

Spring 5-29-1993

# 1993 Rose-Hulman Institute of Technology : One-Hundred and Fifteenth Commencement

Rose-Hulman

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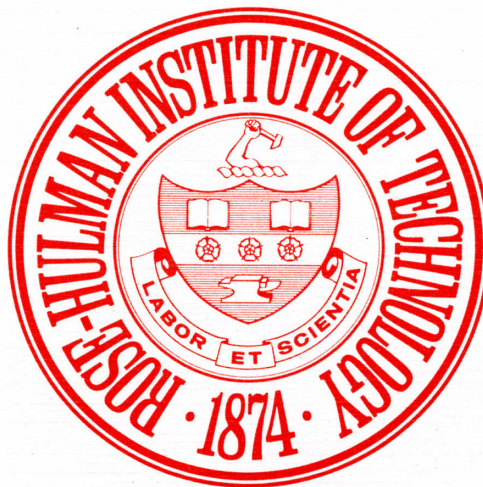
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**One Hundred and Fifteenth  
Commencement  
of  
Rose-Hulman Institute of  
Technology**



**May 29, 1993**

# Commencement Program

|                                                          |                                                                                                       |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Prelude.....                                             | <i>"Voluntary in C"</i> by John Stanley                                                               |
| Academic Procession .....                                | Jess R. Lucas, B.S., M.S., Ph.D.<br><i>Marshal</i>                                                    |
| Processional .....                                       | <i>Prince of Denmark March</i> and <i>Trumpet Tune</i> by Henry Purcell                               |
| National Anthem .....                                    | Andrew R. Mech, B.S., M.S., Ph.D.                                                                     |
| Invocation.....                                          | N. Wade Stockton<br>President, Blue Key                                                               |
| Greeting from the Alumni.....                            | Jack L. Foltz, '57, B.S., LL.B., LL.M.<br>President, Alumni Association                               |
| Response from the Senior Class.....                      | Douglas J. Sowder<br>President, Senior Class                                                          |
| Introduction of Commencement Speaker .....               | Jeffrey J. Haggerty<br>President, Student Government Association                                      |
| Commencement Address.....                                | Donald J. Almquist, B.S., LL.D.<br>(Retired) Chairman, President & CEO, Delco Electronics Corporation |
| Organ Interlude.....                                     | <i>"Dialog"</i> by Russell Schulz-Widmar                                                              |
| Awarding of Heminway Medal .....                         | James R. Eifert, B.S., M.S., Ph.D.<br><i>Vice President for Academic Affairs</i>                      |
| John T. Royse Award.....                                 | Jess R. Lucas<br><i>Vice President for Student Affairs</i>                                            |
| Herman A. Moench Distinguished Senior Commendation ..... | Robert Steinhauser, B.S., M.S.<br><i>Herman A. Moench Distinguished Professor</i>                     |
| Awarding of Honorary Degrees.....                        | Samuel F. Hulbert, B.S., Ph.D.<br><i>President, Rose-Hulman Institute of Technology</i>               |
| Donald J. Almquist (Doctor of Engineering)               |                                                                                                       |
| Introduced by A. Thomas Roper, B.S., M.S., Ph.D.         |                                                                                                       |
| Wendell E. Carroll (Doctor of Engineering)               |                                                                                                       |
| Introduced by Buck F. Brown, S.B., M.S., Ph.D.           |                                                                                                       |
| Frank Perry Lloyd, Sr., M.D. (Doctor of Science)         |                                                                                                       |
| Introduced by Barry J. Farbrother, B.Sc., Ph.D.          |                                                                                                       |
| Frank G. Pearce (Doctor of Engineering)                  |                                                                                                       |
| Introduced by William B. Baratuci, B.ChE., Ph.D.         |                                                                                                       |
| George F. Rapp, M.D. (Doctor of Science)                 |                                                                                                       |
| Introduced by Leroy R. Waite, B.S., M.S., Ph.D.          |                                                                                                       |
| Carl C. Robinson (Doctor of Engineering)                 |                                                                                                       |
| Introduced by William G. Ovens, B.S.E., M.S., Ph.D.      |                                                                                                       |
| Presentation of Fifty Year Commemorative Degrees.....    | Samuel F. Hulbert                                                                                     |
| Conferring of Degrees.....                               | Samuel F. Hulbert                                                                                     |
| Dean's Outstanding Teacher Award .....                   | James R. Eifert                                                                                       |
| Board of Manager's Outstanding Scholar Award .....       | John V. Titsworth, B.S., Eng.D.<br><i>Chairman, Board of Managers</i>                                 |
| President's Outstanding Service Award.....               | Samuel F. Hulbert                                                                                     |
| School Song .....                                        | Andrew R. Mech                                                                                        |
| Benediction .....                                        | Kevin R. Neier<br><i>President, Student Activities Board</i>                                          |
| Recessional.....                                         | <i>Nun Danket</i> by Bach/Fox                                                                         |
| Postlude.....                                            | <i>"Rigaudon"</i> by Campra/Fox                                                                       |

Organ Music by Alfred R. Schmidt, B.S., M.S. *Professor of Mathematics*

(Allen Digital Organ through courtesy of Samuel Music of Effingham, Illinois)

## Honorary Degrees

Doctor of Engineering

DONALD J. ALMQUIST, Hon.D.  
Retired President, Chairman and Chief Executive Officer  
Delco Electronics Corporation  
Kokomo, Indiana

Under the leadership of Donald J. Almquist, the Delco Electronics Corp. grew from a division of General Motors that made automotive entertainment systems to a worldwide automotive electronics corporation with 30,000 employees and more than \$4 billion in revenue. Almquist's distinguished career with GM spanned 41 years. After serving in several management posts for GM, Almquist was appointed vice president and general manager of Delco Electronics. In 1989, he was named chairman, president and chief executive officer of Delco Electronics and had responsibility for the operational activities of Delco Electronics' domestic and foreign-based facilities. He retired from GM in January of this year.

