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wisconsin engineer

Engineers Day, October 8, 1976



Kurt F. Wendt Library

We're looking for certain majors to become Lieutenants.



Mechanical and Civil Engineering majors... Aerospace and Aeronautical Engineering majors... majors in Electronics... Computer Science... Mathematics.

The Air Force needs men and women... many with the above academic majors. And Air Force ROTC has two programs for your selection... a four-year and a two-year program. Both leading to an Air Force officer's commission, plus advanced education. There are also four-year, three-year, and two-year scholarships available, all paying full tuition, plus \$100 a month while on scholarship status. Interested? If you qualify, Air Force ROTC could be just the place where you can put it all together. See the adjoining page for participating schools. Or send in the coupon.

AIR FORCE ROTC

GATEWAY TO A GREAT WAY OF LIFE

Air Force ROTC-G P.O. Box AF Peoria, IL 61614	2-EC-106
Yes, I'm interested in Air Force ROTC. I understand there is no obligation.	
Name _____ Sex M <input type="checkbox"/> F <input type="checkbox"/>	
(PLEASE PRINT)	
Address _____	
City _____ State _____	
Zip _____ Phone _____	
High School Graduation Date _____ Date of Birth _____	
College Planning to Attend: (1) _____	
(2) _____ (3) _____	
<input type="checkbox"/> I desire immediate contact	
<input type="checkbox"/> Desire information only	

And these are the schools where you'll find Air Force ROTC.

ALABAMA

Auburn University, Auburn 36830
 University of Alabama, University 35486
 Samford University, Birmingham 35209
 + Jefferson State Jr College, Birmingham 35215 (GMC only)
 + Lawson State Jr College, Birmingham 35271 (GMC only)
 + Miles College, Birmingham 35208
 + University of Alabama, Birmingham, University Station 35294
 + University of Montevallo, Montevallo 35115
 Tuskegee Institute, Tuskegee 36088
 Troy State University, Troy 36081
 Alabama State University, Montgomery 36101
 + Auburn University of Montgomery, Montgomery 36109
 + Huntington College, Montgomery 36106

ARIZONA

University of Arizona, Tucson 85721
 + Pima Community College, Tucson 85709 (GMC only)
 Arizona State University, Tempe 85281
 + Glendale Community College, Glendale 85301 (GMC only)
 + Mesa Community College, Mesa 85222 (GMC only)
 + Phoenix College, Phoenix 85013 (GMC only)
 + Scottsdale Community College 85251 (GMC only)
 Northern Arizona University, Flagstaff 86001

ARKANSAS

University of Arkansas, Fayetteville 72701

CALIFORNIA

California State University, Fresno 93740
 Loyola Marymount University, Los Angeles 90045
 + Cypress College, Cypress 90630 (GMC only)
 + East Los Angeles College, Los Angeles 90022 (GMC only)
 + El Camino College, El Camino 90506 (GMC only)
 + Fullerton College, Fullerton 92634 (GMC only)
 + Los Angeles City College, Los Angeles 90029 (GMC only)
 + Los Angeles Harbor College, Wilmington 90744 (GMC only)
 + Los Angeles Pierce, Woodland Hills 91360 (GMC only)
 + Los Angeles SW College, Los Angeles 90047 (GMC only)
 + Los Angeles Trade Tech College, Los Angeles 90015 (GMC only)
 + Los Angeles Valley College, Van Nuys 91401 (GMC only)
 + Marymount Palms Verdes College, Palms Verdes Peninsula 90274
 + Mount St Mary's College, Los Angeles 90049
 + Northrop Institute of Technology, Inglewood 90306
 + Santa Monica College, Santa Monica 90406 (GMC only)
 + West Los Angeles College, Culver City 90230 (GMC only)
 San Jose State University, San Jose 95114
 University of California, Los Angeles, Los Angeles 90024
 University of Southern California, Los Angeles 90007
 + Cal Lutheran College, Thousand Oaks 91360
 + Cal State University at Fullerton, Fullerton 92631
 + Cal State University at Los Angeles, Los Angeles 90032
 + Cal State University at Long Beach, Long Beach 90801
 + Cal State University at Northridge, Los Angeles 91321
 + Cal State University, San Bernardino 92407
 + Cal State Polytechnic College, Pomona 91768
 + Cypress College, Cypress 90630 (GMC only)
 + East Los Angeles City College, Los Angeles 90022 (GMC only)
 + El Camino College, El Camino 90506 (GMC only)
 + Glendale Community College, Glendale 91208 (GMC only)
 + Long Beach City College, Long Beach 90808 (GMC only)
 + Los Angeles City College, Los Angeles 90029 (GMC only)
 + Los Angeles Harbor College, Wilmington 90744 (GMC only)
 + Los Angeles Pierce College, Woodland Hills 91364 (GMC only)
 + Los Angeles SW College, Los Angeles 90047 (GMC only)
 + Los Angeles Trade Tech College, Los Angeles 90015 (GMC only)
 + Los Angeles Valley College, Van Nuys 91401 (GMC only)
 + Moorpark College, Moorpark 93021
 + Northrop Institute of Technology, Inglewood 90306
 + Mt. San Antonio College, Walnut 91789 (GMC only)
 + Occidental College, Los Angeles 90041
 + Pasadena City College, Pasadena 91106 (GMC only)
 + Pepperdine University, Los Angeles 90004
 + University of California, Irvine 92664
 + Ventura College, Ventura 93003 (GMC only)
 + West Los Angeles College, Culver City 90230 (GMC only)
 + Whittier College, Whittier 90608
 San Diego State University, San Diego 92115
 + Point Loma College, San Diego 92106
 San Francisco State University, San Francisco 94132
 + City College of San Francisco, San Francisco 94112 (GMC only)
 + Golden Gate University, San Francisco 94106
 + Univ. of Cal. Hastings College of Law, San Francisco 94102
 + Lone Mountain College, San Francisco 94118
 + Univ. of Cal. San Francisco 94122
 + University of San Francisco, San Francisco 94117
 University of California at Berkeley, Berkeley 94720
 + Cal State University at Hayward, Hayward 94540
 + Contra Costa College, San Pablo 94806 (GMC only)
 + Diablo Valley College, Pleasant Hill 94523 (GMC only)

COLORADO

Colorado State University, Fort Collins 80521
 University of Northern Colorado, Greeley 80639
 University of Colorado, Boulder 80302
 + Metropolitan State College, Denver 80204
 + Regis College, Denver 80221
 + University of Colorado, Denver 80203
 + University of Denver, Denver 80210

CONNECTICUT

University of Connecticut, Storrs 06268
 + Central Connecticut State, New Britain 06050
 + Eastern Connecticut State, Willimantic 06226

DISTRICT OF COLUMBIA

Howard University, Washington 20001
 + American University, Washington 20016
 + D. C. Teachers' College, Washington 20009
 + George Washington College, Washington 20005
 + Galaudet College, Washington 20002
 + Georgetown University, Washington 20007
 + Catholic University of America, Washington 20006
 + The Catholic University of America, Washington 20001
 + Trinity College, Washington 20017

FLORIDA

Florida State University, Tallahassee 32306
 + Florida A&M University, Tallahassee 32301
 University of Florida, Gainesville 32601
 University of Miami, P. O. Box 8164, Coral Gables 33124
 + Miami Dade Community College, Miami 33156 (GMC only)
 + Emory-Riddle Aeronautical University, Daytona Beach 32015
 Florida Technological University, Orlando 32816
 + Lake Sumter Community College, Leesburg 32748 (GMC only)
 + Seminole Junior College, Sanford 32771 (GMC only)
 + Valencia Community College, Orlando 32811 (GMC only)

GEORGIA

University of Georgia, Athens 30601
 Georgia Institute of Technology, Atlanta 30332
 + Georgia State University, Atlanta 30303
 Morehouse College, Atlanta 30314
 + Southern Tech, Marietta 30060
 Valdosta State College, Valdosta 31601

HAWAII

University of Hawaii, Honolulu 96822
 + Chaminade College of Honolulu, Honolulu 96816

IDAHO

University of Idaho, Moscow 83843

ILLINOIS

Bradley University, Peoria 61606
 University of Illinois, Urbana 61801
 + Parkland College, Champaign 61820
 Illinois Institute of Technology, Chicago 60616
 + Chicago Kent College of Law, Chicago 60606
 + Elmhurst College, Elmhurst 60126
 + John Marshall Law School, Chicago 60604
 + Kennedy-King College, Chicago 60621
 + Lewis University, Lockport 60441
 + Loop College, Chicago 60601 (GMC only)
 + Malcolm X College, Chicago 60612
 + Marquette College, Chicago 60630 (GMC only)
 + Mayfair College, Chicago, 60630 (GMC only)
 + St. Xavier College, Chicago 60655
 + Southwest College, Chicago 60652 (GMC only)
 + Triton College, River Grove 60171 (GMC only)
 + University of Illinois at Chicago Circle, Chicago 60680
 Wright College, Chicago 60634 (GMC only)
 Southern Illinois University, Carbondale 62901
 Southern Illinois University at Edwardsville, Edwardsville 62025
 + Western Illinois College, Belleville 62221 (GMC only)
 + McKendree College, Lebanon 62254
 + Park College, Cahokia 62206
 + Harris Teachers' College, St. Louis, Missouri 63103
 + University of Missouri at St. Louis, Missouri 63108
 + Washington University, St. Louis, Missouri 63130

INDIANA

Indiana University, Bloomington 47401
 Purdue University, Lafayette 47906
 University of Notre Dame, Notre Dame 46556
 + Holy Cross Junior College, Notre Dame 46556 (GMC only)
 + Indiana University at South Bend, South Bend 46615
 + Mt. St. Mary's College, Notre Dame 46556
 University of Evansville, Evansville 47702
 + Indiana State University of Evansville, Evansville 47712

IOWA

Coe College, Cedar Rapids 52402
 + Kirkwood Community College, Cedar Rapids 52406 (GMC only)
 + Mount Mercy College, Cedar Rapids 52402
 Iowa State University, Ames 50010
 + Drake University, Des Moines 50311
 University of Iowa, Iowa City 52242

KANSAS

Kansas State University, Manhattan 66506
 Wichita State University, Wichita 67208
 The University of Kansas, Lawrence 66045
 Washburn University, Topeka 66621

KENTUCKY

University of Kentucky, Lexington 40506
 + Georgetown College, Georgetown 40324
 + Kentucky State University, Frankfort 40601
 + Midway College, Midway 40347 (GMC only)
 + Transylvania University, Lexington 40508
 University of Louisville, Louisville 40208
 + Bellarmine College, Louisville 40205
 + Indiana University, Southeast, New Albany, Indiana 47150
 + Jefferson Community College, Louisville 40201 (GMC only)
 + Louisville Presbyterian Theological Seminary, Louisville 40205
 + Southern Baptist Theological Seminary, Louisville 40206
 + Spalding College, Louisville 40203

LOUISIANA

Louisiana Tech University, Ruston 71270
 Louisiana State U. and A&M College, Baton Rouge 70803
 + Southern University & A&M System, Baton Rouge 70818
 + Grambling College, Grambling 71245
 University of Southwestern Louisiana, Lafayette 70505
 Tulane University, New Orleans 70118
 + Dillard University, New Orleans 70122

+ Holy Cross College, New Orleans 70114
 + Louisiana State University at New Orleans, New Orleans 70112
 + Loyola University of New Orleans, New Orleans 70118
 + Southern University in New Orleans, New Orleans 70126
 + Xavier University of Louisiana, New Orleans 70125
 Nichols State University, Thibodaux 70301

MARYLAND

University of Maryland, College Park 20742
 University of Maryland, Eastern Shore, Princess Ann 21853
 + Salisbury State College, Salisbury 21801

MASSACHUSETTS

College of the Holy Cross, Worcester 01610
 + Assumption College, Worcester 01609
 + Worcester State College, Worcester 01620
 Lowell Technological Institute, Lowell 01854
 + Anna Maria College, Paxton 01612
 + Assumption College, Worcester 01609
 + Becker Junior College, Worcester 01609 (GMC only)
 + Clark University, Worcester 01609
 + Leicester Junior College, Leicester 01524 (GMC only)
 + Lowell State College, Lowell 01850
 + Quinsigamond Community College, Worcester 01606 (GMC only)
 + Worcester Junior College, Worcester 01608 (GMC only)
 + Worcester Polytech Institute, Worcester 01609
 + Worcester State College, Worcester 01602

MICHIGAN

Michigan State University, East Lansing 48823
 + Lansing Community College, Lansing 48914 (GMC only)
 The University of Michigan, Ann Arbor 48104
 + Eastern Michigan University, Ypsilanti 48197
 + University of Michigan, Dearborn, Dearborn 48128
 + Western Michigan University, Kalamazoo 49001
 Michigan Technological University, Houghton 49931
 + Suomi College, Hancock 49930 (GMC only)

