

APPENDIX B – FACULTY RESUMES

The following program faculty vitae are provided below.

- William Cross
- Stanly Howard
- Jon Kellar
- Dana Medlin
- Michael West

Cross, William M.

Academic rank:

Associate Professor

Degrees with fields, institution, and date

B.S. Metallurgical Engineering, South Dakota School of Mines and Technology, 1984

M.S. Metallurgical Engineering, South Dakota School of Mines and Technology, 1986

Ph.D. Metallurgical Engineering, University of Utah, 1999

Number of years of service on this faculty and date of appointment and advancement

17 years in service, original appointment 1993

1993-1997 Research Associate

1997-2007 Research Scientist III

2007-present Associate Professor

Other related experience

2009 NASA grantee working at Marshall Space Flight Center, Summer 2009.

Consulting, patents, etc.

Patent

- J. J., Kellar, W. M., Cross, F. J., Johnson, and M. E., Connell, U. S. Patent Number 6,198,861, issued March 6, 2001, *Use of Thin-Clad Near Infrared Transparent Optical Glass Fibers as Evanescent Wave Sensors*
- **Disclosure** -- J. Kellar, D. Hansen, W. Cross, D. Medlin; "Formation of Low Temperature Metal Clay", disclosure 12/08

Consulting: Micron Technology, IMI Tami (Israel), Avecia Chemical Company

State(s) in which registered as a Professional Engineer

None

Principal publications of last five years

1. G.W. Douglas, S. Schnabel, L. Kjerengtroen, W.M. Cross and J.J. Kellar, "**Utilizing minerals and materials with negative properties**", **Minerals and Metallurgical Processing**, invited feature article, volume 27(1) February 2010 pp.1-7.
2. M. Alghamdi, R. McGlothlen, W. Cross, J. J. Kellar, L. Kjerengtroen, "**Design and Testing of a Compact Drift Machine for Manufacturing of Continuous Fiber Thermoplastic Composites**", Proceedings Society for the Advancement of Material and Process Engineering (SAMPE) '09. May 2009, Baltimore, MD.
3. W. Weyer, W. Cross, J. Kellar, L. Kjerengtroen, "**Characterization of Composites Having Negative Stiffness Inclusions**", Proceedings Society for the Advancement of Material and Process Engineering (SAMPE) '09. May 2009, Baltimore, MD.
4. Wensel, J., Wright, B., Thomas, D., Douglas, W., Mannhalter, B., Cross, W., Hong, H., Kellar, J., Smith, P. and Roy, W., "Enhanced thermal conductivity by aggregation in heat transfer nanofluids containing metal oxide and carbon nanotube," **Applied Physics Letters**, 2008, 92, 023110.
5. W.M. Cross, G.W. Douglas, L. Schlink, W.C. Weyer, L. Kjerengtroen, J.J. Kellar and J. Welsh, "**Dimensional Analysis of Au Nanocomposites**", Proceedings Society for the Advancement of Material and Process Engineering 2007. June 2007, Baltimore, MD.
6. S. Schnabel, J. Kellar, L. Kjerengtroen, W. Cross, W. Weyer and J. Welsh, "**Nanoscale Zirconium Tungstate Synthesis and Use as a Filler For Dimensional Stability**", Proceedings Society for the Advancement of Material and Process Engineering 2007, June,2007, Baltimore, MD.
7. W.C. Weyer, J.J. Kellar, L. Kjerengtroen, J. Welsh and W.M. Cross, "**Negative Stiffness Filler Effects on Polymer Matrix Composite Performance**", Proceedings Society for the Advancement of Material and Process Engineering 2007, June 2007, Baltimore, MD.

