



View of the façade of the Geoscience Research Institute building (Ortner Building), located on the campus of Loma Linda University.

Geoscience Research Institute

ARIEL A. ROTH, AND L. JAMES GIBSON

Ariel A. Roth has served as chairman of the Biology Departments at both Andrews and Loma Linda Universities; subsequently, he served as director of the Geoscience Research Institute, lecturing over the world about creation, and editing the journal *ORIGINS* for 23 years. He has been active in the evolution-creation controversy in the United States serving the states of California, Oregon, and Arkansas as consultant, keynote speaker, and witness respectively. His publications include some two hundred articles in scientific and popular journals and two books *Origins, Linking Science and Scripture* (17 languages) and *Science Discovers God* (28 languages).

L. James Gibson retired in 2020 after working for the Geoscience Research Institute for 36 years, 25 of them as director. He has degrees in biology from Pacific Union College and Loma Linda University. His main study interests are historical biology and the relationship of science and faith. He has co-edited three books on science and faith, and wrote the book, *Origins*, to accompany the first quarter 2013 Sabbath School lesson. He currently lives in Colton, California with his wife, Dorothy.

The Geoscience Research Institute (GRI) serves the General Conference of Seventh-day Adventists, by studying the relationship between current science and the biblical record of creation.¹ According to the GRI mission statement,² its purpose is “to explore the natural world, seeking to develop and share an understanding of nature consistent with the biblical teaching as expressed in the Church’s statement of fundamental belief on

creation.”

First established at Andrews University during July 1958 as the “Committee on Teaching Paleontology and Geology,” it became known as the Geoscience Research Institute by 1962. In 1980 GRI moved to Loma Linda University (LLU), where it now occupies its own building. Inaugurated in 2001, the facility houses offices, meeting rooms, museum displays, and laboratories. As of August 2021, the staff consisted of four scientists, an administrative assistant, and a technical assistant.

Prologue: 1900-1955³

The nascent Adventist Church of the nineteenth century had an interest in evolutionary theory and geological concepts that suggested an ancient origin of life on Earth, but lacked members or employees with formal expertise in the area. Adventist educator and amateur geologist George McCready Price (1870-1953), who wrote more than two dozen books mostly related to problems involving science and the Bible, greatly enhanced the Church’s awareness of geological issues. One of Price’s leading arguments was denial of the reality of the fossil sequence, a position that the data did not support.

Price’s student Harold W. Clark, a professor of biology at Pacific Union College, had the help of two professional geologists as he took a firsthand look at the fossil sequence within the geologic layers. Although Clark strongly endorsed the biblical record of history, he became convinced that the recognized sequence of fossils as one ascends upward through the fossil record was valid. He explained it as a record of antediluvian organisms’ vertical ecological distribution. The Flood waters sequentially destroyed and buried different pre-flood ecological zones. Clark’s ecological interpretation⁴—now called the “Ecological Zonation Theory” (EZT)—received mixed reactions,⁵ but generally supplanted Price’s denial of the fossil sequence among Adventist scholars.

Disputations between Price championing his views and Clark presenting his case, along with developments in science and society, brought widespread attention to geological issues within the Church by the mid-twentieth century.

Controversy: 1956-1972

In 1956 a quadrennial meeting of North American Adventist college science teachers convened at Union College. ⁶ It discussed several papers addressing problems the teachers were facing, especially the evidence for long geologic ages, including Carbon-14 dating. A general discussion led by chemist Rue E. Hoen resulted in a request that the General Conference provide funding to support special leaves for several teachers to study such questions. When passed on to the General Conference, then president R. R. Figuhr took a personal interest in it, and on October 25, 1957, submitted a proposal to the General Conference committee. The approved action⁷ titled “INDIVIDUALS TO BE TRAINED IN GEOLOGY AND PALEONTOLOGY” included recommendations “That

arrangements be made to send two mature, experienced men of proven loyalty, to take special studies in the above mentioned fields in qualified institutions for advanced studies," and that a committee of seven be appointed to supervise the new endeavor. R. R. Figuhr chaired that committee until his retirement in 1966. It was the beginning of what would soon be called the Geoscience Research Institute (GRI), initially located on the campus of Emanuel Missionary College (later Andrews University).