MINNESOTA

The College of St. Thomas, St. Paul 55105
 + Augsburg College, Minneapolis 55404
 + College of St. Catherine, St. Paul 55105
 + Macalester College, St. Paul 55106
 + St. Olaf College, Northfield 55057
 University of Minnesota, Minneapolis 55455
 University of Minnesota at Duluth, Duluth 55812
 + College of St. Scholastica, Duluth 55811
 + University of Wisconsin at Superior, Superior, Wisconsin 54880

MISSISSIPPI

Mississippi State University, State College 39762
 University of Mississippi, University 38677
 University of Southern Mississippi, Hattiesburg 39301
 + William Carey College, Hattiesburg 39401
 Mississippi Valley State College, Itta Bena 38911

MISSOURI

Southeast Missouri State University, Cape Girardeau 63701
 University of Missouri, Columbia 65201
 + Columbia College, Columbia 65201
 University of Missouri at Rolla, Rolla 65401

MONTANA

Montana State University, Bozeman 59715

NEBRASKA

University of Nebraska, Lincoln 68508
 + Concordia Teachers College, Seward 68434
 + Nebraska Wesleyan University, Lincoln 68504
 University of Nebraska at Omaha, Omaha 68101
 + Iowa Western Community College, Council Bluffs, Iowa 51501 (GMC only)

NEW HAMPSHIRE

University of New Hampshire, Durham 03824

NEW JERSEY

Rutgers, The State University, New Brunswick 08903
 + Brookdale Community College, Lincroft 07738 (GMC only)
 + Mercer County College, Trenton 08690 (GMC only)
 + Middlesex County College, Edison 08817 (GMC only)
 + Monmouth College, West Long Branch 07764
 + Newark State College, Union 07083
 + Rider College, Trenton 08602
 + Somerset County College, Somerville 08876 (GMC only)
 + Trenton State College, Trenton 08625
 + Union College, Grantford 07016 (GMC only)
 New Jersey Institute of Technology, Newark 07102
 + Montclair State College, Upper Montclair 07043
 + William Paterson College, Wayne 07470
 State Institute of Technology, Hoboken 07030
 + Jersey City State College, Jersey City 07310
 + St. Peter's College, Jersey City 07306

NEW MEXICO

New Mexico State University, Las Cruces 88003
 + University of Texas at El Paso, El Paso, Texas 79968
 University of New Mexico, Albuquerque 87120
 + University of Albuquerque, Albuquerque 87120

NEW YORK

Cornell University, Ithaca 14850
 + Ithaca College, Ithaca 14850
 + SUNY College at Cortland, Cortland 13045
 Syracuse University, Syracuse 13210
 + Syracuse College, Syracuse 13214
 + Iona College, New Rochelle 10801
 SUNY, Col of Environmental Science & Forestry, Syracuse 13210
 + Uta Col of Syracuse University, Uta 13550
 + Rensselaer Polytechnic Institute, Troy 12181
 + Albany College of Pharmacy, Albany 12208
 + College of St. Rose, Albany 12203

+ SUNY Empire State College, Saratoga Springs 12866
 + Hudson/Montgomery Community College, Johnson 12095 (GMC only)
 + Fultonville Community College, Troy 12180 (GMC only)
 + Immaculate Conception Seminary, Troy 12180
 + Junior College of Albany, Albany 12208 (GMC only)
 + Russell Sage College, Troy 12180
 + Schenectady County Community College, Schenectady 12305 (GMC only)
 + Siena College, Loudonville 12211
 + Skidmore College, Saratoga Springs 12866
 + State University of New York, Albany 12210
 + Union College, Schenectady 12308
 Manhattan College, Bronx 10471
 + College of Mount St. Vincent, Riverdale 10471

NORTH CAROLINA

Duke University, Durham 27706
 + New Carolina Central University, Durham 27707
 University of North Carolina, Chapel Hill 27514
 North Carolina State University at Raleigh, Raleigh 27607
 + Meredith College, Raleigh 27611
 + Peace College, Raleigh 27602 (GMC only)
 + St. Augustine's College, Raleigh 27611
 + Mary's College, Raleigh 27611 (GMC only)
 + Shaw University, Raleigh 27602
 East Carolina University, Greenville 27834
 + Pitt Technical Institute, Greenville 27834 (GMC only)
 North Carolina Agricultural University, Greensboro 27411
 + Bennett College, Greensboro 27420
 + Greensboro College, Greensboro 27420
 + Guilford College, Greensboro 27410
 + High Point College, High Point 27626
 + University of North Carolina, Greensboro 27412
 Fayetteville State University, Fayetteville 28301

NORTH DAKOTA

North Dakota State University of A&S, Fargo 58102
 + Concordia College, Moorhead, Minn. 56560
 + Moorhead State College, Moorhead, Minn. 56560
 University of North Dakota, Grand Forks 58202

OHIO

Bowling Green State University, Bowling Green 43403
 + Bowling Green State University, Findlays Camps, Huron 44839 (GMC only)
 + University of Toledo, Toledo 43606
 Kent State University, Kent 44242
 + Cleveland State University, Cleveland 44115
 Miami University, Oxford 45056
 The Ohio State University, Columbus 43201
 + Wesleyan University, Delaware 43015
 + Otterbein College, Westerville 43081
 Capital University, Columbus 43209
 + Columbus Legal Institute, Columbus 43215 (GMC only)
 + Ohio Dominican College, Columbus 43219
 Ohio University, Athens 45701
 University of Akron, Akron 44325
 University of Cincinnati, Cincinnati 45221
 + Northern Kentucky University, Kenton 41021
 Highland Heights, Kentucky 41076

OKLAHOMA

Oklahoma State University, Stillwater 74074
 The University of Oklahoma, Norman 73069
 Oregon State University, Corvallis 97331
 + Linfield College, McMinnville 97128
 + Oregon College of Education, Monmouth 97331
 + Willamette University, Salem 97301
 University of Oregon, Eugene 97403
 + Northwest Christian College, Eugene 97401
 University of Portland 97203
 + Clackamas Community College, Oregon City 97045 (GMC only)
 + Clark Community College, Vancouver, Washington 98683 (GMC only)
 + Concordia College, Portland 97211 (GMC only)
 + Mt. Hood Community College, Gresham 97030 (GMC only)
 + Portland Community College, Portland 97219 (GMC only)
 + Portland State University, Portland 97207

PENNSYLVANIA

Gettysburg College, Gettysburg 17325
 + Mount St. Mary's College, Emmitsburg, Maryland 21727
 + Shippensburg State College, Shippensburg 17252 (GMC only)
 + Wilson College, Chambersburg 17201
 Lehigh University, Bethlehem 18015
 + Allentown College of St. Francis Desales, Center Valley 18034
 + Cedar Crest College, Allentown 18104
 + Lafayette College, Easton 18042
 + Moravian College, Bethlehem 18018
 + Muhlenberg College, Allentown 18104
 + Penn St. Allentown, Allentown 18051 (GMC only)
 The Pennsylvania State University, University Park 16802
 University of Pittsburgh, Pittsburgh 15260
 + Carlow College, Pittsburgh 15213
 + Carnegie-Mellon University, Pittsburgh 15213
 + Chatham College, Pittsburgh 15232
 + Community College of Allegheny County, Pittsburgh 15219
 + Duquesne University, Pittsburgh 15219
 + McKeen College, Pittsburgh 15222
 + Robert Morris College, Coraopolis 15108
 Allegheny College, Meadville 16335
 + Alliance College, Cambridge Springs 16403
 + Edinboro State College, Edinboro 16412
 Grove City College, Grove City 16127
 + Slippery Rock State College, Slippery Rock 16057
 St. Joseph's College, Philadelphia 19131
 Wilkes College, Wilkes-Barre 18703
 + Bloomsburg State College, Bloomsburg 17815
 + Keystone Junior College, La Plume 18440 (GMC only)
 + Kings College, Wilkes-Barre 18711
 + Lackawanna Junior College, Scranton 18503 (GMC only)
 + Luzerne County Community College, Wilkes-Barre 18711 (GMC only)
 + Marywood College, Scranton 18509
 + Misericordia College, Dallas 18512
 + Penn State University, Harrisburg Campus, Hazleton 18201 (GMC only)
 + Penn State University, Berks Campus, Wilkes-Barre 18708 (GMC only)
 + Penn State Univ., The Worthington Scranton Campus, Dunmore 18512 (GMC only)
 University of Scranton, Scranton 18510

PUERTO RICO

University of Puerto Rico, Rio Piedras 00931
 + Bayamon Central University, Bayamon 00936
 + Inter American University, San Juan 00936
 + Inter American University, Bayamon 00961
 + Univ. of Puerto Rico Bayamon Regional College, Bayamon 00619
 + Univ. of Puerto Rico Carolina Regional College, Carolina 00630 (GMC only)
 + University of Puerto Rico, Mayaguez 00708
 + Univ. of Puerto Rico Aguadilla Regional College, Aguadilla 00603
 + Inter American Univ. of Puerto Rico, San German 00753

SOUTH CAROLINA

Baptist College at Charleston, Charleston 29411
 The Citadel, Charleston 29409
 Clemson University, Clemson 29631
 + Anderson College, Anderson 29621 (GMC only)
 + Central Wesleyan College, Central 29630
 University of South Carolina, Columbia 29208
 + Benedict College, Columbia 29204
 Newberry College, Newberry 29108

SOUTH DAKOTA

South Dakota State University, Brookings 57006

TENNESSEE

Memphis State University, Memphis 38152
 + Christian Brothers College, Memphis 38104
 + Lemoine-Owen, Memphis 38126
 + Shelby State Community College, Memphis 38122 (GMC only)
 + Southwestern College at Memphis, Memphis 38112
 Tennessee State University, Nashville 37203
 + Aquinas Jr. College, Nashville 37205 (GMC only)
 + Davidson College, Nashville 37203
 + Fisk University, Nashville 37203
 + Middle Tennessee State University, Murfreesboro 37130
 + Trevecca Nazarene College, Nashville 37210
 + University of Tennessee, Nashville 37203
 + Knoxville College, Knoxville 37921

TEXAS

A&M University, College Station 77840
 Baylor University, Waco 76706
 + McLennan Community College, Waco 76703 (GMC only)
 + Parkland University, Waco 76703
 Southern Methodist University, Dallas 75272
 + Eastfield College, Mesquite 75149 (GMC only)
 + El Centro College, Dallas 75202 (GMC only)
 + Mountain View College, Dallas 75211 (GMC only)
 + Riceland College, Dallas 75080 (GMC only)
 + University of Dallas, Irving 75060
 University of Texas at Dallas, Dallas 75230
 + Texas Tech University, Lubbock 79409
 + Lubbock Christian College, Lubbock 79407
 + The University of Texas at Austin, Austin 78728
 + St. Edwards University, Austin 78704
 East Texas State University, Commerce 75428
 + Paris Junior College, Paris 75460 (GMC only)
 North Texas State University, Denton 76203
 + Marcos 78566
 Virginia Polytechnic Institute, Blacksburg 24060
 + Virginia Technological University, Killeen 76541
 + Texas Lutheran College, Seguin 78155
 Lamar University, Beaumont 77710
 + Texas Christian University, Fort Worth 76129
 + Tatnell County Junior College, Fort Worth 76102 (GMC only)
 + Texas Wesleyan College, Fort Worth 76103
 + University of Texas at Arlington, Arlington 76010
 Angelo State University, San Angelo 76901

UTAH

University of Utah, Salt Lake City 84112
 + Weber State College, Ogden 84403
 + Westminster College, Salt Lake City 84109
 Brigham Young University, Provo 84602
 Utah State University, Logan 84322

VERMONT

St. Michael's College, Winooski 05404
 + University of Vermont, Burlington 05401 (GMC only)
 + Trinity College, Burlington 05401
 + University of Vermont, Burlington 05401
 Norwich University, Northfield 05663

VIRGINIA

Virginia Polytechnic Institute, Blacksburg 24060
 Virginia Military Institute, Lexington 24450
 University of Virginia, Charlottesville 22903

WASHINGTON

Central Washington State College, Ellensburg 98924
 University of Puget Sound, Tacoma 98416
 + Fort Steilacoom Community College, Tacoma 98409 (GMC only)
 + Pacific Lutheran University, Tacoma 98477
 + St. Martin's College, Olympia 98503
 + Tacoma Community College, Tacoma 98435 (GMC only)
 Washington State University, College Station Box 2220, Pullman 99163
 University of Washington, Seattle 98195
 + Bellevue Community College, Bellevue 98007 (GMC only)
 + Everett Community College, Everett 98201 (GMC only)

WEST VIRGINIA

West Virginia University, Morgantown 26506
 + Fairmont State College, Fairmont 26554

WISCONSIN

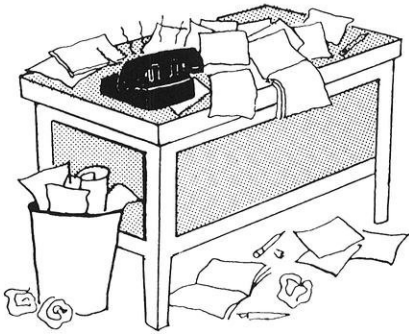
University of Wisconsin, Madison 53706
 + Madison Area Tech College, Madison 53703 (GMC only)
 University of Wisconsin at Superior, Superior 54880

WYOMING

University of Wyoming, Box 3005,
 University Station, Laramie 82071

+ Schools having cross-enrollment agreements with AFROTC host university. Consult the Professor of Aerospace Studies at the AFROTC detachment on the host university campus for enrollment procedures.
 As of June 1975. Subject to change.

