Health, Medicine, and Science

Moravian faculty preparing healers for the 21st century
Prelude: This Is the Time
By Frank Alessandra '88

Going the Distance
Myron Genel, M.D '57 deftly navigates the intersection of medical research, clinical practice, and public policy.

Anatomy of a Breakthrough
During a recent visit, Nobel-prize winner Peter Agre spoke about his discovery of aquaporins and his life in medical science.

Comfortable in Genes
Chris Jones, associate professor of biological sciences, starts students on a research trail that could one day lead to a cure for Alzheimer’s disease.

Virtual Fitness
Thinking outside the box has helped Marc Thompson '87 and his clients succeed.

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Cover: Moravian science faculty members prepare students for careers in medicine and science, using a hands-on approach to research, inside and outside the classroom. Biology professor Christopher Jones’ research focuses on genetics and its relationship to Alzheimer’s disease.

Photo by John Kish IV
The ’80s were ending, and so were all the extraordinary times with friends. We’d be heading into the ’90s and things would be different.
Excerpted from The Six: A Story about Boys, Laughter, and a Lifelong Friendship, Frank Alessandra’s new memoir about the 30-year friendship between six friends growing up together in the New Jersey suburbs in the 1980s.

Fall 1989. The next day, Rob and I were up by 10 a.m., and after an uneventful breakfast in the hotel restaurant, we drove to the stadium, arriving before noon. I was excited to be in Steeler country yet also disappointed about the previous evening. I had to accept the fact that there would be no more new knee-slapping stories for “the six” to tell.

As we watched the Steelers and Chiefs in their pre-game warm-ups, I thought about how appropriate it was that on this day, Rob and I were nothing more than spectators. I thought back to our high school football days and how I still had dreams of playing just one more season. But then I’d always wake up.

The reality was that Rob and I were in the stands that day and not on the field. There would be no stories made of Barry punting, Tommy playing with a bad knee, or the seniors rallying to bring Chris back for the final game. Rob and I were on the outside looking in. We weren’t stirring up trouble, we weren’t creating a buzz, we weren’t drawing attention to ourselves, and we weren’t making memories. One day, I’d look back at this trip to Pittsburgh and recall who won the game, but quite honestly, there’d be nothing more to remember, I thought. If anything, this weekend would go down as the story that never happened.

The Steelers won a tight one, but as happy as I was with my team’s victory, part of me wasn’t feeling especially joyful. All that was left was the long ride home. The ’80s were ending, and so were all the extraordinary times with my friends. We’d be heading into the ’90s and things would be different.

As I started the car, I thought about how I needed to be at the office early the next morning, and Rob mentioned that Deborah would be coming by his house for a late-night visit. Such anticipation of our return home gave me a clear preview of what would be ahead in this new decade. We were heading to a day when being with one another would no longer be the focal point of our lives.

We needed to make a bathroom stop, so I got off of the turnpike and found a pizza place in a strip mall. As I waited for Rob in the dining area, I sat in a booth and stared aimlessly at the big refrigerator of sodas with the Pepsi logo on top.

My daze was interrupted by the sounds of two couples at a nearby table. One of the women was carrying a toddler who was no more than two years old. She propped the child up in a high chair at the end of the booth and gave him a small toy. One of the men passed around the menus and the four talked about the pasta specials. I couldn’t help but overhear their conversations. They spoke about the cooling weather, the fat content of mozzarella, and the pumpkin costume the child would wear for Halloween.

I was comforted by this rather touching, low-key scene. These friends seemed to really enjoy one another’s company, and there was nothing absurd or outrageous about it. There was no bar scene, no bathroom humor, no Shore house, and no women of the Valley. And although there was no knee-slapping, there was, in fact, laughing. They were happy and they were making memories.

Billy Joel’s “This Is the Time” started to play through the speaker above me. I must have heard that song a thousand times, but this was the first time I really listened, it seemed. I thought about the past 10 years of my life.

For more than 20 years, Frank Alessandra ’88 (top) has relied on an annual get-together with five childhood buddies to soothe the stresses of adult life. Inspired to share their stories of youth and innocence, Alessandra (a financial analyst by trade) uncovered a passion for writing. He graduated with honors in business accounting from Moravian College and received an M.B.A. with honors from Lehigh University. He now lives in Flemington, New Jersey, and has two teenage daughters. Photo, p. 2: A group of 2010 students make memories, sharing stories between classes on a pathway above the HILL, Hurd campus.
Fulmers Bequeath Major Gift to Support the Sciences

Moravian College has learned that it will be the recipient of a major gift from the estate of Harlan Fulmer, M.D. ’43, who passed away September 2, 2010, and his wife M. Eleanor (Kern) Fulmer, who predeceased him. The $5 million bequest is the largest that the College has ever received.

Half of the bequest will be added to the Harlans’ existing endowed scholarship for pre-med, pre-dental, and nursing students. The remainder will be used to support the construction of the new Hall of Science. After graduating from Moravian, Dr. Fulmer completed his graduate medical studies at the University of Pennsylvania School of Medicine in Philadelphia, then enjoyed a long career as a pathologist in Fresno, California.

“The College is most grateful to Dr. Fulmer for his remarkable generosity,” said President Christopher Thomforde. “A gift like his will directly benefit the lives of our students for generations to come. Planned gifts, like Dr. Fulmer’s, are a great way to support the Moravian mission and are of benefit to the donor as well. We continue to be able live out our mission in vital and creative ways to the benefit of our students, thanks to the generosity of our alumni and friends.”

HAPPy NexT...
A good professor is a bit like the producer-director of a successful stage play—breathing life, meaning, and relevance into what otherwise would be empty words expressing unfamiliar ideas. Inspired by Gordon Kampe's environmental opera Zivilcourage, Khristina Haddad, associate professor of political science, recently produced a new take on Political Science 120: Introduction to Political Thinking. Through the hands-on process of staging and acting dramatic pieces, students experience political theory in action.

