A Review of HP Programs in the US 2007-2008 Edition of the HP Education Reference Book

Wesley E. Bolch, PhD, PE, CHP
Professor of Nuclear & Radiological Engineering

AAHP Special Session on Health Physics Education
July 10, 2007





HP Program Summary

Programs to be Listed for 2007-2008

| | | Program | State | | Degree | Granted | |
|----|-----|------------------------------------|----------------|----|--------|----------|-----|
| 1 | | San Diego State University | California | | | MS | |
| 2 | | Colorado State University | Colorado | | | MS | PhD |
| 3 | | University of Florida | Florida | | BS | MS | PhD |
| 4 | | Idaho State University | Idaho | AA | BS | MS | PhD |
| 5 | New | Illinois Institute of Technology | Illinois | | | MS | |
| 6 | | Purdue University | Indiana | | BS | MS | PhD |
| 7 | | Louisiana State University | Louisiana | | | MS | PhD |
| 8 | | Uniformed Services University | Maryland | | | MS | PhD |
| 9 | | University of Massachusetts Lowell | Massachusetts | | BS | MS | PhD |
| 10 | | University of Michigan | Michigan | | BS | MS | PhD |
| 11 | | University of Missouri-Columbia | Missouri | | | MS | PhD |
| 12 | | University of Nevada Las Vegas | Nevada | | BS | MS | |
| 13 | | Rensselaer Polytechnic Institute | New York | | BS | MS | PhD |
| 14 | New | Duke University | North Carolina | | | MS | |
| 15 | | Ohio State University | Ohio | | | MS | PhD |
| 16 | | University of Cincinnati | Ohio | | | MS | PhD |
| 17 | | Oregon State University | Oregon | | BS | MS | PhD |
| 18 | | Bloomsburg University | Pennsylvania | | BS | | |
| 19 | | Clemson University | South Carolina | | | MS | PhD |
| 20 | | Francis Marion University | South Carolina | | BS | | |
| 21 | | University of Tennessee | Tennessee | | BS | MS | PhD |
| 22 | | Vanderbilt University | Tennessee | | | MS | PhD |
| 23 | | Texas A&M University | Texas | | BS | MS | PhD |
| 24 | | Texas State Technical College | Texas | AA | | | |
| | | Totals | 20 of 50 | 2 | 12 | 21 | 17 |
| | | ABET Accreditated | | | 3 | 5 | |





HP Program Summary – Student Stats

Projected Enrollments for Fall 2007

| Program | AA | BS | MS | PhD |
|----------------------------------|----|-----|-----|-----|
| Bloomsburg University | | 14 | | |
| Clemson University University | | | 7 | 4 |
| Colorado State University | | | 9 | 2 |
| Duke University | | | 0 | 2 |
| Francis Marion University | | 18 | | |
| Idaho State University | 8 | 5 | 35 | 12 |
| Illinois Institute of Technology | | | 55 | |
| Louisiana State University | | | 0 | 0 |
| Ohio State University | | | 3 | 0 |
| Oregon State University | | 33 | 39 | 5 |
| Purdue University | | 10 | 4 | 2 |
| Rensselaer Polytechnic Inst | | 20 | 2 | 8 |
| San Diego State University | | | 12 | |
| Texas A&M University | | 30 | 18 | 13 |
| Texas State Technical College | 5 | | | |
| Uniformed Services University | | | 1 | 1 |
| University of Cncinnati | | | 2 | 5 |
| University of Florida | | 12 | 3 | 2 |
| University of Mass Lowell | | 11 | 25 | 22 |
| University of Michigan | | 13 | 10 | 8 |
| University of Missouri-Columbia | | | 5 | 3 |
| University of Nevada - Las Vegas | | 4 | 16 | |
| University of Tennessee | | 10 | 15 | 15 |
| Vanderbilt University | | | 1 | 0 |
| Totals: | 13 | 180 | 262 | 104 |