Almquist is in his ninth year as a member of the Rose-Hulman Board of Managers and recently served as chairman of the Commission on the Future of Rose-Hulman. He has received honorary degrees from Indiana and Purdue universities. Almquist earned a bachelor of science degree in industrial engineering from the GMI Engineering and Management Institute.

Doctor of Engineering

WENDELL E. CARROLL  
Retired President, Chairman of the Board of Directors  
and Founder, Regent Controls, Inc.  
Santa Rosa, California

After graduating in 1938 with an electrical engineering degree from Rose-Hulman Institute of Technology, Carroll was employed by the Square D Company and later served as an officer in the United States Navy during World War II.

In 1948, Carroll founded Regent Controls, Inc., a manufacturer of electronic control devices and systems for the automation of industrial machinery. Following his retirement from Regent Controls, this Terre Haute native co-founded and served as chairman of the board of Carroll Builders Corp., Santa Rosa, California.

Carroll has been a dedicated alumnus to Rose-Hulman. In 1963, he was elected to the Rose-Hulman Board of Managers and served as chairman of its board affairs committee. He currently retains emeritus status as a board of managers member. For many years, he volunteered his time to assist the Rose-Hulman Alumni Association as a class chairman and Alumni Fund area chairman.

## Doctor of Science

FRANK PERRY LLOYD, M.D.  
Medical Director, Health Sources, Inc.  
Indianapolis, Indiana

Frank Perry Lloyd's distinguished career in the field of medicine includes serving as vice president for medical research at Methodist Hospital in Indianapolis for ten years and later as president and chief executive officer at Methodist. He retired from the president's post in 1988. For 27 years, Lloyd also operated a private practice specializing in infertility.

Lloyd is the recipient of the Distinguished Service Award from the National Medical Association. His contributions to the fields of obstetrics, gynecology and infertility have earned him honorary degrees from Purdue University, the University of Indianapolis and Wabash College. He is an active community leader volunteering his time for public education, co-chairman of the Indianapolis Progress Committee, former chairman of the board of Christian Theological Seminary, and chairman of the White River Park Commission.

He earned the B.S. degree in chemistry from South Carolina State College in 1941 and his M.D. from Howard University in 1946.

## Doctor of Engineering

FRANK G. PEARCE, D. Sc.  
Retired, General Manager,  
Information Systems and Management Sciences  
Amoco Corporation  
El Macero, California

Frank Pearce contributed to the successful manufacture of petrochemicals for the Amoco Corporation and the development of the company's information systems. Pearce graduated with high honors from Rose-Hulman Institute of Technology in 1940 earning a B.S. degree in chemical engineering. He also received a doctorate at MIT in chemical engineering in 1946 after an interruption of four years to serve as an officer in the U.S. Army chemical corps.

Pearce began his career with Amoco in 1947 and later served as director of project engineering, Amoco Chemicals. In 1960, he was named a division director, responsible for coordinating studies related to the commercializing processes for making chemicals from petroleum.

Pearce, who has been awarded 12 patents, served as Amoco's division director of process design and economics before being named coordinator of research in the planning department. From 1965 until his retirement in 1979, he was general manager in charge of the design, implementation and operation of Amoco's expanded business, technical and commercial information systems.

## Doctor of Science

GEORGE F. RAPP, M.D.

Orthopaedic Surgeon

Indianapolis, Indiana

George Rapp is a noted surgeon who has made significant contributions to the development and design of artificial hips and advancements in the treatment of bone fractures. For nearly 30 years, Rapp has also served as a medical educator. He has taught orthopaedic residents and postgraduate education courses dealing with the treatment of scoliosis and other difficult spinal problems, knee injuries, hip replacement, and the development of new materials to promote bone healing.

Among his creations is a special hip prosthesis designed for displaced fracture of the femoral neck and certain other hip problems. He has conducted research in the use of electricity to stimulate bone growth.

Rapp is currently clinical professor of orthopaedic surgery at the Indiana University School of Medicine and he has served as chief of the orthopaedic service at St. Vincent Hospital for 14 years. Rapp received the M.D. degree from Indiana University in 1957.

## Doctor of Engineering

CARL C. ROBINSON

Retired, President and Founder

Banner Paint Company &

Cypress Protective Coating Company

Jupiter, Florida

Indiana native Carl Robinson has been a successful entrepreneur who developed two companies in Missouri and Florida that exclusively manufactured chemical coatings.

Robinson learned the principles of being a successful businessman from his father who owned a Ford car dealership in Terre Haute. After studying at Rose-Hulman, Robinson worked for six years at Wabash Products in Terre Haute and then moved to St. Louis, Missouri, where he was employed for 15 years by U.S. Paint Co.

He left U.S. Paint to begin his first business venture, Banner Paint Co. in St. Louis. Banner Paint distributed its products nationwide to customers in the furniture manufacturing and metal fabrication industries. In 1960, Robinson founded his second company, Cypress Protective Coating, in Pompano Beach, Florida.

## Fifty-Year Commemorative Degrees

For more than a century, Rose-Hulman alumni have been making positive contributions to society as engineers and scientists. Success has not been limited to their career areas. They serve their local communities through civic organizations, youth activities and churches.

Much of the recognition Rose-Hulman enjoys today is because of our alumni. Rose-Hulman graduates make an impact. Their achievements as engineers, scientists and concerned citizens translate into a reputation of quality for their alma mater.

Today, we recognize the contributions of the Class of 1943 by presenting commemorative degrees to those men who have been alumni for 50 years. The diplomas they receive today honor their dedication of time and talent to their careers, society and Rose-Hulman.