Since the Church had very few trained Adventist geologists or paleontologists at that time, development in this new area would be necessary. The governing committee selected Frank Lewis March, a seasoned professor of biology and expositor of evolutionary problems at Emanuel Missionary College, to be one of the two new appointees. He took a year to audit geology classes at Michigan State University and strengthen his geological background. The committee also selected P. Edgar Hare, from Pacific Union College, who received a two-year leave of absence to complete a doctorate in geochemistry at the California Institute of Technology. Richard M. Ritland, of the anatomy department at Loma Linda University, with a doctorate from Harvard in comparative anatomy and paleontology, had an interest in the area and participated in geology field reconnaissance with the new institute appointees. Later the Institute hired him as a third member.⁸

These early workers cooperated amicably at first, but differences of opinion soon surfaced. Marsh strongly defended the biblical view of a six-day creation week a few thousand years ago and the subsequent occurrence of a global Flood, while Hare and Ritland thought that the scientific data for long geologic ages was compelling, and that the fossil record represented millions to billions of years of life.⁹ Ritland organized several field conferences in which participants could directly view geologic features. The many layers of buried fossil forests in Yellowstone National Park, lying on top of each other, were interpreted to show that life existed for a period many times longer than the few thousand years allowed by biblical chronology, and became a favorite study area (see photo 5 in More Photos). Hare spent much of his time at the well-equipped Carnegie Institute for Science, and in 1964 Figuhr released him from any obligations to GRI.¹⁰ In 1964 Marsh transferred back to the biology department at what had been Emanuel Missionary College, but was now Andrews University, and Ritland became GRI director.

During 1963, Ariel A. Roth of the Andrews University biology department received an invitation to take over the recently organized biology department at Loma Linda University. This program was unique in granting Ph.D.s in biology reflecting a biblical worldview. A number of Adventist biology graduate students in major universities in the United States had experienced difficulties when the faculties discovered that they believed in creation. Loma Linda's new program would protect graduate students from secular prejudice and also favor a broader research base such as considering a Creator or the Genesis Flood when studying issues of origins. GRI also invited Roth, who had a Ph.D. in zoology from the University of Michigan, to join the Institute. He arranged to work part-time for the university and part-time for GRI. For academic preparation, Roth took 14 courses in geology and mathematics at the University of California at Riverside. He joined GRI full time in 1971, but continued collaboration with the Loma Linda University biology department, now the Department of Earth and Biological

Sciences.

After Marsh and Hare left GRI, Ritland proceeded to build up the GRI staff, first adding Harold Coffin, with a Ph.D. in biology from the University of Southern California. Soon thereafter Harold James and Edward Lugenbeal, both with training in theology, went for additional science education. James earned a doctorate in geology at Princeton University and Lugenbeal in anthropology at the University of Wisconsin. Both Coffin and Roth supported the biblical model of a recent creation and a worldwide Flood while James and Lugenbeal “lined up solidly”¹¹ behind Ritland’s goal of moving GRI towards advocating eons of life on earth through geologic ages. James’ tenure lasted only a few years. Lugenbeal served the Institute from 1968 to 1979. Coffin and Roth both remained with GRI for more than three decades until their respective retirements.¹²

When Figuhr retired from the General Conference presidency in 1966, Robert H. Pierson replaced him. Pierson attended a momentous 1968 GRI field conference (see photo 3 in More Photos) that resulted in dramatic changes for GRI. While some presentations favored the biblical record, many didn’t, causing great consternation. Some wanted to close the conference.¹³ It could rightly be argued that GRI was destroying the very beliefs it had originally been asked to defend. By 1971 it became clear to Ritland that his and Pierson’s objectives for GRI were incompatible. While Ritland was appreciated for his clear interpretations of the scientific literature, he found it wise to follow in Marsh’s footsteps and transferred over to the biology department at Andrews University in 1971.