HP Program Summary – Student Stats

Projected Enrollments for Fall 2007

| Program | AA | BS | MS | PhD |
|----------------------------------|------|------|------|------|
| Bloomsburg University | | 8% | | |
| Clemson University University | | | 3% | 4% |
| Colorado State University | | | 3% | 2% |
| Duke University | | | 0% | 2% |
| Francis Marion University | | 10% | | |
| Idaho State University | 62% | 3% | 13% | 12% |
| Illinois Institute of Technology | | | 21% | |
| Louisiana State University | | | 0% | 0% |
| Ohio State University | | | 1% | 0% |
| Oregon State University | | 18% | 15% | 5% |
| Purdue University | | 6% | 2% | 2% |
| Rensselaer Polytechnic Inst | | 11% | 1% | 8% |
| San Diego State University | | | 5% | |
| Texas A&M University | | 17% | 7% | 13% |
| Texas State Technical College | 38% | | | |
| Uniformed Services University | | | 0% | 1% |
| University of Cncinnati | | | 1% | 5% |
| University of Florida | | 7% | 1% | 2% |
| University of Mass Lowell | | 6% | 10% | 21% |
| University of Michigan | | 7% | 4% | 8% |
| University of Missouri-Columbia | | | 2% | 3% |
| University of Nevada - Las Vegas | | 2% | 6% | |
| University of Tennessee | | 6% | 6% | 14% |
| Vanderbilt University | | | 0% | 0% |
| Totals: | 100% | 100% | 100% | 100% |





HP Program Summary - Student Stats

Total Graduates by Degree (2005 – 2006 and 2006 – 2007)

| Program | AA | BS | MS | PhD |
|----------------------------------|----|-----|-----|-----|
| Bloomsburg University | | 6 | | |
| Clemson University University | | | 5 | 2 |
| Colorado State University | | | 1 | 1 |
| Duke University | | | 1 | 0 |
| Francis Marion University | | 4 | | |
| Idaho State University | 2 | 4 | 7 | 2 |
| Illinois Institute of Technology | | | 12 | |
| Louisiana State University | | | 0 | 0 |
| Ohio State University | | | 2 | 0 |
| Oregon State University | | 13 | 8 | 1 |
| Purdue University | | 51 | 5 | 0 |
| Rensselaer Polytechnic Inst | | 10 | 2 | 2 |
| San Diego State University | | | 10 | |
| Texas A&M University | | 16 | 10 | 10 |
| Texas State Technical College | 10 | | | |
| Uniformed Services University | | | 3 | 0 |
| University of Cncinnati | | | 5 | 2 |
| University of Florida | | 4 | 3 | 1 |
| University of Mass Lowell | | 4 | 16 | 3 |
| University of Michigan | | 12 | 12 | 5 |
| University of Missouri-Columbia | | | 3 | 0 |
| University of Nevada - Las Vegas | | 4 | 8 | |
| University of Tennessee | | 20 | 7 | 0 |
| Vanderbilt University | | | 1 | 0 |
| Totals: | 12 | 148 | 121 | 29 |





