

## CNDE ASSOCIATED PERSONNEL – SPECIALTY AREA

### CNDE Associates

NAME	POSITION	HIGHEST DEGREE	UNIVERSITY/DISCIPLINE	SPECIALTY AREA
Akinc, Mufit	Professor & Department Chair, MSE	Ph.D.	Iowa State University – Ceramic Engineering	Synthesis and processing of nano structured ceramics and hybrid materials, High temperature oxidation of silicides
Bastawros, Ashraf	Assistant Professor, Aero	Ph.D.	Brown University – Engineering	Experimental micromechanics; micromechanics of fracture and plasticity of crystalline solids; reliability of thin films and coatings; thermomechanical properties of cellular materials; micro and nano surface machining, biomaterial systems
Cann, David	Associate Professor, MSE	Ph.D.	Pennsylvania State University – Materials	Sensors based on high temperature electronic properties of materials
Dickerson, Julie	Associate Professor, E CpE	Ph.D.	University of Southern California – Electrical Engineering	Signal processing and wireless communications, intelligent systems, pattern recognition and data visualization
Gschneidner, Karl	Distinguished Professor, MSE	Ph.D.	Iowa State University	Physical metallurgy of rare earths; alloy theory and phase formation studies; lower temperature (1 to 300K) magnetic, thermal and electrical behavior of rare-earth materials; and the magnetocaloric effect and magnetic refrigeration.
Heindel, Ted	Associate Professor, ME	Ph.D.	Purdue University – Mechanical Engineering	Transport phenomena; multiphase flows; flow visualization using x-rays <a href="http://www.me.iastate.edu/heindel/">http://www.me.iastate.edu/heindel/</a>
Martin, Steve	Professor, MSE	Ph.D.	Purdue University – Physical Chemistry	Glass, ceramics, bulk metallic glasses, solid electrolytes, proton conducting membranes, lithium batteries, fuel cells, optical fibers, non-linear optics, Spectroscopy especially IR, Raman, UV/VIS/NIR and NMR, Thermal Analysis, Inorganic materials preparation,

				especially reactive non-oxide materials
McClelland, John	Senior Physicist, Ames Laboratory and Adjunct Faculty, ME	Ph.D.	Iowa State University -- Physics	Photoacoustic spectroscopy applied to determining the infrared optical properties of composites and associated monitoring degree of cure and strength as well as shelf-life of prepregs. Nondestructive near infrared analysis of seeds in plant breeding applications.
Pecharsky, Vitalij	Professor, MSE	Ph.D.	Lviv State University	Unique sensors based on rare earth magnetic materials; preparation, crystal structure, experimental thermodynamics, physical and chemical properties of binary, ternary, and multi-component intermetallic compounds containing rare earth metals; relationships between materials' composition, crystal structure and physical properties. Development of advanced active and passive magnetic refrigeration materials; physical properties of ultra-pure rare earth metals; anomalous behavior of 4f-electron systems; hydrogen storage materials
Shinar, Joe	Professor, Physics	Ph.D.	Hebrew University	OLEDs, OLED-based (bio)chem sensors
Tsukruk, Vladimir	Professor, MSE	Ph.D.	National Academy of Science of Ukraine – Polymer Science	Functional polymers, polymer nanocomposites, multifunctional sensors, carbon nanotubes, surface and interfacial nanostructures, biopolymers and biomimetics
Weber, Robert	Professor, E CpE	Ph.D.	Iowa State University – Electrical Engineering	Microwave systems, VLSI/MMIC integrated circuits, electro-optics