



**Carl A. Erikson, Jr.**

1989-present

Assistant Professor of Engineering  
Electrical/Computer

Professor Erikson worked in industry for 18 years before coming to Messiah College to help start the new B.S.E. program in 1989. He has authored many articles on microelectronic processing and components. He has given numerous presentations to elementary schools, high schools, industry, colleges, professional societies, and civic organizations. He is a member of the Board of Trustees for the Liberian Education Initiative.

Professor Erikson is married to Jocilyn and they have three children: Jeff, Rebecca, and Andy. All three children have graduated from Messiah. The Eriksons have five wonderful grandchildren and are members of the Cumberland Valley Brethren in Christ Church.



**Randall K. Fish**

2008-present

Department Chair; Professor of Engineering  
Electrical/Computer

Professor Fish obtained his B.S. in Physics from Eastern Nazarene College in 1979. He earned a B.S.E.E. in 1980 and M.S.E.E. in 1982 both from Boston University. In 2001 he received his Ph.D. in Electrical Engineering from the University of Washington. His research interests center on artificial intelligence, particularly computer understanding of human speech. Between 1980 and 1994 Dr. Fish worked in industry holding research and engineering management positions at both large and small corporations including his own start-up recognized as one of the most exciting new companies of its kind by the MIT Enterprise forum.

Prior to joining Messiah this year, Dr. Fish spent 14 years as a professor at Eastern Nazarene College, winning ENC's Teaching Excellence Award in 2002. While at ENC, Dr. Fish served as both the head of the Engineering/Physics department and head of the Division of Math and Natural Science. In addition to his teaching responsibilities Dr. Fish has a joint appointment as a Principal Scientist at a Federally Funded Research Center where he has been recognized with the Center's highest award for Innovative Research.

Dr. Fish has published multiple journal articles and conference papers and in 2006 received a Letter of Appreciation from The Director of Intelligence, U.S. Joint Forces Command for the contributions his research has made to the mission of the US Marines.

Professor Fish teaches Communications, Linear Systems and Microprocessors. In his free time Randy enjoys singing, acting, and flying his Powered Paraglider. Randy and his wife Sue have three daughters.



**David A. Gray**

2000-present

Assistant Professor of Engineering  
Electrical

Dr. Gray worked in the area of transmission for 30 years for Bell Laboratories, followed by two years with Tyco Submarine Systems Ltd. After AT&T sold its submarine division. He came to Messiah College to teach in 2000.

His interests include sports, reading, vegetable gardening, and youth. He has always loved sports, but as his legs have gotten older, his current sports are golf and swimming. His reading centers on worldview, philosophy, apologetics, and some history and culture.

Professor Gray and his wife Margaret have two daughters: Marilyn, an ABD graduate in Slavic languages and Margie, a civil engineer. The Grays attend West Shore Evangelical Free Church.



**John J. Meyer**

1991-present

Lab Technician  
Mechanical

John graduated from Penn State University in 1985 with a B.S. in mechanical engineering. He has been the department's Model Shop Supervisor/Mechanical Technician since 1991. He is treasurer of ASM South Central Pennsylvania (York) Chapter. John is interested in Appropriate Technology and has gone to Venezuela and West Africa to complete projects. He is involved in the Big Brother program in Harrisburg and is a Youth Group leader within his church.



**Paul F. Myers**

2009-present

Lab Technician  
Electrical and Computer

Paul joined the Engineering Department in 2009 as the Electrical and Computer Engineering Technician. Paul comes to us as a Manufacturing Specialist with extensive professional experience in industrial automation, software control, customer support and marketing.

From a manufacturing perspective, Paul spent nearly 11 years at Ralston Purina where he was involved with systems including: boilers; energy management; dry batching with liquid additions; hammermills and associated protection devices; extrusion; packaging lines and associated priority delivery; palletizers; and spin wrap packaging. Associated with these systems was a wide variety of instrumentation including: nuclear sourced online moisture analysis; ultrasonic level detection; mass flow meters; proportional temperature controllers; weighing devices; along with DC and AC motor drives. While there he was also responsible for a number of Programmable Logic Controllers (PLCs) including: Texas Instruments 5TI, 510, 520, 530C and PM 550; Modicon 484, 584, and 984B and Siemens S5.