Professor Haddad saw Zivilcourage (“moral courage,” about political thinker Hannah Arendt) performed in Germany in the summer of 2009. “This opera made political theory come alive for me and others in the audience. I thought, ‘how can I teach political science differently?’ It completely embodied the experience of moral courage—the courage of the unarmed civilian, associated with a high level of political engagement.”

Haddad wanted her students to experience that kind of engagement with the world—not an easy task in a controlled classroom setting. The class’s first assignment: to mess up the classroom. The lesson was linked to a text by political theorist Michel Foucault, Discipline and Punish, about the disciplinary power of social institutions.

“It was very difficult for my students to do,” said Professor Haddad, who received the 2008 Lindback Foundation Award for distinguished teaching. “I asked them to try again, and told them they would understand the meaning by the end of the semester: School is an institution that heavily socializes behavior.”

Later assignments involved staging plays that interpreted the political thinking of Shakespeare’s Richard III, Machiavelli’s The Prince, and the Platonic dialogue The Apology. Nicole Tabor, an assistant professor of English who teaches courses on dramatic literature, provided valuable input regarding theater pedagogy.

Like Zivilcourage, the class’s performances were not limited to one location or space, but moved around campus.

“Zivilcourage begins in the courtyard of a church and ends in a public square where performers can no longer be distinguished from audience members,” explained Haddad. “This conveys the role of a specific space in shaping political perspective. By moving to different settings, performers and audience see and hear from a variety of perspectives.” Each exercise reinforced the message that people are not automatically fit for political action; involvement takes practice.

“It was a really neat class!” said Steven Feldman ’11, a work-study student who assisted with class planning, syllabus design, and coaching. Now an intern at the U.S. Embassy to the Holy See, Feldman says the political discussions feel very familiar: “I was helping run a rather large interfaith conference yesterday, and everyone was talking about framing issues.”
Moravian Scholars Meet in Bethlehem

Moravian scholars from around the world gathered in the historic Gemeinhaus and Peter Hall October 14-17 for the third biennial Bethlehem Conference on Moravian Music and History. “Moravian history has been a cutting edge topic among colonial historians in recent years,” said Heikki Lempa, conference co-organizer and chair of the Moravian History Department. “Because of the extensive records kept by the Moravians, it is one of the best venues for exploring native American history.” The Moravians also are of great interest because of the Church’s controversial role in religious history, and because of the important and exceptional roles women, Africans, and native Americans played within the community, he added.

A musical highlight was a cittern, harp, and voice performance by Duo Marchand, which played Moravian pieces first published in 1761. Andrew Rutherford constructed the cittern, which is an exact replica of the only known existing eighteenth-century cittern, said Hilde Binford, conference co-organizer and associate professor of music. The conference was co-sponsored by Moravian College, the Moravian Archives, and the Moravian Music Foundation.

Enlisting Citizen Scientists

Diane Husic, chair and professor of biological sciences, has been selected a 2010 TogetherGreen Fellow. She is one of just 40 conservation professionals in the nation to receive the award, which is supported by an alliance between Audubon and Toyota. As a Fellow, she will receive training in conservation planning, the chance to work and share best practices with other conservation professionals, and assistance with project outreach and evaluation. Each Fellow also receives $10,000 toward a community-focused conservation project. Dr. Husic’s project involves phenology, the study of the relationship between natural seasonal events and the environment. Working with local environmental educators, she has begun to build a regional network of “citizen scientists” who will monitor key ecological events and species. Moravian students will help design the programming, collect data, and “mine” historical data related to phenology.

“It is important to connect people in meaningful ways to environmental problems,” she said. “This project will get people outdoors observing nature!” The data will be useful to scientists as the state begins planning for climate change adaptation, she added.
Moravian Bookshelf

- **Wayward**, a new book of poems by James P. West, professor and chair of economics, distills pivotal events (like September 11, 2001) and big ideas (the oneness of human life) into simple statements deep with meaning. “Like economics graphs, my poetry is designed to be concise but meaningful,” said West. Available at the Moravian College Book Store, the Moravian Book Shop, and at www.jamespwest.com.

- **The Book of Amos in Emergent Judah** by Jason Radine, assistant professor of religion, challenges traditional scholarly assumptions about the biblical book. Amos is not a work of prophecy, he asserts, “but rather a religio-political document that explains the withdrawal of divine favor from the northern kingdom of Israel.” Radine believes the book of Amos was written in stages, the earliest about 700 B.C.—60 years later than conventionally believed. Available in academic libraries throughout the U.S. and Europe.

- **Stranger Here Below**, a new novel by Joyce Hinnefeld, associate professor of English, is the story of three generations of women connected through two communities: the Shaker site of Pleasant Hill and Berea College. At the center of the book is the friendship between two girls—one white, one black—who are Berea roommates in 1961, a time of upheaval. For a schedule of book readings and signings, visit www.strangerherebelow.com/events.html.

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**Fall Convocation Brings CHINA IN FOCUS**

China, one of the world’s oldest and most fascinating cultures and its second largest economy, will be on the minds of Moravians throughout the 2010-11 academic year. For CHINA IN FOCUS, students, faculty, staff, and alumni will consider and experience China through lectures and readings; coursework here and abroad; art, music, film, and dance; Chinese cuisine and tai chi.

IN FOCUS is a new initiative that seeks to build a more active learning community by exploring an important topic over the course of a full year. “We’re very excited,” said Dr. Kathy Thomforde, co-chair of the Committee for Thematic Programming (CTAP). “We wanted to encourage cooperation and linkages across our campus community, and it’s happening.”

The idea for a year of thematic programming emerged over dinner table discussions with small groups of faculty members at the home of President Christopher and Kathy Thomforde. Faculty members said they wished students had more opportunities to study and understand a complex issue from a variety of perspectives. By focusing on a single issue throughout the year, CTAP hopes to create more interdisciplinary connections and boost attendance at events.

Fall Convocation, September 23, marked the official kick-off of CHINA IN FOCUS with a lecture by Cohen keynote speaker Rob Gifford, NPR foreign correspondent and author of *China Road*.