HP Program Summary - Student Stats

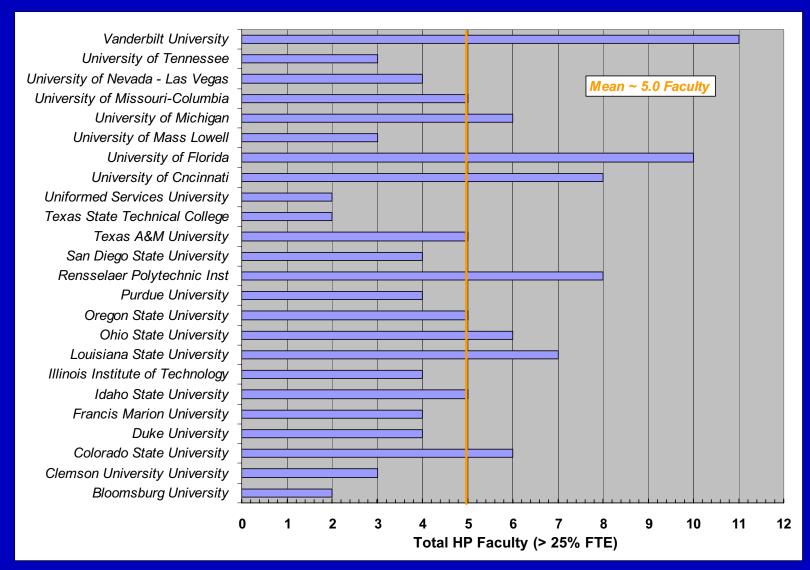
Total Graduates by Degree (2005 – 2006 and 2006 – 2007)

| Program | AA | BS | MS | PhD |
|----------------------------------|------|------|------|------|
| Bloomsburg University | | 4% | | |
| Clemson University University | | | 4% | 7% |
| Colorado State University | | | 1% | 3% |
| Duke University | | | 1% | 0% |
| Francis Marion University | | 3% | | |
| Idaho State University | 17% | 3% | 6% | 7% |
| Illinois Institute of Technology | | | 10% | |
| Louisiana State University | | | 0% | 0% |
| Ohio State University | | | 2% | 0% |
| Oregon State University | | 9% | 7% | 3% |
| Purdue University | | 34% | 4% | 0% |
| Rensselaer Polytechnic Inst | | 7% | 2% | 7% |
| San Diego State University | | | 8% | |
| Texas A&M University | | 11% | 8% | 34% |
| Texas State Technical College | 83% | | | |
| Uniformed Services University | | | 2% | 0% |
| University of Cncinnati | | | 4% | 7% |
| University of Florida | | 3% | 2% | 3% |
| University of Mass Lowell | | 3% | 13% | 10% |
| University of Michigan | | 8% | 10% | 17% |
| University of Missouri-Columbia | | | 2% | 0% |
| University of Nevada - Las Vegas | | 3% | 7% | |
| University of Tennessee | | 14% | 6% | 0% |
| Vanderbilt University | | | 1% | 0% |
| Totals: | 100% | 100% | 100% | 100% |