8. L.D. Nielsen, W.M. Cross, S.P. Decker and J.J. Kellar, "**Mica, and its Ability to be Chemically Exfoliated**", in Functional Fillers and Nanoscale Minerals II, J.J. Kellar, ed., Society for Mining, Metallurgy and Exploration, Littleton, CO, 2006.
9. W.M. Cross, B.D. Henderson, W.C. Weyer, C. Kroetch, L. Kjerengtroen, J. Welsh and J.J. Kellar, "**Functional Fillers for Dimensional Stability**", in Functional Fillers and Nanoscale Minerals II, J.J. Kellar, ed., Society for Mining, Metallurgy and Exploration, Littleton, CO, 2006.
10. W.C. Weyer, W.M. Cross, B.D. Henderson, J.J. Kellar, L. Kjerengtroen, J. Welsh and J. Starkovich, "**Achieving Dimensional Stability Using Functional Fillers**", 46th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference Proceedings, 18-25 April 2005, Austin TX, paper #AIAA 2005-2091.
11. Wensel, J., Wright, B., Thomas, D., Douglas, W., Mannhalter, B., Cross, W., Hong, H., Kellar, J., Smith, P. and Roy, W., "Enhanced thermal conductivity by aggregation in heat transfer nanofluids containing metal oxide and carbon nanotube," **Applied Physics Letters**, 2008, 92, 023110.
12. C. Griswold, W. M. Cross, L. Kjerengtroen and J. J. Kellar, "Interphase Variation in Silane-Treated Glass-Fiber Reinforced Epoxy Composites", **Journal of Adhesion Science and Technology**, 2005, **19** (3/5), 279.

Scientific and professional societies of which a member

Materials Research Society (MRS), Society for Advanced Materials and Process Engineering (SAMPE), Society for Mining, Metallurgy and Exploration (SME)

Honors and awards

none

Institutional and professional service in the last five years

- Minerals and Metallurgical Processing, Reviewer
- Minerals Engineering, Reviewer
- Energy and Environment Research Task Force
- Council on Graduate Education
- Environmental Engineering Program Advisory Committee

Professional development activities in the last five years

1. Marshall Space Flight Center, NASA Faculty Internship, Huntsville, AL, Summer 2009.
2. AHED 755 – *Principles of College Teaching*, Teaching Pedagogy Course taken through South Dakota State, Fall 2009.
3. Information Management Institute, *5th Annual Security Printing Conference*, Baltimore MD, 2008.
4. Optomec, *M³D Training Course*, Rapid City SD, 2006.
5. Information Management Institute, *UV Ink Jet Course, Digital Printing Summer Camp*, Cambridge MA, 2005.
6. Joint Institute for Nanoscience and Nanotechnology, *Fabrication and Characterization of Nano-Materials Course*, Pacific Northwest National Laboratories, Richland, WA, 2005.
7. Expert Witness, *State of South Dakota vs. Dirksen*, Provided Expert Testimony of Infrared Analysis of Evidence, 2004.
8. Joint Institute for Nanoscience and Nanotechnology, *Nanoclusters, Nanomaterials, and Nanotechnology Course*, Pacific Northwest National Laboratories, Richland, WA, 2004.

Percentage of time available for research or scholarly activities

35%

Percentage of time committed to the program

95%

STANLEY M. HOWARD

Academic rank:

Professor - Tenured

Degrees with fields, institution, and date

- BS., Metallurgical Engineering, Colorado School of Mines, Golden, CO (1967)
- Ph.D., Metallurgical Engineering (Minor - Chemical Petroleum Refining Engineering), Colorado School of Mines, Golden, CO (1971)

Number of years of service on this faculty and date of appointment and advancement

33 years in service
1971- Assistant Professor tenure Track - original appointment
1976 - Associate Professor
1980 - Professor

Other related experience

1967	Atomic Weapons Division Dow Chemical Company Golden, CO	Engineer
1967 - 71	Department of Metallurgical Engineering Colorado School of Mines Golden, CO	Research Fellow
1976 - 77	Stanford Research Center Menlo Park, CA	Visiting Scientist
1981 - 88	Group V Metals, Inc. Rapid City, South Dakota	President (81 - 84), Vice President (84 - 88)
1986 - 87	Kerr-McGee Corporation Oklahoma City, OK	Consultant
1988 - 91	Electronic Manufacturing & Production Facility U. S. Department of the Navy Ridgecrest, CA	Consultant
1992 - 01	Caterpillar Corporation Technical Center Peoria, IL	Consultant
2002 - 03	Oak Ridge National Laboratory Metals and Ceramic Division Oak Ridge, T	Consultant

Consulting, patents, etc.

- Howard, S. and Stone, G; "High Strength and High Electrical Conductivity Copper Alloys." U.S. Patent #6074499, 2000.
- _____, and Stone, G; "High Strength and High Electrical Conductivity Copper Alloys." US Patent #6231700.