From a software perspective, Paul spent 15 years with Wonderware, an industrial software company, in a number of capacities. He was the Project Manager responsible for first installation of DIREKTOR, a flexible batch manufacturing package, now known and installed worldwide as InBatch. Throughout his career at Wonderware he was involved with InBatch and the associated software suite of products including: InTouch, a Human Machine Interface; InControl, a PC based PLC; and InSQL, based on Microsoft SQL Server. His PLC experience was also broadened through additional hands on experience with: Texas Instruments 545; Allen Bradley/Rockwell SLC100 and PLC5; GE Fanuc and Modicon Quantum. As a Manufacturing Specialist, Paul traveled worldwide in providing batch and manufacturing consultation to a number of food, pharmaceutical and chemical manufacturers. Additionally he was appointed to be the company representative to the World Batch Forum organization.

On a personal side, Paul has been married to his wife Donna, a Reading and English as a Second Language Specialist since 1979. For the past 15 years he has been very active in men's ministries, including bible study and mentoring, at Grace United Methodist Church in nearby Carlisle. There he also enjoys singing and playing trumpet in the Praise Band along with being in a quartet that sings in the Barbershop style. He serves as the Prayer Commissioner for the Upward Basketball and Football in the Carlisle area. Recently Paul has become involved, to provide technical assistance, in getting a new Christian radio station, WPFM – 91.3 FM, on the air broadcasting throughout the Cumberland Valley area.

Aside from serving the Lord in Christian related activities, Paul maintains his “hard-ware” skills through his hobby of Colonial woodworking, by building colonial period furniture using hand tools and the methods used in the 1700's. When not immersed in the past with period woodworking, he can be found in a field flying his radio controlled airplane. He is also an avid fan of Redskins football.



**Donald G. Pratt**

1993-present

Professor of Engineering  
Mechanical

Dr. Pratt grew up on a small farm in western New York state, where he learned the practical side of engineering fixing farm machinery. After studying electrical and mechanical engineering at Case Western Reserve University (B.S. 1978), he worked for IBM until 1981 when God called him to full-time service. Don assumed that meant leaving engineering, so he completed a certificate program in Biblical studies at Moody Bible Institute and taught physics, math, and computer technology for several years in a Christian high school. However, God had other ideas, and He eventually led Don to Cornell University, where he studied civil and electrical engineering (M.E. 1989, Ph.D. 1992) and began to develop a vision for engineering as Christian service.

Since coming to Messiah College in 1993, Dr. Pratt has started the Genesis Solar Racing Team, the Flying Club, the Landmine Action Project, and the I'm Worth Waiting For club. He is co-founder of the Collaboratory for Strategic Partnerships and Applied Research in the School of Mathematics, Engineering, and Business, and Faculty Advisor for the Transportation Group within the Collaboratory. Don can be seen on campus driving the solar electric motorcycle he helped Transportation Group members design and build. Don's research interests include electric vehicles, light aircraft design, and alternative energy. His favorite hobby is aviation photography, and he can often be seen flying over campus snapping pictures.

Over the past summer, Don worked with the award-winning PBS Television program "Design Squad" being produced by WGBH Boston. This popular "engineering reality" show targets kids from middle through high school, shattering the myth that engineering is dull and boring. Don provided the technical direction for Season 3 of the show, including designing all the challenges, working very closely with the cast members during shooting, and creating the animations and voice-overs during post-production.

Don has been married to his wife Kathy since 1983. They have two children, Dan, a 2007 graduate of Messiah College, and Emily, who is currently attending Messiah. Don and Kathy are lay counselors at Mechanicsburg Brethren in Christ Church. Don also serves as president of the board of directors for the Capital Area Pregnancy Centers.