FROM THE DESK OF THE EDITOR



The staff of the Wisconsin Engineer extends its welcome to the new and returning students and faculty of the University of Wisconsin. In the coming year we hope to present interesting and stimulating articles to our readers.

We hope to better serve the engineering community not only on campus, but also throughout the state in the upcoming year. Starting with the next issue we hope to include reader feedback in the form of a 'Letters to the Editor Page'. We welcome articles on any engineering or technical subject.

We are proud to devote this issue to the Kurt F. Wendt Library upon its dedication. As students, we appreciate the facilities and services offered by the new library, and recognize it to be a great addition to the scientific community, not only on campus but throughout the country.

We realize the construction costs were in the millions, but for just a little more the library could be used to its full potential. We maintain the major function of any library to be two fold: research and study. The research facilities and materials are exceptionally well conceived and designed for maximum benefit to users. However, as little or no study space is provided on the engineering campus, considering the increasing number of students enrolled in engineering courses, we would like to see the library open longer hours.

The library was constructed so that the first floor could be shut-off from the other floors. If the first floor was kept open, we don't believe the increase costs would upset the library budget significantly. The increased advantages should outweigh these costs. Hours now stand at 8:00 a.m. to 10:00 p.m., Monday through Thursday, 8:00 a.m. to 5:00 p.m. Friday, and Saturday 9:00 a.m. to 1:00 p.m. More appropriate hours, in our opinion, would be until midnight Monday through Thursday, and as Sunday has proved to be a most concentrated study day, it should be open at least from noon until 10:00 p.m. We feel these changes would better help the library serve its intended users.

We welcome comment, pro and con, on this matter and look forward to a publishingly good year.

**On Wisconsin
The Editor**

wisconsin engineer

PUBLISHED BY THE ENGINEERING STUDENTS of the UNIVERSITY OF WISCONSIN

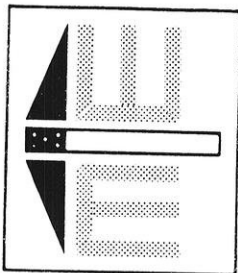
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Several of the articles were supplied by the library staff. Our thanks to them.

Contents

Special issue as a tribute to Engineer's Day and Kurt F. Wendt Library dedication.

- Award Winners** p. 4
Distinguished service citation winners to be presented at Engineer's Day dinner.
- Why The Kurt F. Wendt Library** p. 13
Now that we have a library, what shall we call it?
- Through The Years** p. 16
History of the engineering library
- In Due Time** p. 18
3½ million doesn't come easy; the appropriation took time.
- Storage Shuffle** p. 19
Collections were kept all over the campus when there was no room in the old library
- Vivid Memories of the Move** p. 20
The Staff recalls laughable, but sometimes disasterious situations.
- Meet the Staff** p. 21
Here are the people behind the library.
- At Your Service** p. 22
The library offers many services not only to students, but to the public. Use a computer to find the answers.
- Under One Roof** p. 24
Now these collections have come out of their boxes and are together in the library.
- Upcoming Interviews** p. 26

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UNIVERSITY OF WISCONSIN-MADISON
COLLEGE OF ENGINEERING

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*Presented
at the*
ENGINEERS DAY DINNER
October 8, 1976

Sponsored by the
DEAN AND FACULTY
College of Engineering





GENE M. AMDAHL
Chairman of the Board of Directors
Amdahl Corporation
Sunnyvale, California

For his development of very large, very high speed digital computers.

Born, Flandreau, South Dakota, November 16, 1922.

B.S. (Engineering Physics) 1948, South Dakota State University.

Ph. D. (Physics) 1952, University of Wisconsin

While working for his Ph.D. degree he collaborated with C. H. Davidson on the design of an innovative computer named the WISC. This computer in the Department of Electrical Engineering enabled the University of Wisconsin College of Engineering to get an early start in computer education and led directly to the present Engineering Computer Laboratory. After leaving the University he accepted a position as Project Engineer with IBM. He left IBM after three years to work for Ramo-Wooldridge on radar track following techniques for a short time and then joined Aeronautics as Manager of Data Processing Engineering. He returned to IBM as Director of Computer Research in 1960 where he had primary responsibility for the IBM 360 and its later model, the IBM 370, which became the most widely used computers in the world. In 1970 he left IBM to form his own company and produced the Amdahl 470 which is now recognized as the world's fastest and most powerful computer.

He is a member of the American Physical Society, Institute of Electrical and Electronics Engineers (Fellow), and the National Academy of Engineering. He received a Distinguished Alumni Award from South Dakota State University in 1970. He is presently a Director of Compata, Inc., of Los Angeles and also a Counsellor and Member of the Board of Directors of Fujitsu Ltd. of Tokyo, Japan.



CLIFFORD ALLEN BETTS
Consultant
Denver, Colorado

For his outstanding work in hydraulics and water resources.

Born, Norwalk, Connecticut, September 12, 1889
Ph.B. Yale University

Civil Engineer 1913, University of Wisconsin

Early in his professional career he held engineering positions in Norwalk and Bridgeport, Connecticut. He left the East to take an engineering position for the City of Portland, Oregon, and then served for a short period as Chief Engineer of the Cummings-Moberly Lumber Company. In 1919 he joined the U. S. Forest Service in Denver, Colorado, as an engineer on the Fraser River, Williams Fork and Blue River projects and later as the Office Engineer for the Moffat Tunnel Commission. In 1928 he joined the Bureau of Reclamation for six years as engineer on the Owyhee Dam project. Subsequently he held various positions with the U. S. Forest Service in Washington, D. C. for more than 20 years. After leaving government service in 1954 he joined the engineering firm of Alvord, Burdick and Howson before becoming an independent consultant in 1956.

Memberships in technical and honorary societies include American Society of Civil Engineers (past President of the Washington, D. C., Section), Washington Society of Engineers (past President), Colorado Society of Engineers (past Director), D. C. Council of Engineering and Architects Association (past Chairman), and Washington Academy of Sciences. The American Society of Civil Engineers presented him with the Thomas Fitch Rowland Prize in 1932 for his work on the Moffat Tunnel and with the Civil Engineering History and Heritage Award in 1975. In 1954 and again in 1975 he received the Annual Award of the Washington Society of Engineers. In 1973 he became an Honorary member of Chi Epsilon at the University of Colorado and in 1966 he received the Wisconsin Alumni Association Spark Plug Award.



WALTER L. DAHL

**Chief, Weapons Technology Division of the
Research Directorate General Thomas J. Rodman
Laboratory
Rock Island, Illinois**

For his many original contributions leading to improved national defense.

Born, DeForest, Wisconsin, April 17, 1923
Certificate (ASTP) 1944, Clemson University
B.S. (M.E.) 1962, M.S. (M.E.) 1970, University of Wisconsin

From 1945 to 1950 he was the owner and product engineer of Firearms Unlimited in DeForest. He then joined the U.S. Army Ordnance Works in Baraboo as Chief of Ballistics for a five year period. This was followed by four years with the Army Ordnance Industrial Center in Manheim, Germany, consulting and advising 14 foreign governments and manufacturers in Europe and the Mid-East. He returned to Madison in 1959 as Chief Engineer for the Carlson Engineering Company while at the same time completing the requirements for his B.S. degree. After leaving Madison he worked with E.I. DuPont de Nemours Company for five years as a Senior Research Engineer and as a Research Associate. In 1967 he became associated with the U.S. Army Armament Command and Rock Island Arsenal Laboratories where he has held several positions. He served as Chief of the Division of Engineering Science and Technology for two years and in 1972 was designated Chief of the Major General Keith L. Ware Simulation Center. He was appointed to his present position in 1975, from which he retired in 1976.

He is a registered Professional Engineer in Iowa and Wisconsin. He has 13 patents in the U.S., 5 foreign countries and 63 Formal Invention Disclosures. He has written many papers and technical reports and is a member of several technical societies. He is a member of the U. S. Civil Service Commission Rating Panel for Engineers and Scientists. He has won awards from the U. S. Army Weapons Command, the E. I. DuPont Company and the Department of Defense. He presently serves as an advisor to the Department of Defense Manufacturing and Technology Advisory group.



JEFF C. DIETZ

**Senior Vice-President
Clark, Dietz and Associates-Engineers, Inc.
Sanford, Florida**

For outstanding contributions in sanitary and hydraulic engineering.

Born, Fond du Lac, Wisconsin, October 10, 1914
B.S. (C.E.) 1939, M.S. (Sanitary Engineering) 1941,
Ph.D. (C.E.) 1947, all from the University of Wisconsin

After graduation he served as an Instructor in Hydraulic and Sanitary Engineering at the University of Wisconsin for three years. This was followed by a three year period of service with the U. S. Army after which he returned to the University of Wisconsin as a Research Associate while completing work for his Ph. D. degree. In 1947 he joined the University of Illinois as an Assistant Professor of Sanitary Engineering and remained with the university for ten years rising to the rank of Professor of Sanitary Engineering. He has been a partner in the Engineering firm of Clark, Daily and Dietz in Urbana, Illinois, since 1957. He was recently appointed to his present position.

He is a registered engineer in eight states and a member of many technical and honorary societies such as American Society of Civil Engineers (Fellow), American Public Health Association (Fellow), American Academy of Environmental Engineers (Diplomat), American Water Works Association, and American Public Works Association. He has published extensively in his field. In addition to his outstanding professional career he has had a distinguished military record. During World War II he was involved in the design and construction of military airfields in seven countries in Europe. As a result of his work he received the Croix De Guerre with Gold Star from France and the Bronze Star Medal from the U.S.A. He has been active in civic organizations such as the Parent Teachers Association, Urbana Chamber of Commerce and the Boy Scouts and Girl Scouts of America.



RAYMOND GEORGE HERB
Emeritus Professor of Physics - University of Wisconsin
President and Chairman of Board of National Electrostatics Corporation Middleton, Wisconsin

For important contributions to the development of particle accelerators of vital importance to the utilization of nuclear energy.

Born, Navarino, Wisconsin, January 22, 1908

B.S. (Physics) 1931 and Ph.D (Physics) 1935 from the University of Wisconsin.

Most of his professional life has been with the University of Wisconsin starting as a Research Associate in 1935 and progressing through the ranks to Professor of Physics in 1945. He was the Mendenhall Professor of Physics during the period 1961-72. Since retirement from the University he has been active with his company, the National Electrostatics Corporation, currently serving as President and Chairman of the Board. The company builds high voltage particle accelerators and high vacuum equipment. It is now building a 20 million volt accelerator for Japan and a 25 million volt accelerator for the Oak Ridge National Laboratory in Tennessee. The Oak Ridge machine will operate at nearly double the present world's highest operating voltage. He has written over forty technical papers covering a wide variety of topics in physics such as electrostatic accelerators, Getter-iron pumps, scattering of protons, orbitron vacuum pumps and many others. His contributions have been recognized by election to membership in the National Academy of Sciences and to the grade of Fellow in the American Physical Society.

He was awarded the Tom W. Bonner Prize in Nuclear Physics in 1958. The award is given to recognize and encourage outstanding experimental research in nuclear physics. He was awarded honorary Ph.D. degrees from the University of Sao Paulo, Brazil in 1955 and from Basel, Switzerland in 1960.



LAWRENCE H. HODGES
Vice President, Technical Affairs
J. I. Case Company, Racine, Wisconsin

For significant contributions to farm safety and the development of engineering standards for agricultural and industrial equipment.

Born, Tulia, Texas, July 1, 1920

B.S. (Ag. E.) 1943, Texas A & M

B.S. (M.E.) 1951, University of Wisconsin

After serving six years as an Assistant Professor of Agricultural Engineering at the University of Wisconsin he joined the J. I. Case Company, Rockford plant, and remained there for seven years in various positions of increasing responsibility. He became associated with the Racine plant of the J. I. Case Company in 1959. He has served as Director of Engineering, Director of Product Planning and Programming, and Director of Operations Service. He was appointed Vice President, Research and Technical Services, in 1972, and recently to his present position.

During World War II he served as a Field Artillery Officer in the European Theater and remained active in the U. S. Army Reserve until his retirement in 1964 as a Lieutenant Colonel. He is an active member of many technical societies including the American Society of Agricultural Engineers, serving as President in 1973-74, Society of Automotive Engineers, American National Standards Institute, Farm and Industrial Equipment Institute, and the Construction Industry Manufacturers Association. He was honored as Engineer of the Year by the Wisconsin Section of the American Society of Agricultural Engineers in 1975. He is presently serving as Vice President for Farms on the National Safety Council. He is currently Chairman of the Agricultural Engineering Advisory Committee to the University of Wisconsin-Madison, and a member of a four-man team of U. S. experts assigned to harmonize agricultural tractor standards with the Soviet Union.