State(s) in which registered as a Professional Engineer

SD #2219 1972-present

Principal publications of last five years

- Barbara Szczerbinska, S. M. Howard, et al., "Center For Ultra-Low Background 2 Experiments at Dusel", Acta Physica Polonica B, Vol. 41 (2010), No 6, 2010
- Bharat Jasthi and S. M. Howard, -, Re: 8th International Symposium on Friction Stir Welding, "Microstructure and Corrosion Properties of Friction Stir Welded Alloy 22", 8th International Symposium on Friction Stir Welding, MARITIM Seehotel, Timmendorfer Strand, Germany, May 18-20, 2010

- Bharat K. Jasthi, William J. Arbegast, Glenn J. Grant, and Stanley M. Howard: "In-situ Reactions Using Friction Stir Reaction Processing", submitted 2010
- Kellar, J., Howard, S., West, M., Cross, W., Medlin, D. and Rattling Leaf, J., "The Samurai Sword Project and Opportunities for Metallurgical Programs," MS&T 2009 Proceedings, Pittsburgh, PA, September 2009.
- Bharat Jasthi, William Arbegast, Stanley M. Howard, *Thermal Expansion Coefficient and Mechanical Properties Of Friction Stir Welded Invar (Fe-36%Ni)*, Journal of Materials Engineering and Performance, Manuscript ID JMEP-08-02-0736, Volume 18, Number 7, November 21, 2008.
- Stanley M. Howard, editor, *2008 EPD Congress*, TMS, Warrendale, PA, 2008
- Stanley M. Howard, editor, *2007 EPD Congress*, TMS, Warrendale, PA, 2007
- Rakesh Suravarapu, Katharine Flores, William Arbegast, Stanley Howard: "Friction Stir Welding of Bulk Metallic Glasses – Vitreloy 106A", Friction Stir Welding and Processing IV, TMS Annual Meeting & Exhibition, Proceedings: Friction Stir Welding and Processing – IV, 2007
- Bharat K. Jasthi, Aaron C. Costello, William J. Arbegast, Stanley M. Howard, Investigation of Laser Deposition of High Temperature Refractory Pin Tools for Friction Stir Welding, Friction Stir Welding and Processing IV, Edited by K. V. Jata, et al, TMS (The Minerals, Metals & Materials Society), 2007
- James W. Sears, Sudip Bhattacharya, Jerrod Roalstad, Stanley M. Howard and Aaron Costello, "Material Solution for the Improvement of High Temperature Wear Characteristics of Industrial Tools and Dies by Laser Powder Deposition", ALAC2006, Advanced Laser Application Conference Proceedings, Novi, Michigan, September 18-21, 2006
- Stanley M. Howard; Bharat K. Jasthi; William J. Arbegast; Glenn J. Grant; Santosh Koduri; Darrell R. Herling: Friction Surface Reaction Processing in Aluminum Substrates; Friction Stir Welding and Processing III, Edited by Kumar V. Jata, et al. TMS 2005 Annual Meeting, San Francisco, CA, 2005

Scientific and professional societies of which a member

- TMS –Executive Board of Directors, Financial Planning Officer, Professional Registration Committee
- ASM; ACeRS; AIST

Honors and awards

1966 - ΑΣΜ: Alpha Sigma Mu Honorary Society
1970 - ΣΞ: The Society of Sigma Xi
1974 - Honored Guest: Kroll Institute Dedication; Golden, CO
1994 - Presidential Award: South Dakota School of Mines & Technology; Rapid City, SD
1994 - Benard A. Ennenga Faculty Award (1994)
2003 - AIME Mineral Industry Education Award

Institutional and professional service in the last five years

Professional Service: TMS-Exec Board of Directors/Financial Planning Officer, EPD-Publications Chair
Faculty Committees: Academic Appeals Committee; Faculty Senate; Senate Chair Chair Elect 2010-2012

Professional development activities in the last five years

High-Purity Ge Reduction, Zone Refining, and Crystal Growth; Metallurgical Thermodynamics textbook writing; Numerical Methods textbook completion; Yucca Mountain Nuclear Waste Containment Vessel Review Panel; ABET Consultant; friction stir joining of amorphous metal; corrosion properties of friction stirred Alloy 22; Thermal expansion properties of friction stirred Invar; in-situ reaction stir processing; Executive Board and Retirement Board of TMS; four financial officer board of director appointments; functionally graded laser additive tool and die enhancement research.