The proposal that life has existed on earth for millions to billions of years is particularly damaging to the authenticity of the Bible. Some theistic models, holding that God repeatedly created during millions of years or through the process of evolution, propose that Genesis 1-11, which includes the creation and Flood accounts, is allegorical. However, elsewhere in the Bible, such as Peter, Paul, Christ, and even God Himself, do not consider it an allegory and thus authenticate both creation and the Flood.¹⁴ God both spoke and wrote the Ten Commandments, and in them He specifically asks us to keep holy the seventh-day Sabbath, because He created all in six days (Exodus 20:11; 31:17). It would be a strange kind of God who would create over millions of years and then ask human beings to observe the seventh-day as a memorial of His creating all in six days! A further incongruity is that according to the biblical model, death was the consequence of human sin (Romans 5:12), yet according to the long geologic time scale, rampant predation and death would appear well before the emergence of humans. Scripture characterizes God’s original creation as “very good” (Genesis 1:31). It does not seem possible to reconcile the biblical account of creation with the proposed billions of years for the development of the various life forms preserved in the fossil record.

Orientation 1973-1979

In 1973¹⁵ the governing board of GRI appointed Robert Brown (see photo 1 in More Photos), a physicist and president of Union College, as director of GRI. Sympathetic to Pierson’s objectives for GRI, Brown initiated

several programs to address its original purpose of helping teachers and students who had questions about the Bible and science. The GRI staff visited the various North American SDA college campuses to give general lectures to the student bodies and to teach classes that discussed issues of the conflict between science and Bible. Geology field conferences were organized. GRI started a scholarly peer-reviewed journal called *Origins*. Edited by Roth for 23 years with assistance from Katherine Ching, its candor was appreciated: "The materials presented often set a new standard for critical creationist literature."¹⁶ "By the 1980s it had become a publication of choice even for non-Adventists creationists."¹⁷

At the same time, GRI personnel also addressed some salient problem areas. Brown proposed a model of Carbon-14 concentration that would fit the reported data within a biblical chronology.¹⁸ Coffin directed his efforts at the successive Yellowstone fossil forests, challenging their *in situ* growth interpretation.¹⁹ Lugenbeal presented challenges to the proposed evolution of humans,²⁰ and Roth and his graduate students published articles in scientific journals on factors that affect the rate of growth of coral reef organisms.²¹

God's Two Books, The Bible and the Book of Nature: 1980-1994

Brown retired in 1980, but made substantial contributions for GRI for the next 15 years.²² Roth now became the director of the Institute. His more eclectic approach focused especially on scientific data and interpretations that support creation and the Flood. In the summer of 1980, the Institute headquarters transferred from Andrews University to Loma Linda University,²³ which had a larger community of scientists and a respectable science library. For the first time, all the researchers of GRI clearly endorsed the biblical account of beginnings. Soon after the move, Richard Tkachuck, with a Ph.D. in biology from the University of California at Los Angeles, joined the team, providing insightful analyses and editorial assistance for four years. He was replaced in 1984 by L. James Gibson, Ph.D. in biology from Loma Linda University, who served the Institute for 36 years, addressing speciation and biogeographical issues. Clyde Webster, from Walla Walla College, with a Ph.D. in chemistry from Colorado State University, joined the staff in 1983. For 22 years he worked closely with the other members, concentrating on the catastrophic deposition of the Yellowstone fossil forests and radiometric dating. During the 1980-1994 period, GRI established two branch offices.²⁴ Jacques Sauvagnat, Ph.D., directed one at the Saleve Adventist Institute in France. Another developed in Argentina at River Plate College under the leadership of Professor Carlos Steger. Brief news-discussion periodicals in English (*Geoscience Newsletter*), Spanish (*Ciencia de los Origenes*) edited by David Rhys, Ph.D., and French (*Science & Origines*) began. Ben Clausen with a Ph.D. in nuclear physics, University of Colorado, joined the institute in 1987. When Coffin retired in 1991, Elaine Kennedy, Ph.D. in geology from the University of Southern California, replaced him, serving the Institute as a sedimentologist. In 1994 Roth retired but continued contributing to GRI-sponsored research for more than 25 years.²⁵