President Thomforde and faculty members donned academic attire for Fall Convocation, a new tradition to celebrate the start of the academic year. Cohen keynote speaker Rob Gifford spoke about China, launching IN FOCUS, a year of thematic programming.
PRESIDENT THOMFORDE SIGNS EXCHANGE AGREEMENT

Moravian College and the Universite de Poitiers have agreed to establish a full exchange between the two institutions commencing Spring 2011. Students will be able to pursue a semester or an academic year of study as a visiting student. Course instruction will be offered in both French and English. The exchange will involve access to most academic departments, including political science, literature, music, art, economics and business, and French. Right: President Christopher Thomforde signs the agreement as Jean-Pierre Lalande, Moravian professor of French and Latin, and Professor Andre Magord of the Universite de Poitiers, look on.

New on Board

The Moravian College Board of Trustees met at the College in late October for several days of review and planning. The Board welcomed new members Brian Corvino ’02, Newtown, Pa., partner PhamaStrat, Inc. and president of the alumni board; Kelly Denton-Borhaug, Coopersburg, Pa., associate professor of religion at Moravian College; Wilton Grannum, Brooklyn, N.Y., president of the Board of Trustees for John Hus Moravian Church; Candy Barr Heimbach ’79, Bethlehem, Pa., attorney and vice president at Marshall, Dennehy, Warner, Coleman & Goggin; Betsy Miller ’85, Bethlehem, Pa., president of the Provincial Elders Conference Northern Province, and a Moravian Theological Seminary trustee; Christopher Ohmacht ’88, Franklin Lakes, N.J., president for global distribution at Victory Capital Management; Paul Sittenfeld, Cincinnati, Ohio, managing director for Robert W. Baird & Co. and a Moravian Theological Seminary trustee; Honnie Spencer ’90, Mooresville, N.C., physician; Brittany Beard ’12, Lebanon, Pa., a student majoring in psychology; and Corey Koenig ’11, Springtown, Pa., a student majoring in business management.

During an open “Meet the Trustees” forum, trustees fielded questions on topics ranging from career services to enrollment to campus parking. Alumni figured prominently in the discussion, which included input from faculty and staff members. “We have an active alumni association with new chapters, but we need the resources to coordinate and augment their involvement to benefit current students and the College,” said Rick Subber ’69, M.B.A. ’95, treasurer and past president of the alumni board.

Alumni affinity groups, such as former members of the Amrhein Investment Club, already are offering valuable career advice, said trustee Michael Ellis ’72, but much more could be achieved if “all alumni would serve as Moravian College ambassadors,” reaching out not only to current students, but also to potential enrollees.
Frank Kuserk Honored for Mentoring

For more than 30 years, Frank Kuserk, professor of biological sciences and director of the environmental studies program, has inspired Moravian College students to buckle down, reach higher, do more.

In August, Kuserk’s impact was recognized nationally, when the Council on Undergraduate Research (CUR) honored him with its first Biology Mentor Award. “Being a mentor is not just about advising the best students, but about giving honest advice to all students so they have a chance to reach their potential,” he said.

Kuserk is enthusiastic about the value of teaching through collaborative research with students. Under Dr. Kuserk’s guidance, students have published articles in scholarly journals and have presented their work at scientific meetings. Several students have received awards, such as the American Institute of Biological Sciences National Undergraduate Research Award.

“Dr. Kuserk’s lessons are not bound by classroom walls,” said Matt Share ’11, a biology major who monitored conditions in the Little Lehigh stream last summer, under Kuserk’s tutelage. “Sure, he’s taught me a lot about ecology, animal behavior, and Darwin—but he also has aided me in my quest for graduate school admission and has provided a few life lessons along the way, too.”

Hillel Celebrates the Season

The Moravian Hillel Society celebrated Sukkot September 23 by inviting the entire campus community to help build and decorate a Sukkah (a hut or temporary structure). Sukkot commemorates the experience of Israelites living in temporary structures during their exodus from slavery in Egypt. “It’s one of the most fun holidays,” said Gregg Steinman ’12, president of the Moravian Hillel Society. “It represents the Israelites’ journey toward freedom, and celebrates the autumn harvest.”

Hillel members and friends constructed the 8 x 12 foot structure over several hours then festooned it with paper garlands, branches, and artificial fruit and vegetables. A Sukkot ritual demonstration followed.

“Fruit and natural materials are traditional Sukkot decorations,” said Hillel member Lillian Shad ’11. “They signify hospitality—the more you give, the more you receive.” Hillel plans other community activities, such as Hanukah and Purim celebrations, for the remainder of the academic year. Jason Radine, assistant professor of religion, advises Hillel.
The point we are making is where do you draw the line? In athletics, there is no such thing as a level playing field.
Myron Genel ‘57, M.D. deftly navigates the intersection of medical research and public policy.

“Athletic sex.” Myron (Mike) Genel, M.D., ’57, is an authority on the subject. But as this professor emeritus of pediatrics and senior research scientist is quick to point out, “it’s not what you think it is.”

For more than two decades, Dr. Genel has been near the center of the debate on gender identification in international athletic competition. He was widely quoted last year in the wake of controversy over South African runner Caster Semenya, who won the women’s 800-meter race at the 2009 World Championships despite questions about her sex.

Yet Genel’s involvement with the highly controversial issue is something of a fluke. Timing, happenstance, and personal relationships had a good deal to do with most of his career milestones, he insists: “So many of the things we end up doing are not conscious decisions but the result of a confluence of events—the things you thought you would do, you never end up doing, or you don’t do them quite the way you imagined you would.”

The Upside of a Traffic Jam

“Back in the mid-’80s, I was stuck in traffic, so I pulled out the JAMA [Journal of the American Medical Association] beside me and flipped through it. I said, ‘my God, look at that,’” recalls Genel.

An article by Finnish geneticist Albert de la Chapelle pointed out problems with the way gender was being verified at the Olympic Games. The Buccal Smear chromosome test, which examines mouth cells for either XX or XY chromosomes, was often inaccurate and did not consider certain genetic anomalies.