**Barbara G. Ressler**

2006-present

Assistant Professor of Engineering  
Mechanical/Biomedical

Professor Ressler joined the Engineering Department full time in August 2006, and taught as an adjunct instructor during the 2005/2006 school year. She grew up as a Preacher's Kid in Spirit Lake, Iowa, and obtained her Bachelor's degree in Biomedical Engineering from Northwestern University in Evanston, IL. Dr. Ressler then earned her Master's degree and Ph.D. in Mechanical Engineering from the Massachusetts Institute of Technology in Cambridge, MA. Her doctoral thesis was on the response of airway epithelial cells to mechanical stress and its implications in asthma.

After graduate school, Dr. Ressler went to work for Genzyme Corporation, a biotechnology company in Cambridge, MA. She worked in Process Development for their cellular therapies division, developing and improving manufacturing processes for tissue products using the patient's own cells. Dr. Ressler worked at Genzyme for 5 years before relocating to the Harrisburg area.

Dr. Ressler's husband (also an MIT grad) works for Tyco Electronics as Director of Technical Marketing. They have 2 children, Brianna and Owen, and attend West Shore Evangelical Free Church.



**Harold R. Underwood**

1992-present

Associate Professor of Engineering  
Electrical/Computer

Dr. Underwood joined the Engineering Department at Messiah College in the fall of 1992, after teaching three years in the Physics Department at Wheaton College in Illinois, where he also served as Liberal Arts/Engineering program coordinator. As an undergraduate student, after fulfilling requirements of the Liberal Arts Engineering program at Wheaton College, he finished a Bachelor of Science in Electrical Engineering at the University of Illinois at Urbana-Champaign (UIUC), at which time he also received a Bachelor of Arts from Wheaton College, for completing the dual degree program, in 1984. From 1984 until 1989, he did graduate coursework and research for the M.S. and Ph.D degrees in Electrical Engineering at UIUC. During his graduate work, he gained experience as both a teaching and research assistant. His research thesis involved the design of a microwave microstrip antenna array applicator to non-invasively induce localized hyperthermia therapy (fever temperature heating) for cancer treatment, sponsored in part by the U.S. Department of Health and Human Services. He deposited his dissertation at UIUC, completing his Ph.D. in the spring of 1990.

With his wife, who speaks fluent Italian, Dr. Underwood joined a cross-cultural trip with students to Italy (1994) and a missions-service trip to Kunming, Yunnan Province in China (1998). During 2000-01, he was selected as a NASA Summer Faculty Fellow at Goddard Space Flight Center (GSFC), where he did research on design and modeling of microstrip antenna structures for spacecraft applications. In January 2005, he partnered with PACTEC to learn more about Very Small Aperture Terminal (VSAT) technology, using commercial-sized satellite dishes for Internet connectivity in remote locations; in Kabul, Afghanistan he observed how PACTEC works with VSAT in the field. He has served as a guest lecturer at Chiang Mai University (CMU) in Thailand (summer/fall 2005) and at Mekelle Institute of Technology (MIT) in Ethiopia (summer 2008).

Dr. Underwood currently serves as the faculty advisor for the Collaboratory Communications group, developing tracking/messaging technology for small aircraft in remote locations, and assistive technology for the cognitively and behaviorally challenged. Since August 2007, he has held an Amateur Radio Extra Class license, with call sign KB3OOM.

Harold's expertise and interest is in the areas of analog/audio circuits, electromagnetics, RF and microwave circuits/systems, antennas and wireless communication systems, advise Collaboration Communications Group projects: Flight Tracking and Messaging for Small Aircraft in Remote Locations, wireless enabled remote co-presence for cognitively and behaviorally challenged.

Harold and his wife Beth, married since 1992, have one son Benjamin, born in 1997. Harold and Beth serve in the children's education, small group ministry and Homebuilders Fellowship group at West Shore Evangelical Free Church.