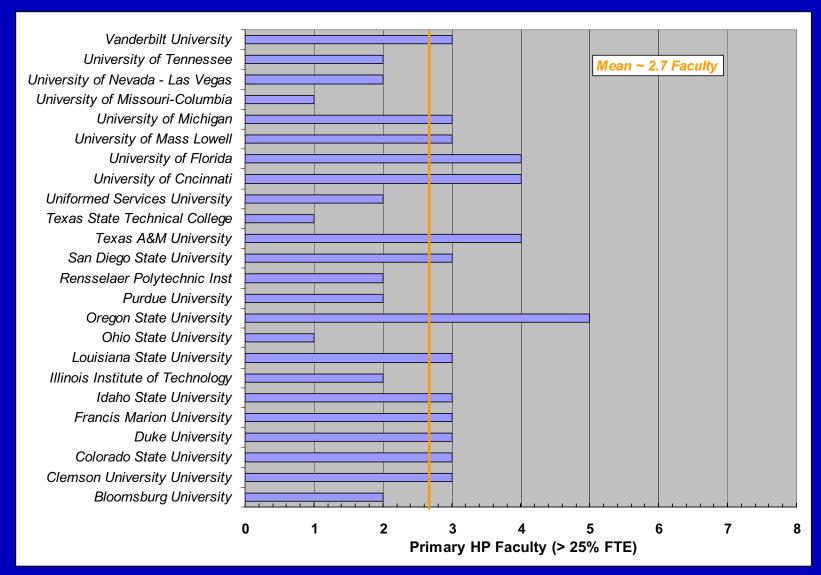


Total HP Faculty Members at > 25% FTE



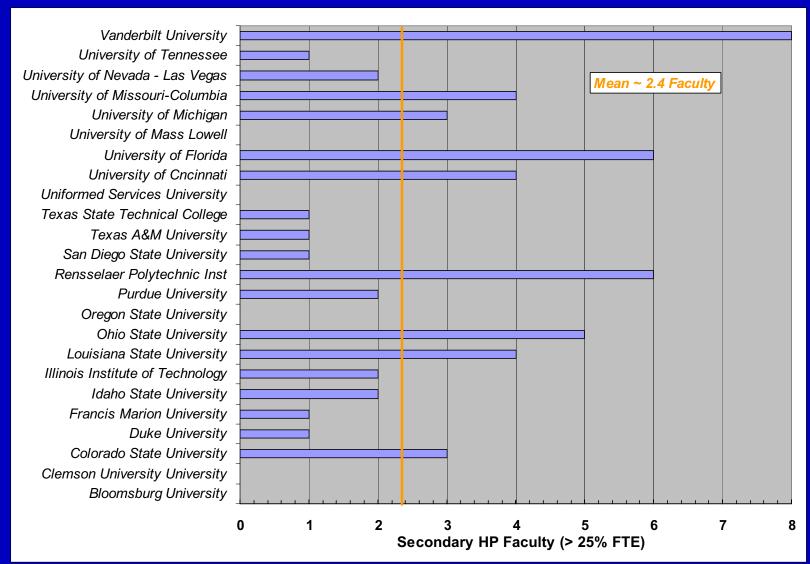


Primary HP Faculty Members at > 25% FTE



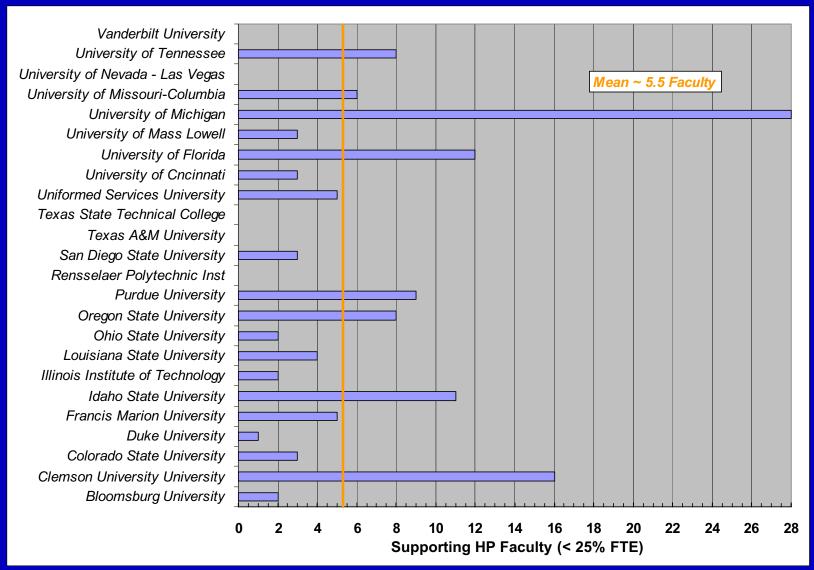


Secondary HP Faculty Members at > 25% FTE





Supporting HP Faculty Members at < 25% FTE





Research Areas of Interest – Health Physics

| HP Specialty Areas | Primary Field | Secondary Field | Tertiary Field | Totals |
|------------------------|---------------|-----------------|----------------|--------|
| Accelerator HP | 1 | 2 | 1 | 4 |
| Aerosol Mechanics | 5 | 0 | 0 | 5 |
| Applied HP | 12 | 3 | 3 | 18 |
| Emergency Response | 0 | 1 | 1 | 2 |
| Environmental HP | 12 | 4 | 3 | 19 |
| Medical HP | 3 | 4 | 6 | 13 |
| Microdosimetry | 1 | 0 | 0 | 1 |
| Non-lonizing Radiation | 2 | 0 | 0 | 2 |
| Radiation Biology | 4 | 4 | 3 | 11 |
| Radiation Detection | 13 | 7 | 4 | 24 |
| Radiation Dosimetry | 3 | 10 | 3 | 16 |
| Internal Dosimetry | 5 | 5 | 0 | 10 |
| External Dosimetry | 1 | 4 | 0 | 5 |
| Radiation Physics | 10 | 1 | 1 | 12 |
| Radiation Shielding | 2 | 5 | 2 | 9 |
| Radiation Transport | 9 | 5 | 1 | 15 |
| Radioactive Waste | 2 | 2 | 4 | 8 |
| Radiochemistry | 3 | 1 | 0 | 4 |
| Reactor HP | 1 | 4 | 0 | 5 |