RICHARD W. HURN
Research Supervisor
U. S. Energy Research and Development
Administration
Bartlesville, Oklahoma

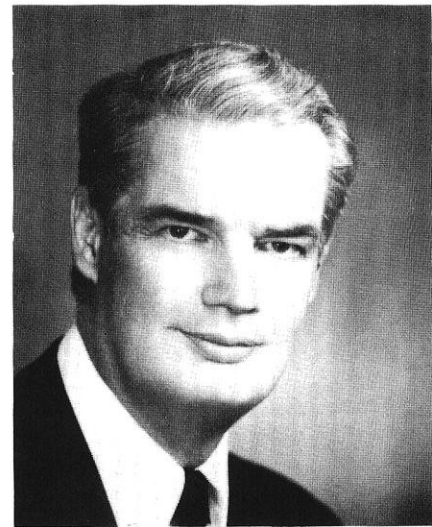
For his many important contributions leading to more efficient use of fuels and to cleaner air.

Born, Hurnville, Texas, January 13, 1919
B.S., 1940, Texas Tech University
M.S. (M.E.) 1947, University of Wisconsin

After receiving his B.S. degree he worked for the Humble Oil Company. His service with this company was interrupted by World War II when he served as torpedo and ordnance officer in the Pacific destroyer fleet. He was awarded a Bronze Star Medal and a Presidential Citation for his excellent performance. He retired from the U.S. Naval Reserve as a Lieutenant Commander. In 1948 he joined the U.S. Bureau of Mines (now the U.S. Energy Research and Development Administration) and has remained with that organization to the present time. During his twenty eight years of service he has held various positions of increasing importance and was appointed to his present position in 1973.

Throughout his career he has been very active in research with more than 60 technical papers to his credit. He has investigated such topics as combustion characteristics of diesel fuels, properties of leaded and lead-free fuels, ignition of fuels, composition of automobile exhaust gases, and methods of reducing exhaust emissions.

He is a member of the Society of Automotive Engineers, Air Pollution Control Association, Coordinating Research Council, Inc., and the National Science Foundation Committee considering research applications relating to the national need. In 1968 he received the Gold Medal Award, the highest service award given by the Department of Interior, and a Special Achievement Award in 1976. He is presently serving as Chairman of the Fuels and Materials Panel of the U. S. Task Force for Motor Vehicle Goals beyond 1980.



CHARLES S. McNEER
President and Chief Executive Officer
Wisconsin Electric Power Company
Milwaukee, Wisconsin

For his many important contributions to the power industry, especially the needs of Wisconsin citizens and industry.

Born, Gilbert, West Virginia, April 8, 1926
B.S. (E.E.) 1950, Northwestern University

His professional life has been with the Wisconsin Electric Power Company, starting in 1950 as a Junior Engineer. He progressed through the ranks as Assistant Vice President, Vice President-Administration, Senior Vice President and Executive Vice President. He was elected to the Board of Directors in 1970 and to his present position in 1975. He is also the President, Chief Executive Officer and a Director of Wisconsin Electric subsidiaries-Wisconsin Michigan Power, Wisconsin Natural Gas and Badger Service.

He is a member of the Executive Committee of the Mid-America Interpool Network that coordinates the planning and operations of the major transmission systems in Illinois, Wisconsin, Missouri and Upper Michigan and also of the Wisconsin-Upper Michigan Systems, a group of five utilities which coordinate the planning and operation of the bulk power systems in this area. He has served as Chairman of the Edison Electric Institute Committee on Interconnection Arrangements. He presently serves on the boards of directors of the Wisconsin Utilities Association, the Wisconsin Electric Utilities Research Foundation, the Metropolitan Milwaukee Association of Commerce, Goodwill Industries (Milwaukee area), Greater Milwaukee Committee and the Wisconsin State Council on Economic Education. In addition he serves on the Industry Advisory Committee to the Defense Electric Power Administration, Department of the Interior, The Federal Energy Administration Electric Utilities Advisory Committee, and the Edison Electric Institute Advisory Committee and Policy Committee on Nuclear Power.



CHESTER W. SPENCER

**Professor and Head, Department of Materials Engineering
Virginia Polytechnic Institute and State University
Blacksburg, Virginia**

For his many contributions to the development of Engineering Materials.

Born, Greeley, Kansas, November 2, 1924.

B.S. (Engineering) 1949 and M.S. (Engineering) 1950, University of Kansas

Ph. D. (Metallurgy and Physics) 1952, University of Wisconsin

After graduation he served for two years as a Senior Engineer for Sylvania Electric and then for two years as a Research Associate at the Carnegie Institute of Technology. He then accepted a position as Assistant Professor of Chemical and Metallurgical Engineering at Cornell University and was promoted to Associate Professor in 1958. He left Cornell University in 1962 to serve as Manager, Research and Advanced Development Division, Materials Department of AVCO. Two years later he joined the Chase Brass and Copper Company as Vice President, Special Metals, and as a Director of the Company. During the period 1973-76 he served as Executive Director of the National Materials Advisory Board, National Academy of Sciences. He has recently been appointed to his present position at the Virginia Polytechnic Institute and State University.

He is a member of the American Association for the Advancement of Science, American Institute of Chemists, American Society for Metals, American Institute of Mining, Metallurgical and Petroleum Engineers and other professional societies. He is the author of numerous technical publications. He has had major responsibility for the development of the Apollo Command Module heat shield, critical materials components for advanced military re-entry systems, improved medical X-ray equipment, and an advanced process for producing large zirconium alloy tubing used in nuclear reactors. He served in Europe during World War II and was awarded the Bronze Star Medal.



D. GILMAN TAYLOR
Consultant, Honeywell, Inc.
Minneapolis, Minnesota

For his inventions of many electromechanical control devices for the home, industry and space exploration.

Born, Madison, Wisconsin, March 8, 1902

B.S. (M.E.) 1928, University of Wisconsin

Except for a brief period immediately after graduation with the Underwriters Laboratories in Chicago, his entire professional career has been with Honeywell, Inc. He started as a Design Engineer and has held positions of Corporate Staff Engineer, Section Chief Aeronautical Division, Chief Engineer Aeronautical Division, and Consultant. Since his retirement in 1969 he has been actively involved with the solution of technical problems originating in any of the Company's two dozen engineering departments.

He holds 85 U. S. patents in the fields of temperature control, relay circuitry for the automatic control of oil and gas burners, instruments and controls for automatic flight control, air conditioning and industrial instrumentation. He initiated the study that resulted in the gyroscope that has guided more than 95 percent of the orbital flights (and all of the moon flights) of the U. S. astronauts. He was the recipient of the Harold Sewatt Award "in recognition of outstanding ability and contribution to a technical accomplishment of unusual significance for Honeywell and the engineering and scientific professions." He is a registered Professional Engineer in Minnesota and has been active in the American Society of Mechanical Engineers, Society of Automotive Engineers, American Society for Heating and Ventilating Engineers, and is a life member of the Engineers Club of Minnesota.



CHARLES R. WILKE
Professor, University of California
Berkeley, California

For outstanding research, teaching, and administration in Chemical Engineering.

Born, Dayton, Ohio, February 4, 1917.
B.S. (Ch.E.) 1940, University of Dayton
MS. (Physical Chemistry) 1942, State College of Washington
Ph.D. (Ch.E.) 1944, University of Wisconsin

After graduation he served for a short time as a chemical engineer for the Union Oil Company of

California and then as an instructor in Chemical Engineering at the State College of Washington. He joined the faculty at the University of California-Berkeley as an instructor in 1946 and progressed through the ranks to Professor in 1953. He served as Chairman of the Division of Chemical Engineering from 1953-1956 and Chairman of the Department of Chemical Engineering from 1956-1963. He has been very active in research and has published over 80 papers. He also holds patents in the United States and in foreign countries.

He has devoted much time and effort to professional societies such as the American Institute of Chemical Engineers (Director and Fellow), American Institute of Chemists (Fellow), American Chemical Society, and American Society for Microbiology. He is a registered Chemical and Mechanical Engineer in California and served for eight years as a member of the California State Board of Registration for Professional Engineers, two years as President. In 1951 he was given the Alan P. Colburn Award and in 1965 the William H. Walker Award by the American Institute of Chemical Engineers. He was elected to the National Academy of Engineering in 1975. He has been an invited participant at many international meetings in England, Japan, Australia, Finland, Mexico and Guatemala. He is currently a member of the Committee on Public Engineering Policy of the National Research Council.

WE WANT YOU



On The Engineer Staff

ORGANIZATIONAL MEETING

**Tuesday,
October 12, 1976**

3:30 p.m. - 5 p.m.

**Room 276 -
Mechanical Engineering
Bldg.**

Bring Ideas and Comments

For those who can't attend, there will be a sign up sheet on the door.

PREVIOUS RECIPIENTS OF DISTINGUISHED SERVICE CITATIONS

June 4, 1948

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March 15, 1949

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Leroy Francis Harza*
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Harvey V. Higley
Louis Richard Howson
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William R. Kellett
Ernst A. Longenecker
Edwin F. Nelson
J. F. Roberts
Leon A. Smith*
Halsten J. Thorkelson*
H. L. Woolhiser*

June 3, 1950

Harold H. Brown*
Hans P. Dahlstrand*
Frank G. Hobart*
L. J. Markwardt
Duncan J. Stewart*
Donald W. Tyrrell

May 4, 1951

Clarence H. Lorig*
Grover C. Neff*
Edwin W. Seeger*
Oliver W. Storey*
Reuben N. Trane*

May 2, 1952

Orrin E. Andrus
William E. Crawford*
Robert C. Johnson*
Walter A. Olen*
Benjamin S. Reynolds*
George P. Steinmetz
Glenn B. Warren
Julius F. Wolff, Sr.

April 10, 1953

Allen Abrams*
Julian D. Conover
Armin Elmendorf
Arthur C. Nielsen
Lester C. Robers*
William E. Schubert*

May 7, 1954

Adolph J. Ackerman
Arne J. A. Asplund
Mack C. Lake*
David W. McLenegan*
Robert C. Siegel
John Slezak

May 4, 1956

J. G. Baker*
Arthur Wardell Consoer
Melvin J. Eans*
Charles A. Halbert*
T. D. Jones
Keith S. McHugh

May 2, 1958

Howard Hathawy Aiken*
Harry C. Brockel
George Hopkins Johnson*
William Beverly Murphy
Arthur F. Peterson

May 1, 1959

Erwin C. Brenner*
Theron A. Brown*
Ralph E. Davis*
Walther C. Fisher
Hugh L. Rusch
Martin W. Torkelson*
Charles S. Whitney*

May 6, 1960

Robert C. Allen
Alexander Graham Christie*
Ronald E. Copeland
Clifford C. Gladson
William A. Klinger*
Lynn H. Matthias

May 5, 1961

John J. Chyle*
William T. Ennor
Oswald J. Muegge*
Merrill A. Scheil
Frederick M. Young

May 4, 1962

George H. Brown
William K. Fitch*
Herman F. Hoerig
Leonard L. Linde
Lloyd J. Severson*
Aubrey J. Wagner

May 3, 1963

Pierce G. Ellis
Anthony J. Nerad
B. Richard Teare, Jr.

May 1, 1964

William C. Ackermann
Harold Goldberg
Eugene L. Grant
Patrick E. Haggerty
Charles Arthur Rowe*
Lucius D. Watkins

May 7, 1965

Edward G. Christianson
C. Moreau Jansky*
Donald C. Minard
Thomas McMaster Niles

May 6, 1966

Bertil T. Andren
Edward J. Brenner
Fernando Garcia-Roel
J. Don Howard*
Lewis Hanford Kessler*
Robert H. Ramsey
Emmons L. Roettiger

May 5, 1967

Louis E. Dequine, Jr.
Frank P. Hyer
Fred A. Loebel
Ralph A. Millermaster
Robert H. Paddock
Harold W. Ruf

May 3, 1968

Alfred Gruhl
Valerius E. Herzfeld
Ralph H. Isbrandt
Clement P. Lindner*
Wesley Grindell Martin
Richard J. Wellauer

May 2, 1969

William V. Arvold, Jr.
Conrad H. Hoepfner
Einar A. Jacobsen*
Daniel E. Krause
Luna B. Leopold
Frederick D. Mackie
James F. Mathis
Allan L. McKay

May 1, 1970

John K. Babbitt
Raymond L. Dickeman
Phil M. Ferguson
Herbert A. Goetsch
Robert Royce Johnson
Arnold F. Meyer
George B. Miller
George Thodos

May 7, 1971

Kurt F. Wendt

May 5, 1972

Wesley J. Burmeister
Farrington Daniels*
Henry P. Ehrlinger
Leon K. Kirchmayer
James W. Mohr
Ralph E. Purucker
Melvin J. Sterba
Robert E. Sutherland*
Walter H. Tacke
Ransom Tyler

May 4, 1973

N. J. Beck
Simon K. Chen
William. Ferris, Sr.
Maurice O. Holtan
Ronold W. P. King
Elizabeth Jackson McLean
Gordon H. Millar
Alden J. Pahnke
Eugene C. Ragatz*
Lindon Edgar Saline
Willard W. Warzyn

October 4, 1974

Robert B. Beckman
Robert M. Bolz
Richard E. Davis
Franklin T. Matthias
Norwood Bowers Melcher
Ragnar E. Onstad
Paul W. Ramsey
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Robert H. Wentorf, Jr.
Charles W. Yoder

October 3, 1975

Sol Burstein
Lawrence A. Ernest
Gerald Estrin
Thelma Estrin
Richard S. Hartenberg
Michael W. Maier
Roy F. Weston

*Deceased

THE BENJAMIN SMITH REYNOLDS AWARD

Benjamin S. Reynolds, manufacturer, Wisconsin born and Wisconsin educated, with Charles F. Burgess, incorporated the Burgess Battery Company in 1917, and devoted the rest of his life to various executive capacities in that company, to its later affiliates, and to the Research Products Corporation. From 1948 until his death, Mr. Reynolds was a member of the Board of Visitors of the University. He was given a distinguished service citation by the College of Engineering in 1952.