As a practicing pediatric endocrinologist and marathon runner, Genel was intrigued and immediately dictated a letter to the author. “Within a week, I got a reply telling me how frustrated he was because nobody would take action,” he says. “I wrote back and said maybe we ought to mobilize a professional society to start working on it.” Genel quickly enlisted the American Medical Association and other professional associations and got them to pass resolutions proposing changes to the International Olympic Committee procedures.

When the IOC failed to act, the organization now known as the International Association of Athletics Federations convened a workshop to address the issues. The international interdisciplinary team eventually succeeded in eliminating gender verification in international athletic competition, including the 2000 Olympic Games. Genel continues to serve as a consultant to the IOC, and in January 2010 he was part of the panel that recommended treatment (not disqualification) of athletes with sexual development disorders.

“The point we are making is where do you draw the line? Athletes are drawn to compete because there are physical differences among people from birth. There is no such thing as a level playing field.”

A Long and Winding Road

Happenstance aside, Yale Medical School’s former associate dean for government and community affairs (1985-2004) clearly has a knack for navigating the interface of biomedical research, clinical endocrinology, and public policy.

“In many respects, what I’ve done over
the last 30 years is a hybrid of medicine and public policy,” he says. “At Moravian I committed to pre-med, but didn’t really think much about it. Even until my senior year, I considered applying to law school.” A stint as editor of the Comenian student newspaper and summer work for the Morning Call likely contributed to his interest in advocacy, he speculates.

But Genel chose medicine, studying at the University of Pennsylvania School of Medicine, and later (for postdoctoral training) at Mount Sinai Hospital, Johns Hopkins Hospital, and the Children’s Hospital of Philadelphia.

Besides being part of the team that succeeded in eliminating gender verification in international athletic competition, Myron Genel helped write the 1984 National Organ Transplant Act (NOTA), served on the National Children’s Study Federal Advisory Committee, and was a founder of the Connecticut Stem Cell Coalition.

He first became involved with organ donation in 1982, when, as a Robert Wood Johnson Health Policy Fellow, he’d been assigned to work for a (then) relatively obscure Tennessee congressman named Al Gore. “As with all politicians, his staff was always looking for issues that would put him in the limelight,” Genel remembers. One day, the Congressman’s office received a telegram from a father in Memphis, requesting help obtaining a liver for his son. “They asked me if I could help find a liver for this child. My response was ‘you’ve got to be kidding—what is Congress doing trying to find livers for kids?’”

Certain there had to be a better way to match organ donors with potential recipients, he convinced Gore’s staff to push for Congressional hearings on the issue. At the 1983 hearings, “they brought in a telegenic woman whose son was at the Memphis children’s hospital, waiting for a liver transplant. Soon after she testified, a liver was found for him.”

The dramatic turn of events made front page news, and “out of that positive publicity, we wrote the National Organ Transplant Act, which now governs the entire organ donation system in the U.S.”

Follow Your Nose

Genel hasn’t slowed his pace much in recent years. In October he attended an IOC meeting in Lausanne, Switzerland, this time to consider the legal and philosophical aspects of the gender issue in elite sports. “We’ve been at this business of gender verification for 25 years and it still has not been totally resolved,” he says.

He also continues to direct public affairs for three major pediatric societies, and as a member of the Connecticut Stem Cell Research Advisory Committee, he helps oversee the distribution of $100 million in state funds to support stem cell research.

His connection to the Connecticut Stem Cell Coalition can be traced to an earlier organization, CURE (Connecticut United for Research Excellence), which he helped launch and lead as its first president. The coalition of 70 health organizations aimed to promote public understanding of biomedical research. Genel’s youthful newspaper experience again proved valuable, as he recognized the need to package research news in a way that would garner publicity. “We discovered that putting our research advances in terms of economic potential and development got media attention.”

Then, about seven years ago, Genel received a call from an acquaintance, Milt Wallack, whose grandchild had juvenile diabetes. Knowing that stem cell research offered hope, Wallack mentioned California’s large stem cell research program: “Could Connecticut do something like it?” Genel advised him to get in touch with CURE. The coalition succeeded in convincing the State of Connecticut to pass legislation (Act 04-159) in 2005, establishing a fund for stem cell research along with a committee to oversee distribution.

“By using CURE’s resources and representatives of various advocacy organizations who had their own networks, we were able to get the legislation passed and funded in 18 months,” Genel says. The state stem cell research initiatives were in response to a limitation in federal funding imposed by the Bush administration, he explains. California’s Proposition 71 was funded by
state bonds, but Connecticut’s stem cell research is a direct appropriation funded by a multistate settlement with major tobacco companies related to cigarette use.

Connecticut was the first state to actually award funds for stem cell research. The seed money allowed Connecticut to establish stem cell research labs at Yale and the University of Connecticut—“infrastructure that will help us get major federal funding” for research that could one day lead to a cure for juvenile diabetes, Parkinson’s disease, spinal cord injuries, and more.

“It all happened through coincidence and personal relationships,” says Genel. “If Milt Wallack had not contacted me about his grandchild, I would not have gotten into this . . . You have to follow your nose, wherever it takes you.”

Through the years, Genel has balanced public service with teaching and patient care. “Teaching medical students and residents and caring for patients in the hospital and clinic are integral parts of what we do at a medical school,” he says. Seeing patients has its own rewards. “Making a correct diagnosis, then having the family come back and tell you how grateful they are—that helps keep you going.”

What’s next? Perhaps another marathon. Mike Genel has run in seventeen of them, including the Boston in 1980, ’81, and ’82. “I’ve been thinking about it for 2011,” he says, after his daily 6-mile run. “The qualifying time for Boston would be 4:15 for my age group next year—that’s probably doable.”

—By Vicki Bingham

Preparing for a Career in Health

Aspiring dentists, doctors, and veterinarians at Moravian College can prepare for the demanding years ahead by joining the Pre-Health Professions Club.

With more than 160 members, the club has grown since its establishment in 2005. Members have access to advice on course scheduling and test preparation, as well as to guest speakers—mentors who can talk not only about careers, but also the necessary steps for getting into them. Speakers include alumni who are working as health professionals or who are attending medical school, and Kaplan spokespersons who can offer tips for preparing for the MCATs and other tests.