| Risk Assessmet | 6 | 4 | 2 | 12 |
| Totals | 95 | 66 | 34 | 195 |





Research Areas of Interest – Health Physics

| HP Specialty Areas | Primary Field | Secondary Field | Tertiary Field | Totals |
|------------------------|---------------|-----------------|----------------|--------|
| Accelerator HP | 1% | 3% | 3% | 2% |
| Aerosol Mechanics | 5% | | | 3% |
| Applied HP | 13% | 5% | 9% | 9% |
| Emergency Response | | 2% | 3% | 1% |
| Environmental HP | 13% | 6% | 9% | 10% |
| Medical HP | 3% | 6% | 18% | 7% |
| Microdosimetry | 1% | | | 1% |
| Non-Ionizing Radiation | 2% | | | 1% |
| Radiation Biology | 4% | 6% | 9% | 6% |
| Radiation Detection | 14% | 11% | 12% | 12% |
| Radiation Dosimetry | 3% | 15% | 9% | 8% |
| Internal Dosimetry | 5% | 8% | | 5% |
| External Dosimetry | 1% | 6% | | 3% |
| Radiation Physics | 11% | 2% | 3% | 6% |
| Radiation Shielding | 2% | 8% | 6% | 5% |
| Radiation Transport | 9% | 8% | 3% | 8% |
| Radioactive Waste | 2% | 3% | 12% | 4% |
| Radiochemistry | 3% | 2% | | 2% |
| Reactor HP | 1% | 6% | | 3% |
| Risk Assessmet | 6% | 6% | 6% | 6% |
| Totals | 100% | 100% | 100% | 100% |





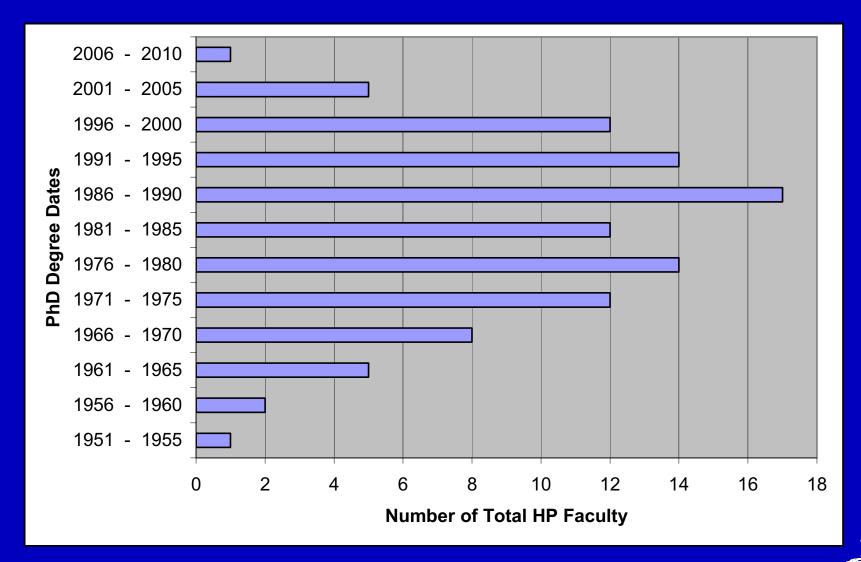
Research Areas of Interest – MP, NE, and Other Engineering