### FEBRUARY 1943

|                                    |                              |
|------------------------------------|------------------------------|
| Fred G. Berghoefer, EE.....        | Arlington, Virginia          |
| George D. Blakey, ME.....          | Palm City, Florida           |
| Antonio Bogran, ME.....            | San Pedro Sula, Honduras, CA |
| Ralph E. Brown, ME.....            | Fort Wayne                   |
| Gene A. Coltrin, CE.....           | Duncansville, Pennsylvania   |
| <b>Darrell E. Criss, EE.....</b>   | Terre Haute                  |
| Richard O. Driskell, ME.....       |                              |
| Paul M. Gallatin, EE.....          | Anderson                     |
| Walter E. Garrigus, EE.....        | Terre Haute                  |
| Paul H. Guhl, CH.....              | Indianapolis                 |
| Frederick J. Hill, CH.....         | Fort Myers, Florida          |
| Richard A. Holthaus, CH.....       | Cape Coral, Florida          |
| Howard H. Irvin, CH.....           | Chicago, Illinois            |
| Alan W. Ker, ME.....               | Buffalo, New York            |
| Fred L. Kolb Jr., ME.....          | Palm City, Florida           |
| Jack L. Loser, CH.....             | Indianapolis                 |
| James S. March, ME.....            | New Smyrna Beach, Florida    |
| John E. Metz, ME.....              | Indianapolis                 |
| <b>Carl N. Miller Jr., EE.....</b> | West Terre Haute             |
| Robert E. Miller, EE.....          | Caballo, New Mexico          |
| Richard C. Mott, ME.....           | Mount Prospect, Illinois     |
| John T. Newlin, CE.....            | Terre Haute                  |
| Joseph J. O'Connell, CH.....       | Albuquerque, New Mexico      |
| Robert R. Pease, ME.....           | Terre Haute                  |
| Michael W. Percopo, CH.....        | New York, New York           |
| Joseph P. Pipp Jr., EE.....        | Pittsfield, Massachusetts    |
| William G. Prescott, CE.....       | Columbus, Ohio               |
| Paul E. Price, CH.....             | Poland                       |
| Richard H. Raab, ME.....           | Arnold, Maryland             |
| Warren R. Rombough, CH.....        | Solon, Ohio                  |
| Harmon E. Rose, CE.....            | St. Mary of the Woods        |
| William F. Rumbley, ME.....        | Fresno, California           |
| Wayne C. Shanks Jr., ME.....       | Livonia, Michigan            |
| William C. Soudriette, CH.....     | Hot Springs, Arkansas        |
| Charles T. Thomas, ME.....         | Dallas, Texas                |
| William W. Turner, CH.....         | Indianapolis                 |
| Richard W. Van Kempema, CH.....    | Crown Point                  |
| T. J. Warrick, EE.....             | West End, North Carolina     |
| William T. Weinhardt, ME.....      | Dallas, Texas                |
| John W. Welsh, ME.....             | Marco Island, Florida        |
| William A. Yoder, ME.....          | Scottsdale, Arizona          |

## OCTOBER 1943

|                                        |                                |
|----------------------------------------|--------------------------------|
| Dean E. Albon, CH .....                | Elkville, Illinois             |
| Kenneth R. Allison, CE .....           | Louisville, Kentucky           |
| James F. Armacost, ME .....            | Indianapolis                   |
| Charles K. Bresett, EECE .....         | Carrollton, Texas              |
| Lloyd A. Buchalter, ME .....           | Wallkill, New York             |
| Richard M. Buchanan, ME .....          | Boise, Idaho                   |
| Robert P. Davis, CH .....              | Union, Washington              |
| Robert K. Drake, EE .....              | Hendersonville, North Carolina |
| Richard C. Ellsworth, ME .....         | Columbus                       |
| Raymond W. France, CH .....            | Lake San Marcos, California    |
| Harry D. Frye, ME .....                | Green Valley Arizona           |
| John F. Funkhauser, ME .....           | Springfield, Illinois          |
| James R. Garrett, ME .....             | Wheat Ridge, Colorado          |
| Vinton B. Haas Jr., EE .....           | Mansfield Center, Connecticut  |
| <b>E. William Haley Jr.</b> , CH ..... | Akron, Ohio                    |
| Dwight P. Heath, ME .....              | Victoria, Texas                |
| W. David Helmick Jr., CH .....         | New Kensington, Pennsylvania   |
| Robert J. Howell, EE .....             | Ellicott City, Maryland        |
| James L. Johnston, EE .....            | Forest, Virginia               |
| <b>William R. Kniptash</b> , CH .....  | Indianapolis                   |
| Gordon MacBeth, CH .....               |                                |
| Charles R. McKinney, EE .....          | Windsor, California            |
| Edward Moller Jr., ME .....            | Fort Worth, Texas              |
| Frank W. Peak, EE .....                | Evansville                     |
| J. Francis Pfrank, ME .....            | Schaumburg, Illinois           |
| John G. Povelites, CH .....            | Los Alamos, New Mexico         |
| Bruce E. Powell, CH .....              | Kensington, California         |
| Ernest F. Shell, ME .....              | Louisville, Kentucky           |
| <b>James H. Shultz</b> , EE .....      | Zionsville                     |
| E. Harold Stanfield, CE .....          | Memphis, Tennessee             |
| <b>Joe M. Valentine</b> , EE .....     | Greenwood                      |
| <b>Thomas J. Weir</b> , ME .....       | Noblesville                    |
| W. Alan Winslow, CH .....              | Evansville                     |
| Frank H. Winters, ME .....             | Longboat Key, Florida          |

