Celebrating:

Robert J. Thomas, Who Set Computing in Motion at DePauw University

(and) The Fiftieth Anniversary of Computer Science Classes

(and) The Twentieth Anniversary of the Department of Computer Science

December, 2013
Robert J. Thomas (1987)

Carl P. Singer (1987)

Gloria Childress Townsend and Computer Science I Class (1984)
(L-R) VAX 11/780, President Richard Rosser, Carl P. Singer, Robert J. Thomas

Dave Berque
(1998) Fifth Anniversary of the Department

(2003) Tenth Anniversary of the Department
GO SUB 20000

20000 FOR I% = 1 TO 10
20100 FOR J% = 1 TO 10
20200 PRINT TAB(J%*2) I% J%
20300 NEXT J%
20400 PRINT
20500 NEXT I%
20600 RETURN
Introducing our "newest" colleague, Steven A. Bogaerts! For our next anniversary, there will be more pictures of Steve!
Forward

It is a pleasure to record the History of the Department of Computer Science, as I taught computer science throughout the first twenty years of the department’s existence and the first thirty-one years that DePauw University granted computer science majors. During these years, many faculty members joined the department, and many departed, each leaving an imprint on the department. The natural evolution of a new department necessitates the slow process of acquiring tenure track positions, as the numbers of majors increase. Several term appointments of faculty members helped the department teach its courses, before the full complement of seven tenure track positions stabilized.

The three founding members of the department spent or are spending essentially their entire university teaching careers serving the DePauw Department of Computer Science and its students. The teaching careers of the remaining five current, tenured members of the department tell a similar story: Three faculty members teaching briefly at other schools before joining the department and the remaining two, arriving at DePauw immediately after receiving their PhDs. Therefore, the core of the department at the time of the 175th anniversary milestone forms a group with significant dedication to DePauw, our students and to each other. Every day that I walk into the department doors, I am grateful for such wonderful colleagues.

People (faculty members, students and staff members) define departments, and each student leaves computer science classes forever changed by the knowledge he or she has acquired and by the friendships made with other students and with faculty members. Over the course of the time period that this history covers, the department collectively taught wonderful students who left our department to join the fields of industry, research, and education and to shape the future of computer science. I am proud to dedicate this history document to our students and to my colleagues.

Gloria Childress Townsend (fall, 2013)
Early History: When Mathematics Provided a Home for Computer Science

1960 - 1993

The current Department of Computer Science takes this opportunity to publicly thank the Department of Mathematics for nurturing the professors, students and courses belonging to a young discipline, until the Department of Computer Science could sustain a separate department. The 2013 department recognizes the time and energy that the Department of Mathematics expended on behalf of computer science and is extremely grateful for the help received from mathematics.

In 1988, Dr. Clinton B Gass wrote a history of the Department of Mathematics and Computer Science, for the DePauw University sesquicentennial. Accordingly, the following text, originates in that document.

"Many significant changes took place in the department's offerings, staffing, and general outlook in this period [1960-1987]. Most important was the development of courses in computer science, leading to the creation of a major in that field in addition to the mathematics and mathematics (computational) majors, as well as newly established minors in mathematics, mathematics (computational), and computer science. In 1973, the department's title was changed to mathematics, astronomy and computer science, in recognition of the new field of concentration. When astronomy was turned over to the physics department in 1981, the title became simply, department of mathematics and computer science.

DePauw's first computer, an IBM 1620 punch-card model, was put into service in January 1963 in the basement of the Studebaker Memorial Administration Building. In 1966 it was moved to the newly established Computer Center located in Heath House at the corner of Seminary Street and College Avenue, and a leased 1401 was added to the 1620 for administrative use. Both were replaced in 1970 by a Digital Equipment Company PDP 11/20, upgraded in 1973 to a PDP 11/45, serving both academic and administrative needs. After 1972 this equipment was housed in the new Computer Center in the recently constructed Science and Mathematics Center (later renamed the Percy L. Julian Science and Mathematics Center). In 1981 the university purchased a DEC VAX 11/780 to replace the PDP 11 and two years later added a second VAX 11/780, so that one computer could be used exclusively for academics and the other for administrative purposes.
The department's Robert J. Thomas, who developed and taught the first computer science course in the spring of 1963, became the Computer Center's first director, assisted by Hubert Smultz. Later directors have been Paul A. Bickford (B. A., Central State College), 1966-70; Larry Junod (M. S., Stanford University), 1970-73; and Carl P. Singer (Ph. D., University of Cincinnati), 1973-84. Since 1984 the work has been divided, with Singer serving as director of academic computing and Leonard Weiser as director of administrative computing.