Stephen Dunham, assistant professor of chemistry and the club’s new advisor, hopes the club will give students a well-rounded understanding of what it’s like to be a health professional. Professor Dunham, who is also the College’s health professions advisor, works individually with many of the students, too, helping them map out their undergraduate careers.

Besides providing essential practical advice for a career in health, the club gives students a foundation for friendships with like-minded students, adds Professor Dunham. “It allows social networking, just like any other club, team, or Greek organization, but the topics focus on the health professions.”

—Kelly Fackenthall ’12

Photo by Michael Clark ’12

Guest speaker Terence L. O’Rourke Jr., M.D. ’86 advises members of the Pre-Health Professions Club about medical career “dos and don’ts.”
Peter Agre, M.D., winner of the 2003 Nobel Prize in Chemistry, visited Moravian College October 2 to speak about the "Joys and Tears of Life in Medical Science." Before the talk, Dr. Agre met with Moravian medical science alumni, pre-medical science students, and faculty members at a reception in Collier Hall of Science.

Dr. Agre described his discovery of aquaporins and the significance of the Nobel Prize during his talk at Moravian:

"I was very fortunate. Dr. Victor McKusick at Johns Hopkins offered me a tenured assistant professorship and the focus of my work changed to diseases affecting the newborn. I worked on the basis of the Rh blood group antigen, which was then unknown at the molecular level. This was just twenty-some years ago. We [Dr. Agre and his lab team] figured out a way to identify it and purify it. It was a big, confidence-building activity, and we published our work in prominent journals. We later co-purified it, and by total accident, there was a contaminating molecule unrelated to Rh, but about the same size.

"This protein was fascinating. It didn’t stain well. No one had ever seen it before. And when we were able to quantify it, we found it was one of the most abundant proteins in the membranes of cells. We were able to obtain enough protein to get the sequence. And the sequence was similar to some proteins identified in the roots of plants, and the brains of insects—none of them functionally defined. I was curious. What could this be?

"I talked to dozens of scientific friends and colleagues about this new protein, which was also found in red cells and renal tubules in mammalian tissues. But we had no progress."

While returning home from a Florida vacation with his family, Dr. Agre stopped in Chapel Hill, North Carolina. "I called ahead to my friend and mentor, John Parker, a clinical hematologist at UNC. In addition to being a fine physician, John had a small but excellent lab where he studied the physiology of red cells. I told him about this protein, which seemed to be membrane-spanning and channel-like in structure.

"John thought for a minute, leaned forward, and said, ‘Peter—red cells, renal tubules, tissues in plants.
Nobel Prize winner Peter Agre, M.D. visited Moravian October 2 to speak about his life in medical science and the discovery of aquaporins. A reception for medical alumni and students (Nicole Hadeed ’11, center photo) was held in Collier Hall. Top: Joseph Merola, M.D. ’64, Mike Genel, M.D. ’57, Peter Agre, and President Thomforde toasted the occasion with test tubes of squash soup.

“We knew then we had discovered the long-sought water channel, but did not have a clue this could be of significant interest to others.”

These are highly permeable tissues. Have you considered this might be the long-sought water channel? Apparently physiologists for more than a hundred years had been trying to explain why some tissues like renal tubules could be freely permeated, and other tissues like our skin are rather impermeable. So it was his suggestion that led to the breakthrough.

“I returned to the lab and teamed up with another scientist at Hopkins, Bill Guggino, a physiologist. We injected the complementary RNA of this protein into frogs’ eggs, which are waterproof. When we transferred the oocytes to distilled water, they exploded like popcorn. The control eggs just sat there dormant. We knew then we had discovered the long-sought water channel, but did not have a clue this could be of significant interest to others.”

“Within weeks we began receiving calls from around the world asking us to share the plasma. We hustled to get our first report out, fearful we’d be scooped. As a small lab shares information, the big labs often jump on it. But we published first. [The 1992 paper by Peter Agre and Bill Guggino, Ph.D., was published in Science.] This led to the discovery of related proteins—cousins in different tissues with similar but not identical functions.

“...It is important that there be a Nobel Prize but it’s more important for the world to know about science than about any of us individually. The Nobel Prize is a footnote for the individual. But when they announce the winners, it focuses the world on what we are doing, whether in a research lab, or in a classroom, or in a clinic. It is all the same enterprise. It’s about trying to make the world a better place. I can’t imagine doing anything else.”
Genetics is a young science, born in a monastery garden 150 years ago when Gregor Mendel took a careful look at the inheritance of physical traits in peas. It’s developed quickly, however, and today genetics is a multidisciplinary field that integrates biology, mathematics, social studies, and health. If the movie *The Graduate* were being made today, Mr. McGuire would have just one word to say to Ben: “genetics.”

Christopher Jones, associate professor of biological sciences and geneticist, has two words for his students: “fruit flies.” For more than a century, fruit flies (*Drosophila* spp.) have helped genetics researchers by breeding quickly and requiring little space or food. A dab of yeast and molasses in the bottom of a test tube are all that’s needed to make more fruit flies. With incubators, microscopes, and a few simple apparatuses for manipulating the flies, a genetics lab is fully stocked.

More importantly, many fruit fly genes have human counterparts. And understanding the genetics of fruit flies can help answer questions about how human bodies work, says Jones. Since coming to Moravian in 1999, Jones has taught introductory and advanced genetics courses while maintaining an active research lab. It’s a small room in Collier Hall, barely 12 by 16 feet, just big enough for thousands of fruit flies and several biology students’ Honors projects.

Over the past year, Michael Solomon ’11, a biochemistry major from Bethlehem, has been trying to learn more about the effects of mutations in fruit fly genes that in humans can affect the onset and severity of Alzheimer’s disease. “I’m taking the molecular approach,” says Solomon, holding a small vial with a few drops of clear liquid in the bottom. “This is a DNA solution.” Using a technique called gel electrophoresis, he’s isolating specific DNA fragments that eventually will be inserted into fruit fly chromosomes.

