Research/Professional Experience:

2000 – Present	Senior Scientist, International Environmental Research Foundation, New York, NY.
1999 – May-September	Contractor USGS/EPA. Mineralogical characterization of nanocrystalline bacterially precipitated Fe hydroxides and sulfates in Contaminated Coal Mine Drainage, Eastern Pennsylvania.
1995 – Present	Scientist Emeritus with United States Geological Survey, Reston VA. Mineralogical studies of bacterially precipitated floc in metal mine drainages and coal mine drainages of the Eastern US.
1995 – Present	President – Nord Consultants. Design and Installation of Small Business computer systems and networks: supporting both Macintosh and Windows operating systems.
1974 – 1995	Research Geologist with broad responsibilities for the development of experimental investigations into geologic processes, U. S. Geological Survey, Reston VA.
1971 – 1974	Research Associate on NASA funded project investigating shock deformation of lunar samples, Department of Geology and Division of Metallurgy and Materials Science, Case Western Reserve University, Cleveland, OH.

Education:

Doctor of Philosophy (Geology)	University of California, Berkeley, CA, 1973
Master of Science (Geology)	University of Idaho, Moscow, ID, 1967
Bachelor of Science (Geology)	University of Wisconsin, Madison, WI, 1965

Principal Skill Areas:

Research Leadership

- Planned, promoted and carried out research on mineralogical and geological problems which resulted in 60 authored or co-authored publications in the peer reviewed scientific literature.
- Designed and carried out an experimental study of the effect of chemistry and microstructure on the magnetic properties of Fe-Ti oxides. This resulted in an explanation for self-induced magnetic polarity reversals in volcanic rocks.
- Designed and carried out an experimental program to define the kinetics of chemical decomposition and precipitate coarsening in silicates. This resulted in a mineralogical marker to define cooling rates in chronditic meteorites and diamond-bearing kimberlite magmas.
- Principal Investigator, NASA, research on lunar materials, which resulted in 10 publications extending the interpretations of the thermal and mechanical history of important lunar rock, types.

Materials Characterization

- Designed, purchased and maintained an analytical transmission electron microscopy (ATEM) laboratory and sample preparation facility. Instructed USGS and guest users.
- Developed new and modified sample preparation techniques for TEM and microanalytical characterization of geologic materials.

- Analyzed fine-grained materials such as uranium-rich sedimentary deposits; volcanic ash; asbestos-bearing dusts and rocks; toxic element-bearing coal-combustion products; fly-ash and bottom-ash; weathering products; and bacterial precipitated flocs from acid-mine drainage and environmental degradation.

Consulting, Advising and Management

- Consultant to Geologic and Water Resources Division scientists at the USGS and scientists in other Federal Agencies and Universities on the application of ATEM and complimentary x-ray and electron microbeam techniques for micromineralogical characterization and microstructural development and kinetics.
- Supervised 5 office staff that supported 25 scientists. Brought order out of chaos by reducing secretarial staff, computerizing communications with headquarters, and contracting out tasks which resulted in elimination of backlogs.
- Responsible for $400K budget as treasurer of the Mineralogical Society of America; initiated major changes in office management and location; and supervised financial aspects of a 1000 plus attendance at International Mineralogical Association meeting, Stanford University.
- Lectured at National and International workshops and short courses on the theory of phase transformations in minerals as applied to geologic problems and on the application of analytical techniques for mineral characterization.

Memberships:

Geological Society of America; member 1966, fellow 1982
Mineralogical Society of America; member 1967, fellow 1983. Treasurer, 1984 to 1988
American Geophysical Union; member 1974
Electron Microscopy Society of America; member 1975

Honors and Grants:

NASA Principal Investigator, 1980 - 1983
Royal Society Guest Research Fellowship: Earth Sciences Department, Cambridge University, Cambridge, UK, 1990 - 1991
Visiting Fellowship, Clare Hall, Cambridge University, Cambridge, UK
Life Fellow, Clare Hall, Cambridge, UK, elected Nov. 1991

Publications:

1. Nord, Jr., G.L., l967, Imbricate thrusting in the Illinois Peak Area, Shoshone County, Idaho. M.Sc. Thesis, University of Idaho, Moscow, ID, 95 p.

2. Wenk, H.R., and Nord, Jr.,

3. G.L., l97l, Lunar bytownite from sample l2032,44. Proceedings Lunar Science Conference, 2nd, l35-l40.

4. Lally, J.S., Fisher, R.M., Christie, J.M., Griggs, D.T., Heuer, A.H., and Nord, Jr., G.L., l972, Electron petrography of Apollo l4 and l5 rocks. Proceedings Lunar Science Conference, 3rd, 40l-422.