In 1981, the university offered email to faculty and students for the first time and began to organize faculty workshops for integrating computing with classes. The department bought a Radio Shack TRS80 that was placed on a rolling cart, so that professors could demonstrate BASIC programs during classes such as Computer Science I. A room with Digital Equipment Company (DEC) Rainbow computers provided word processing for students in 1986, while dormitories contained clusters of VAX terminals and DEC Rainbow personal computers. The following year the Rainbow word processors moved to the basement of Roy O. West Library, after its renovation. The university also renovated the Prevo Library within the Julian Science and Mathematics Center, created an adjacent set of tiered computer laboratories with IBM personal computers (donated by IBM), and equipped some classrooms with monitors and computers.

DEC equipment enabled the creation of an initial campus network, connected by thinnet coaxial cabling, connecting the two tiered computer laboratories in the Julian building. The university later extended the network to the Department of Mathematics and Computer Science. After computer science became an independent department, a fiber optics network linked the entire campus, beginning in 1996.

As Gass's writing (quoted above) points out, the department offered its first computer science course (with an actual computer) fifty years ago in 1963, and computer science became an area of concentration forty years ago in 1973. Computer science majors graduated nine years later in May of 1982, making 2013 the thirty-first anniversary of the computer science major.

During the years spanning 1960-1993, several of the members of the Department of Mathematics and Computer Science taught courses in both areas. The following section covering years 1993-2013 will discuss the three founding members of the Department of Computer Science (Carl Singer, Gloria Townsend and Dave Berque); however, all three also taught in the joint department. In this section Robert J. Thomas is recognized as the father of computer science at DePauw, and his contributions are outlined. Faculty members from the combined department who taught computer science but left DePauw or remained in the
mathematics department, when the joint department became two independent departments will be described at the conclusion of this section, after Thomas's recognition.

Robert J. Thomas, a 1952 Oberlin graduate with master's degrees from both Indiana and Illinois Universities, joined the department in 1958 and completed his Ph. D. degree at Illinois in 1964. Thomas enrolled in his first computer course in 1956, using the Illiac I – a room-sized computer with vacuum tubes. By contrast, DePauw's first computer (discussed above in a quote from the 1960-1988 history), an IBM 1620 that was desk-sized and powered by transistors, demonstrated the textbook historical progression of all early computers. The $120,000 IBM computer arrived while Dr. Thomas completed a sabbatical (1961-62), as the result of grants from IBM and the National Science Foundation (NSF) and contributions from DePauw but languished in storage until he returned from sabbatical, as no one else could operate the computer. Accordingly, the NSF awarded its grant contingent on Thomas's finishing his degree and becoming the Computer Center's first director. Prior to the IBM and NSF grants and Thomas's offering DePauw's first computer science course (using a DePauw University computer) in 1963, he taught a course (in spring of 1961) without the aid of a computer. Through Thomas' connections, students occasionally used a Bendix G-15 at Rose-Hulman Institute of Technology to accomplish some actual programming, because Thomas personally transported the students' programs, which were hole punched on cards, to Terre Haute several times per week.

Thomas designed, introduced and was the sole professor for the first few computer science courses offered by DePauw. Gradually the department constructed a computer science minor (initially listed in the 1977-79 university catalog) within the Department of Mathematics. Additional professors (named in the following list) taught multiple sections of the introductory course and eventually more advanced courses, but Thomas continued to design and teach new courses.

Thomas alone held both titles of Professor of Mathematics and Professor of Computer Science. In recognition of his many contributions to the Department of Computer Science, the department bestows its highest honor for graduating seniors in Thomas' name: The Robert J. Thomas Outstanding Computer Science Senior award.

