographs, textbooks, MSA-Talk, and website in the 1990s; Mineralogy-4-Kids, Ask-a-Mineralogist, Dana Medal, Handbook of Mineralogy, GeoScienceWorld, online archive of the American Mineralogist, and Elements magazine in the 2000s.

**MSA GOVERNANCE**

**Officers and Council**

The MSA Council, which meets three times a year, is comprised of the President, Past-President, Vice-President, Treasurer, Secretary, and six Councilors elected from the membership. The President, Past-President, Vice-President, Secretary, Treasurer form the Executive Committee, which governs the Society when Council is not in session.

Both the 2020 and 2021 Council Members are included in this report, as the 2021 term began on October 16, 2021 at the First 2021 Council Meeting held virtually via Zoom.
2021 Council

Officers

Mark Ghiorso, President
University of Washington

Carol D. Frost, Past President
University of Wyoming

Pamela Burnley, Vice-President
University of Nevada Las Vegas

Kimberly Tait, Secretary
Royal Ontario Museum

Glenn Gaetani, Treasurer
Woods Hole Oceanographic Institution

Councilors

Adam Simon
University of Michigan

Mark Caddick
Virginia Tech

Przemyslaw Dera
University of Hawaii at Manoa

Francis McCubbin
NASA Johnson Space Center

Jennifer Jackson
California Institute of Technology

Robert Bodnar
Virginia Tech
2022 Council

Officers

Pamela Burnley, President
University of Nevada Las Vegas

Mark Ghiorso, Past President
University of Washington

Jeffrey Post, Vice-President
Smithsonian Institution

Kimberly Tait, Secretary
Royal Ontario Museum

Glenn Gaetani, Treasurer
Woods Hole Oceanographic Institution

Councilors

Przemyslaw Dera
University of Hawaii at Manoa

Francis McCubbin
NASA Johnson Space Center

Jennifer Jackson
California Institute of Technology

Robert Bodnar
Virginia Tech

Marian Holness
University of Cambridge

Astrid Holzheid
Universität Kiel
Minerals Day

MSA collaborated with Earth Science Week (American Geosciences Institute—AGI) to host the second annual Minerals Day on October 11, 2021, the Monday of Earth Science Week (ESW). The MSA theme for Minerals Day 2021 was *Cool Careers in the Geosciences*.

MSA worked with its Minerals Day Partners to develop two downloadable careers posters, host a series of webinars, and augment online educational resource. The webinars, which also focused on careers, are available on the MSA YouTube Channel. Minerals Day Partners included AGI, ESW, The Gemological Institute of America, the U.S. Geological Survey, The National Stone, Sand, and Gravel Association (NSSGA), and the Industrial Minerals Association—North America. The URL for the Minerals Day microsite is www.mineralsday.org.

These downloadable posters are on the Minerals Day site. MSA would like to thank Sean Navat Balanon for creating the posters.
Minerals Day

As part of the Minerals Day celebration during Earth Science Week, MSA hosted a series of online presentations highlighting career opportunities in the geosciences. MSA would like to thank the presenters for so generously sharing their time and expertise. The presentations can be found on MSA’s YouTube Channel at this link: https://www.youtube.com/channel/UC43D1PrlmBkChtrsNi2y7YQ.

Presenters included:

Dr. Bruce Aitken and Dr. Adam Sarafian, Corning, Inc.
*Careers in Material Science*

Mr. Forrest Carithers, Mr. Dom D’Amato, and Mr. Ryan Klockner, Young Mineral Collectors
*Connecting Youth to Mineral Collecting*

Mr. Ryan Crosbie, CRH Americas Law Group
*Careers in Mining and Aggregate*

Dr. Carol D. Frost, University of Wyoming
*A Rotator Position at the National Science Foundation*

Dr. George Harlow, American Museum of Natural History
*Careers in Gem and Mineral Museum Curation*

Mr. Thomas Hale, Friends of Mineralogy, Virginia Chapter
*Mineral Diplomacy*

Mr. Mark Jacobson, Friends of Mineralogy
*Friends of Mineralogy*

Mr. Sean Karoly, Geosyntec Consultants
*Careers in Environmental Consulting*

Dr. Eugene Peters, FBI Laboratory
*Science Careers at the FBI Laboratory*
Programs

Distinguished Lecturer Program

Since 1989, MSA has offered schools the opportunity to hear talks about recent advances in mineralogy through its Distinguished Lecturer Program.

MSA pays travel expenses of the Lecturers and the host institution is responsible for local expenses, including accommodation and meals. In 2021, the Lecture Program was suspended, due to the pandemic.

In 2021:

♦ The two Peter R. Buseck Lectures were established as a result of a generous gift from longtime MSA Member Dr. Peter R. Buseck, Arizona State University.