During the decade and a half starting with the 1980s, research by GRI personnel addressed problems and evidences for the biblical model of origins from a scientific perspective. Brown pointed to the presence of Carbon-14 in very ancient samples that should not be there, indicating much younger ages than purported by the commonly accepted geological time scale of billions of years.²⁶ His suggestion has turned out to be a serious difficulty for the long geologic ages interpretations.²⁷ In addition, Brown noted that the amino acid dating technique developed by Hare was subject to extreme variability caused by temperature and humidity factors.²⁸ It cannot serve as a valid independent dating technique.²⁹ Coffin continued studying the Yellowstone fossil forests. The catastrophic 1980 eruption of Mount St. Helens, sending thousands of trees into Spirit Lake, served as an analogue, since some vertically floating stumps could explain upright fossil trees in Yellowstone.³⁰ Roth concentrated on the Flood, including the challenge to the long geologic ages found at the flat gaps of missing sedimentary layers called paraconformities. They represent assumed long periods of time during which the underlayer should have been irregularly eroded or be all gone during the postulated millions of years, but their flatness indicates no time gap, data that supports Flood models.³¹

Originally, GRI offices at Loma Linda University were in one building, the library in another, and laboratories in a third. A benchmark event for GRI occurred in 1993 when the governing board received a tour of the facilities, some of which were crowded. The board then voted to provide the Institute with its own facilities on the Loma Linda University campus.³²

During the decades of the 1960s to 1990s, other organizations such as: the Creation Research Society; the Institute for Creation Research; Answers in Genesis; and Creation Ministries International, focused on promoting creation. Such organizations tend to favor a model in which God created the whole universe during Creation Week, while the Seventh-day Adventist Church, in the context of the Great Controversy,³³ is open to interpretation that the events of creation week occurred at a later time than the origin of the universe itself.³⁴

GRI distinguished itself in setting a standard for scientific research related to creation, as recognized by several scholars. Philosopher Dell Ratzsch of Calvin College commented that "The Geoscience Research Institute, ... over many years has done much of the really legitimate creationist-related science."³⁵ In the late 1980s two Ph.D. dissertations from the University of California at Los Angeles and the University of North Carolina at Chapel Hill addressed the Bible-science conflict, including some references to GRI: "The GRI scientists are much more cautious than their counterparts in ICR and other creationist organizations. They ... engage in meticulous experiments designed to test the creation and evolution models. ... The GRI scientists are frequently able to publish their laboratory findings in regular refereed journals."³⁶ "GRI is unique among creationists. Its staff is unashamedly creationist, but it is also devoted to the value of rigorous skepticism when interpreting empirical evidence." "They are as sophisticated as any other scientist in discussing their philosophy of science, and as articulate as any other Christians in witnessing for their faith, but their perception of the two spheres together is not more complicated than Dr. Ariel Roth's comment that, 'Truth should integrate itself as a whole.'³⁷

GRI deals with the contentious issue of ultimate origins. Its first two decades were controversial, but in the following two decades the Institute was appreciated, as witnessed by heavy demands for its services. GRI personnel often taught courses in Adventist tertiary institutions (see photo 2 in More Photos). They received frequent invitations to provide creation weekends on university campuses. Occasionally they had requests to provide seminars at secular institutions including the Goddard Space Flight Center, University of California, Utrecht University, etc. In addition, they served the states of Arkansas, California, and Oregon in legislative proceedings dealing with teaching creation in public schools.³⁸ One of the most fruitful communication forums for GRI has been the one to two-week-long geology field conferences that facilitate direct observation of geology and offer abundant free communication. During the third and fourth decades for GRI, many conferences convened in the Central Alps of Europe (see photo 4 in More Photos), the western United States, eastern Australia, and New Zealand.³⁹ A number of organizations outside of a direct relationship to GRI, such as health institutions, local conferences, and theological groups also hosted geological field conferences organized by currently employed or retired GRI personnel.