## SCHOLARSHIP HONORS

Students graduating with a scholarship index of 3.90 or higher will be graduated *Summa Cum Laude*; those with a scholarship index between 3.60 and 3.90 will be graduated *Magna Cum Laude* and those with a scholarship index between 3.30 and 3.60 will be graduated *Cum Laude*. These honors are recognized by the display of gold Honor Cords at the Commencement ceremonies and in appropriate fashion on the diplomas.

|     |                        |    |                                           |
|-----|------------------------|----|-------------------------------------------|
| *   | <i>Cum Laude</i>       | G  | Technical Translators Program—German      |
| **  | <i>Magna Cum Laude</i> | R  | Technical Translators Program—Russian     |
| *** | <i>Summa Cum Laude</i> | A  | U.S. Army Commission                      |
| ††  | Two Degrees            | AF | U.S. Air Force Commission                 |
|     |                        | C  | Consulting Engineering Program            |
|     |                        | M  | Management Studies Certificate            |
|     |                        |    | Master Thesis indicated in <i>Italics</i> |

## THE ACADEMIC PROCESSION

In today's academic procession, the gown and hood indicate the degree held by the wearer. The hood is lined with the official color or colors of the college or university conferring the degree. Graduates of certain institutions wear gowns in the color of the university, although black is the basic color of the majority of academic gowns. The doctor's gown is faced down the front with velvet panels and has three velvet crossbars on each sleeve. The velvet may be black or may be the color which represents the field in which the degree was conferred.

### ***RHIT Bachelor's Degree Attire***

Rose-Hulman Institute of Technology Bachelor's degree holders or candidates wear a black gown and a black mortarboard with a black tassel.

### ***RHIT Master's Degree Attire***

Master's degree hoods for Rose-Hulman Institute of Technology are black, lined with rose satin and white satin chevron and edged in golden yellow velvet. With the gown and hood is worn a black mortarboard with black tassel.

# **Rose-Hulman Institute of Technology**

## **Candidates for Degrees**

### **Bachelor of Science**

**November 19, 1992**

#### MATHEMATICS

\*\* Benjamin Parker Nicholson .....Kingwood, Texas

#### MECHANICAL ENGINEERING

Dale Andrew Hendricks .....Terre Haute  
\* Douglas Gene Secrist .....Mentone

**February 25, 1993**

#### CIVIL ENGINEERING

Chad David Hurm .....Jasper  
Marc Eric Neihaus .....Terre Haute  
James William Rhoades .....Thorntown

#### COMPUTER ENGINEERING

\* Eugene M. Park .....South Barrington, Illinois

#### COMPUTER SCIENCE

\*\*\* Jason Robert Wilson .....Huntingburg

#### COMPUTER SCIENCE AND MATHEMATICS

\*\* Clint Frederick Lewsader .....Naperville, Illinois

#### ECONOMICS

Jeffrey Lynn Papa .....Elkhart

#### ELECTRICAL ENGINEERING

Steven Edward Bakota .....Highland  
\*\* Carl Glen Cotter .....Brookville  
Christopher Lee Wilson .....Hartford City  
††\*\* Bin Wu .....Bei Jing, China

#### MATHEMATICS

††\*\* Bin Wu .....Bei Jing, China

#### MECHANICAL ENGINEERING

David Scot Hessler .....Cambridge City  
Graham T. Spencer .....Tipp City, Ohio

**May 29, 1993**

**APPLIED OPTICS**

\*\* Brent Charles Bergner.....Highland  
\* Joseph Ladd Binford III.....North Vernon  
\*\*\* Douglas Edward Childers.....Lafayette  
\*\* David Joel Fischer .....Greenwood  
Bryan Scott Hales .....Fenton, Michigan  
Patrick Christian Holmes.....Chandler  
Jeffrey Dong Kwok .....Valparaiso  
G\* William Charles O'Connell .....Evansville  
Dan Kelly Purvis, Jr.....Indianapolis  
Gregory Brian Simons .....Morris, Illinois  
Leif Christopher Sorensen .....Munster  
Kevin Lewis Stultz .....Chrisman, Illinois

**CHEMICAL ENGINEERING**

Russell Gordon Adams .....Newport, Kentucky  
David Bradley Anderson.....Princeton  
\*\* Enrico Anthony Antonini, Jr. ....New Brighton, Pennsylvania  
R\*\* Charles Leon Arvin.....Vincennes  
John Robert Biddle .....Brazil  
Chad Robert Braunecker.....Tell City  
David Charles Brombaugh.....Carmel  
Perry Lewis Carr .....Middletown  
\* Paul William Carter .....Anderson  
R William Jon Culiver.....Evansville  
Chad Richard Davis .....Terre Haute  
\*\* Robert Douglas Hastings.....Terre Haute  
Gregory Allen Jensen.....Princeton, Illinois  
C Christopher Douglas Kilander .....Crown Point  
\* Christopher Scott Kraus.....New Alsace  
Bryon C. Kuglin.....Crestline, Ohio  
\* Gerard James Madlambayan III .....Brampton, Ontario, Canada  
\* Robert Michael McCauley .....Syracuse  
David Wade Merrell .....Brookville  
William Martin Mounts .....Terre Haute  
††\*\* Alan Lee Peacock .....New Palestine  
Brian Scott Poole.....Pryor, Oklahoma  
\*\* Christopher Reed Posey .....Terre Haute  
†† William Wayne Schomer .....Terre Haute  
Arden Duane Stiers .....Anderson  
Lars David Swanson .....Moline, Illinois  
\* Andrew John Weber .....Washington  
Barry Joseph Weisman.....Jasper

**CHEMISTRY**

\*\* Bryan Cordell Duffy .....Belleville, Illinois  
\*\* Brian Kent Goodman .....Granger  
Bryon Matthew Mish .....Hammond  
††\*\* Alan Lee Peacock .....New Palestine  
†† William Wayne Schomer .....Terre Haute  
Ivan Douglas Williams.....Rockville