Education Programs

MSA’s education programs include short courses, workshops, the Minerals Day website, Online Teaching Resources, and Mineralogy4Kids.

Short Courses are two- to four-day, in-depth instructional courses, typically given in conjunction with major meetings. They are taught by several invited speakers who also write the accompanying Reviews in Mineralogy and Geochemistry volume. There have been 58 courses since 1974.

In 2021:

♦ There were no Short Courses due to the pandemic.

♦ MSA continued to add to its Online Teaching Resources portion of its website with labs, content, textbooks, videos, teaching suggestions and many other resources suggested by subscribers to MSA-Talk.

You can find K-12 Resources on the MSA web site at www.min4kids.org. Mineralogy4Kids is a mini-site with information for students and teachers on mineral groups, properties, and identification; household minerals; crystals; the rock cycle; and mineral games. It is the most visited part of the MSA website.
Research Grants

Mineralogy/Petrology Research Grant

The Mineralogical Society of America’s Grants for Student Research in Mineralogy and Petrology are funded by an endowment created by contributions from the MSA membership.

The grant comprises two awards of up to $5,000 each for research in mineralogy and petrology. Students, including graduate and undergraduate students, may apply.

All proposals are considered together. The award selection will be based on the qualifications of the applicant, the quality, innovativeness, and scientific significance of the research, and the likelihood of success of the project.

The 2021 winners of the grant were Eva Baransky, Northern Arizona University, Flagstaff, AZ, USA - investigating Ni isotope fractionation during interaction with birnessite and implications for the marine Ni budget and Juliet Ryan-Davis, California Institute of Technology, Pasadena, CA, USA - Developing fs-LA-MC-ICPMS protocol for in situ Sr isotope analyses in clinopyroxene: Quantifying mantle-derived inputs across the Sierra Nevada batholith.

Kraus Crystallography Research Grant

The Mineralogical Society of America’s Grant for Research in Crystallography is funded by the Edward H. Kraus Crystallographic Research Fund with contributions from MSA members and friends. The grant awards up to $5,000 for research in the field of mineralogical crystallography. This grant targets projects within the areas of mineralogy, crystal chemistry, petrology, mineral physics, biomineralization, and geochemistry that can employ a variety of crystallographic, spectroscopic, analytical, and computational techniques. Graduate and undergraduate students, as well as beginning faculty and young researchers are encouraged to apply. All proposals are considered together.

The 2021 winner of the Kraus Grant was Si Athena Chen, Pennsylvania State University, State College, PA, USA for her project Superhydrous hematite and goethite: A potential water reservoir in the red dust of Mars.
Awards

Roebling Medal

First awarded in 1937, the Roebling Medal is the Society's highest honor. It is given in recognition of an individual's lifetime scientific eminence as represented primarily by publication of outstanding original research in mineralogy.

The 2021 Roebling Medal awardee was Dr. George Rossman of the California Institute of Technology, Pasadena, California, USA. Dr. Rossman has 345 publications listed on the Web of Science with an h-index of 66. For many years he has studied incorporation of light elements into minerals, and has made vital contributions to research into the causes of color in minerals. His work in other areas of mineralogy and spectroscopy has influenced scientists, particularly planetary scientists, in a wide variety of disciplines.

MSA is proud to recognize Dr. Rossman's seminal achievements by presenting him with the Roebling Medal.

Dana Medal

This award recognizes sustained outstanding scientific contributions through original research in the mineralogical sciences by an individual in the midst of his or her career who has not been previously recognized [for his/her achievements-remove] as a recipient of the MSA Award.

The 2021 Dana Medal awardee was Dr. Sergey Krivovichev, St. Petersburg State University, St. Petersburg, Republic of Russia. Dr. Krivovichev's laboratory in St. Petersburg has become the primary center for experimental inorganic crystallography in Russia.

Dr. Krivovichev's publication record (many papers, chapters, and books), as well as his influential work in both experimental and theoretical mineralogy, have earned him the recognition of his community. MSA is pleased to present him with the 2021 Dana Medal.
Awards

2021 Distinguished Public Service Medal

The MSA Distinguished Public Service Medal is given every other year. It is awarded by the MSA Council to individuals or organizations who have made important contributions to furthering the vitality of the geological sciences, especially, but not necessarily in the fields of mineralogy, geochemistry, petrology, and crystallography.

The 2021 recipient of the MSA Distinguished Public Service Medal was Dr. Denton Ebel of the American Museum of Natural History, New York, New York, USA.

The award recognizes and celebrates Dr. Ebel’s work in public education at AMNH through lectures, innovative museum exhibitions, scientific meetings, and other, ground-breaking, outreach programs. MSA is delighted to recognize Dr. Ebel’s many contributions to geoscience education.