**David T. Vader**

1993-present

Professor of Engineering  
Director, Collaboratory for Strategic Partnerships and Applied Research  
Mechanical

Dr. Vader obtained his B.S.M.E. degree from Texas A & M University in 1982, and his M.S.M.E. in 1985 and Ph.D. in 1988 from Purdue University. He came to Messiah College in 1993 from IBM's Advanced Thermal Laboratory in Poughkeepsie, NY, where he authored or co-authored nine US Patents on cooling technologies for electronic packages. He is past chair of the Engineering Department, and co-founder of the Collaboratory for Strategic Partnerships and Applied Research in the School of Mathematics, Engineering, and Business. In his present role as Director of the Collaboratory, Dr. Vader works to bring students and faculty together for creative hands-on problem solving that serves Biblical mandates for fostering justice, empowering the poor, reconciling

adversaries and caring for the earth.

In 1999-2001, he was the Clarence Hottel Chair of Engineering, a two-year endowed scholarship chair that enabled Dr. Vader to develop international service opportunities for his students. The Technology Council of Pennsylvania named him co-winner, with Dr. Don Pratt, of the 2001 Post-Secondary Educator of the Year Award. In 2001 he received the Dr. Robert and Marilyn Smith Award for outstanding teaching and in 2003 and 2008 he received Barnabas Awards for servant leadership.

Dr. Vader is especially thankful for the opportunity to see his students grow as disciples of Christ. His desire is to help students to commit their lives in faith to Christ; prepare students to serve God by practicing engineering with exceptional skill; and use their engineering talents to share the love of Christ around the world, particularly with those suffering poverty and persecution. Through the Collaboratory, Dr. Vader and his students have designed solar electric power, water and transportation systems to support medical and other missions ministry for persons with disabilities in Burkina Faso, West Africa.

David and his wife Ariela met in high school chemistry class and were married in 1981. Ariela is an adjunct instructor for Messiah College, where she teaches science courses for the General Education program and elementary education majors. Ariela and David have three adult children and are active participants in the ministry of the Dillsburg Brethren in Christ Church.



**Timothy J. Van Dyke**

2001-present

Associate Professor of Engineering  
Mechanical

Dr. Van Dyke joined the Engineering Department in 2001. He grew up in Kalamazoo, Michigan and began his studies in engineering at Calvin College in Grand Rapids, Michigan. He finished his Bachelor's degree and obtained a Master's degree and a Ph.D. from the University of Michigan, where his doctoral research involved combining ideas from vibrations and nonlinear solid mechanics. He did post-graduate research at the University of Michigan in the area of rheology and also at the University of California, San Diego in the areas of residual stress and biomechanics. In 2005, Dr. Van Dyke was awarded the Smith Outstanding Teacher Award at Messiah College.

Dr. Van Dyke has also worked outside of academics. He worked as a Peace Corps volunteer in Nepal teaching high school math and science and working on teacher trainings. He worked for Cummins Engine Company as an engineer designing various structural components of diesel engines, such as the block, head, and head gasket. Additionally, he has been involved in research for Ford Motor Company on suspension bushings.

Tim's expertise and interest is in the areas of Solid Mechanics, Viscoelasticity, Biomechanics, Nonlinear Vibrations, Mechanical Design, Manufacturing Processes, and Engineering Graphics.

Dr. Van Dyke, his wife, Dr. Arlene Seid, and his two children, Molly and Garret, live in Grantham, and they attend the Dillsburg Brethren in Christ Church.



**Timothy B. Whitmoyer**

1990-present

Associate Professor of Engineering  
Mechanical

Dr. Whitmoyer earned a B.S.M.E., M.S.M.E., and Ph.D. degrees in Engineering from West Virginia University and came to Messiah College in 1990. He is faculty advisor for the Collaboratory's Water Access Group and coordinates Engineers' Weekend for prospective engineering students. His research interests include renewable energy and bioengineering (applying engineering principles to living systems) and his areas of expertise are in Control Systems, System Modeling, Kinematics, and C.S. Lewis. Tim attends the Dillsburg Brethren in Christ Church, where he serves on the Fellowship and Family Life Committee and helps with the Kids Club program.