Percentage of time available for research or scholarly activities

30%

Percentage of time committed to the program

100%

Kellar, Jon J.

Academic rank

Professor - Full-time

Degrees with fields, institution, and date

- B.S. Metallurgical Engineering, South Dakota School of Mines and Technology, 1984
- M.S. Metallurgical Engineering, South Dakota School of Mines and Technology, 1986
- Ph.D. Metallurgical Engineering, University of Utah, 1991

Number of years of service on this faculty and date of appointment and advancement

- 20 years in service, original appointment 1990
- Assistant Professor, August 1990
- Associate Professor, 1994
- Professor, 2000

Other related experience

None

Consulting, patents, etc.

Patent

J. J., Kellar, W. M., Cross, F. J., Johnson, and M. E., Connell, U. S. Patent Number 6,198,861, issued March 6, 2001, *Use of Thin-Clad Near Infrared Transparent Optical Glass Fibers as Evanescent Wave Sensors*

Intellectual Property Disclosure (2007)

J. Kellar, D. Hansen, W. Cross, D. Medlin; "Formation of Low Temperature Metal Clay", disclosure 12/07.

Consulting

Micron Technology, IMI Tami (Israel), Avecia Chemical Company

State(s) in which registered as a Professional Engineer

None

Principal publications of last five years

- Hansen, D., Mitchell, D. and Kellar, "Nanotechnology and Silver-Metal Clay for Artisans," Leonardo Transactions, in press.
- Douglas, G.W., Schnabel, S., Kjerengtroen, L., Cross, W.M. and Kellar, J.J., "Utilizing Minerals and Materials with Negative Properties," *Minerals and Metallurgical Processing*, V. 27, N.1, pg 1-7, 2010 (featured article).
- Kellar, J., Howard, S., West, M., Cross, W., Medlin, D. and Rattling Leaf, J., "The Samurai Sword Project and Opportunities for Metallurgical Programs," MS&T 2009 Proceedings, Pittsburgh, PA, September 2009.
- West, M., Medlin, D., Kellar, J., Mitchell, D. and Kellogg, S., "Back in Black: Innovative Curricular, Outreach and Recruiting Activities at the South Dakota School of Mines and Technology," MS&T 2009 Proceedings, Pittsburgh, PA, September 2009.
- Medlin, D., West, M., Mitchell, D., Kellar, J., and Kellogg, S., "Improved Materials Science Understanding with Blacksmithing," Proceedings (AC 2009-2228) ASEE 2009 Annual Meeting, Austin, TX, June 2009.
- Wensel, J., Wright, B., Thomas, D., Douglas, W., Mannhalter, B., Cross, W., Hong, H., Kellar, J., Smith, P. and Roy, W., "Enhanced Thermal Conductivity by Aggregation in Heat Transfer Nanofluids Containing Metal Oxide and Carbon Nanotube," Applied Physics Letters, Volume 92, Issue 2, 2008.
- Whites, K.W., Amert, A., Woessner, S.M., Kim, N-S, Decker, S. and Kellar, J., "Direct-write printing of multilayered appliqué antennas on high impedance surfaces," *Proc. IEEE Antennas and Propagat. Soc. Int. Symp.*, Honolulu, HI, pp. 2765-2768, June 10-15, 2007.

- Kroetch, C.A., Weyer, W.C., Cross, W.M., Henderson, B., Kellar, J.J., Kjerengtroen, L., Welsh, J., Starkovich, J., "Mechanical Properties of ZrW₂O₈ Filled Polymers Functional Fillers for Dimensional Stability," 47th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference, May 2006, Newport, Rhode Island, paper # AIAA 2006-2257.
- Nielsen, L.D., Cross, W.M. Decker, S.P., and Kellar, J.J., "Mica, and its Ability to be Chemically Exfoliated," Functional Fillers and Nanoscale Minerals II, Editor: Jon J. Kellar, Society for Mining, Metallurgy, and Exploration, Inc., pgs. 69-78, 2006.
- Cross, W.M., Henderson, B.D, Weyer, W.C., Kroetch, C., Kjerengtroen, L, Welsh J., and Kellar, J.J., "Functional Fillers for Dimensional Stability," Functional Fillers and Nanoscale Minerals II, Editor: Jon J. Kellar, Society for Mining, Metallurgy, and Exploration, Inc., pgs. 127-140, 2006.