The following members of the Department of Mathematics taught computer science courses part-time, during the years that the departments were conjoined: John Anderson, Barry Brunson, Underwood Dudley, Mark Kannowski, Nachimuthu Manorickam, Richard Smock, Louis Smogor, Janet Teeguarden, and Michael Zeller.
Darryl Gibson, who was a member of the Department of Modern Languages, taught computer science courses (mostly Introduction to Computer Use), spanning the academic years from 1983-84 to 1991-92. (Robert Thomas developed the Introduction to Computer Use course to attract more general education students to computing.) A Director of Administrative Computing, Leonard Weiser, taught two computer science courses, during the years, 1986-89. Larry Alldredge, an associate director for academic software services at Rose-Hulman Institute of Technology (RHIT), commuted to DePauw one semester in academic year 1983-84 to teach Data Structures. Michael Dieckmann, a DePauw graduate and Computer Center programmer, taught Structured Systems Analysis in 1982-83, and Bruce Danner, an RHIT professor, offered Introduction to Computer Programming in 1983-84.

Before the Department of Computer Science became an independent department, seven individuals were hired to exclusively teach computer science full time. The department hired four instructors for one-year or one-semester terms: Peter Cislak (1984-85), James Kelsh (1988-89), Robert Hieb (1986-87), and Perry Wagle (fall 1987). Dee Templeton (1989-91) and Stephen Csik (1985-87) served two-year term appointments. Finally, Jeffrey Perotti (1986-1992) taught in the department for six academic years, helping to build the major in the formative years immediately preceding the creation of the Department of Computer Science.

Department of Computer Science: The First Twenty Years

December 1993 – 2013

The university created an independent Department of Computer Science in December, 1993. At the time of the 175th anniversary of DePauw University and the writing of this booklet, the Department of Computer Science celebrates its 20th anniversary.

This section of the History of the Department of Computer Science continues the pattern of the last section by discussing equipment resources first, before turning to the more important resource: people. A history of computing, however, can illustrate the fascinating evolution of the discipline by including text about hardware that initially developed during the waning years of World War II. The creation of the first programmable computer for military purposes indicates a seventy-year computer lifespan, in which DePauw has offered courses for fifty years. The fact that nearby research institution, Indiana University Bloomington, did not offer computer science courses until the 1970s underscores the importance of the fifty-year DePauw computer science course history.
Several grants funded progress within the department. In 1993, Dave Berque coordinated the purchase and installation of a several Sun SPARCstations to set up a private laboratory for computer science majors, with the help of an Arvin-Baker grant. A private lounge for the majors adjoined the laboratory. During the early 1990s the space housed workstations offering the only Internet access on campus.

Another dedicated space that the newly-formed department acquired was a small room in the Julian Center's basement that accommodated sixteen computers networked with Berque's DePauw Electronic BlackBoard for Interactive Education (DEBBIE) groupware. Berque developed the system in collaboration with several research students, before a company owned by DePauw alumnus David Becker secured the rights to further develop the system and market it under the name DyKnow Vision. Several DePauw graduates currently work for the company.

From modest beginnings, departmental resources grew tremendously as a result of the renovation of the Julian Center for Science and Mathematics, rededicated November 1, 2003. The Department of Computer Science continued to share space with the Department of Mathematics before the renovation, but an entire suite of offices, workroom, kitchen, seminar room, four research laboratories, private lounge for majors, private laboratory for majors, and a dedicated classroom created a separate home for the department in the new space.

A nearly $700,000 grant from Lilly Endowment, Inc. provided equipment for the new Julian Building space. The funding supported computing needs for the teaching classrooms, and faculty members' research and offices, along with student majors' private spaces.

In the ten year period from 2000 through 2009 department faculty members served as Principal Investigators (PIs), Co P.I.s and/or senior personnel on 28 grants that funded in the total amount of more than three million dollars ($3,274,290). Government agencies such as NSF, industrial sponsors such as Hewlett-Packard and IBM and professional societies such as the Association for Computing Machinery awarded the grants. The department is proud of these awards, as they make a strong statement about the caliber of its work and willingness to compete for external dollars in support of the department, institution, and broader computer science community.