2021 MSA Award

This is an award for an outstanding single or series of published contributions in the areas of mineralogy, crystallography, geochemistry, petrology, or related fields. The award is meant to recognize an early career scientist. The 2021 MSA Awardee was Dr. Chenguang Sun of the University of Texas, Austin, Texas, USA.

Dr. Sun’s research has contributed significantly to knowledge in quantifying trace element distribution in major rock-forming minerals, thermal history of mafic and ultramafic rocks, and carbonatite melt and peridotite interaction.

For his many achievements, MSA is pleased to award Dr. Sun the 2021 MSA Award.
Undergraduate Prize

The Mineralogical Society of America's Undergraduate Prize (formerly American Mineralogist Undergraduate (AMU) Award) program recognizes outstanding students who have shown an interest and ability in the discipline of mineralogy. Each student was cited by his or her department for outstanding achievement in mineralogy-related courses. The MSA Prize allow MSA to join with the individual faculty to formally recognize outstanding students.

Each student is presented a certificate at an awards ceremony at his or her university or college. In addition, each recipient receives a student membership in MSA with access to the electronic version of American Mineralogist and Elements, as well as in Reviews in Mineralogy and Geochemistry or Monograph volume chosen by the sponsor, student, or both.

Recipients of the 2021 Undergraduate Prize:

- Taryn S. Adam, Missouri University of Science and Technology, Sponsored by Dr. John P. Hogan
- Saif Alhajri, The University of Texas at Austin, Sponsored by Dr. Elizabeth Catlos
- Caitlin Bates, California State University Fullerton, Sponsored by Dr. Vali Memeti
- Mia Boothroyd, University of Otago, Sponsored by Dr. J. Michael Palin
- Michelle Chambers, University of California Santa Barbara, Sponsored by Prof. Roberta Rudnick
- Leo Champagne, Mount Royal University, Sponsored by Dr. Michael Clark
- Sarah Copertino, University of Wyoming, Sponsored by Dr. Simone Runyon
- Kathryn Cordeiro, University of California Santa Barbara, Sponsored by Dr. Matthew Rioux
- Logan T. Dickson, University of Oklahoma, Sponsored by Dr. Andrew S. Elwood Madden
- Braden R. Fox, University of Oklahoma, Sponsored by Dr. Andrew S. Elwood Madden
- Zephyr Girard, University of California Santa Barbara, Sponsored by Dr. Matthew Rioux
- Matt R. Gordon, Towson University, Sponsored by Dr. Michelle Casey
- Hannah Haleigh Jackson, Williams College, Sponsored by Prof. R. A. Wobus
- Josephine Jorgensen, University of California Santa Barbara, Sponsored by Prof. Roberta Rudnick
- Logan T. Little, Appalachian State University, Sponsored by Prof. Sarah Carmichael
- Thomas McCoy-Brace, Furman University, Sponsored by Prof. Suresh Muthukrishnan
- Victoria E. D. McLoughlin, Smith College, Sponsored by Dr. Sarah E. Mazza
- Ericka McMahan, Florida State University, Sponsored by Prof. Mainak Mookherjee
- Madeline R. Mennenga, Grand Valley State University, Sponsored by Dr. Virginia L. Peterson
- Wil Munro, University of Victoria, Sponsored by Prof. Dante Canil
- Amber Nguyen, The University of Texas at Austin, Sponsored by Prof. Jung-Fu Lin
- Aaron Paynter, The University of British Columbia, Sponsored by Prof. James S. Scoates
- Sarah Pimentel, The University of Tennessee Chattanooga, Sponsored by Dr. Amy Brock-Hon
- Clara Sismondo, The University of British Columbia, Sponsored by Dr. James Scoates
- Kathleen Usary, Towson University, Sponsored by Dr. Wendy R. Nelson
2021 Fellows

Members who have contributed significantly to the advancement of mineralogy, crystallography, geochemistry, petrology, or allied sciences and whose scientific contribution used mineralogical studies or data, may be designated as Fellows upon proper accreditation by the Committee on Nomination for Fellows and election by the Council. Recipients of the Roebling Medal and Mineralogical Society of America Award automatically become Fellows. The 2021 Fellows are pictured below in alphabetical order.

