

Resume for Dr. Henrik S. Nielsen

President

HN Metrology Consulting, Inc.

HN Proficiency Testing, Inc.

10219 Coral Reef Way

Indianapolis, IN 46256

Phone: (317) 849 9577 Fax: (866) 792 2286

E-mail: hsnielsen@HN-Metrology.com

Education and Work History:

2004 - present Partner in Institute for Geometrical Product Specifications.
2001 - present President of HN Proficiency Testing, Inc. Indianapolis, Indiana, USA
1998 - present President of HN Metrology Consulting, Inc. Indianapolis, Indiana, USA
1991-1998 Cummins Engine Co. Columbus, Indiana, USA
Technical Manager - Corporate Standards
1990-1991 Owned and operated Strøbæk Software, a software development company.
1987-1991 Institute for Product Development, Lyngby, Denmark: Metrology Consultant
1988 Ph.D. from the Technical University of Denmark
on a thesis on Digital Measurement of Surfaces
1984 M.Sc. Mechanical Engineering from the Technical University of Denmark

Major work assignments:

2005 - present Writing "GPS for Designers" with Dr. Per Bennich.
2004 - 2005 Wrote and published the "GPS Pocketbook", which has sold over 12,000 copies in five languages with Dr. Per Bennich.
2004: Founded Institute for Geometrical Product Specifications as a joint venture with Dr. Per Bennich.
2002: Obtained A2LA accreditation for HN Proficiency Testing, Inc. to ILAC Guide 13.
2001: Founded HN Proficiency Testing, Inc. A company providing proficiency testing for accredited laboratories. Serves as technical advisor for dimensional measurements.
2000 - present Provided training on Laboratory Accreditation to ISO Guide 25 and/or ISO/IEC 17025 for over 250 people.
1999 - present Developed Model Quality System for calibration laboratory compliance with ISO Guide 25 or ISO 17025. Implemented at about 30 calibration and testing laboratories, most of which successfully pursued accreditation.
1999 - present Provided training on Measuring Uncertainty for over 1100 people.
1999 - 2001 Provided training on Roughness & Roundness for over 200 people.
1999 - present Lead assessor for calibration laboratories, American Association for Laboratory Accreditation (A2LA), having performed over 150 assessments.
1998: Founded HN Metrology Consulting, Inc.
1995: Established Cummins Corporate Standards Laboratory as the first DKD accredited dimensional laboratory in the US.
1995 - 1998: Developed and deployed a training package complementing the "Cummins Measurement Systems Handbook."
1993 - 1995: Co-wrote the "Cummins Measurement Systems Handbook", redefining how Cummins assesses measuring systems.
1993 - 1998: Co-organized the annual Cummins Corporate Metrology Council meetings and made several technical presentations at each council.
1992 - 1997: Supported the Cummins UK plants as a metrology consultant, providing training, assisting with procurement, performing audits and guiding the Cummins UK Metrology Council.
1991 - 1996: Developed and executed a 5 year plan to turn the Cummins Corporate Standards Laboratory into a

modern, well-equipped and well-documented standards laboratory.
1991: Established the Danish National Laboratory for surface finish.
1990 - 1991: Wrote parts of a payroll data base program for IBM.
1987 - 1990: Managed a Nordic collaboration project on surface finish, wrote a comprehensive surface finish software package.

International Organization for Standardization (ISO):

2008 - Chairman ISO TC 213 “Dimensional and geometrical product specifications and verification”
2006 - Expert Delegate ISO CASCO WG 28 “Proficiency Testing”
1996 - Expert Delegate ISO TC 213 “Dimensional and geometrical product specifications and verification” and its working groups and advisory groups
1998 - 2000 Expert Delegate ISO/IEC JTAG 4 “Metrology” (closed)
1993 - 1996 Expert Delegate ISO /TC 3-10-57/Joint Harmonization Group and its task groups. (converted into TC 213)
1993 - 1996 Expert Delegate TC 3/WG 10 “CMMs” (converted into TC 213)
1988 - 1996 Expert Delegate TC 57 “Surface Texture” and its subcommittees and working groups. (converted into TC 213)

Papers:

