The Worldwide Web Instructional Committee (WWWIC) nominates Dr. Donald P. Schwert for the 23rd Chamber of Commerce NDSU Distinguished Professorship. Dr. Schwert has served North Dakota State University, the Fargo-Moorhead region, and the State of North Dakota for over 25 years. He has attained distinction in his profession through untiring efforts that include substantial service and outreach, teaching, and scholarly achievement, producing a record of involvement that is both exemplary and extraordinary. These accomplishments and the accolades he has gained for himself and the institution are even more remarkable in light of the obstacles he has overcome, and the changes he has been instrumental in effecting.

Don Schwert arrived at NDSU in 1978 and joined the Geology Department – the smallest department on campus. There were just three faculty and no graduate program. Indeed, because of political maneuvering in the 1950s, the NDSU Geology Department had been stripped of the power to offer its own bachelors degree – Geology majors graduated with a diploma in Soil Science. These were bleak times, with department resources scarce, and no graduate students to assist with research and scholarship. One can hardly imagine a less promising platform from which to launch a young career. From this context, the career of service described below is truly something to behold.

Dr. Schwert's service to the community is most visible and notable, and includes a number of professional presentations regarding the geology of the Red River Valley – focusing most especially on his activism regarding sensible strategies for managing the flood plain in the region. Related to this, his work on the 'Fargo Flood' website in 1996-1997 not only garnered him the College of Science and Mathematics Outstanding Service award, but led to his appearance on a Discovery Channel program and on “Storm Story”, a special for the Weather Channel. Indeed, in this period Dr. Schwert was a 'media darling' appearing in several national venues.

His service to the profession includes refereeing for funding agencies such as the National Science Foundation, internal grant competitions at NDSU, and numerous journals and conferences. His service to the University includes a very lengthy list of committee assignments at every level (university, college, department), and serving on numerous graduate examination committees in departments other than his own.

Where Dr. Donald Schwert has really shined, though, and where he has distinguished himself and brought acclaim to the institution, is in the areas of outreach and science education in the state of North Dakota. Starting with the NDSU CoM-STeP program in 1999, he has been involved with bringing public school science teachers to NDSU in order to further their training. With the advent of the "No Child Left Behind" Act this work has taken on an even more crucial aspect, as teachers in North Dakota have needed such services in order to keep their credentials.

In addition to serving as a professor of the Geosciences Department at NDSU, Dr. Schwert is now a part-time director of the Center for Science and Math Education at NDSU, and Program Coordinator for the North Dakota INBRE program (a $16.3 Million program for Bio-Medical research involving the NDUS system plus the Tribal Colleges). As such he has managed a wide range of activities, from the Science Olympiad and the North Dakota State Science Fair, to overseeing graduate students in regional science classrooms, to allocating resources for research in such remote locations as the Turtle Mountain Community College. He is still a teacher, and an

active researcher, but now also has regional and state-wide visibility as a leader in science education.

As a teacher, Donald Schwert has been both productive and innovative. For decades he taught Physical Geology 105 (renumbered from GEOL 120) a large section course conducted in Stevens Auditorium accommodating 450+ students per year. This course, affectionately known as 'Rocks for Jocks', is the only Science requirement for many students. Dr. Schwert is renowned throughout North Dakota for teaching this course in a manner that both informs and engages. Something like ten thousand students have passed through his tutelage, and they all recall his stick-figure illustrations and the famous gag where he deftly switches Clay for Chocolate, and has a 'student volunteer' seemingly eat a piece of sedimentary material in front of the whole class. Dr. Schwert jokes there is not a single church in North Dakota he can enter and NOT find a former student in the congregation. This might be apocryphal, but it's probably true.

His teaching has extended throughout the undergraduate curriculum, where he covers courses ranging from structural to glacial geology. In addition, because it furthers student careers, he regularly hosts 'field trips' in the region – usually sacrificing his Spring Break.

Don Schwert is one of only two people to have won BOTH the NDSU-wide Peltier Award for Innovation in Teaching (in 2001) AND the Robert Odney Award for Excellence in Teaching (in 1992). He also won the NDSU College of Science and Mathematics Outstanding Teacher Award (in 1997). These awards speak for themselves. The evidence suggests Dr. Schwert is among the best teachers at NDSU.