## CIVIL ENGINEERING

|     |                                 |                         |
|-----|---------------------------------|-------------------------|
|     | Thomas Clark Campbell.....      | Charlestown             |
| C   | Robert Michael Coop.....        | Indianapolis            |
|     | Daniel Joseph Corey.....        | Terre Haute             |
| C   | Christian Bingham Crosby.....   | Toledo, Ohio            |
|     | Kevin Louis Ehrenreich.....     | Williamsville, New York |
| **  | Jared Kirk Frederick.....       | Brazil                  |
|     | Kevin Douglas Greene.....       | Fishers                 |
|     | Tracy Alan Grunden.....         | Lebanon, Illinois       |
| C*  | Rhett Thomas Harper.....        | Darien Centy, New York  |
| *   | Loren Neal Heinze.....          | Bertha, Minnesota       |
|     | Mark Eric Henke.....            | Jasper                  |
| **  | Christopher N. Jobe.....        | Dugger                  |
| C** | Adam Lee Kluemper.....          | Washington              |
| C   | John Allen Lukowski.....        | East Chicago            |
|     | Scott Michael O'Neil.....       | Crown Point             |
|     | Linn Christian Oelker.....      | Lawrenceburg            |
| C   | Eric Merritt Smith.....         | Clinton                 |
|     | Steven Heath Sunberg.....       | Okeana, Ohio            |
| C   | Michael Lewis Turchi.....       | Linton                  |
|     | Michael Richard Waldbieser..... | Terre Haute             |
| C   | Matthew Wayne Warstler.....     | Garrett                 |
| C*  | Mark Wills Williams.....        | Shelbyville             |
|     | Patrick Wayne Zaharako.....     | Columbus                |

## COMPUTER ENGINEERING

|    |                           |                  |
|----|---------------------------|------------------|
|    | Keith Macon Ambrose.....  | Covington        |
| ** | Michael F. Farrell.....   | Lawrenceburg     |
|    | David Edward Huey.....    | Bryant           |
|    | Danny Rex Kouder, Jr..... | Cedar Lake       |
|    | Matthew Paul Morley.....  | Columbus         |
|    | Raman Neil Ohri.....      | Zanesville, Ohio |
|    | Alan James Schnarr.....   | Jasper           |

## COMPUTER SCIENCE

|       |                                 |                        |
|-------|---------------------------------|------------------------|
| AF    | Bruce David Artman.....         | Fairfax, Virginia      |
| **    | Todd Ronald Eigenschink.....    | Oconomowoc, Wisconsin  |
|       | David Isaac Goodman.....        | Omaha, Nebraska        |
| **    | Thomas Hall Hopson.....         | West Salem, Wisconsin  |
|       | Anthony Michael McAllister..... | Seymour                |
| AF, R | Andrew Patrick McConnell.....   | Richmond, Virginia     |
|       | Michael Wayne Palmer.....       | South Whitley          |
|       | Gregory Jon Parkhurst.....      | Wauwatosa, Wisconsin   |
|       | Walter Brian Pressler.....      | Fort Wayne             |
| R*    | Bradley Thomas Rodeffer.....    | Rensselaer             |
|       | Jason David Snyder.....         | Sand Springs, Oklahoma |

## COMPUTER SCIENCE AND MATHEMATICS

|     |                                 |                       |
|-----|---------------------------------|-----------------------|
| *** | Jeffrey Scott Little.....       | Madison               |
| R** | Kenneth Arthur Schmidt, Jr..... | Corydon               |
| **  | Stephen Dale Smalley.....       | Glen Burnie, Maryland |

## ECONOMICS

|   |                      |             |
|---|----------------------|-------------|
| R | Kevin Ray Neier..... | Coatesville |
|---|----------------------|-------------|

## ELECTRICAL ENGINEERING

|      |                                |                           |
|------|--------------------------------|---------------------------|
|      | Clay Allen Armstrong.....      | Loogootee                 |
| *    | Scott Joseph Beach .....       | Vincennes                 |
|      | Marc Andrew Bouton .....       | Hampshire, Illinois       |
|      | Jeff Allen Brier.....          | Russiaville               |
| **   | Eric Ronald Brodeur.....       | Fall River, Massachusetts |
| *    | Brice Alan Bucher .....        | Marshall, Illinois        |
| *    | Warren Phillip Bullock .....   | Middletown                |
| A    | Robert William Cain.....       | Daleville                 |
|      | Brian Charles Dougherty.....   | Terre Haute               |
| *    | Steven DeWayne Dunn .....      | Princeton                 |
| *    | Daniel Paul Engel .....        | Cheviot, Ohio             |
| *    | Arthur Nello Giannini, Jr..... | Munster                   |
|      | Scott Alan Gilmour .....       | West Terre Haute          |
|      | Gregory Lane Hendricker .....  | Decatur, Illinois         |
| **   | Brent William Hoffman.....     | Sellersburg               |
|      | James Edward Hughes.....       | Dillsboro                 |
|      | Joseph Lee Johnson.....        | Pittsboro                 |
|      | Eric Junsu Jun .....           | St. Louis, Missouri       |
| G    | Harold Glen Kays, Jr.....      | New Salisbury             |
|      | Steven Thomas King .....       | LaPorte                   |
| **   | Todd James Lemon .....         | Columbia City             |
| **   | Jason Trevor Livermore.....    | New Ulm, Minnesota        |
|      | Mark Howard Mars.....          | Paris, Arkansas           |
|      | Stephen Eric Mattingly .....   | Dale                      |
|      | Wesley Barton Maxie .....      | Brownstown                |
|      | Patrick Dylan McCrudden .....  | Troy, Michigan            |
| *    | Jason Allen Mix .....          | Monte Vista, Colorado     |
| G*** | Barry Steven Moffitt.....      | Pendleton                 |
| ***  | Theron William Nelson .....    | Oakland City              |
| AF   | Raymond Ori.....               | Downingtown, Pennsylvania |
|      | Brent Allen Reyher .....       | Brazil                    |
| *    | Frederick Gray Robbins.....    | Columbia, South Carolina  |
|      | Thomas Corey Schultz.....      | New Palestine             |
|      | Ronald Lee Shaffer II .....    | Danville, Illinois        |
|      | Matthew Lawrence Stamm .....   | Glendale, New York        |
|      | Patrick John Townsend .....    | Crown Point               |
|      | Irvin John Vanderpohl .....    | Greensburg                |
|      | Stephen Michael Varga .....    | Cedar Lake                |
| **   | David James Walker .....       | Lubbock, Texas            |
| ***  | James Russell Webster .....    | Davison, Michigan         |
|      | Thomas Matthew Webster .....   | Sunman                    |
| **   | Matthew David Werner.....      | Merrillville              |
|      | Timothy Gene Wiley.....        | Indianapolis              |
|      | Troy Alan Wilhelm .....        | St. Leon                  |
|      | Michael Brian Wonder .....     | Washington                |
| *    | Jonathan D. Yoder.....         | Middlebury                |