1. Nielsen, H.S.: The Right Measurement at the Right Time Makes Manufacturing Easier. Proceedings of the 2006 Manufacturing & Measurement Conference & Workshop.
2. Nielsen, H.S.: Some Limitations in Uncertainty Evaluation. Proceedings of the 2006 Measurement Science Conference, update of 2003 paper of the same title.
3. Nielsen, H.S.: Technical Management? We Don't Need No Technical Management. Proceedings of the 2005 NCSL-I Workshop and Symposium.
4. Nielsen, H.S.: Taking Dimensional Metrology to the Next Level. Proceedings of the 2005 International Dimensional Metrology Workshop.
5. Nielsen, H.S.: New Concepts in Specifications, Operators and Uncertainties and Their Impact on Measurement and Instrumentation. Keynote Address, Proceedings of the 7th International Symposium on Measurement Technology and Intelligent Instruments. 2005. Also published in 2006 *Meas. Sci. Technol.* **17** 541-544
6. Nielsen, H.S.: Experience Gained from Offering Accredited 3rd Party Proficiency Testing. Proceedings of the 2004 NCSL-I Workshop and Symposium.
7. Nielsen, H.S.: Communicating Functional Requirements with GD&T. Proceedings of the 2004 International Dimensional Metrology Workshop.
8. Nielsen, H.S.: Adding Value with Proficiency Testing. Proceedings of the 2004 Measurement Science Conference.
9. Nielsen, H.S.: Determining Consensus Values in Interlaboratory Comparisons and Proficiency Testing. Winner of “Best Paper on Theoretical Metrology” - Proceedings of the 2003 NCSL-I Workshop and Symposium.
10. Nielsen, H.S.: Some Limitations in Uncertainty Evaluation. Proceedings of the 2003 International Dimensional Metrology Workshop.

11. Nielsen, H.S.: Specifications, Operators and Uncertainties. Keynote Address, Proceedings of the 8th CIRP International Seminar on Computer Aided Tolerancing, 2003.
12. Nielsen, H.S.: Can Proficiency Testing Add Value? Proceedings of the 2002 NCSL-I Workshop and Symposium.
13. Nielsen, H.S.: CMMs and Proficiency Testing. Proceedings of the 2002 International Dimensional Workshop.
14. Nielsen, H.S.: Uncertainty² - How uncertain is your uncertainty budget? Proceedings of the 2001 NCSL-I Workshop and Symposium.
15. Nielsen, H.S.: Coordinate Measuring Machines and Accreditation. Proceedings of the 2001 NCSL-I Workshop and Symposium.
16. Nielsen, H.S.: How long is a piece of string? Some overlooked considerations for uncertainty estimation. Proceedings of the 2000 NCSL-I Workshop and Symposium.
17. Nielsen, H.S.: What is Traceability and Why Do We Calibrate? Proceedings of the 1999 Midwest Quality Alliance Conference.
18. Nielsen, H.S.: ISO 14253-1 Decision Rules - Good or Bad? Proceedings of the 1999 NCSL Workshop and Symposium.
19. Nielsen, H.S.: The Myth of the Random Error. Proceedings of the 1998 NCSL Workshop and Symposium.
20. Nielsen, H.S.: Using the ISO "Guide to the Expression of Uncertainty in Measurements" to determine calibration requirements. Proceedings of the 1997 NCSL Workshop and Symposium.
21. Nielsen, H.S.: Next Generation Gage Management System. Proceedings of the 1997 NCSL Workshop and Symposium.
22. Nielsen, H. S. ; Malburg, M. C.: Traceability and correlation in roundness measurement. Precision Engineering 1996, 19 (2/3) 175-179.
23. Nielsen, H. S.: Uncertainty and Dimensional Tolerances. Quality. May 1992, 25
24. Strøbæk Nielsen, H.: The effects of calibration in surface roughness measurement. Measurement - Journal of the International Measurement Confederation. 1991, 9 (3), 111
25. Strøbæk Nielsen, H.: Calibration of Surface Roughness Instruments. Paper presented at the 3rd International IMEKO-Symposium: Dimensional Metrology in Production and Quality Control, Aachen, Federal Republic of Germany. September 1989.
26. Strøbæk Nielsen, H.: New approaches to surface roughness evaluation of special surfaces. Precision Engineering. 1988, 10 (4), 209
27. De Chiffre, L. ; Strøbæk Nielsen, H.: A digital system for surface roughness analysis of plane and cylindrical parts. Precision Engineering. 1987, 9 (2), 59