Scientific and professional societies of which a member

- Society for Mining, Metallurgy and Exploration

Honors and awards

- 2008 Carnegie Professor of the Year for state of SD
- 1999 SDSM&T Presidential Award for Outstanding Professor
- 1997 South Dakota Board of Regent's Award for Excellence in Research
- 1996 Elected to Young Leader's Program-The Mineral, Metals and Materials Society
- 1994-9 National Science Foundation Presidential Faculty Fellow
- 1993 Benard Ennenga Faculty Award

Institutional and professional service in the last five years

- Department Chair/Head, Department of Materials and Metallurgical Engineering
- National Science Foundation Panel Reviewer
- Department of Energy Program Reviewer
- Mineral and Metallurgical Processing (Editorial Board)
- International Journal of Mineral Processing (Editorial Board)

Professional development activities in the last five years

NSF Panel Reviewer; DOE Panel Reviewer; Associate Editor Materials and Metallurgical Processing; Reviewer to numerous professional journals; SDSM&T Faculty Development Committee; 2004-2009 SME Mineral Processing Division (Chair 2008); National Resource Council (Canada) Panel Reviewer; SDSM&T Alumni Association Board of Directors; SDSM&T Foundation Board of Directors

Percentage of time available for research or scholarly activities

25%

Percentage of time committed to the program

100%

Medlin, Dana J.

Academic rank

Associate Professor – NUCOR Professor of Metallurgy - Full-time

Degrees with fields, institution, and date

- B.S. Mechanical Engineering (Metallurgy Option), University of Nebraska, 1988
- M.S. Mechanical Engineering (Metallurgy Option), University of Nebraska, 1990
- Ph.D. Materials Science Engineering, University of Nebraska, 1993

Number of years of service on this faculty and date of appointment and advancement

- 5 years in service, original appointment 2005
- Associate Professor, July 2005

Other related experience

- Global Metallurgy Leader, Research & Biologics Department, Zimmer Incorporated, Warsaw, IN, 2003-2005.
- Principal Engineer, Metals Research Department, Zimmer Incorporated, Warsaw, IN, 2003-2005.
- Materials Specialist, Bearing Materials and Metallurgy Department, Timken Company, Canton, OH, 1999-2000.
- Principal Engineer, Bearing Materials and Metallurgy Department, Timken Company, Canton, OH, 1998-1999.
- Materials Specialists, Supervisor of Analytical Services Group, LTV Steel Technology Center, Independence, OH, 1997-1998.
- Research Assistant Professor, Metallurgical and Materials Engineering Department, Colorado School of Mines, Golden, CO, 1993-1997.

Consulting, patents, etc.

Patents

- Medlin, et.al., “Method for Attaching a Porous Metal Layer to a Metal Substrate”, United States Patent #6,945,448, September 20, 2005.
- Medlin, Swarts, Charlibois, and Clarke “Diffusion Bonding a Porous Tantalum form to Metallic Substrates”, United States Patent #6,988,218, December 2, 2006.

Consulting

- Dakota Arms, Firearms Manufacturer, Sturgis, SD
- Oahe Plains Systems Corporation, Pipeline Company, Pierre, SD
- Smith and Nephew, Medical Implant Company, Memphis, TN
- L and H Industrial, Heavy Equipment Manufacturer, Gillette, WY
- Noland International, Water Purification Company, Lincoln, NE
- Engineering Systems Incorporated, Consulting Group, Chicago, IL
- Ametek Incorporated, Specialty Metals Manufacturer, Wallingford, PA
- First Dakota Enterprises, Construction Company, Fort Pierre, SD
- Beardsley, Jensen and Von Wald, Attorneys, Rapid City, SD
- Brad Bonyne, Attorney, Sioux Falls, SD
- Brian Donahoe, Attorney, Sioux Falls, SD
- Lindsey Manufacturing, Irrigation Systems, Lindsey, NE
- Lehman Trikes, Motorcycle Manufacturer, Spearfish, SD

State(s) in which registered as a Professional Engineer

- Registered Professional Engineer, State of Ohio, License #E-63399
- Registered Professional Engineer, State of South Dakota, License #9297