Continuation: 1995-2000

When Ariel Roth retired as director in September 1994, L James Gibson assumed the role. Roth stayed with the Institute for another two years and continued as editor of the journal *Origins*. It was an important outlet for academic creationist writings. However, as the founders retired, the new generation of scientists focused more on publishing in other outlets. By the year 2000 the journal changed to an occasional publication, with new issues released as suitable material becomes available.

Another important activity of the GRI was the annual meeting of scientists, theologians, and administrators called BRISCO (Biblical Research Institute Science Council). The group met at various geographical locations chosen for access to nearby geologically significant localities. Started in 1971, the meetings facilitated discussion of issues, mentored graduate students, and provided reviews of manuscripts in preparation for publication. Among the more significant of the BRISCO meetings was the 1998 Conference on Science and Faith at Andrews University, with some 130 scholars in attendance. The last regular BRISCO meeting was in 1999. In addition to those meetings, field conferences continued as a major activity of the Institute. In 1996 and 1998 Ariel Roth led geology tours in Europe for European and world church leaders and a group of teachers from Australia. Elaine Kennedy hosted geology tours for groups of Korean educators in 1997 and 2002, as well as a conference for North American teachers in 1998.

Starting about 1996, Ben Clausen began developing a GRI website, grida.org. Modified and expanded several times, it has become one of the most important methods of communication for the Institute, along with more recently added social media activities.⁴⁰

Another significant development was the publication by Ariel Roth in 1998 of his book *Origins, Linking Science and Scripture*.⁴¹ It reviewed scientific evidence relating to creation and the age of the earth, and represented the conclusions he had reached during his extensive tenure at GRI.⁴²

As the century neared its close, a major change was coming. The need for a separate building to house the Institute had been obvious for many years. After the initial steps taken in 1993, the concept took several years to develop and complete. With plans finally approved in 1998, ground-breaking took place in February of 1999, and occupancy in May 2001. The new building⁴³ (see the main photo) provided facilities for a more efficient and expanded outreach of GRI, and coincided with several other factors to expand the work of the Institute.

Renewal: 2001-2007

The first meeting held in the new building was the twenty-sixth Faith and Learning Seminar, sponsored by the education department of the General Conference. During such seminars, groups of selected tertiary educators met to study and discuss methods of including “Christ in the Classroom.”⁴⁴ The focus of this particular meeting was faith and science, which made a fitting beginning for the new building.

Issues in faith and science gained greater attention in the Church around this time. Increasing numbers of Seventh-day Adventists were earning degrees in science. Most of them had studied in secular universities and thus had been trained to be skeptical of the biblical account of origins. The great majority of Adventist members accept the Church’s Fundamental Beliefs, including the statement (Number 6) based on the biblical record of creation. Nevertheless, denominational leaders felt it would be useful to provide an opportunity for church scholars to address issues that may have arisen in recent scientific developments. Accordingly, they organized a series of conferences on faith and science.⁴⁵ The first International Conference on Faith and Science met in Ogden, Utah, in 2002, and focused on questions of biological evolution. World Church divisions were invited to hold their own conferences in 2003 or 2004, and most of them did so. The conference for the North American Division convened at Glacier View Ranch in Colorado. In late summer of 2004, the second International Conference on Faith and Science assembled in Denver, Colorado,⁴⁶ and focused on the age of the earth and its theological implications.

The conferences helped clarify the issues, and gave participants an opportunity to hear and discuss various ideas. At the conclusion of the second international conference, leaders prepared and reported a statement, “Affirmation of Creation,”⁴⁷ to the Annual Council of the Seventh-day Adventist Church. Recognizing the importance of the Church’s teaching on creation, the Annual Council endorsed the statement, adding its own comments. Among the results of the discussions was the impetus to improve the GRI Mission Statement.⁴⁸

Several significant changes in staffing at GRI occurred during this period. Clyde Webster, GRI’s geochemist, retired at the end of 2000. Webster’s book, *The Earth; Origins and Early History*,⁴⁹ had been published in 1989 as a supplement for secondary school classes. Webster had spent many years studying the Yellowstone National