Departmental grants funded a wide range of activities, programs, and equipment that benefitted the greater DePauw community. For example, Townsend's National Science Foundation S-STEM grant (2009-2013) brought in more than half a million dollars, largely to fund scholarships and supporting programming for first-generation students interested in science (not necessarily computer science). Similarly, Berque secured (2006-07) several
Hewlett-Packard Technology for Teaching grants valued at more than $200,000 – much of which provided equipment used by eleven academic departments.

"The DePauw Computer Science Founders Fund for Excellence was established in 2013 to mark two important milestones for computer science education at DePauw University. First, the Fund honors the fiftieth anniversary of pioneering work done by Robert J. Thomas who taught the first computer science course at DePauw University that used a DePauw computer in 1963, who led computer science education at DePauw until his retirement, and who served as DePauw’s first Computer Center Director. The Fund also honors the twentieth anniversary of the creation of the DePauw University Computer Science Department and the work done by the Department’s founding faculty members Carl Singer, Gloria Townsend, and Dave Berque to build on the trajectory first established by Thomas. The Fund was established with a generous lead gift from Robert J. and the late Doris R. Thomas and provides resources, beyond the basic level provided by the University, to help the department remain at the forefront of computer science education and to attract, retain, recognize and support students who aspire to follow in the department’s tradition of excellence." (The Computer Science Department Founders Fund Gift Agreement)

Carl Singer, Gloria Townsend, and Dave Berque formed the faculty of the new department. During the academic year that the three faculty members founded an independent Department of Computer Science (1993-94), there were thirteen graduating seniors. Seven years later, the newly-created department flourished with forty-eight graduating seniors: The largest liberal arts computer science department (in terms of students) in the country.

Some of the reasons that the Department of Computer Science continues to graduate large numbers of students and is currently the fifth largest major on campus are the amount of research that the department conducts, the quality of the curriculum, and the teaching ability of professors.

As Robert J. Thomas, the department owes much to another Department of Computer Science pioneer, Carl P. Singer, who joined the mathematics department in 1973. Singer holds a bachelor’s degree from Adrian College, two master’s degrees from DePauw and Purdue Universities and the Ph.D. from the University of Cincinnati. As stated in the preceding section, Singer joined the university in a dual position as assistant professor of mathematics and director of the Computer Center. Singer taught all levels of computer science, making a tremendous contribution with the reorganization and addition of a laboratory class period for the department's introductory course, Computer Science I. Singer wrote a textbook and laboratory manual for the new course. The increase of computer science majors followed the
deployment of the course. Today, the course is so popular that approximately one-third of DePauw's senior classes enroll in the course at some time. Singer also leveraged two sabbatical leaves to create two sets of new courses in "modeling and simulation" and "databases, web programming and file processing" areas, and founded Faculty Instructional Technology Support (FITS). Singer retired in 2007, after serving the department and the Computer Center for thirty-four years, including six years as chair.

Gloria Childress Townsend joined the department in academic year 1979-80. Indiana University Bloomington granted Townsend undergraduate, master's and Ph.D. degrees; and Purdue University, a second master's degree. She specialized in teaching the courses, Artificial Intelligence, and Programming Languages and now includes Autonomous Robotics among the classes she teaches. Her research focuses on Evolutionary Computation (EC) with an emphasis on using EC methods for solving biological problems. The university awarded Townsend both the Greenleaf and Tenzer endowed chairs and the Tucker Distinguished Career Award; the Indiana University School of Informatics presented her with its Career Achievement Award in 2012. She served the department as chair for six years, but her enduring contribution to the department is her work on behalf of the underrepresented in computing and in science itself. Townsend served as Principle Investigator on a $1.2 million NSF grant to create a network of specialized conferences (and additional support programming) for women in computing throughout the United States; she also founded a departmental organization for women in computing, allowing the department to graduate twice the per cent of female majors as the average rate in the United States.