“It’s nice to sit in a classroom and learn,” says Solomon, “but to be able to do research independently, and to see something you’ve done, and your results, that’s something else.”

Other Honors students are looking at “bang-sensitive” mutant fruit flies, so called because they exhibit seizure-like behavior when shaken. “Understanding the molecular underpinning of what causes seizures in fruit flies could have direct relevance to understanding how seizures happen in people,” says Jones. He discovered one type of these mutants, called “slamdance,” while studying learning and memory in fruit flies at Cold Spring Harbor Laboratory on Long Island in the 1990s.

A Learning Lab

His interest in biology began in high school. “I had an inspiring teacher who had a good sense of humor that was a little off the wall,” he says. Next, Jones studied viruses at Haverford College and earned a dual degree in biology and Russian in 1981. In graduate school at Yale University, he focused on bacteria and how they move. After three years in Japan as an “invited foreign researcher,” followed by six years at Cold Spring Harbor Laboratory, he went to Meharry Medical College in Nashville, Tenn., where he worked on a molecular and genetic analysis of the fruit fly presenilin gene. In humans, defects in this gene have been linked to Alzheimer’s disease.
“I’m slowly climbing up the complexity chain,” he says of his progression of organisms. “Maybe I’ll get to people before I retire.”

Instead of looking for cures for diseases, however, “I’m trying to find out more about what causes a disease, to know what’s broken in the system,” says Jones. “My goal is to find out how nature works. If, as a result of that, we are able to ameliorate human disease, that’s good. But if I wanted to focus only on curing diseases, I wouldn’t be here at Moravian.”

By coming to a small, liberal arts college instead of a big research university, Jones chose intellectual security over financial security. “I think the education and focus is better at a small college,” he says. He didn’t seek a job in industry because he didn’t want his research to be controlled by those more concerned with profits than knowledge. “I like to be captain of my own destiny,” he says.

And he likes the challenge of the classroom. “I enjoy teaching,” he says; “I believe in education as a mission.” Typically, his students already know they are headed into a science career or medical school. Some have chosen optometry, dentistry, veterinary science, neuroscience, podiatry, or cell/molecular programs. They’ve found positions in pharmaceutical industries such as Merck and Sanofi-Aventis, or with OraSure, the Bethlehem company that pioneered an oral AIDS test kit.

Some students even accomplish real world genomic research before they graduate. Moravian is one of 40 schools nationwide that are part of the Genomics Education Partnership of Washington University in St. Louis, Mo. In a course offered every other year at Moravian, participating students perform computer-based comparative analysis of sections of chromosomes sequenced at the Washington University Genome Center. Recently, the focus was the “dot” chromosome of various Drosophila species. “Washington University sends students a problem, they discover what they can using DNA sequence analysis tools, then send it back to Washington University where it’s entered into public databases so practicing scientists can use it,” explains Jones.

Joanna Poncavage is a freelance writer.
Virtual Fitness

Thinking outside the box has helped personal trainer Marc Thompson ’87 and his clients succeed.

Using Skype technology, personal trainer Marc Thompson ’87 has extended his reach far beyond his home office in Florida. Thompson draws upon a variety of fitness disciplines, nutrition, and sports psychology to help clients achieve their goals.
Marc Thompson ’87 is passionate about fitness: helping other people become and remain well is his life’s work.

“After I graduated from Moravian, I had to decide between two paths,” says the former pre-med major. “I could go into medicine and focus on treatment, or I could become a personal trainer and focus on prevention. In my heart, I knew it was the latter that I wanted to do.”

Several early experiences helped make the choice an easy one, he explains. Frustrated with a second place finish in the breast stroke after consistent first-place finishes, Thompson at age 15 asked to join a gym, where he began working out with weights to become stronger.

“At the time, everyone thought weight training would make you slow and heavy in the water,” he says. To his instructor’s surprise, and his own delight, Thompson’s times got much faster—his work at the gym paid off.

He soon learned how much he enjoyed helping others become fit, too. When his instructor at the Y asked him to train the swim team, he enthusiastically agreed, taking the team straight to the weight room to begin the session. Later, when an aquatic teacher couldn’t make it to class one day, the 16-year-old Thompson persuaded the manager to allow him to stand in. “Again, I loved it,” he recalls. “Little by little, I began training more people.”

Shortly after graduating from Moravian College in 1987, Thompson followed his passion and became a certified personal trainer. His first paying client was a 32-year-old woman who wanted to run a marathon in Hawaii. Problem was, the marathon was just weeks away, and the would-be runner had not exercised since high school. “We met at Gold’s Gym to train for the next nine weeks,” he says. “After the marathon, she called to tell me she was one of the top finishers in her age group. Even better news, she wasn’t sore after the race.

“Feedback like that is what fuels me. That’s what keeps me going. I knew then that I wanted to keep doing this.”

Since then, Thompson has been a partner in hundreds of similar success stories. To help his clients achieve their personal best, he draws upon a range of disciplines (aquatics, cycling, yoga, pilates, and qi gung, to name a few) enhanced by sports psychology and nutrition. He’s designed several innovative programs, such as resistance yoga, A-team, and cardio core, too.

That creative, sometimes unorthodox approach often has unanticipated benefits, he says. When he became certified as a yoga instructor in 1995, he adopted the somewhat unusual method of teaching without demonstrating—using only verbal skills to explain physical movements, so that he could observe and interact with his students. “I wanted a more hands-on approach to teaching, so I became a better communicator,” he says. “I learned to instruct without ever actually showing”—a skill that’s turned out to be very valuable.

In 2008, Thompson’s life turned upside down when his wife, Melvalean, died unexpectedly. Left with four children, then ages 4, 10, 12, and 19, Marc Thompson wondered how he would support his family financially, while providing the guidance and emotional support he knew they needed now, more than ever.

For more than a year, he worked with clients in his home studio in Delray Beach, Florida, so that he could be home when 6-year-old Sophia arrived from school. This past spring, he found a way to extend his “hands-on” reach beyond his home space.