Park “fossil forests,” and had collected data on the more than 40 layers of volcanic ash and debris. Such evidence pointed to about four separate sources of the ash, all interspersed, implying simultaneous volcanic eruptions rather than a series of volcanic eruptions during long periods of time.⁵⁰

Dr. Raul Esperante, a paleontologist studying fossil whales in sediments in Peru, and Dr. Tim Standish, a molecular biologist exploring the genetics of the roundworm, *Caenorhabditis*, both joined the Institute in 2001. They brought the Institute up to full staffing after the retirements of Ariel Roth and Clyde Webster. When David Rhys, a volunteer, could no longer continue the Spanish newsletter, *Ciencia de los Origenes*, Raul Esperante took it over in 2004 and expanded it. The newsletter continued until 2017, at which time the GRI website made the Spanish material available.

Around 2001, Ben Clausen switched his research focus from nuclear physics to take up the study of igneous rocks and their implications for geologic time, leading to a vigorous research program. One of his activities was working with Dr. Erv Taylor of the University of California on investigating the question of carbon-14 in fossil material that was conventionally thought to be too old to contain carbon-14. Clausen also contributed to the Adult Bible Study Guide and the companion book⁵¹ for the Sabbath School lessons for the fourth quarter of 2006.

Elaine Kennedy retired in 2005. As a sedimentary geologist, she had led numerous geology tours and had studied sediments containing dinosaur eggshells. On one particular field conference in the North Pacific Union, she gained some notoriety as an amateur entertainer. Eventually, she published a book⁵² on dinosaurs in 2006.

In 2007, Dr. Ronny Nalin, a sedimentary geologist studying limestones and shallow marine deposits, joined the Institute, fresh from his doctoral program at the University of Padua in Italy. The president of the Italian Union of Seventh-day Adventists, who recognized the benefits of the networking that GRI could provide, had introduced Dr. Nalin to the GRI. After doing fieldwork with Dr. Esperante in Peru, Dr. Nalin soon completed his doctorate and received an invitation to become a member of the GRI.

Changes also occurred in the branch offices. Dr. Antonio Cremades became head of the South American branch office in Argentina in 2001,⁵³ replacing Professor Carlos Steger. Cremades continued in the position until 2005, when Dr. Roberto Biaggi assumed leadership.⁵⁴ The South American Division established a new branch office in Brazil and appointed Dr. Nahor Neves de Souza as director in 2008.⁵⁵ Economic challenges in Argentina eventually led to a change in status of the office at River Plate University from branch office to resource center.

In 2006, the GRI Board recognized⁵⁶ two new branch offices. One, located at Sahmyook University in Korea and funded by the Northern Asia-Pacific Division, had Dr. Choi Chong Geol as director, and the other, located at Montemorelos University in Mexico for the Inter-American Division, had Antonio Cremades as its leader.

The changes in staffing resulted in increased interest in digital education and in research and publication. Establishment of the General Conference of Seventh-day Adventists Faith and Science Council⁵⁷ in 2005 helped

provide support for the new trends and contributed to a subsequent expansion of activities for the GRI.

Growth in Research and Education: 2007-2021

In the absence of BRISCO, a series of meetings focused on teaching university courses in faith and science met between 2007 to 2013. As with BRISCO, leaders chose meeting locations for their proximity to geologically significant localities.

Field Conferences continued as an important function of GRI. Raul Esperante led a group studying the geology of the Spanish Pyrenees in 2007. Ben Clausen conducted a field school in the Colorado Rockies for secondary teachers in 2008. Ronny Nalin supervised field conferences for church leaders in the Italian Alps during 2012, 2014, and 2017.