As a fitting memorial to Mr. Reynolds, and as a symbol of his belief in the power of new ideas in the development of our industrial life, friends and associates proposed a plan to stimulate the priceless giving of knowledge to young people who are finding their way along the same path of learning that he followed.

The memorial takes the form of an annual presentation, of an especially coined medal bearing Mr. Reynolds' likeness, and an award of \$1,250 to the University of Wisconsin faculty member who contributes most to the instruction of engineering students. The memorial's basic purpose is thus the honoring of good teaching of engineers at the University of Wisconsin. A trust fund has been established to insure the perpetuation of the award.

PREVIOUS RECIPIENTS OF THE REYNOLDS AWARD

- 1955 *Olaf A. Hougén*, Professor of Chemical Engineering
- 1956 *Raymond J. Roark*, Professor of Mechanics (Deceased)
- 1957 *Harold A. Peterson*, Professor of Electrical Engineering
- 1958 *Jacob Korevaar*, Professor of Mathematics
- 1959 *Roland A. Ragatz*, Professor of Chemical Engineering
- 1960 *Vincent C. Rideout*, Professor of Electrical Engineering
- 1961 *C. Harvey Sorum*, Professor of Chemistry
- 1962 *Gerard A. Rohlich*, Professor of Civil Engineering
- 1963 *Thomas J. Higgins*, Professor of Electrical Engineering
- 1964 *Phillip S. Myers*, Professor of Mechanical Engineering
- 1965 *Arno T. Lenz*, Professor of Civil Engineering
- 1966 *Eldon C. Wagner*, Professor of Civil Engineering
- 1967 *Otto A. Uyehara*, Professor of Mechanical Engineering
- 1968 *Rger J. Altpeter*, Professor of Chemical Engineering
- 1969 *R. Ralph Benedict*, Professor of Electrical Engineering
- 1970 *Mohamed M. El-Wakil*, Professor of Mechanical and Nuclear Engineering
- 1971 *Kurt F. Wendt*, Dean, College of Engineering
- 1972 *George E. P. Box*, Professor of Statistics
- 1973 *Edward F. Obert*, Professor of Mechanical Engineering
- 1974 *Chu-Kia Wang*, Professor of Civil and Environmental Engineering
- 1975 *Charles S. Watson*, Professor of Chemical Engineering

PUBLIC RELATIONS COMMITTEE COLLEGE OF ENGINEERING

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Charles C. Watson
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For their help in arranging and conducting the activities of Engineers Day, the Committee wishes to express its deep appreciation to Mrs. W. R. Marshall; Mrs. D. S. Ermer, President of Pentagon; members of the Pentagon Engineers Day Committee, Mrs. L. W. Crandall, Chairman, Mrs. W. C. Young and Mrs. R. J. Parent, and all of the ladies who assisted them.

UW-Madison College of Engineering

KURT F. WENDT LIBRARY

dedicated

Engineers Day, October 8, 1976



WHY THE KURT F. WENDT LIBRARY?

On September 17, 1976 the Board of Regents of the UW System voted unanimously to recognize a former dean of the Engineering College by renaming the recently completed Engineering & Physical Science Library the Kurt F. Wendt Library. A Wisconsin man all his life, Dean Wendt graduated from UW in 1927 and has maintained an intimate relation with this institution every since, dedicating his life to furthering higher education.

A brief summary of Emeritus Dean Wendt's career includes consulting for both the National Science Foundation and the U. S. Forest Products Lab in Madison. In 1935 he was placed in charge of the Materials Testing Laboratory, expanding concrete studies which are not yet completed. After being named to the Athletic Board in 1950, Dean Wendt was chosen UW's Big Ten Faculty Representa-

tative in 1951, and was named the Dean of the College of Engineering and Director of Wisconsin Engineering Experiment Station in June 1953.

Various chairmanships held include the National Engineering College Research Council, 1958-60; Engineering Sciences Advisory Panel; Graduate Facilities Panel for Physical Science; Wisconsin Registration Board for Architects and Professional Engineers, and the Campus Planning Commission from 1957 until 1971, maintaining a deputy chairmanship in the Planning Commission even today. During 1963 and 1964 Dean Wendt served as the President of the American Society for Engineering Education representing Engineering Colleges throughout the United States.

Dean Wendt has served committees and commissions with a

broad range of interests including the National Highway Research Board and the Governors Commission on Traffic Safety, the National Council of Engineering Examiners, the Board of Review and Evaluation of the U.S. Naval Officer's Candidate School, the Midwest Universities Consortium on International Affairs, president of the Madison United Community Chest, the National Board of Ethical Review in engineering, and the State Teachers Retirement Board.

The awards, citations, and honors Dean Wendt has received are too numerous to list here, however, the most notable might be: in 1960, the Bliss medal from the Society of American Military Engineers, an Honorary Doctor of Science degree from West Virginia Institute of Technology, the Roy W. Crum Award in 1965 from the



In the near future, American industry must solve four critical problems.

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and its products cleaner; huge boilers that run on refuse; specialty valves which control noise pollution.

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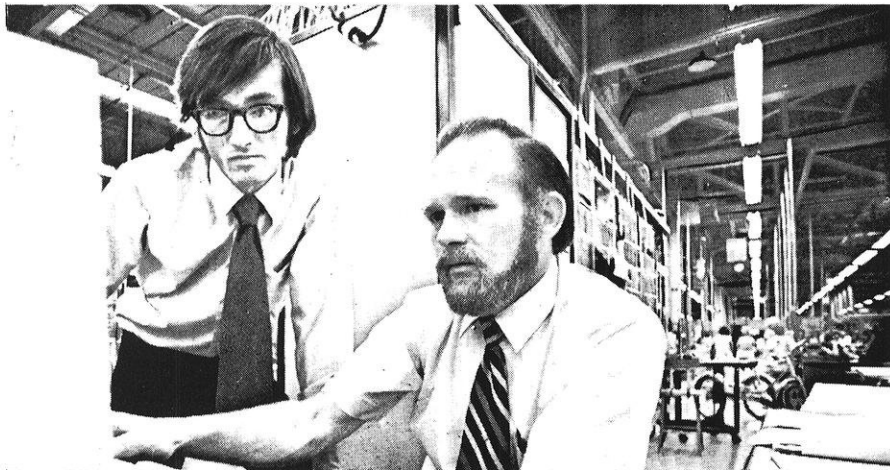
In short, with over \$1 billion in shipments a year, B&W can put you to work in a number of vital areas.

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By continually training our own employees, B&W is developing talent from within to meet the growing need for a highly-skilled work force.

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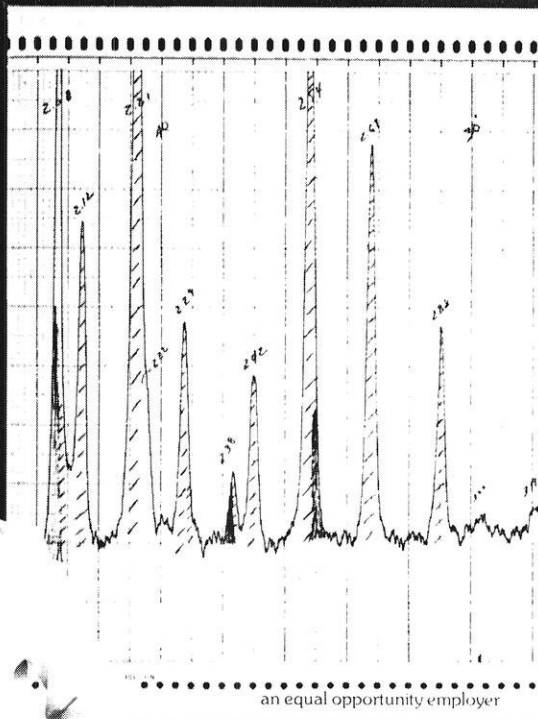
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These catalysts are shipped to Belgium and other countries where Union Carbide plants depend on them to make petrochemicals that are sold abroad.

This interdependence is not unusual in the countries where Union

Carbide and its affiliates work.

By manufacturing abroad we have actually increased the foreign demand for many products we make here at home.

This in turn has created more jobs here at home. A recent study shows our investment overseas has directly created at least 2,500 jobs in our plants in the U.S.

Still, we manufacture abroad only when it becomes unfeasible to supply and maintain a market from the U.S.

In fact, we export products from America to 100 foreign countries.

All of which is another way of say-

ing that our international investment is helping improve the standard of living for people abroad and at home.

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How to interview an interviewer

Suppose you're having an interview with a recruiter from Celanese.

Start by showing you've done your homework. Ask "Is it true that Celanese Corporation is a diversified, multi-national organization with important stakes in five basic, high-technology industries—chemicals, coatings, fibers, plastics and resins?"

Now you've made an impression.

Hold it with, "Am I correct that Celanese has a very strong leadership position in production of man-made fibers? That it pioneered acetate and triacetate? Developed Fortrel polyester, including high-efficiency processes for textured yarn, staple and industrial yarns?"

You've got the interviewer's head bobbing up and down.

But don't overdo it. Throw in a leading question like, "What's the Celanese position in chemicals?"

Pay attention when you're told that "Celanese is now one of the largest U.S. chemical producers. A world leader in the production of formaldehyde, acetic acid, vinyl acetate and methanol!"

Good. Now sing out with this erudite bit, "Those are the basic chemicals that industry's clamoring for, aren't they?"

You've got the idea. Lead him or her into telling you that...

"Celanese is ahead in the plastics revolution with the development of a family of engineering resins. The most complete and useful available anywhere."

The art of making a great impression by asking all the right questions.

"Celanese offers thousands of coatings and resin products including the resins used in coating the Alaskan pipeline. It's one of Detroit's leading suppliers of automotive topcoats and undercoats."

Now hit home with a straight question, "What kind of company is Celanese to work for?"

Notice the smile with the reply, "Celanese is a friendly place to hang your hat. With an informal, shirt-sleeve, no-baloney atmosphere. Where there's opportunity for fast professional growth, a sense of personal responsibility. Where you're never slowed by formal programs or seniority. But where performance and contribution are always rewarded."

O.K., you know how to do it. Do it. If you have a degree in engineering or chemistry, have your placement officer set up an interview. Or write John D. Grupe, Celanese Building, 1211 Avenue of the Americas, New York, N.Y. 10036



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Highway Research Board, National Research Council, and in 1971, the Benjamin Smith Reynolds Award for excellence in engineering instruction.

During Dean Wendt's Administration the College of Engineering significantly expanded both its physical plant and areas of engineering study. The Engineering Building was greatly enlarged and the Engineering Research Building was completed, both vital to maintaining the high standards of the College. International education and research programs were initiated, the first of these with India, funded by the U.S. Agency for International Development and continuing for thirteen years. In 1960 the Wisconsin-Monterrey exchange program established the first cooperative engineering program between the U.S. and Mexico, and in 1966 the Singapore Polytechnic program was initiated with Ford Foundation funding to assist that institution in developing its teaching, research, and degree programs.

In the Wisconsin College of Engineering undergraduate curriculums were established in Engineering Mechanics, Nuclear Engineering, and Industrial Engineering, in addition to Masters and Ph.D. programs in the Nuclear and Industrial Engineering fields. A major commitment to bio-

Dean Wendt has dedicated his life to furthering higher education.

engineering was also undertaken with Dean Wendt's guidance and remains an area of research and investigation for a significant number of engineering students and faculty. It also seems appropriate that the library which will bear Dean Wendt's name, under consideration since 1946, was initially planned and had the basic ground work completed during his tenure as dean.

Since his retirement as Dean in May 1971, Dean Wendt has been involved with the Midwest University Consortium on International Af-

fairs which began in 1964 and is an extension of the India exchange program. The program now includes several Big 10 schools and has been extended into social sciences and other areas. Still a deputy chairman for the Campus Planning Committee, Dean Wendt also serves on the Joint Public Works Committee, is a technical advisor for the Dane County Regional Planning Commission, and provides a vital communication between the University and local governments.