Dave A. Berque, professor of computer science, began teaching at DePauw in 1992. Berque earned a B.A. from Haverford College and M.S. and Ph.D. from Rensselaer Polytechnic Institute. He teaches a wide range of computer science courses including Compilers and Human Computer Interaction, which is his primary research area. Berque also teaches interdisciplinary courses related to design. He holds three United States Patents and is the originator of a pen-based instructional technology software system that is the basis of the commercial system now known as DyKnow, which is being used in classrooms around the world. Berque received more than a million dollars of external funding from sources including the National Science Foundation, Hewlett Packard, and the Japan Foundation. He received the 2007 Mira TechPoint Award for “Education Contribution in Technology — Individual” for his efforts to create the software. Previously, the 1997 Carnegie Foundation for the Advancement of Teaching selected Berque as Outstanding Baccalaureate Colleges United States Professor of the Year. At DePauw, Berque was a Tenzer Family University Professor in Instructional Technology and now holds the Herrick E.H. Greenleaf Professor of Computer Science. He also served in several faculty leadership roles including Chair of the Computer Science Department for six years, as Chair of the Faculty and currently as Dean of Academic Life.
To cope with the large increase in computer science majors, the department hired several professors for short terms periods of time, until the university created tenure-track positions:

<table>
<thead>
<tr>
<th>Year</th>
<th>Professor</th>
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<tbody>
<tr>
<td>1994-95</td>
<td>Jon Berry</td>
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<tr>
<td>Spring 1996</td>
<td>Paul Lefebvre (taught Computer Organization)</td>
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<tr>
<td>1996-97</td>
<td>Carlos Coello-Coello</td>
</tr>
</tbody>
</table>

Joe Hurt also helped the department from 1995-96 to 1998-99, teaching Computer Science I and coordinating our CSI laboratories. After Hurt's untimely death, Corey Kovacs served as CS1 Laboratory Coordinator and the department's first technical coordinator. Ron Croonenberg replaced Kovacs, and Cory Puckett now performs the service for which the department is extremely grateful.

The department welcomed Douglas Harms in 1998. Harms earned his Bachelor of Science degree in Mathematics and Computer Science from Muskingum College in 1979 and his Master of Science and Doctor of Philosophy degrees from The Ohio State University in 1983 and 1990, respectively. He worked in the Advanced Development department at National Cash Register Corporation (NCR) from 1978-1981 where he developed software prototypes and evaluated microprocessor architectures for next generation NCR products. Harms taught Computer Science at Muskingum College from 1981-1998, when he joined the faculty at DePauw. He performed research and published in the areas of programming language design, software verification, computer generated holography, virtual reality simulators of historic computers, and the use of personal robots in introductory computer science courses. During the 2004-05 academic year he competed for and received a Fulbright Scholarship to teach in the Computer Systems and Technology department at the University of Ruse in Ruse, Bulgaria. During his sabbatical leave in 2010-11 he developed a software system called Myro/Java that defines a library of Java classes to control personal robots, and he wrote a textbook for using Myro/Java in introductory computer science courses. He led numerous service trips to both domestic and international communities where he and his students worked with local partners to learn about a wide range of issues, including social justice (in El Salvador), border studies (in Juaréz, Mexico), and teen homelessness (in San Diego). Indiana Campus Compact awarded Harms Faculty Fellowships in 2012-13 and 2013-14 to support his efforts to institutionalize community based learning at DePauw.

Scott Thede joined the department, during academic year 1999-2000. Thede received his Bachelor’s degree in Electrical Engineering from the University of Toledo in 1993. He followed up with a Master’s in Electrical Engineering in 1994 and a Ph.D. in Electrical and Computer Engineering in 1999 from Purdue University. He worked as an Instructor at Purdue in 1997,
which led him to seek a career in teaching. Thede began teaching at DePauw in the fall of 1999, bringing the department to five full-time faculty members. He taught all the department’s core courses, and focuses on Artificial Intelligence, Theory of Computation, and Operating Systems at the upper level. Thede’s research area is artificial intelligence; he performs research in automatic text summarization, sentence parsing, and now studies the application of parallel programming to AI algorithms. He spent his two sabbatical leaves developing new courses for the department; the first course was a writing course on artificial intelligence for non-computer science majors; the second course, a course on parallel programming and advanced algorithms. Thede followed in Berque’s footsteps by receiving a grant from the National Science Foundation to fund an REU (Research Experience for Undergraduate students) program for the summers from 2009-2014.