In 2011, the book, *Understanding Creation*, came off the press with Jim Gibson as one of the editors. Gibson also was the principal contributor to the Adult Bible Study Guide on creation for the first quarter of 2013, along with the companion book.⁵⁸ He also helped edit a book⁵⁹ on care for the creation, and had contributed to the third edition of Harold Coffin's classic book.⁶⁰

Video production developed during this period.⁶¹ In 2009, Tim Standish produced a set of six videos titled "Thinking Creation." The next year he edited and produced a large set of video lectures on creation, featuring numerous speakers. Standish also joined forces with Illustra Media™⁶² to produce several outstanding nature videos focused on design in nature, which were then translated in several languages.⁶³ Subsequent video productions featured biographies of notable persons who are both scientists and believers in creation,⁶⁴ a series of videos on the Galapagos Islands⁶⁵ with Noemi Duran and others, and a set of four videos on the history of geological controversies in the Alps with Ronny Nalin.⁶⁶ Financial support from the Faith and Science Council enabled the completion of many of those productions.

The Faith and Science Council was also instrumental in obtaining funding for a number of highly significant educational and research endeavors. One of them was the organization by Tim Standish and Dr. Randall W. Younker (Andrews University) of weekend "Celebrations of Creation" on various college campuses. They eventually morphed into celebrations of "Creation Sabbath" at various locations around the world, and Standish continued to promote such activities. "Creation Sabbath," an initiative first launched by the ministerial association of the General Conference,⁶⁷ became a part of the Church's calendar of special days, celebrated each year on the fourth Sabbath of October.⁶⁸

A series of international conferences on biblical foundations in faith and science, sponsored by the Faith and Science Council, has also provided opportunities for GRI scientists to interact with other Seventh-day Adventist teachers and scholars throughout the world.⁶⁹

The Faith and Science Council also presented a recommendation to the General Conference officers that the Church's Fundamental Belief Statement 6 on creation be expressed more clearly. Accepted by the officers, they placed the topic on the agenda of the 2015 General Conference Session, where it was implemented. The new statement is now available on the General Conference website at <https://www.adventist.org/creation/>.

GRI scientists were also successful in obtaining significant funding for research. Raul Esperante continued his doctoral study on fossil whales in the Pisco Formation (Miocene) of Peru. He has published a series of scholarly articles in the professional literature based on his findings and has conducted further investigations in Spain, Bolivia, and Iceland.⁷⁰ Ben Clausen developed a major research project studying granites in California, the Andes, and other locations. Questions about how igneous rocks such as granites and volcanic lavas relate to the age of the earth motivated his research. He has published a series of articles in professional journals, and has mentored several graduate students in related research. Ronny Nalin has continued to study sedimentary rocks and their implications for time and genetic processes in both Italy and North America, publishing his results in the professional literature.⁷¹

GRI staff members have also been active in teaching courses for the department of earth and biological sciences at Loma Linda University, and in mentoring numerous students through their master's and doctoral programs. Interaction with scholars and students has benefitted both students and researchers.

Courses were also taught at the Adventist International Institute for Advanced Studies (AIAS) in the Philippines, and the Adventist University of Africa (AUA) in Kenya. Lecturing at various colleges and universities includes regular guest appearances at the Andrews University Theological Seminary in Berrien Springs, Michigan. Collaboration with the seminary in Spain, Campus Adventista de Sagunto, led to establishment of a master's program in Faith and Science

An important development was the establishment of GRI "Resource Centers" at several universities outside of North America, starting with South America but now including locations in Africa and Asia.⁷² Built around physical displays and specimens of interest for origins topics, such centers promote creation-related educational activities on campus, and support, where possible, research projects in areas relevant to origins.

Retirements led to some changes in branch office leadership. Dr. Noemi Duran became director for GRI in Europe in 2016, with the office located at Sagunto Adventist College in Spain. In 2017, Dr. Luciano Gonzalez assumed the role of director of the Inter-American Division branch office at Montemorelos University. In 2018, the South American Division moved its branch office for GRI to Brasilia and appointed Dr. Marcos Natal Costa de Souza as head.

The year 2016 saw the appointment by the administrative committee of the General Conference (ADCOM) of a Geoscience Research Institute Committee (GRICOM).⁷³ It consisted of the members of GRI and a representative from each worldwide division, along with several church administrators, and had as its task developing a stronger link between GRI and the divisions for planning meetings and developing, evaluating, and promoting

educational materials relating to origins. This greatly improved communication between GRI and the international field, including tertiary institutions.