## MATHEMATICS

|       |                            |                      |
|-------|----------------------------|----------------------|
| **    | Michael Duane Galloy ..... | LaPorte              |
| ***   | Trevis J. Litherland ..... | Winslow              |
| ††G** | Coey Dean Minear .....     | Fridley, Minnesota   |
| ††**  | Donald Wayne Stanton.....  | Seymour              |
| ††*** | Mark Andrew Stremler ..... | Port Huron, Michigan |
|       | Timothy Allen Watson ..... | Jeffersonville       |
|       | William E. Whitlow .....   | Piqua, Ohio          |
| *     | Daniel Lee Wilson .....    | Mayfield, Kentucky   |

## MATHEMATICS AND COMPUTER SCIENCE

\*\*\* Anthony Lee Hinrichs .....Des Moines, Iowa

## MATHEMATICS AND ELECTRICAL ENGINEERING

\* David Brent Pottschmidt.....Brownstown

## MECHANICAL ENGINEERING

\* Kyle Christopher Arnold .....Clayton  
 David Willard Badger, Jr. ....Henryville  
 R\*\* David William Bailey .....Alexandria, Virginia  
 Jason Christopher Bone .....Portland  
 \*\*\* Charles Laton Brads .....Clayton, Ohio  
 James Anthony Broskow.....Buffalo Grove, Illinois  
 Brian Duane Brown.....Kendallville  
 Chad Robert Brown.....Vevay  
 Jason Farrell Brown.....Haubstadt  
 Caleb Douglas Buchanan .....St. Francisville, Illinois  
 Joseph L. Butcher .....Ellettsville  
 Kevin Michael Cahill .....Terre Haute  
 Richard Andrew Campbell .....Elgin, Illinois  
 \*\* Sean Daniel Chambers .....Mitchell  
 Mitchell Cheatham .....Reelsville  
 Stephen Lee Coffey .....Middletown  
 \*\* Richard James Comer, Jr. ....Owensville  
 Mitchel Ryan Deckard .....Mishawaka  
 Todd Alan DeVore.....Wapakoneta, Ohio  
 Jeffery Howard Dove.....Indianapolis  
 Robert Allen Dove .....Indianapolis  
 \*\* Jonathan Michael Drew.....Terre Haute  
 G\*\* Bryan Douglass Drummond .....Fort Wayne  
 \*\* Paul Martin Fathauer .....Oakwood, Illinois  
 Paul Joseph Fessel .....Floyds Knobs  
 Timothy Paul Fiedeldey .....Aurora  
 Todd Joseph Foreman .....Greenfield  
 C Richmond Todd Fox .....Indianapolis  
 \*\* Mark Aaron Fozkos.....Highland  
 Jeffrey Linn Geesaman .....Dunkirk  
 \* Eric Stephen Geib .....Palmyra, Pennsylvania  
 G\*\*\* Spencer Lee Geswein .....Fowler  
 Scott Douglas Gilkison.....Middletown  
 William John Haas .....Avon, Ohio  
 Jeffrey James Haggerty .....Lake Fenton, Michigan  
 Chaka Hannah .....Panama City, Florida  
 Matthew Joseph Harbert .....Kettering, Ohio  
 Richard Earl Helfert.....Tennyson  
 Jason Ryan Jeffries .....Jasper  
 \*\* Claude Matthew Johnson IV .....Anderson  
 Anthony Ray Jones .....West Terre Haute  
 Andrew James Kasal .....Tinley Park, Illinois  
 Brian Lawrence Kendall.....Mooresville  
 \* Michael Thomas Kridner.....Chenoa, Illinois  
 Robert Russell Lamberson .....Dannebrog, Nebraska  
 \*\* Cory Benson LaRoche .....Plainfield  
 \*\*\* Jonathaon C. Lawrence.....Greensburg  
 \*\* Eric Brian Link .....Portland  
 Jay Christopher Lorentz.....Slippery Rock, Pennsylvania  
 Kenneth Wayne Mangis .....Kirklin