An active researcher still, Dean Wendt recently published "Fifty Year Properties of Concrete", a report containing the results of compressive strength, unit weight and volume changes of concrete samples stored in a variety of different environments. The results obtained correlate well with similar studies made throughout the country and also expand several areas of knowledge. As Dean Wendt personally prepared his own concrete specimens in 1937, he hopes to complete a similar fifty year study on these samples and that these studies are maintained at intervals up to one hundred years.

The Kurt F. Wendt Library is a much needed and appreciated addition to the University of Wisconsin. It is our hope that the library which bears his name will be of fundamental importance in the maintenance and advancement of the ideals and achievements Dean Wendt set forth, and to these ends and the Library we dedicate this issue.



Fred Volk saw the library move from the old Engineering building (now education) to the Mechanical Engineering building. He served as librarian from fall of 1910 until 1950.

THROUGH THE YEARS

The State of Wisconsin Constitution of 1848 provided for the establishment of a state university and for a Board of Regents to govern and direct that institution. The Regents with the advice of the faculty, were also empowered to dictate the "books and authorities" to be used in the course of instruction.¹ Apparently that power, or perhaps the available money, did not extend to libraries, because twenty years later the entire University Library numbered only 3,767 books. William A. Truesdell, writing about the 1860's when he was a student, said that "... There was not even a single book on any engineering subject in the Library."²

The Assembly Hall and Library building (now Music Hall) was built in 1878 and sufficed, at least for volumes storage, until the turn of the century when the present Historical Society building was constructed. According to Storm Bull, the department of engineering was 'a stepchild' until the advent of President T. C. Chamberlin in 1887.³ New Science Hall was occupied in that same year, and the engineers were given space there, including a reading room, even though only current issues of 'technical' journals were available there. The reading room was apparently a rather casual place, for in 1893 the Board of Engineers received a report that some engineering students "were befouling the Reading Room with spitting."⁴ The Board posted a notice ordering the students to stop spitting. A year later President C. K. Adams told the Board of Regents that "In the matter of personnel, I believe that we have at Wisconsin the best engineering school in the Northwest ..."⁵ The Physical facilities however, were not of similar quality: the Science Hall reading room was being used as a draft room and a blow pipe

laboratory as well as a 'library'. A new building was requested to house the College of Engineering but funds were not forthcoming. In 1899 John Butler Johnson became the first Dean of Engineering, and that same year \$100,000 was appropriated for the first Engineering Building. A cold wave in February 1899 and the unusual services of Professors R. W. Wood and D. C. Jackson may have helped influence some legislators in voting that appropriation. When water pipes leading to the homes of J. D. Butler and W. F. Vilas froze, Jackson and Wood thawed them out by running an electric current through the pipes from the mains. Favorable publicity resulted, and descriptions of the method were circulated throughout the state and nation.⁶

The Engineering Building (now the Education Building) as designed by Dean Johnson and J. T. W. Jennings (Superintending Architect of the University) included 1000 square feet for a Reading Room and duplicate technical library in the southwest corner of the structure. The Dean's Clerk was to have immediate charge of this room, and a door was provided for direct access between the Clerk's office and Reading Room. It appears that the engineers were studious and well-behaved, for in 1901 Johnson reported that it was never found necessary to enter the room or even to leave the door ajar.

In 1909 an extension was added to the Engineering Building, with the result that the Reading Room was considerably enlarged. Plans were made to move all engineering materials out of the University Library, and the December 1909 issue of **Wisconsin Engineer** stated that "A technical library is almost as necessary to the engineer as a law library is to a lawyer, and the library established in the building will be of very great help."⁷ It was felt that such a library needed a

librarian, and University Librarian W. M. Smith reported to the Regents in 1910 that "... a young man with engineering education and experience" would be in charge.⁸

Frederick E. Volk graduated from Ripon College in 1906 and held a degree in electrical engineering from the University (1908). He taught at Marquette High School for a year after graduation and spent one year in the General Electric Company's apprentice course.⁹ When Mr. Volk arrived at Madison in the fall of 1910, having had no library experience, it was decided that he could profitably spend a semester training in the University Library - particularly since the expanded quarters for the Engineering Library wouldn't be ready until Second Semester. He later indicated that the apprenticeship was helpful, but "I expect I was probably more bother than I was worth."¹⁰

In February 1911, 10,000 - 12,000 volumes of books and bound periodical volumes were moved from the University Library to the Engineering Building and the Library of the College of Engineering was officially established. A year later it was reported that nearly 700 volumes had been added, and about 250 technical periodicals were available.¹¹ Presumably the engineers settled down happily with their library, and a steady growth of collection size was recorded in the ensuing years.

Engineering was again operating in crowded conditions, and in 1927 \$577,000 was appropriated for a new Mechanical Engineering Building. Various circumstances delayed construction of the building until 1930 when Governor W. J. Kohler released the contract in April. In 1928 the **Wisconsin Engineer** reported that the Engineering Library "... Already

Things have changed since this photo was taken in the 1940's.



meets the need for a complete library", and that library features in the Mechanical Engineering building were to be very restricted.¹² So when the ME building was dedicated on June 22, 1931 the Library was among the departments still on the east end of the campus. But by 1939 needs and desires had changed again and remodeling of the second and third floors in the west wing of M.E. provided office and classroom space as well as quarters for the library. Because the foundry at the back of the second floor extended through third floor up to the roof, the back door of the library opened onto the 8-foot balcony which had thoughtfully been provided to permit passage from the elevator to the front of the building. The library's physical facilities were much improved however, and an article in the March 1940 issue of **Wisconsin Engineer** proudly reported ". . .A number of interesting and outstanding features . . .and office and workroom, . . .special cork floor covering, forced-draft ventilation, venetian blinds, and up-to-date stack and reading room lighting."¹³ The number of books in the library was estimated at "about 40,000" and "about 200 technical and scientific journals, . . . a number of trade magazines, and about 40 engineering college magazines."¹⁴ (When comparing

those numbers with the figures reported for 1910, one is apt to wonder which estimates were closest to actual count.) With the influx of students after World War II, the College of Engineering's facilities were soon badly overcrowded once again. It was reported in 1946 that \$2 million had been appropriated for the construction of a new engineering building, and two years later the **Wisconsin Engineer** indicated that "When finished, the new building will also include . . . the engineering library . . ."¹⁵ Professor Volk retired in 1950 and rather wistfully said that he would like to live to see the day when the Library would be housed in the north wing of a proposed Administration and Civil Engineering Building. That day never came, although plans were drawn for the Library as a part of Unit Four of the Engineering Building. When William R. Harvey resigned as Engineering Librarian in September 1953, LeRoy G. Zweifel was appointed to fill the vacant post, having been Assistant Librarian since 1952. For the rest of that decade Unit Four was planned and replanned - and is still being discussed and re-drawn. It turned out to be fortunate for the library that Unit Four was not built in the

1950's, because the space allotted therein would have been woefully inadequate by now. Instead of trying to house the library in an academic/classroom building, emphasis was placed on constructing a separate facility, and the new Library at 215 N. Randall came into being.

- 1) Curti, M., Cartensen. *The University of Wisconsin: a History, 1848-1925*. Madison, University of Wisconsin Press. 1949. V. 1, p. 6
- 2) *The Wisconsin Engineer*. V. 3, N. 1, January 1899. P. 20
- 3) *Wis. Engr.* V. 3, N. 1, January 1899 p. 6 *Records of the Board of Engineers*. 1:28, March 13, 1893. (Curti & Cartensen) 1894. (Curti & Cartensen)
- 6) *-Wisconsin State Journal*. February 22, 1899. *-Wis. Engr.* V. 3 N. 2, May 1899. pp. 288-291 *-Engineering News and American Railway Journal*. V. 41, N. 12, March 22, 1899. pp. 190-191.
- 7) *Wis. Engr.* V. 14 N. 1 December 1909. P. 45
- 8) Fansler, E. A. *The University of Wisconsin Library - A History. (1848-1953)* p. 110
- 9) *Wis. Engr.* V. 17 N. 3, December 1912 pp. 121-125
- 10) Fansler. p. 110
- 11) *Wis. Engr.* V. 17 N. 3, December 1912. pp. 121-125
- 12) *Wis. Engr.* V.33, N. 3, December 1928. pp. 85-
- 13) *Wis. Engr.* V.44, N. 6, March 1940. p. 83
- 14) *Ibid.*
- 15) *Wis. Engr.* V.53, N. 1, October 1948. pp. 7-8, 42

IN DUE TIME

On January 29, 1970 Chancellor Young appointed thirteen persons to serve as members of the Building Committee for the Engineering and Physical Sciences Library. A year and a half before that the Madison Campus Planning Committee had voted to place the library building in fourth place on the campus building priority list for the 1969/71 biennium.

But - "A major loser was the engineering and physical science library on the Madison campus . . . Harrington sought only advance planning funds of \$69,000 . . ."

July 20, 1968

In March of 1970 the library was reported to be third on the list for the Madison campus in 1971/73, and in July of that year the Building Program Statement for the building was completed.

But - The State Building Commission "... would not approve . . . a request for \$3.4 million for a new engineering and physical sciences resources library."

April 16, 1971

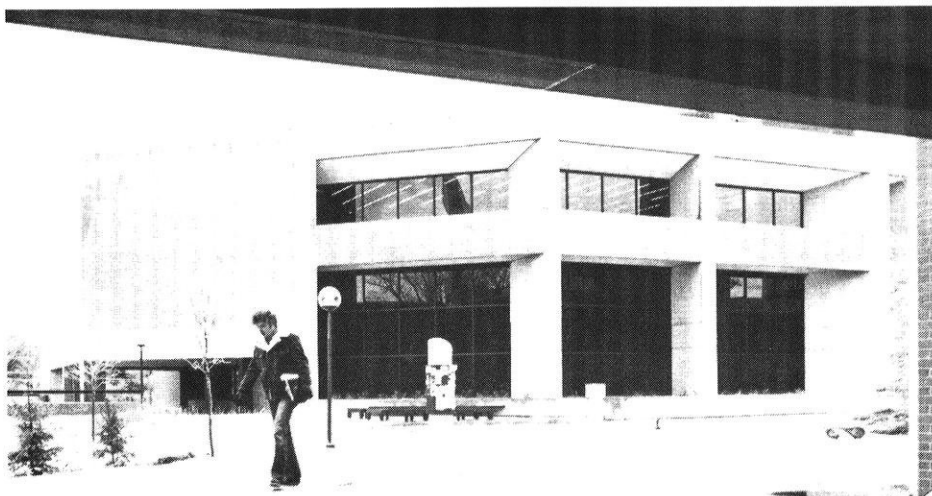


Photo By Norman L. Lenburg

It was suggested that the UW go ahead with land acquisition and advance planning in preparation for the 1973/74 budget.

In October 1972, a Board of Regents committee placed the library fifth on the UW-System projects list for 1973/74,

But - "also turned down (by the State Building Commission) . . . was construction of an engineering and physical sciences library . . ."

March 8, 1973

Just nine days later, when it became apparent that the Com-

mission's recommended buildings would come in below the \$55 million ceiling suggested by the Governor, the vote was reversed and the Library was included in the recommended projects. By May of '73 final drawings for the library were being made and construction seemed assured.

But - "In another action, the Commission refused to approve construction of a \$3.8 million library . . . The Commission agreed, however, to consider the request again at its next meeting."

On May 23, the Commission did reconsider the earlier vote, and construction of the library was finally authorized.

By July of 1974 excavation had begun, and on September 4 a formal ground-breaking ceremony was held. The original schedule, dated December 1970, called for occupancy of the building in February 1974: two years and one month later "The Move" began. Target date for completion of the building was actually July, but construction was finished nearly six months ahead of schedule and the library opened for business on April 5, 1976. Interior finishing details, minor modifications and corrections, and furnishing of the building continued for several months after that.

200 years ago I didn't know where to register, either.



To find out where and when you can register to vote in this year's election, just call your town or city hall.

Register to vote. It's the Bicentennial thing to do.

STORAGE SHUFFLE

The 1960's were a period of growth for the Engineering Library, particularly in regard to services and collections. In 1962/63 the library began receiving NASA's output of unclassified documents, and in that same year the Information Services Division was established as a joint program of the Library and the University Industry Research Program. The following year the Atomic Energy Commission documents were moved from Chicago back to the Madison campus. Coincidentally it was 'discovered' that floor-loading on the fourth floor, M. E. was inadequate for library shelving. In the next three years the Duplicating Center was established, more stacks were installed in Room 375, Mechanical Engineering, and office space was assigned at 319 N. Park Street. 'Internal' moving, shifting, and juggling within the M.E. area went on all the time. 1966/67 was an exceptionally busy year, for that was when rented space at 2201-05 University Avenue was assigned to the Library. Shelving was acquired from the vacated Medical Library, and by the time the Federal Reports Center was officially established in early 1967 the AEC materials were already on the way to 'Storage'. That same year the ISD offices moved from 319 N. Park to 540 University Avenue and the books-acquisition unit moved from M.E. to Park Street.