Principal publications of last five years

- J. Fuerst, J. Sears, D. Neufeld, D. Medlin, “LASER Deposited Engineered Surfaces For Orthopedic Implants for Increased Device Longevity”, Proceedings of Materials and Processes for Medical Devices, August 2009, ASM International, In review.
- Donald L. Johnson, Dana J. Medlin, Larry E. Murphy, Matthew A. Russell, James D. Carr, David L. Conlin and Brent M. Wilson, “Weins Number – Integrated Long Term Corrosion Decay of iron Based Alloy Shipwrecks and Artifacts on the Seafloor”, Corrosion Journal of Science and Engineering, National Associate of Corrosion Engineers, 2009, in review.

- Kellar, J., Howard, S., West, M., Cross, W., Medlin, D. and Rattling Leaf, J., “The Samurai Sword Project and Opportunities for Metallurgical Programs,” MS&T 2009 Proceedings, Pittsburgh, PA, September 2009.
- West, M., Medlin, D., Kellar, J., Mitchell, D. and Kellogg, S., “Back in Black: Innovative Curricular, Outreach and Recruiting Activities at the South Dakota School of Mines and Technology,” MS&T 2009 Proceedings, Pittsburgh, PA, September 2009.
- Medlin, D., West, M., Mitchell, D., Kellar, J., and Kellogg, S., “Improved Materials Science Understanding with Blacksmithing,” Proceedings (AC 2009-2228) ASEE 2009 Annual Meeting, Austin, TX, June 2009.
- T. Ryno, L. Nielsen, C. Voyles, S. Richards, D. Medlin, “Effect of Thermal Treatments on Copper Dissolution of SAC 305 Solder”, MS&T 2009 Proceedings, Pittsburgh, PA, September 2009.
- D. Johnson, L. Murphy, D. Conlin, M. Russell, D. Medlin, “Recent Developments and Application of Concretion Equivalent Corrosion Rate (CECR) Methodology”, International Journal of Archaeology, November 2008.
- D.J. Medlin, “New Developments in Orthopedic Metallic Implant Materials”, Materials and Processes for Medical Devices 2008, Keynote Presentation, Cleveland, OH, ASM-International, August 2008.

Scientific and professional societies of which a member

- American Society for Materials-International (ASM), member, 1988 – present.
 - Materials for Medical Devices Task Force, Original Committee Member, 2001 – present.
 - Conference Co-Chairman, *Fourth International Conference on Materials and Processes for Medical Devices*, August, 2011, St. Paul, MN, initial planning.
- International Metallographic Society (IMS) – member, 1990 – present.
- American Society for Testing Materials (ASTM), member, 1998 – present.
 - Sub-committee E-4, Metallography, 1999 - present.
 - Sub-committee F-4, Medical and Surgical Materials and Devices, 2001 – present.
- The Metallurgical Society, Member (TMS), 1996 – present.
- Society for Biomaterials, Associate Member, 2001 – present.
- National Association of Corrosion Engineers (NACE), member.

Honors and awards

- Honored as a Fellow of ASM-International, July, 2007.
- LTV Steel Special Achievement Award for Analysis of Surface Defects in Sheet Steel Technology, Customer Technical Center Award, September 1998.
- Alpha Sigma Mu Honorary Society, 1993.
- 1997 Lindburg Best Technical Paper, ASM - Heat Treat Society, “Effects of Induction Hardening and Prior Cold Work on a Microalloyed Medium Carbon Steel”
- American Society for Materials International (ASM) - Great Plains Chapter, Outstanding Young Student Member Award, 1988.
- National Association of Corrosion Engineers (NACE) - Undergraduate Summer Research Grant, 1987.

Institutional and professional service in the last five years

- Interim Biomedical Engineering Graduate Program Director, 2010
- Materials Science and Engineering Graduate Committee
- Biomedical Engineering Committee
- SDSM&T Scholarship Committee
- Tenure & Promotion Committee, 2007-2009
- “*Materials Characterization*”, Editorial Review Board, 2006 – present.
- “*Advanced Materials and Processes*”, Reviewer
- “*Metallurgical Transactions*” – A, Reviewer

Professional development activities in the last five years:

- Grant Writing Workshop, SDSM&T, July 2008.

Professional Development Activities in the Last 5 Years:

- Federal grant writing course.