| Medical Physics | Primary Field | Secondary Field | Tertiary Field | Totals |
|------------------------|---------------|-----------------|----------------|--------|
| Diagnostic Imaging | 8 | 4 | 2 | 14 |
| Therapy Physics | 5 | 1 | 0 | 6 |
| Totals | 13 | 5 | 2 | 20 |
| Nuclear / Other Eng | | | | |
| Criticality Safety | 0 | 1 | 0 | 1 |
| Environmental Eng | 1 | 0 | 0 | 1 |
| Fusion Engineering | 0 | 1 | 0 | 1 |
| Materials Engineering | 1 | 0 | 0 | 1 |
| Nuclear Fuel | 1 | 1 | 0 | 2 |
| Radiat Material Damage | 1 | 0 | 0 | 1 |
| Reactor Physics | 7 | 7 | 3 | 17 |
| Thermal Hydraulics | 1 | 3 | 0 | 4 |
| Totals | 12 | 13 | 3 | 28 |



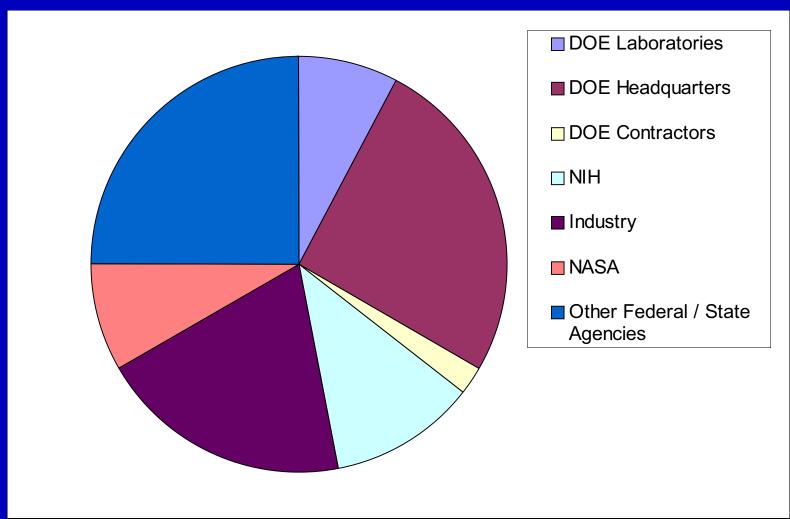


"Age Distribution" – PhD Degree Dates





Funding Sources by Agency (Active 2003 – Present)







Funding Sources by Agency (Active 2003 – Present)

| Funding Source | Number | % of Total |
|----------------------------|--------|------------|
| American Cancer Society | 1 | 1% |
| AFRI | 1 | 1% |
| CDC | 5 | 3% |
| DHS | 1 | 1% |
| DOD | 6 | 3% |
| DOE - Environmental Manag | 12 | 7% |
| DOE - Nuclear Engineering | 29 | 16% |
| DOE - Science | 6 | 3% |
| DOE - Natonal Laboratories | 14 | 8% |
| DOE Contractor | 4 | 2% |
| DoEd | 4 | 2% |
| DTRA | 2 | 1% |
| EPRI | 1 | 1% |
| Industry | 36 | 20% |
| NASA | 15 | 8% |
| NATO | 1 | 1% |
| NIH | 21 | 11% |
| NNSA | 3 | 2% |
| NSF | 2 | 1% |
| Private Foundations | 3 | 2% |
| Professional Society | 1 | 1% |
| State Government | 9 | 5% |
| University - Internal | 6 | 3% |
| Totals | 183 | 100% |