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|       | William Frederick Mathies, Jr. .... | Dayton, Ohio           |
| **    | Brett Phillip Mazany .....          | Noblesville            |
|       | Gregory Clarence Meyer .....        | Osgood                 |
| *     | Eric Anthony Mihal .....            | Gary                   |
| ***   | Leonard Joseph Muhlenkamp .....     | Portland               |
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|       | Clark Randall Newton .....          | Los Alamos, New Mexico |
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|       | Wyatt Kyle Powell .....             | Greentown              |
|       | Chad Brian Powers .....             | Brocton, Illinois      |
|       | Jeffrey Thomas Rafter .....         | Greenfield             |
|       | Timothy Edward Ream .....           | Clay City              |
|       | Kelby V. Ridenour .....             | Wabash                 |
|       | Joseph Paul Ritz .....              | Newton, Illinois       |
|       | Gerald Yetive Ruppert .....         | Huntington             |
|       | Joseph Edward Schmits .....         | Evansville             |
|       | William David Sider .....           | Indianapolis           |
|       | Eric Daniel Smith .....             | Augusta, Maine         |
| **    | Gary Lawrence Solbreken .....       | Willmar, Minnesota     |
|       | Douglas James Sowder .....          | Hebron                 |
| A     | Edwin Wilson Stacy .....            | Lowellville, Ohio      |
| **    | Paul Ryan Stafford .....            | Sullivan               |
| *     | Jason Andrew Staley .....           | Indianapolis           |
| ††**  | Donald Wayne Stanton .....          | Seymour                |
|       | Daniel Patrick Steele .....         | Danville               |
|       | Eric Paul Steinbach .....           | Manawa, Wisconsin      |
|       | Andrew George Stiles .....          | Newburgh               |
| *     | Norman Wade Stockton .....          | Morgantown             |
| ††*** | Mark Andrew Stremler .....          | Port Huron, Michigan   |
|       | Brian Calvin Taylor .....           | Fairbanks, Alaska      |
| **    | Derek Timothy Taylor .....          | New Palestine          |
|       | Steven Charles Taylor .....         | Lowell                 |
|       | Ethan Rene Warner .....             | Crawfordsville         |
|       | Alan Lee Welch .....                | Versailles             |
| C     | Jonathan Ashley Whitcomb .....      | Terre Haute            |
|       | Ronald Duane White .....            | Shelbyville            |
|       | Robert Edward Wood .....            | Lake Havasu, Arizona   |

#### MECHANICAL ENGINEERING AND ECONOMICS

|     |                            |            |
|-----|----------------------------|------------|
| *** | Dylan Clark Schickel ..... | New Albany |
|-----|----------------------------|------------|

#### PHYSICS

|       |                                   |                    |
|-------|-----------------------------------|--------------------|
| **    | Jeffrey T. Miheve .....           | Wyoming, Michigan  |
| ††G** | Coey Dean Minear .....            | Fridley, Minnesota |
|       | Douglas Charles Pearson, Jr. .... | Hilliard, Florida  |

# Master of Science

May 29, 1993

## APPLIED OPTICS

- Steven Michael Blair.....Crown Point  
    *"Photochromic Methyl Violet as a Holographic Medium"*  
    Thesis Advisor: Professor A. Siahmakoun
- Eric Anthony Roth .....Hobart  
    *"Direct Fabrication and Testing of Fiber Optic Microlenses"*  
    Thesis Advisor: Professor Robert M. Bunch

## BIOMEDICAL ENGINEERING

- Royce Frederick Low.....Westport  
    *"Mechanical Properties of a  
    Hydroxyapatite-Polymethylmethacrylate Bone Cement Composite"*  
    Thesis Advisor: Professor Samuel F. Hulbert
- Brett Thomas Weinzapfel.....Evansville  
    *"A Catheter-Tip L-Lactate Sensor for In-Vivo  
    Measurement of Plasma Lactate Concentration"*  
    Thesis Advisor: Professor Lee R. Waite
- James Morris Winkley.....Indianapolis  
    *"An In Vitro Study of Crevice and Galvanic Corrosion  
    of SS316L, Co-Cr-Mo, Ti-6%Al-4%V, and cpTi"*  
    Thesis Advisor: Professor Samuel F. Hulbert

## CHEMICAL ENGINEERING

- Daqing Shi.....Shanghai, P. R. China  
    *"Study of Controlled drug Release Systems  
    Using Biodegradable Polylactic Acid"*  
    Thesis Advisor: Professor Samuel F. Hulbert

## CIVIL ENGINEERING

- Todd Douglas Moore.....Indianapolis  
    *"Design of Wide Flange Combination Sections for  
    Overhead Traveling Bridge Beams"*  
    Thesis Advisor: Professor Daryl L. Logan

## ELECTRICAL ENGINEERING

- Larry Edward Conrad .....Plainfield  
    *"Prediction of Undervoltage Disturbances (SAGS)  
    on Electrical Power Systems"*  
    Thesis Advisor: Cliff H. Grigg
- Jack Eugene Fulton, Jr. ....Bloomfield  
    *"Simulation of Power Converter Circuits"*  
    Thesis Advisor: Professor Frederick C. Brockhurst

- Hua Huang .....Shanghai, P. R. China  
*"DSP Chip Implementation of Speech Synthesis  
Via Linear Predictive Coding"*  
Thesis Advisor: Professor Keith E. Hoover
- Eric John Jumper .....South Bend  
*"An Integrated Neural Network Development Environment"*  
Thesis Advisor: Professor Keith E. Hoover
- Daniel Scott Kieffner .....Jasper  
*"The Evaluation of a Type 'D' Maintenance-Free Sealed  
Lead-Acid Cell for a Dipping Sonar Application"*  
Thesis Advisor: Professor Frederick C. Brockhurst
- Roger Paul Manke, Jr. ....Campzama, Japan  
*"EMAG A 2-D Electrostatic and Magnetostatic  
Solver in MATLAB"*  
Thesis Advisors: Professors David R. Voltmer and Jovan E. Lebaric
- Kent Alan Neier .....Coatesville  
*"Joint Photographic Experts Group (JPEG) Image Compression"*  
Thesis Advisor: Professor Ruth I. Waite
- Khanh Nguyen .....Bedford  
*"Electronic Capacity Controls for Centrifugal  
Air Conditioning Plants"*  
Thesis Advisor: Professor Frederick C. Brockhurst
- Andrew Edward Nunns .....Naperville, Illinois  
*"Folding: A Universal Data-Compression Technique"*  
Thesis Advisor: Professor Keith E. Hoover
- Naagesh Ourganti .....Hyderabad, India  
Non-Thesis Option  
Blocked Call Study System Project  
Project Advisor: Professor Keith E. Hoover
- Michael Wesley Roach .....Mitchell  
*"Improved Control Technique for Fast Output  
Charging of a Boost DC-DC Converter"*  
Thesis Advisor: Professor Frederick C. Brockhurst
- Anthony Lyn Thomas .....Newburgh  
*"A Computerized Data Acquisition and Analysis  
System for an Electrical Power Laboratory"*  
Thesis Advisor: Professor Frederick C. Brockhurst
- Eugene Xiaogang Wu .....Hangzhou, P. R. China  
*"Development of a High Resolution Ultrasound  
Medical Imaging System"*  
Thesis Advisor: Professor Barry J. Farbrother
- Lenian Zha .....Beijing, P. R. China  
*"Image Lab-An Environment for Teaching Image Processing"*  
Thesis Advisor: Professor Mark A. Yoder