Using Skype web-based technology, Thompson now can interact with clients virtually anywhere—in their homes, on business trips, or at the beach. “I called my first Skype clients in Maine from my home studio last June, and it went off without a hitch. All that’s needed is Internet access and a computer camera.” Thompson observes clients in Maine, California, New York, and elsewhere on his own computer monitor, then gives verbal instruction and feedback from his Delray Beach office. New tech soon will allow two-way video conferencing, and Thompson hopes eventually to offer the services of a whole team of wellness coaches.

“My work is a combination of art and science,” says Thompson. “You have to be both creative and scientific to help each individual achieve wellness mentally, physically, emotionally, and spiritually. Being functional in all areas is my goal and my clients’ goal.

“The life lessons I learned at Moravian continue to guide me: I learned about leadership, risk-taking, love, friendship, and taking responsibility. I learned how best to help others.”

Read more about Marc Thompson’s home fitness program at www.virtualhomefitness.com.

—By Vicki Bingham

Variety, in a word. “Variety in exercise and nutrition allows faster progression toward fitness goals and health,” says Marc Thompson. “It also helps you avoid the overuse injuries associated with excessive repetition. And it helps you maintain interest and avoid burnout. Try a different class, or a different teacher. This will keep you going throughout life.”
Alumna Returns to Campus to Present "Pink" Lecture

Amanda Westphal Radcliffe ’89 returned to campus October 25, along with nationally renowned oncologist Marisa Weiss, M.D., to present an inspirational and educational talk about breast cancer prevention and detection. The talk was sponsored by Zeta Tau Alpha sorority. Amanda’s mother, Antoinette Westphal, was a founding board member of breastcancer.org. When Antoinette passed away, Amanda joined the Board and continues to serve in her honor. Dr. Weiss is president and founder of breastcancer.org.

“Dr. Weiss had an incredible vision—to harness the power of the internet to provide the latest research and to help people understand how their choices can have an impact on their lives,” said Amanda during opening remarks. “Ten years later, breastcancer.org is helping 10 million people a year make good decisions.”

Westphal Radcliffe also is director of the board and secretary for Vertex, Inc., a tax specialty software company. She has been recognized by Philadelphia Business Magazine as one of the young business women to watch in Philadelphia. Amanda and her husband, Conrad, live in Malvern, Pa., with their three children, Antoinette, Kailey, and Callum.

New Alumni Directory Coming Soon

Your friends at the Alumni House have been busy assembling your new alumni directory. Over the next few months, you will receive a postcard, email, or phone call from Harris Connect to verify your Moravian contact information. (Please be assured that this request is legitimate.) It’s been more than four years since we published the last alumni directory. The 2011 directory will have a bright new look with beautiful color photos and updated information about College and Seminary alumni. Besides listing contact information, alumni may contribute photos and share personal, career, and family highlights. You will have an opportunity to purchase the new directory in either hard copy or electronic form.

Although you may choose not to include your contact information in the directory, we hope you will share your information with the Harris Connect representatives so that we can update our own alumni records, ensuring that you will continue to receive Moravian College Magazine as well as other campus news and invitations to upcoming events.

Harris Connect and Moravian are both committed to protecting your privacy and ensuring the integrity of the information collected. Should you have any questions or concerns, please contact the Office of Alumni Relations at 610 861-1366 or Alumrel@moravian.edu.
Homecoming Weekend

October 15–16

A picture-perfect autumn Saturday welcomed more than 950 alumni and friends back to campus for Homecoming, which this year included merrymaking on the football practice field for the traditional tailgating party. Spirited alumni enjoyed the company of good friends and good food while cheering the Hounds to a 24-17 victory over Franklin & Marshall. The weekend began with the Rocco Calvo Alumni Golf Tournament Friday; other activities included the Habitat for Humanity Build, academic department reunions, a parade with the alumni marching band, and a Moravian field hockey game versus Goucher College. It was a great weekend to be a Hound!

Happenings . . .

Hound Hour Philadelphia
September 16

Right: Alumni gathered at DelFrisco’s Steak House in center city for a taste of College days.

Hound Hour Easton, Pa.
September 30

The Vintage at Morgan Hill in Easton, Pa., was the place to be for Moravian alumni from the greater Lehigh Valley and New Jersey.

Coffee and Connections
October 5

Alumni, faculty members, and business professionals met with students for an evening of career advice and networking. Co-sponsored by the Student Alumni Association, Career Center, and Alumni Relations.
Smith Appointed New Women’s Soccer Coach

The Moravian College women’s soccer team has a new head coach. Brienne Smith, who most recently served as assistant head coach at Tufts (Mass.) University, replaces Eric Lambinus, who became the head women’s soccer coach at NCAA Division I Lehigh University last February.

“I am thrilled to join the Moravian community,” said Smith. “Coach Lambinus built a successful women’s soccer program, and it is a great privilege to take on this role. I hope to continue to build on this winning tradition.”

Smith is just the fourth women’s soccer coach at Moravian. In its first sixteen seasons, the program compiled a 181-98-18 record overall, with six conference playoff berths and a Landmark Conference title in 2008. The young 2010 team has posted a 4-11-2 record to date.

“As the new leader of this program, I have high expectations for my players both on and off the playing field,” said Smith. “As we pursue our goal of reaching regional and national prominence, we will always represent our college with class and dignity.” In nine years at Tufts University, Smith helped the Jumbos post an 82-38-12 record with NCAA Division III Tournament berths in 2002, 2005, and 2007. She also served as head coach of the U-18 Girls Dynamis United from 2006 until 2008.

Smith is a 2001 graduate of Clark University, where she earned a Bachelor of Arts degree in psychology, minoring in education. She completed a Master of Science degree in physical education at Bridgewater State College in 2007.