Moving, in one form or another, went on regularly for the next several years.

1967/68: - Cutter books and some journals were moved from M. E. to 2201-05 University Avenue.

- Additional space was assigned at 319 N. Park and the ISD offices moved back there from 540 University Avenue.

- Remodeling of the fourth floor, M.E., was completed and FRC moved up from the third floor.

1968/69: - Journals-moving to 'Storage' went on throughout the year.

- All offices and work areas at 319 N. Park were moved to 1324 West Dayton Street.

1967/70: - Shelving at 2201-05 University Avenue was filled to capacity and the moving of materials there necessarily came to a stop.

Serials records and work area were moved from the M.E. building to 1324 W. Dayton

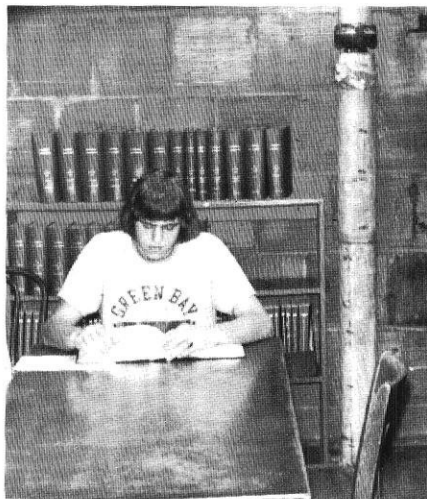
1970/71: - AFROTC vacated space in the M.E. building and the space was assigned to the Library; most of the offices and Technical Services units were moved back to M.E. from West Dayton St.

- A considerable amount of re-organization and moving took place in the Mechanical Engineering building, and offices and

work areas were consolidated at the back of the third floor. It had again been 'discovered' that the floor wasn't sturdy enough to hold library shelving and materials.

Fiscal Year 1971/72 was fairly quiet, but in July of 1972 the Library was notified that the University lease of 2201-05 University Avenue was being terminated. By mid-September all materials and stacks had been moved to the basement of Noland Hall - a pretty hectic couple of months. During that same summer the chilled water system was extended to the Library on third floor, M.E., and by August of the following year 1324 W. Dayton St. had been entirely vacated: the building was torn down not quite a year later.

Even though the new library building was past the final drawing stages by mid-1973, moving went on. Additional bookstacks were installed in the Zoology (Noland) building and older-than-ten-years journals were moved there from Mechanical Engineering. During the past summer (1975) the Engineering Library was in Mech. Engr., a new roof was put on the west wing of that building. An unexpected and vigorous storm dumped hundreds of gallons of water into the reading room and resulted in the fastest moving job to date. None of the books were damaged beyond repair, but for several months the stacks wore plastic sheets and the staff 'spotted' coffee cans and wastebaskets every time it rained. (For years we'd coped with regular leaks and warm tar oozing through the decking above our heads, but that last summer was a bit much.) All things came to an end however, and on April 2, 1976 the last library volume was moved out of the Mechanical Engineering Building.



The old library wasn't conducive to study.

VIVID MEMORIES
OF THE
TIME-OF-THE-MOVE

- Working in a building without telephones and “sometimes on, sometimes off” electrical power.
- Picking up a volume with both hands and still losing part of it
- The term “Dirty Books” literally meaning just that
- Sprinkling table salt on the icy ramp from truck to sidewalk
- Fighting the ice storm in order to go to work, where there **might** be heat and lights
- The “new” smell of carpeted elevators
- Cringing at the crashes and thuds as the microfilm cabinets came down the stairs from fourth floor



- The never-ending rows of Porta-Shelves which filled so rapidly from shelves which emptied so slowly
- Trying to keep track of who was where, and when
- Having nightmares about movers and office-equipment delivery men arriving at the back door at the same time
- Long, hot baths and showers never felt so good
- The time the fire alarm went off for no discernable reason
- Stacks and stacks of cartons, with the needed one on the bottom
- Surverying every room in the new building in an effort to find the water meter
- Being thankful that the worst disasters were cut fingers, broken nails, sore heads and bruised toes

- Opening for business on April 5, 1976 and trying to explain where things were when we weren't always certain
- “Yes, there is new furniture on order.”



- Realizing that we wouldn't have to move the same old volumes again next year.
- Stacking tons of old book ends by size and color
- Over and Over and Over again: “I'm sorry, but we're moving and I don't know precisely where the book is. Can you possibly wait until next week?”
- Library staffer sitting in a Porta-Shelv case and telephoning for pizza
- The assembly-line processes of packing, unpacking, shelving
- Everyone being exhausted and grubby and flaky - and being caught that way on film for TV

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COLLEGE ON THEIR NEW LIBRARY**



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MEET THE STAFF

LEROY ZWEIFEL

Director of Information Services
Office 309

He received an undergraduate degree in Electrical Engineering at Marquette University and a five year Bachelor's in Library Science at UW.

"I believe not only in the traditional uses of the library but also the library as the center of technical resources in the state. It should be used by all state agencies, business and industry.

ENID SIMON

Associate Director
Office 311

She received her undergraduate degree in History and her Masters in Library Science from the University of Wisconsin. "I hope that we have a building and a library that is inviting and used. The staff is good but short. Still we want to help, so if you can't find something, ask."

J. MURIEL SAUL

Reference and Circulation

She did her undergraduate studies in Home Economics and General Science at UW-Stevens Point and received her Masters in Library Science from Madison. "I like working with engineers because I like the area of science. There seems to be a different group of people here at the new library. It seems the library is being used as a study area, so there must be a need for such an area. I try to get to know faculty and students. I'm the contact person since my office is right near the door."

JEAN BARNES

Technical Reports Center
Office 313

She received a BA in Comparative Literature at UW-Milwaukee and a Masters in Library Science from Madison.

"For me, it's really exciting to be in the new building. In the old building, the reports center was on the fourth floor and the rest of the library was on the third floor. Hardly anyone knew I even existed up there. Things are changing however, and now more and more patrons are finding me and are making use of the Technical Reports Center."

MARY ELLEN WIEGAND

Acquisition and
Technical Processing
Office 229

She received her BA in Social Work here at Madison and is now working toward her Masters in Library Science, which she hopes to receive in December.

RICHARD WEST

Serials and Circulation
Office 207

He received a BA in English from Boston College and a Master's degree in English and Library Science from the University of Wisconsin.

"I like working with serials because it overlaps with books, journals and documents. It's really the center of the library. I don't really like working in circulation because I end up working with the trouble makers. A library is a cooperative venture and some just don't cooperate."

ROLF RODEFELD

Reserves and Journals

He received a BA in History and Anthropology and a Masters in Library Science at the University of Wisconsin. "Engineers are interesting people to work with. They have very diverse backgrounds."

JOHN LUEDTKE

Coordinator of Computer
Bibliographic Services
and Water Resources Information
Office 305

He received both a BA and a Masters in History from University of Wisconsin.

LEONARD BLACK

Interlibrary Loans
and Information Services
Office 147

He received a BA and his Masters in Library Science at the University of Wisconsin.

FRANCES WOOD

Associate Director of
Information Services
Office 315

She has a BA from UW-Milwaukee and a Masters in Library Science from UW-Madison.

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WATER RESOURCES INFORMATION PROGRAM COMPUTERIZED LITERATURE SEARCHES

If you're going to do water-related research and plan to spend long hours pouring over indexes and card catalogs searching for relevant literature, let us offer you an alternative.

The Water Resources Information Program at the University of Wisconsin does computerized literature searches in all areas of water resources research. The UW computer terminal is part of the national network of water information retrieval centers sponsored by the U.S. Department of Interior, Office of Water Research and Technology/Water Resources Scientific Information Center.

References to articles, reports, proceedings and monographs are retrieved by feeding selected key words and key word combinations into the data file via the terminal. The computer scans well over 95,000 references to water related studies searching for information relevant to your particular topic.

In addition, the Water Resources Information Program has access to many other data bases to help round out your search. **Chemical Abstracts, Biological Abstracts, and Engineering Index** are only a few.

To request a literature search, send us a statement of the problem or, if you prefer, phone your request in. We will translate the statement into appropriate computer language and call you to clarify any questions. The responses to your request are in computer printout form and will include author, title, source, citation, key words, and an informative abstract. You can ordinarily expect to receive the printout 5-7 working days after your request is received.

The cost for each search is \$1.00 per connect minute plus first class postage for mailing the printout. Average searches usually take between 20 and 30 minutes.

INFORMATION SERVICES

One of the most important links between the University and the industrial community, INFORMATION SERVICES, is located in the new Engineering Library.

This service offers information to business and industry throughout the State. It is jointly sponsored by the University of Wisconsin Library system and the University's Industry Research program. Any business, large or small, is invited to use the service.

Working with the resources of the University of Wisconsin system, government agencies, and universities around the world, they are able to answer almost any question, whether technological or literary. If the information is located on campus, a paper copy of the answers can be sent out within 24 hours of the request. Literature searches take a week. Book loans and hard copy of computer data are also available.

The service is offered on cost recovery basis; the client pays only the cost of the search, no profit is made. Over 20% of the inquiries come under the heading of ready reference, a free service, it takes only a few minutes to find answers. The most expensive job took six months and utilized references throughout the world at a cost of \$15,000.

Within the Madison community many answers are found. A paper

company wanted to sell left over sawdust as dog bedding but needed to find out how pine scent could be added. A phone call to Forest Products Lab provided a quick answer.

In another case the service proved invaluable to a business. A company was being sued for infringing on a patent. They showed the allegation invalid when Information Services proved the information was public knowledge. Many times no answer is a good answer. Sometimes a company wants to know if anything has been published in the area they are researching. If nothing is found, the idea can be thought of as unique; if not, they can build upon the published works of others.

There is access to U.S. and foreign patents, government documents, all new and existing standards and specifications, indexes and abstracts in all fields. Also, Information Services is available for computerized data bases in engineering, water, business, medicine, and chemistry. Therefore, this makes the Engineering Library the center for technological knowledge within the State.

Anyone wishing more information can call (608) 262-5913 or write: Information Services, Kurt F. Wendt Library, University of Wisconsin, 215 N. Randall Avenue, Madison WI 53706.

*Congratulations to
University of Wisconsin
College of Engineering
on the new Engineering
and Physical Science Library.*

*-Gilbert Builders Inc.
Verona, Wis.*

Anyone who has had to spend time pouring over *Chemical Abstracts* or *Engineering Index* knows how long it can take to begin gathering information on a particular topic. In an effort to aid engineers with this preliminary stage of research, the UW-Engineering Library provides access, via computer terminal, to data bases that contain the above, as well as other kinds of indexes.

As a result, search time is minimal. For example, it is possible to search *Selected Water Resources Abstracts* in less than one hour. This data file contains 70,000 abstracts and grows at a rate of 14,000 annually.

The search system is a simple one. By feeding key words and combinations of key words from the selected topic area into the data base, via the terminal, it is possible to retrieve the citations and abstracts that will lead to the answers of technical and research questions.

The average search takes between 20 and 30 minutes. The results are in computer printout form and include author, title, source, citations, key words and abstract. Search requestors receive the printout within 5 to 7 days.

The following data bases are located at the Lockheed Palo Alto Research Laboratory in California, and can be searched through Engineering Library facilities.

CHEMICAL ABSTRACTS - This data base contains 800,000 items, corresponding to issues of *Chemical Abstracts*, covering documents relevant to chemistry and chemical engineering.

ENGINEERING INDEX

(COMPENDEX) - This data base contains 200,000 citations and abstracts from 3,500 journals, publications of engineering organizations and selected government reports and books. File growth is at a rate of 84,000 items per year.

NTIS - This file contains over 325,000 abstracts of government research from over 240 agencies including NASA, DDC, AEC, HEW, HUD, DOT, Commerce and others.

PANDEX - The MacMillan Information Company's Current Index to Scientific and Technical Literature. The file contains 475,000 titles and bibliographic citations from 2,400 journals.

TRANSDEX - 45,000 citations to document translations from the U.S. joint publications service (Macmillan Information Company).

NATIONAL AGRICULTURAL LIBRARY/CAIN - The complete Bibliography of Agriculture file from the National Agricultural Library, including the contents of the NAL catalog as well. The file contains 200,000 citations of agriculture related material. File growth is at a rate of 140,000 citations per year.

INSPECT (SCIENCE ABSTRACTS) - Abstracts from the Institute of Electrical Engineers. INSPEC data bases include:

- Physics Abstracts - 400,000 abstracts from 120 journals covering world-wide literature.
- Electrical and Electronics Abstracts - 200,000 abstracts embracing all areas of computers and control engineering.

The data bases described below are located at Oak Ridge National Laboratory in Oak Ridge Tennessee and are also accessible through the Engineering Library.

TOXIC MATERIALS DATA BASE - The subject matter includes effects on the environment of numerous toxic substances, including heavy metals such as mercury and lead, cadmium, etc. The data file contains 3,165 abstracts.

MERCURY DATA BASE - Mercury in the environment is the subject matter of the 562 items contained in this file.