Percentage of Time Available for Research and Scholarly Activities:

- 30%

Percentage of Time Committed to the Program:

- 100%

West, Michael K.

Academic rank

Assistant Professor - Full-time

Degrees with fields, institution, and date

- B.S.E Nuclear Engineering, Arizona State University, 1994
- M.S. Nuclear Engineering, Texas A&M University, 1998
- Ph.D. Materials Science and Engineering, University of Tennessee, Knoxville, 2006

Number of years of service on this faculty and date of appointment and advancement

- 3 years in service, original appointment 2006
- Assistant Professor, August 2006

Other related experience

2009-present Interim Director, SDSM&T Advanced Materials Processing Center (AMP)
1999-2004 Graduate Research Assistant, University of Tennessee, Knoxville
2004-2006 Teaching Assistant, University of Tennessee, Knoxville
1999 Post-Masters Fellowship, Oak Ridge National Laboratory
1995-1999 Graduate Research Assistant, Ion Beam Laboratory, Texas A&M University
1991 Research Fellowship, Crocker Nuclear Laboratory, University of California at Davis

Consulting, patents, etc.

None

State(s) in which registered as a Professional Engineer

None

Principal publications of last five years

- L. Zhang, P. Kopperstad, M. West, N. Hedin, H. Fong, "Generation of Polymer Ultrafine Fibers Through Solution (Air-) Blowing", Journal of Applied Polymer Science, Vol. 114 (2009) 3479-3486.
- L. Zhang, R. Chandrasekar, J.Y. Howe, M.K. West, N.E. Hedin, W.J. Arbegast, H. Fong, "A Metal Matrix Composite Prepared from Electrospun TiO₂ Nanofibers and Al1100 alloy via Friction Stir Processing", ACS Applied Materials and Interfaces, v 1 n 5 (2009) 987-991.
- J. Kellar, S. Howard, M. West, W. Cross, D. Medlin and S. Kellogg, "The Samurai Sword Design Project and Opportunities for Metallurgical Programs," in 2009 MS&T Proceedings: Status of Metals Engineering Education in the United States.
- D. Medlin, M. West, D. Mitchell, J. Kellar and S. Kellogg, "Improved Materials Science Understanding with Blacksmithing," publication AC 2009-2228, 2009 ASEE Annual Meeting, Austin TX.
- M. West, D. Medlin, J. Kellar, D. Mitchell, S. Kellogg and J. Rattling Leaf, "Back in Black: Innovative Curricular, Outreach, and Recruiting Activities at the South Dakota School of Mines and Technology," in 2009 MS&T Proceedings: Status of Metals Engineering Education in the United States.

Scientific and professional societies of which a member

- American Welding Society
- ASM International

- The Minerals, Metals, and Materials Society (TMS)
- Materials Research Society

Honors and awards

- Tau Beta Pi, Engineering Honor Society, 1993
- Alpha Nu Sigma, Nuclear Engineering Honor Society, 1996
- Phi Kappa Phi, Academic Honor Society, 1997
- Tennessee Advanced Materials Laboratory (TAML) Fellowship, 2001

Institutional and professional service in the last five years

- Faculty Advisor, SDSM&T American Welding Society Student Chapter
- Committee Member, SDSM&T Degrees Committee
- Organizer/Instructor, ASM International “Materials Camp” for High School Students
- Advisory Board, Western Dakota Technical Institute, Welding Manufacturing Program
- Instructor, FE Exam Review
- Instructor, STEPS Camp for Middle School Students
- Instructor, Youth in Engineering Adventure (YEA)
- Instructor, Gear-UP Program for Native American Students

Professional development activities in the last five years

- SDSM&T Faculty Cohort “Tablet PC Strategies and Use in the Classroom”, Summer 2008
- Site Director, NSF I/UCRC Center for Friction Stir Processing (CFSP), 2008-present
- Committee Member, ASM Handbook Committee, 2009-present
- Graduate course, AHED 700 “Principles of College Teaching”, Spring 2009
- Site Director, NSF Research Experiences for Undergraduates REU Site “Back to the Future”, 2009-present
- Fuel Cycle Research and Development (FCRD) Working Group Meeting, March 2010

Percentage of time available for research or scholarly activities

35%

Percentage of time committed to the program

100%