#### MECHANICAL ENGINEERING

- Kevin Guy Beasley .....Bloomington  
*"Finite Element Analysis Model Development of Leadless  
Chip Carrier and Printed Wiring Board"*  
Thesis Advisor: Professor Daryl L. Logan

- Patrick Burdette Briggs, Jr. ....Dunsmuir, California  
*"Identification and Mitigation of Structureborne  
Noise in a Hydraulic Winch System"*  
Thesis Advisor: Professor J. Darrell Gibson
- Anthony Joseph Buechler.....Jasper  
*"Liquid Immersion Cooling of a Leadless Chip Carrier by  
Natural Convection and Nucleate Pool Boiling"*  
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- Clemens Burger.....Tuttlingen, Germany  
*"The Bolted Joint of a Connecting Rod:  
A Finite Element/Test Correlation"*  
Thesis Advisor: Professor J. Darrell Gibson
- Barry Jay Davignon .....Attleboro, Massachusetts  
*"Design and Analysis of a New Recreational Device"*  
Thesis Advisor: Professor J. Darrell Gibson
- James Lawrence Elkin .....Charlotte, North Carolina  
*"Explorations Beyond Pipe Flow for Fluid  
Science Educational Software"*  
Thesis Advisor: Professor Andrew R. Mech
- J Bradley Groom .....Wales, Massachusetts  
*"Stiffness Properties of Sandwich Composites:  
Evaluation of Manufacturing Methods and Predictive Models"*  
Thesis Advisor: Professor David A. Stienstra
- Carl R. Jarvis, Jr. ....Evansville  
*"Theoretical and Experimental Determination of  
Crew Served Weapon System Dispersion"*  
Thesis Advisor: Professor J. Darrell Gibson
- Yangping Lu .....Shanghai, P. R. China  
*"Design of a Computer Assisted Instruction Package  
as a Supplement to Mechanics of Materials"*  
Thesis Advisor: Professor Daryl L. Logan
- Christopher John Nordmeyer.....Terre Haute  
*"A Finite Element Analysis of a Human Humerus"*  
Thesis Advisor: Professor Lee Waite
- Max Russel Phinney.....Paris, Illinois  
*"A Determination of the Effect of Particle Size and Distribution  
on Burn Rate in Pyrotechnic Delay Composition"*  
Thesis Advisor: Professor L. Wayne Sanders
- Joseph Christopher Westerkamm.....Cincinnati, Ohio  
*"Design of a Self-Tuning Helmholtz Resonator Used to Evaluate  
the Performance of Resonant Frequency Prediction Formulas"*  
Thesis Advisor: Professor J. Darrell Gibson
- Kailan Zhang.....Hangzhou, P. R. China  
*"Preliminary Research on Intrinsic Composite Steel"*  
Thesis Advisor: Professor James R. Eifert

# **Bachelor of Science**

## **Summer Completion**

### **CHEMICAL ENGINEERING**

Kenneth Howard Brech.....Lawrenceburg  
Charles Edward Drvol.....Chino, California  
A Cheng Shuan Yu .....Muncie

### **COMPUTER SCIENCE**

Robert James Broadhead.....Memphis, Tennessee  
Robert Steven Osiel .....Hobart  
James Timothy Purciful.....Russiaville

### **ELECTRICAL ENGINEERING**

Steven Wayne Beem .....Hamlet  
Eric Scott Moody .....Bloomfield  
Michael Alan Ray .....Terre Haute  
John Francis Senninger.....Radcliff, Kentucky  
Brad Curtis Sutton.....Seymour

### **MECHANICAL ENGINEERING**

Brian Douglas Alexander.....Shelbyville  
Jason Earl Louis Bilsland.....West Terre Haute  
Christopher Donald Edwards.....Brazil  
David Thomas Huff .....Newark, Ohio  
Peter Brent Kasper.....South Bend  
Richard Edward Ryan .....Decatur, Illinois

## **November Completion**

### **CIVIL ENGINEERING**

David Aaron Sides .....Vevay

### **COMPUTER ENGINEERING**

Christopher Eugene Werling.....Fort Wayne

### **ELECTRICAL ENGINEERING**

Robert James Arlt.....LaCrosse, Wisconsin  
Gregory Dean Elliott.....Mitchell  
Sean Christopher Marlow .....Brazil  
Kurt John Parker .....Kenosha, Wisconsin

### **MECHANICAL ENGINEERING**

Matthew Scott Remke .....Germantown, Ohio  
Renos Alan Waggoner .....Linton  
Scott Aaron Woods.....Muncie

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| Robert Shattuck (Emeritus) .....                    | Vienna, West Virginia         |
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