However, there is another notable inference to draw. Having won the Odney in 1992, and his College's teaching award in 1997, Dr. Schwert had refined his approach, and won every teaching award available to him. Clearly, he knew how to teach, and very well. The more remarkable thing is that, after more than twenty years in the business, he still had the energy and creativity to continue improving his methods, to the point where he won the Peltier award for Innovation in Teaching in 2001. Normally we expect the innovations early, and the refinements later – but Donald Schwert breaks the mold. He has continued to be an original and creative teacher throughout his long career.

As a researcher, Donald Schwert has been both prolific and sound. His research career began with a medal for best Ph.D. thesis, and has continued to this day. Early in his career there was no taxonomic key to the lumbricid earthworms of North America. But, as their identification was essential to his research at the time – he simply wrote one (see attached vita, Schwert, 1990). This still remains the first (and definitive) taxonomic key to the most common of earthworm families.

His early research also had seminal, even paradigm shifting implications. Up until the late-1980s, biogeographic models for the postglacial dispersal of animals and plants into arctic Canada had assumed movement northward against the retreating ice front, from refugia that had existed in the central United States. What Schwert and Ashworth instead proposed (1988, see attached vita), based on multiple lines of evidence, is that the primary refugium for arctic insects existed in Beringia (ice-free zones of Alaska and northern Yukon), with dispersal occurring *eastward* during postglacial time. That model has since been proposed for other arctic animal groups (spiders, etc.).

Since the latter half of the 1990s, Dr. Schwert's research interests have migrated towards fundamental questions regarding learning in immersive virtual environments. These software systems are designed to create synthetic worlds where students have virtual experiences akin to

what a practicing scientist would have. Donald Schwert is the inventor of the “Geology Explorer” concept, where students explore the virtual “Planet Oit” as a way of 'learning by doing' science. This research has resulted in dozens of publications and millions of research dollars, employing legions of students and culminating in a software system that has been operated by thousands of Geology students, both at NDSU and on other campuses around the country.

Summary and Conclusion

Dr. Donald P. Schwert is a premier teacher. He has had a long, diverse, successful, and world-class research career. Space hardly permits an inventory of Dr. Schwert's service activities. The key thing to note is he has been an instrument of change in everything he has tried. As a teacher he achieved the highest level of excellence and then went beyond that, to innovation in instruction. In research he has established standards and developed new theories, shifting paradigms, and then gone on to further achievements in new areas in the scholarship of learning. In service he has pioneered new models of outreach and contributed at the local, regional, and national level. This is a man who has lived through a world of change, who has embraced that change, and who has effected change throughout his career – and all, don't forget, from a very disadvantageous start.

Final thought. The new Main Street bridge linking Fargo, ND with Moorhead, MN opened on Wednesday, November 24, 2004, amid great fanfare. The bridge is an engineering marvel, marrying substance to style and, in the middle of the Red River, there is a 'pull-aside' where visitors can stop to enjoy the view and browse the historic materials on display. Although not installed as of this writing, amongst this collection you will find, in the Spring of 2005, nine granite disks with geo-prose about the Red River Valley and its history, some of which will quote Dr. Donald P. Schwert.

That's right. From the humble beginnings described earlier, starting with a disabled department, no graduate program, and no resources to speak of, through a career of unremitting effort, creativity, persistence and excellence, seminal publications, paradigm shifting ideas and innovations, beaucoup research dollars, and students going on to thrive in professional careers, Dr. Schwert has reached a pinnacle that very, very few can claim – **his words chiseled in stone**.

We, the Worldwide Web Instructional Committee at NDSU (Drs. Daniels, Juell, McClean, Saini-Eidukat, Slator, Terpstra, and White), most strongly urge you to award the 23rd Chamber of Commerce NDSU Distinguished Professorship to our colleague and friend, Dr. Donald P. Schwert.

Dr. Lisa Daniels Dr. Bernhardt Saini-Eidukat Dr. Alan R. White

Dr. Paul Juell Dr. Brian M. Slator

Dr. Phil McClean Dr. Jeff Terpstra