Moravian Hosts Mascot Training Camp

Oversized furry creatures were put through their paces during a two-day training camp for sports mascots at Moravian College October 29-30. Attended by high school, college, corporate, and professional sports mascots, participants learned character development, performance skills, and costume care. Erin Blank, former mascot for the Detroit Tigers and Washington Capitals and founder of Keystone Mascots, instructed the attendees, assisted by Moravian’s own Amos the Greyhound, the 2010 SportsTalkNY Mascot Madness Champion, and his “DawgPack” performance team. Graduates then joined Amos in a special halftime performance at the Moravian football game October 30, the NCAA “Take a Kid to the Game” event.
Marriages
Lauren Bahnatka and Brian Bachner, July 31, 2010.
1996 Beth Rohn and Seth Habhegger, June 4, 2010.

Births
Jamie Good Lausch and Devin, a daughter, Addisson Ryan, March 27, 2010.
Adrienne Krosecz Shultz and Graig, a son, Evan Joseph, February 6, 2010.
1999 Solita Twomey Tullo and Grant, a daughter, Clodagh Ellen Black, June 7, 2010.
1997 Christine Dolan Dunn and Ed, a daughter, Rebecca Rae, January 14, 2010.

Deaths
1943 Harlan Fulmer, M.D., September 2, 2010.
June Collins Cawley, August 15, 2010.

Faculty & Friends

Have you heard?

Here are just a few of the latest updates from your classmates. Read more online at www.moravian.edu/classnotes. While you’re there, share your news!

1995 Chris Ward was ranked by Chambers USA 2010 as one of the leading attorneys in the State of Delaware for bankruptcy and financial restructuring. Chris was also recently appointed to the American Bankruptcy Institute’s Financial Advisor Committee as the special projects coordinator and is working on a book to be published by the ABI regarding expert testimony in bankruptcy litigation.

Tracy Miller Geary just had a story, “Telling the Bees,” published in the October issue of Good Housekeeping magazine.

1987 Ken Franiak was recently appointed chief operating officer of Wesley Enhanced Living, a non-profit continuing care retirement community provider throughout Pennsylvania. Ken has been with them for more than five years. He previously served as their chief financial officer. After receiving his accounting degree, Ken received an M.B.A. in Finance from LaSalle University. He lives in Collegeville, Pa., with his wife and two children.

1979 Detective Ralph DeLuca, who serves as a youth officer for the town of Bethel, Conn., was recently recognized by the Office of the State’s Attorney and the Regional Child Advocacy Center for his work in child abuse prevention and investigation.

1965 Ted Bowman is co-editor of a recently published book of poetry addressing themes of loss and renewal, all written by Minnesota poets. The Wind Blows, The Ice Breaks (Nodin Press) contains 140 poems by more than 100 poets. For more information, see www.bowmanted.com.

1961 Tom Christianson hasn’t stopped smiling since last March, when the doctor said he would see him in a year. It has been three years since Tom had plaque radiotherapy for intraocular melanoma at Wills Eye Hospital. One of his 2010 goals was to ride his bicycle in all four LiveSTRONG Challenges to raise money and awareness. Tom appreciates all of the support he has received. Donations still can be made at http://austin2010.livestrong.org/tnc.

1950 Rev. Robert L. Kramer has been invited to be a featured speaker at the Lake Hamilton Bible Camp in Hot Springs National Park, Arkansas, over the Thanksgiving weekend, Nov. 24-28.

1946 Barbara Shepherd writes, “All the properties have been sold in our business and life is good! Daughter Linda and I took a wonderful road trip in July, doing Orkney Springs in Va., the beautiful Skyline Drive, Bitmore Estate in N.C., then visiting daughter Heather in Missouri, before exploring Illinois and Tennessee, and returning home. Glorious time.”
La Vita BAROCCO

After graduating with a degree in studio art, Marissa Sharon ’07 moved to Lecce, Italy, where she worked as an au pair and interned at a local pasticceria. She fell in love with Baroque architecture, slow, simple living, and southern Italian pastries. The following year, she attended Apicius International School of Hospitality in Florence, Italy, and interned at La Bottega del Cioccolato, working with renowned cioccolatiere Andrea Bianchini. She completed her program at Apicius in May 2009, returned to the U.S., then purchased a one-way ticket to Los Angeles. Marissa currently works at the Hollywood Roosevelt Hotel as a pastry cook. In her free time, she enjoys exploring Los Angeles, trying new restaurants, watching movies, making art, and pursuing various independent projects. Visit her website at www.marissasharon.com.

Orbis Pictus (The World Illustrated), written by Moravian bishop and educator John Amos Comenius and published in 1658, was the first illustrated book specifically for children. (This Orbis Pictus image, from “The Master and the Boy,” is courtesy of Reeves Library.) On this page we celebrate the ways that members of the Moravian College community illuminate our world.
Moravian College has a long tradition of helping students and their families. In recognition of this commitment, we’ve refocused our annual fund and changed its name to reflect our top priority: **All dollars raised for the Moravian Scholarship Fund will go to unrestricted financial aid to academically qualified students.**

**A Commitment to Aiding Our Students**

- During the 2009-10 school year, the College provided students with $8,590,843 in need-based aid and $10,328,789 in merit-based aid.
- The College provides an average aid package of $12,455 per student (this is aid from Moravian only—not loans, outside grants, or scholarships).
- Over 90% of Moravian students received aid from the College in 2009-10.

**Give to the Moravian Scholarship Fund today.**

It’s easy on our secure web site www.moravian.edu—just click on “Giving to Moravian.”
Or call 800 429-9437 to give by credit card.
Himeji, Japan

Darla Kovacs Rodriguez ’03 has been teaching art at Pine Grove Area High School for the past eight years. Last summer she spent three weeks in Japan on a teacher study tour, supported by a grant from the National Consortium for Teaching Asia. One of the tour stops was Himeji, a town known for its castle, “the White Heron.” Completed in the early 1600s, the castle was built primarily for defense but was never used that way. “Today, the White Heron is a tourist attraction and is used as a set for films, such as The Last Samurai,” wrote Darla. “The stone bridge [shown here] was just outside of the castle walls in the ‘Himeji Gardens Nishiyoshiki-ato KOKEN.’ The study tour—which included earthquake studies, religion/temple studies, and the Hiroshima Peace Park—has made a big difference in my teaching.”