Nathalie Bolfan-Casanova
Université Blaise Pascal

John Cottle
University of California-Santa Barbara

John Dilles
Oregon State University

Anita Grunder
Oregon State University

Toru Inoue
Hiroshima University

Jacob Lowenstern
USGS

Michihiko Nakamura
Tohoku University

Urs Schaltegger
Université de Genève

Richard Secco
University of Western Ontario

Allan Treiman
Lunar and Planetary Institute
Publications

American Mineralogist

American Mineralogist, subtitled An International Journal of Earth and Planetary Materials, is the print journal of the Society, and it has continuously appeared since 1916. It publishes the results of original scientific research in the fields of mineralogy, crystallography, geochemistry, and petrology with the goal of providing readers with the best in earth science research. Editors are Dr. Donald Baker, McGill University, Montreal, Quebec, Canada, and Dr. Hongwu Xu, Los Alamos National Laboratory, Los Alamos New Mexico, USA.

In 2021:

♦ Journal Impact Factor increased to 3.003.
♦ 1,224 institutional subscribers (including GeoScienceWorld and DeGruyter subscribers).
♦ 380 paper submissions; 166 papers published from 33 countries.
♦ 56% acceptance rate; 2007 total pages.

Elements

Elements is an international magazine of mineralogy, petrology, and geochemistry, which was founded in 2005. Published bimonthly, every issue explores a theme of broad and current interest. Elements publishes invited peer-reviewed articles for each thematic collection of papers.

The magazine also publishes such regular features as opinion articles, event calendar, short course announcements, awards, conference reports, policy news, as well as news of the 18 participating geoscientific societies.

In 2021:

♦ Elements had a combined institutional and individual subscriber base of 15,000.
Communications

**MSA-Talk**

MSA-Talk is an extremely active listserv moderated by the MSA Business Office. Postings include mineralogical questions, jobs, equipment requests, teaching suggestions, upcoming conferences, calls for papers and other similar items.

**In 2021:**

MSA-Talk had 3,486 subscribers.

**MSA Website**

The MSA website at www.minsocam.org is the public face of MSA, with information about the organization, publications, grants and awards, governance, membership, and special events.

**In 2021:**

♦ In response to online teaching needs due to continuing pandemic closures at schools, colleges and universities, MSA added more links to the Online Teaching Resources section under Education and Outreach.

**MSA on Instagram and Twitter**

MSA’s Twitter handle is @MinSocAm. The username for the Instagram account is minsocam.

**In 2021:**

♦ MSA opened its Instagram account in May with the support of Council. The account is moderated by MSA Social Media Liaison, Dr. Andrea Koziol of the University of Dayton. The Instagram account has 94 Followers.

♦ The Twitter account, set up in 2020, now has 643 followers and follows 13 other societies.

**MSA-Announce**

MSA-Announce is a monthly e-newsletter sent to MSA members when a new issue of *American Mineralogist* is available online.

MSA-Announce also includes information about new publications available through MSA, deadlines for awards and grants, and upcoming events and conferences.

**MSA on Facebook**

MSA’s Facebook (FB) page and group are also moderated by Andrea Koziol.

**In 2021:**

♦ MSA’s FB group had 58,943 members.

♦ MSA’s FB page had 2,997 Likes and 3,670 total Followers.

**MSA on YouTube**

MSA’s YouTube Channel features videos on a range of topics in mineralogy, petrology, and geochemistry.

**In 2021:**

♦ MSA posted all of the Minerals Day career videos on its YouTube Channel, as well as the recordings of the 2020 and 2021 virtual Awards Ceremonies.
Individual Contributors

Many members contribute to MSA by including a donation with their annual dues and/or by responding to special appeals. Depending on the wishes of the member, the money is deposited with the principal of the MSA Endowment, the J. Alexander Speer Outreach Fund, MSA Mineralogy/Petrology Fund, J. B. Thompson Fund, Edward H. Kraus Crystallographic Research Fund, F. Donald Bloss Fund, or General Operating Funds.

The income of these Funds is used to support MSA’s research grants in crystallography, mineralogy, and petrology; the MSA Undergraduate Prizes; the Mineralogical Society of America Award; the Distinguished Public Service Award, the Dana Medal, the Roebling Medal; the website, and the Distinguished Lecturer program.

Here we want to extend our gratitude to the 497 MSA Members who contributed a total of $259,324.00 to MSA between 07/01/2020 and 06/30/2021.

Institutional and Corporate Contributors

MSA would like to thank those institutional and corporate donors who supported the organization in 2021. These organizations included:

- Gemological Institute of America
- Excalibur Mineral Corporation
- Vulcan Materials Company
In Memoriam

Paul Barton-Life Fellow

Carl Bowser-Senior Fellow

Charles Burnham-Senior Fellow and Past MSA President

Douglas Coombs-Life Fellow

Forrest Cureton-Life Member

Tsu-ming Han-Senior Member
Contact Us

Business Address

MSA headquarters is located approximately five miles from Dulles International Airport. In addition to MSA’s staff, the office is also headquarters for The Clay Minerals Society. The mailing address is:

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