5. Heuer, A.H., Nord, Jr., G.L., Radcliffe, S.V., Fisher, R.M., Lally, J.S., Christie, J.M., and Griggs, D.T., l972, High voltage (HVEM) electron petrographic study of Apollo l5 rocks. In the Apollo l5 Lunar Samples (ed. Chamberlain and Watkins), Lunar Science Institute, 98-l02.

6. Nord, Jr., G.L., Origin of the Boehl's Butte Anorthosite and related rocks, Shoshone County, Idaho: PhD Thesis, University of California, Berkeley, CA, l59 p.

7. Nord, Jr., G.L., Lally, J.S., Heuer, A.H., Christie, J.M., Radcliffe, S.V., Griggs, D.T., and Fisher, R.M., l973, Petrologic study of igneous and metaigneous rocks from Apollo l5 and l6 using high voltage transmission electron microscopy. Proceedings Lunar Science Conference, 4th, 953-970.

8. Christie, J.M., Griggs, D.T., Heuer, A.H., Nord, Jr., G.L., Radcliffe, S.V., Lally, J.S., and Fisher, R.M., l973, Electron petrography of Apollo l4 and l5 breccia and shock-produced analogs: Proceedings Lunar Science Conference, 4th, 365-382.

9. Nord, Jr., G.L., Heuer, A.H., and Lally, J.S., l974, Transmission electron microscopy of substructures in Stillwater bytownites. In: The Feldspars (ed. MacKenzie and Zussman), Manchester University Press, 522-535.

10. Heuer, A.H., Christie, J.M., Lally, J.S., and Nord, Jr., G.L., l974, Electron petrographic study of some Apollo l7 breccias. Proceedings Lunar Science Conference, 5th, 275-286.

11. Lally, J.S., Heuer, A.H., Nord, Jr., G.L., and Christie, J.M., l975, Subsolidus reactions in pyroxenes. An electron petrographic study. Contributions to Mineralogy and Petrology, 5l, 263-28l.

12. Nord, Jr., G.L., Christie, J.M., Heuer, A.H., and Lally, J.S., l975, North Ray Crater Breccias: An electron petrographic study. Proceedings Lunar Science Conference, 6th, 779-797.

13. Heuer, A.H., Christie, J.M., Nord, Jr., G.L., and Lally, J.S., l975, Shock-induced glass formation in lunar rocks and minerals. Fourth International Conference on High Voltage Electron Microscopy, Toulouse, France, Sept. l-4, l975.

14. Heuer, A.H. and Nord, Jr., G.L., l976, Polymorphic phase transitions in minerals. In: Electron Microscopy in Mineralogy (ed. H.R. Wenk), Springer-Verlag, New York, 274-303.

15. Lally, J.S., Heuer, A.H., and Nord, Jr., G.L., l976, Precipitation in the ilmenite-hematite system. In: Electron Microscopy in Mineralogy (ed. H.R. Wenk), Springer-Verlag, New York, 2l4-2l9.

16. Nord, Jr., G.L., Heuer, A.H., and Lally, J.S., l976, Pigeonite exsolution in augite. In: Electron Microscopy in Mineralogy (ed. H.R. Wenk), Springer-Verlag, New York, 220-227.

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22. Jeanloz, R., Ahrens, T.J., Lally, J.S., Nord, Jr., G.L., Christie, J.M., and Heuer, A.H., l977, Shock-produced olivine glass; first observation. Science, l97, 457-459.

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25. Nord, Jr., G.L., and James, O.B., l977, Aphanitic matrix, an ANT-suite clast and a felsite clast in consortium breccia 732l5: an electron petrographic study. Proceedings Lunar Science Conference, 8th, 2495-2506.

26. Nord, Jr., G.L., l978, "State-of-the-art" of the analytical transmission electron microscope. In: Electron Microscopy and X-ray Applications, ed. P.A. Russell and A.E. Hutchings, Ann Arbor Science, Ann Arbor, Mich., l33-l48.

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29. Nord, Jr., G.L., Hammarstrom, J., and Zen, E-an, l978, Zoned plagioclase and peristerite formation in phyllites from southwestern Massachusetts. American Mineralogist, 63, 947-955.

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65. Robbins, E. I., Anderson, J. E., Cravotta, C. A., Bilger, M. D., Desmond, G. B., Earle, J. I., Flohr, M. J. K., Jordan, B. M., Krishnaswarny, R., Nord, Jr., G. L., Seal, II, R. R. and Synder, C. D., 1997, AMD flocculates and precipitates: Potential for habitat destruction by sediment of a different color. USGS Sediment Workshop, Papers with Program, 10pp.

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