HEATED EFFLUENT BIBLIOGRAPHY - This file contains 5,174 items on the subject of the effect of thermal effluents on aquatic life.

ENERGY R & D PROJECTS - The 3,165 items in this file describe the projects and proposed work in energy research by both private and government research institutions.

WATER RESOURCES ABSTRACTS - The 70,000 abstracts include pertinent items of legislation, environmental effects articles, wildlife management, etc. The file is taken from *Selected Water Resources Abstracts*.

COAL GASIFICATION RESEARCH - This file contains 2,554 items and was compiled as part of several new "energy" related files that will be appearing in this data base series in the future.

ENERGY DATA BASE - The subject matter of this data base, which contains 2,306 abstracts, includes use, generation, distribution, environmental effects and sources of all forms of energy.

NUCLEAR SCIENCE ABSTRACTS - The field covered is nuclear research. The data base hold 373,940 citations from the *Journal of Nuclear Science Abstracts* but does not include the abstracts due to the massive size of the file. Citations are added at a rate of 60,000 per year.

POWER REACTOR DOCKETS - This file was begun in late 1973 and is designed to hold most of the power reactor docket citations that were previously found in the Nuclear Science Abstracts Data Base. This file contains 4,894 items.

NUCLEAR SAFETY INFORMATION CENTER - This file contains 80,000 abstracts dealing with regulatory information, news articles, etc.

The costs for searching the data bases at Oak Ridge National Laboratories are \$1.00 per connect minute plus first class postage for off campus mailing of the printout. Costs for searching the data bases at Lockheed Palo Alto Research Laboratory are the same but an additional charge of 5 to 10 cents for printing each citation is made.

Interested persons are invited to view computer terminal operations in the Water Resources Information Program Office, Room 392 of the Mechanical Engineering Building, located at 1513 University Avenue in Madison.

UNDER ONE ROOF

Now that the engineering library has been moved to the new building, there is room for many additional collections, previously in storage or held elsewhere, to be shelved and open to the public. Among these are several interesting additions: the Engineering Collection, Cutter Collection and the U.S. patents.

The Engineering collection consists of publications of the Engineering Department. Included in this collection are bound copies of the **Wisconsin Engineer** dating back to the 1800's. Indexed collections of the Experiment Station publications and Expo programs are also included.

Materials that made up the engineering library before the 1950's make up the Cutter collection. It is named after Charles Cutter, a one-time librarian. Many books written by University of Wisconsin professors are also included. The value of the collection in historical information makes it irreplaceable. There are also quite a few rare books, including one on Thordason that is now on display in the Memorial Library's Rare Books Department. Now and then the library receives requests to lend out the books for reprinting.

By far the largest collection is the Patent collection which was moved from the Historical Society. This collection includes bound copies of all the U.S. patents between 1871 and 1966. Patents after that time are recorded on microfilm. The older volumes are leather bound and range from 8 to 10 inches in width. Every week the collection is updated with the receipt of microfilm copies of the patents issued during the week. Indexing is kept up with the Patent Gazette. This publication lists the patent, who it is assigned to, its classification and subclasses of the subject. A patent usually includes an in-depth write up on the making and

workings of the item to be patented, as well as several drawings. One interesting thing about patents is that plants and flowers can be patented on color, smell, time of blooming, shape and size of fruit, and petal count.

The Library is also the only full government depository of documents in the State. All govern-

ment printings are received free of cost. In this way the people in Wisconsin are kept up on new standards and regulations as they are adopted by the government.

With much space left for growing, the library hopes to add other technical collections to further their already outstanding collection of publications.

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UPCOMING INTERVIEWS

FALL 1976

Check Placement Office

Bulletin Boards

Room 1150, Engineering Building

Regularly for

**Additions and Deletions
to Interview Schedules**



MONDAY, OCTOBER 11

Cutler Hammer
Eastman Kodak - PhD's
Republic Steel
Rockwell International
Square D Co.
Texas Instruments
UOP - Process Division
Wisconsin Electric Power

TUESDAY, OCTOBER 12

Conoco (Continental Oil)
I. I. T. Research
Hewlett Packard
Kimberly Clark
Schneider Transport
Square D
Texas Instruments
Trane Co.
Wisconsin Power & Light

WEDNESDAY, OCTOBER 13

Conoco
Consol
Motorola Inc.
Nekoosa Papers Co.
Parker Pen Co.
Rohm & Haas
Trane Co.
Union Oil of California
U. S. Gypsum Research

THURSDAY, OCTOBER 14

Air Products & Chemicals
Container Corp. of America
Chicago Bridge & Iron
Maytag Co.
National Steel Corp.
Northern States Power
Rohm & Haas
St. Regis Paper
Sperry Univac-Control Systems
Trane Co.

FRIDAY, OCTOBER 15

Bechtel Power
Burlington Northern
Cargill Inc.
Container Corp. of America
Falk Corp.
Inland Steel
Material Service
Northern States Power
A. O. Smith Corp.
WABCO - Westinghouse Air Brake Div.
Wisconsin Public Service
U. S. DOT - Federal Highway

MONDAY, OCTOBER 18

American Motors
Amoco Chemical
Amoco Oil
Amoco Research
Cities Service
Clark Dietz & Associates
Conwed Corp.
DuPont
Gulf Oil
Kohler Co.
Stauffer Chemical

TUESDAY, OCTOBER 19

American Electric Power Service
Bell Telephone Co.
Clark Dietz & Associates
DuPont
FMC - Northern Ordnance
Peoples Gas Light & Coke
UCC - Films Pkg.
UCC - Linde Div.
UCC - Metals Div.
UCC - Nuclear Div.

WEDNESDAY, OCTOBER 20

Atlantic Richfield
DuPont
Eastman Kodak Co.
Merck & Co.
Outboard Marine
UCC - Chemicals & Plastics
UCC - Films Pkg.
UCC - Linde Div.
UCC - Metals Div.
UCC - Nuclear Div.

THURSDAY, OCTOBER 21

Amax Inc. - In Commerce
American Appraisal
American Can Co.
Atlantic Richfield
Babcock & Wilcox
CPC International
DuPont
Eastman Kodak
Ethyl Corp.
Honeywell
Texaco

FRIDAY, OCTOBER 22

American Can Co.
Burroughs Corp.
DuPont
Ethyl Corp.
Honeywell
I.B.M.
Olin Corp.
Texaco

MONDAY, OCTOBER 25

Albany International
Bethlehem Steel Co.
Carrier Corp.
Chrysler Outboard
Factory Mutual Engr.
Ford Engr. Rsch.
Illinois Dept. Transportation
Eli Lilly & Co.
3M Co.
Pillsbury Co.
The Shell Companies
Underwriters Labs

TUESDAY, OCTOBER 26

Barber Colman Co.
Bethlehem Steel
Eaton Corp.
Exxon
GTE Automatic Electric
3M Co.
Pratt & Whitney
Ralston Purina Co.
Shell Companies

WEDNESDAY, OCTOBER 27

Convair - General Dynamics
Exxon
FMC Chemical (R&D)
Interstate Power
3M Co.
McDonnell Douglas
Pratt & Whitney
Ralston Purina Co.
Shell Companies
Shure Bros. Incorp.

THURSDAY, OCTOBER 28

Chicago Northwest Transportation
Dow Corning
Exxon Corp.
Ford Motor
McDonnell Douglas
Polaroid - Sesame Div.
Walker Mfg.
Coast Guard

FRIDAY, OCTOBER 29

Allen Bradley Co.
Amdahl Co.
Borg Warner Chemicals
Dow Corning
Ford Motor
Kelly Springfield
Lawrence Livermore
Corps of Engineers

MONDAY, NOVEMBER 1

Anacanda Brass Div.
Battelle Columbus
Battelle Northwest
Cummings Engine
General Telephone of Wisconsin
Louis Allis
Milwaukee Road
Polaroid Corp. Union Camp
Western Publishing Co.

TUESDAY, NOVEMBER 2

Battelle Northwest
General Motors
General Motors Research
Pfizer (Groton Plant)
Upjohn
Wisconsin State Government
BASF Wyandotte
N.A.S.A. - Lewis Research

WEDNESDAY, NOVEMBER 3

Fisher Controls
General Motors
Jones & Laughlin
Marathon Oil
Mobil Oil Corp.
Procter & Gamble International Div.
Xerox Corp.
N.A.S.A. - Lewis Research

THURSDAY, NOVEMBER 4

General Motors (All divisions)
General Motors Research
Oak Ridge Labs

FRIDAY, NOVEMBER 5

Amoco Production
Flambeau Product
Foseco Minsep Inc.
Giddings & Lewis
Oak Ridge Labs
Standard Oil of Ohio

MONDAY, NOVEMBER 8

Boeing
U. S. Navy

TUESDAY, NOVEMBER 9

Boeing
Dorr Oliver
U. S. Navy
Western Gear

WEDNESDAY, NOVEMBER 10

U. S. Navy

ALSO NOVEMBER 17-19

U. S. Marines - R.O.T.C. Bldg.

This schedule is subject to change. During the interviewing season notices of interviews are posted daily **one week and two days in advance** of an employers visit. **Students must sign up by 4:30 p.m. one full day before** the scheduled date.

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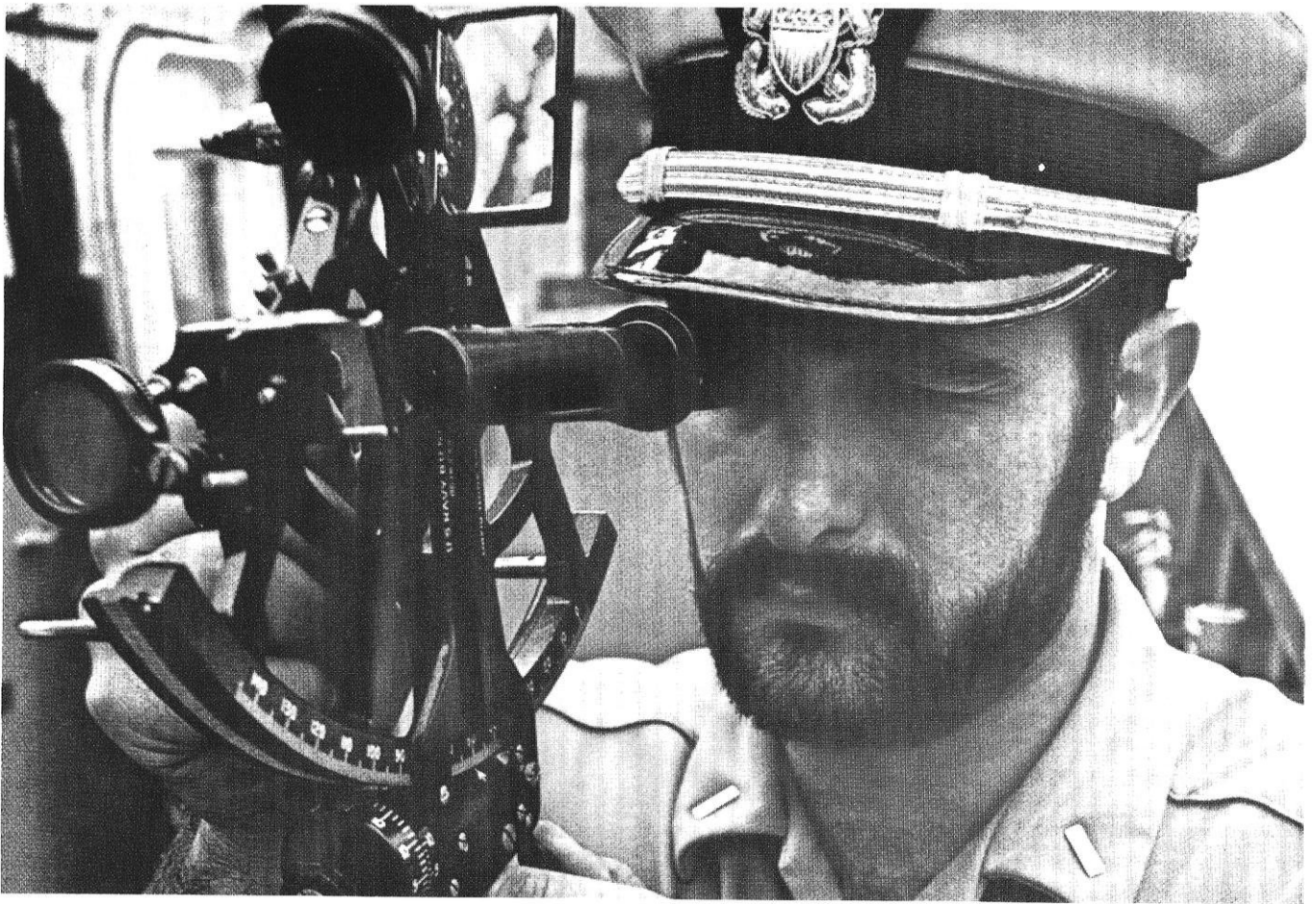
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Class or rank _____

School _____

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City _____ State _____ Zip _____



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