Beginning about this time, GRI began developing a museum in its library, featuring fossils, rocks, and modern organisms, with each display emphasizing the themes of design and catastrophe. Organized by L. James Gibson, some of the material was displayed at the Annual Council of 2017, bringing the themes to the attention of worldwide church leaders.⁷⁴ Both themes formed the basis for a book⁷⁵ providing many additional examples from nature of both design and catastrophe.

A major web upgrade took place in 2018, accompanied by an expanded Facebook page and the addition of an Instagram page, under the supervision of Ronny Nalin. The website presently has more than 1,000 articles, videos, posters, and other materials relating to creation and science.

Following a successful collaboration with the department of education of the North American Division for the production of the science textbook series *ByDesign*, for grades 1-8, publication of a new secondary level biology textbook, *ByDesign Biology*, was a welcome development in 2020.⁷⁶ Edited by Tim Standish, and with multiple chapters written by him as well as the contribution of many illustrations, the book provides a scientifically accurate creation-friendly textbook. It has been a great help to teachers struggling with how to deal with the evolutionary worldview promoted in secular biology textbooks.

Following the retirement of L. James Gibson, Ronny Nalin became the new director in 2020.⁷⁷ Dr. Nalin's background of research in sedimentary geology fits well with the emphasis on geological research that had been developing in the Institute.

Conclusion

The Geoscience Research Institute has been an important voice in support of a harmonious interpretation of the relationship between the biblical record of creation and scientific study of the physical world. It has produced educational, scientific, and inspirational materials for a variety of audiences, and continues to serve the Church by exploring the intersection of faith and science from the perspective of a biblical worldview.

Geoscience Research Institute current address: 11060 Campus Street, 92350 Loma Linda, CA, U.S.A.; geo-coordinates: 34° 03 09.71 N, 117° 15 57.21 W.

SOURCES

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NOTES

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4. Harold W. Clark, *The New Diluvialism* (Angwin, CA: Science Publications, 1946).
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7. General Conference Committee Minutes, "INDIVIDUALS TO BE TRAINED IN GEOLOGY AND PALEONTOLOGY," October 25, 1957, p 1004, copied document, personal collection of Ariel A. Roth, History, GRI History, General. Available online at <https://documents.adventistarchives.org/Minutes/GCC/GCC1957-10-AC.pdf>.
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9. E.g., see Ronald L. Numbers, *The Creationists*, 321-326.
10. *Ibid.*, 529 endnote 25.
11. *Ibid.*, 325.
12. GRI scientists wrote several books during this early phase of the Institute: Richard M. Ritland, *Meaning in Nature* (The Department of Education of the General Conference of Seventh-day Adventists, 1966), and its revised version, *A Search for Meaning in Nature* (Mountain View, CA: Pacific Press Publishing Association, 1970); Harold G. Coffin, *Creation--Accident or Design?* (Washington, D.C.: Review and Herald Publishing Association, 1969), with its subsequent revised version *Origin by Design* (Washington, D.C.: Review and Herald Publishing Association, 1983).
13. Lugenbeal, "The Conservative Restoration at Geoscience," 23-31.
14. Ariel A. Roth, *Origins, Linking Science and Scripture* (Hagerstown, MD: Review and Herald Publishing Association, 1998), 346, 347.
15. Acceptance by Dr. Robert Brown of the invitation to serve as director of the Institute is recorded in the Minutes of the Geoscience Board Meeting, May 7, 1973.

16. Lugenbeal, "The Conservative Restoration at Geoscience," 23-31.
17. Numbers, *The Creationists*, 327.
18. R. H. Brown, "The Interpretation of C-14 Dates," *Origins* 6, no. 1 (1979): 30-44, accessed December 14, 2021, <https://www.grisda.org/origins-06030>.
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24. Action of the General Conference Committee, April 5, 1990, 90-134, accessed December 14, 2021, <https://documents.adventistarchives.org/Minutes/GCC/GCC1990-04.pdf>.
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