In 2002, Brian Howard became a member of the department. Howard graduated from Northwestern University in 1987 with a B.S. in Computer Science, and received his Ph.D. in Computer Science from Stanford University in 1992. As an Engineering Co-op student, he worked part-time and summers at NASA’s Lewis Research Center from 1982 to 1987, developing computer software to help analyze high-speed propellers and process wind-tunnel data. In 1991 and 1992, he worked in the Computer Science Lab at SRI International on the PegaSys program specification project. After finishing his doctorate, he spent a year as a postdoctoral fellow in the Institute for Research in Cognitive Science at the University of Pennsylvania, followed by three years as a Visiting Assistant Professor in Computing and Information Sciences at Kansas State University. This latter experience, which was half research and half teaching, introduced Howard to the joy of teaching computer science; from 1996 to 2002 he followed this direction by joining the faculty of Bridgewater College in Virginia, where he taught most of the computer science courses in the Department of Mathematics and Computer Science. Since returning to the Midwest in 2002, Howard focuses on the Programming Language and Database upper-level courses at DePauw, and involves students in an ongoing summer research project to develop tools for teaching functional programming in the lower-level CS2 and Foundations courses. His publications are in the areas of programming language semantics (with colleagues from Stanford and Kansas State) and in environments for functional multimedia programming. He works with the student ACM chapter and the programming contest teams. Howard’s first visit to DePauw was in 1983, attending a handbell festival with his church’s choir from Cleveland; since returning in 2002, he directs the handbell choir at Gobin Memorial UMC, and taught several winter term courses on the history and art of bell ringing.
Following Howard’s hire, again the department struggled to teach increasing numbers of computer science majors. The department hired Michael Bell and Adebayo Olowoyeye 2004-05, each to teach one section of Senior Project during both fall and spring semesters; and David Winkel to teach a section of Computer Organization II, spring 2006. The department could not teach its courses with less than seven full-time professors, and the university allowed the hiring of two tenure-track professors, Kelly Van Busum (2004-06) and Olowoyeye (2005-11) before each left the department to pursue other interests. In particular, Olowoyeye returned to Africa to be closer to his family.

Khadija Jirari Stewart became the sixth member of the department in 2006. Stewart graduated with a Bachelor’s of Science in Computer Engineering from Clemson University in December of 1999, a Master's degree and a Ph.D. from Southern Illinois University in Computer and Electrical engineering in 2001 and 2006, respectively. Stewart often teaches the department’s introductory course and the networking course. She developed the Web Programming and CyberSecurity course (offered annually) and the Computer Security course (offered bi-annually). Stewart is very passionate about undergraduate research; she works year round with students on different research formulations related to the web, networking, and cyber security. Stewart’s research interests include networking, network security, cybersecurity, cybersecurity education, and testing of network-on-chip (NOC) systems.

Joseph Kendall-Morwick replaced Olowoyeye, during the years 2011-12 through 2012-13. Kendall-Morwick formed the first open source organization for students and helped with the programming team.

After a national search, Steven Bogaerts completed the seven-member department in 2013. Bogaerts earned a Ph.D. in computer science from Indiana University in 2007, with an emphasis on artificial intelligence. He taught for several years as an assistant professor of computer science at Wittenberg University in Springfield, Ohio, and then joined the DePauw faculty in summer 2013. Bogaerts is particularly interested in cybersecurity, artificial intelligence, and efforts to integrate parallelism throughout the computer science curriculum. Bogaerts secured two National Science Foundation grants to pursue the latter goal of integrating the principles of parallelism across the computer science curriculum. More than revitalizing curricula, though, Bogaerts loves to explore ideas in computer science and to guide students – both non-majors and majors at all levels – in their explorations of these ideas.

In 2014, our own Maria Schwartzman (’10) returned to the department to teach for us in a term position. Maria works with our Women in Computing organization and teaches a variety of courses. We are thrilled to have Maria in our computer science suite once again!
Recognition of our students forms the conclusion of the History of the Department of Computer Science. The professors and resources described in the preceding sections exist to serve our wonderful students. A final reason that the department graduates so many students is the close relationships enjoyed among professors and students. The appendix contains a full list of our graduates in the years covered by this document. No history of the department could be complete without recognizing our students.

Appendix: Graduated Students from First Thirty-One Years of the DePauw University

Computer Science Major

John Allan Harcourt 1982
James Andrew Mergl 1982
Jose Manuel Sevillano 1982
John Patrick Biebel 1983
Susan Burney 1983
David Thomas Hittner 1983
Jeffrey Alan Kolodzik 1983
Margaret Lee Markham 1983
James Lee Zimmerman 1983
Peter Wright Adams 1984
Renee Defnet 1984
John Thomas Johnson 1984
Colleen Mackin 1984
Jeffrey Thomas Ramion 1984
Steven Dale Riley 1984
Andrew Lloyd Schilling 1984
Brenda Sleeper 1984
John Ellison Archer 1985
Eric Mark Richard Butrick 1985
Evelyn Beatrice Cates 1985
Brent Michael Ehrman 1985
David Roy England 1985
Eric Kendall Ford 1985
David Wesley Funk 1985
Carol Hoopengarner 1985
Andrew Robert King 1985
Mark Todd Miller 1985
Thuy T. B. Nguyen 1985
Stacey Ann Noonan 1985
Steven Jay Shadoan 1985
Anthony Phillip Vallone 1985
Mark Allan Weimer 1985
Marsha Wise 1985
Richard William Alvey, Jr. 1986
Elizabeth Bryan Ballantyne 1986
<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
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<tbody>
<tr>
<td>John Otis Bennett</td>
<td>1986</td>
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<tr>
<td>Karen Beth Brehob</td>
<td>1986</td>
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<td>David James Chalmers</td>
<td>1986</td>
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<td>Guy Werner Chapman</td>
<td>1986</td>
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<td>Robert Scott Makin</td>
<td>1986</td>
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<tr>
<td>Debora Mead</td>
<td>1986</td>
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<td>Eric Eugene Schiffli</td>
<td>1986</td>
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<tr>
<td>Susan Elizabeth Selis</td>
<td>1986</td>
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<tr>
<td>Carl Peter Singer, Jr.</td>
<td>1986</td>
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<tr>
<td>Jennifer Joanne Steele</td>
<td>1986</td>
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<tr>
<td>Kevin Otis Sweeney</td>
<td>1986</td>
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<tr>
<td>Ann Roos Volle</td>
<td>1986</td>
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<tr>
<td>Steven Thomas Wiles</td>
<td>1986</td>
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<td>Randall B. Bernier</td>
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<td>Keith A. Correll</td>
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<td>Steven M. Dawson</td>
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<td>George C. Gaylord</td>
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<td>Kent W. Lathrop</td>
<td>1987</td>
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<td>Lisa Nibbelin</td>
<td>1987</td>
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<td>David H. Ratliff</td>
<td>1987</td>
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<td>Lisa Williamson</td>
<td>1987</td>
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<td>William A. Dahlgren</td>
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<td>Gregg R. Dieckmann</td>
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<td>Brett A. Flora</td>
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<td>Devin E. Koch</td>
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<td>Thomas S. Lewis</td>
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<td>Maribeth Steimle</td>
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<td>Lalita Williams</td>
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<td>Julie Ankenbruck</td>
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<td>Brian C. Betsill</td>
<td>1989</td>
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<td>Steven K. Coolidge</td>
<td>1989</td>
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<td>Mitchel T. Everhart</td>
<td>1989</td>
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<td>Michelle L. Fahlen sings</td>
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<td>Jay R. Giganti</td>
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<td>Scott Alan Koon</td>
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<td>Donald E. McKinney</td>
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<td>Todd A. Collins</td>
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<td>Shannon Garner</td>
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<td>Ali A. Issa</td>
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<td>Sudhir Mehta</td>
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<td>Machele Paquette</td>
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<td>Sheila Powell</td>
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<td>Briand Taylor Sanderson</td>
<td>1990</td>
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<td>Natalie L. Simmons</td>
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Ken Kirkpatrick, Registrar, helps the department enormously. He mined much of the data used in this document, and his name appears in the text of the history as a part-time instructor. Kirkpatrick taught the scientific writing course for the department.