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To cite this article: Georgia L. Harris (2007) Summary of Currently Available Metrology Scholarships, NCSLI Measure, 2:3, 18-22, DOI: [10.1080/19315775.2007.11721381](https://doi.org/10.1080/19315775.2007.11721381)

To link to this article: <https://doi.org/10.1080/19315775.2007.11721381>



Published online: 12 May 2016.



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# Summary of Currently Available Metrology Scholarships

Georgia L. Harris

**Abstract:** This review paper summarizes efforts and the current status of metrology scholarship programs of the NCSL International and the Measurement Science Conference, the Joe D. Simmons Memorial Scholarship, Paros Scientific Scholarship, and the Muriel Mantes Metrology Scholarship. The paper notes the latest student awardees and lists schools with metrology and metrology-related programs that are current scholarship recipients in the United States and Canada.

## 1. Introduction

Scholarship expansion and support is consistent with the strategic roadmap efforts on metrology education and training that are being developed by NCSL International (NCSLI), the Amer-

ican Society of Quality (ASQ), Measurement Quality Division (MQD), and the Measurement Science Conference (MSC). A key effort of these organizations is to expand our outreach to the next generation of metrologists and to schools with metrology and metrology-related programs. One part of our ongoing outreach efforts is to provide essential financial resources. In the last two years, the metrology community has increased its collaborative efforts to share information, mutually promoted success stories, informally shared lessons learned, improved the level of scholarship quality, and highlighted greater opportuni-

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**Figure 1.** NCSLI 2007 Scholarship recipients and NCSLI members. (Left to right): Georgia Harris, NCSLI VP; Graham Cameron, Fleming College, Canada; Herb O'Neil, Ridgewater College, MN; Tony Abel, Central Georgia Technical College, GA; Jack Ferris, NCSLI President; Mark Lapinskes, NCSLI, Committee Chair.

ties for the students and schools with metrology and metrology-related programs.

## 2. NCSLI 2007 Scholarships

NCSLI International regularly provides scholarships to colleges and universities with metrology programs and related-field (e.g., engineering) programs that include metrology courses. All schools with metrology programs and courses are welcome to apply for scholarships on an annual basis. For the calendar year 2007, schools applying for and receiving funds include (see Figure 1):

1. Butler County Community College, Butler, PA
2. Central Georgia Technical College, Macon, GA
3. Ridgewater College, Hutchinson, MN
4. Fleming College, Peterborough, Ontario Canada
5. University of North Carolina at Charlotte, Charlotte, NC
6. University of Central Florida, Orlando, FL

Each school that receives funds must be an accredited institution. The application and review team assess the following areas: Program output (degree, certificate); delivery methods (e.g., hands-on, online, classroom); numbers of students; student placement methods; accreditation; and acceptance of credits by other schools. Once funds are provided to a school, the school is required to provide an annual report to NCSLI describing how the funds were used to support metrology education so that NCSLI can maintain a record on fund usage. Some of the schools use the funds to give specific scholarships to individual students, while others provide dedicated resources to students for tuition, text books, and/or fees. The annual report requires an assessment of the students who benefited and the courses that are applicable. A summary of the 2007 NCSLI scholarships at University of North Carolina at Charlotte, written by Edward Morse, Associate Professor in the Center for Precision Metrology, is attached in Appendix 1. In addition, an interview with Bobbie Mattison, Executive Director of the Ridgewater College Foundation, is attached as Appendix 2.

Feedback received from Herb O'Neil, at Ridgewater College in MN, indicates: "This has been a long term investment by the

NCSLI in the scholarship program at our college. This has made the difference in having a continuing metrology curriculum that students can study in the Midwest. The effort has been made by all levels of the NCSLI."

Randall Francis, at Central Georgia Technical College (CGTC), also noted the following: "The NCSLI scholarships help students pay for courses they might not otherwise take because of a lack of funds due to their either being unemployed or not being supported by their current employer. Member employers may see this as an opportunity to send their employees to these schools for quality training. We have 10 or more students who benefit every year. We have seen an increase in metrology program students, and the funds help students stay in the Metrology Program."

Applications and annual usage report forms are available on the NCSLI website ([www.ncsli.org/training/scholarships.cfm](http://www.ncsli.org/training/scholarships.cfm)). Additional information can be obtained from the NCSLI Vice President for Education and Training or from the Education Liaison Committee Chair, currently Georgia Harris ([gharris@nist.gov](mailto:gharris@nist.gov)) and Mark Lapinskes, ([mark.lapinskes@sypris.com](mailto:mark.lapinskes@sypris.com)), respectively.

## 3. NCSLI Scholarship Sponsorships

In 2005, the NCSLI Board of Directors approved a new sponsorship program that allows acceptance of charitable contributions from individuals and organizations. Funds can be dedicated directly to the NCSLI Scholarship program or to the Joe Simmons Memorial Scholarship, in which NCSLI is a partner.

Funds were received as a part of this program in 2005 from Jerome Paros on behalf of ParoScientific and are dedicated to metrology scholarships. In 2007, a portion of these scholarship funds will be dedicated to three schools on behalf of ParoScientific. Because NCSLI does not have a program to provide individual scholarships directly to students, they currently work through schools to provide funds to individual students. Each of the selected schools has a dedicated metrology program, and funds are disbursed to students through the usual NCSLI scholarship programs at each school. The three schools receiving funds in 2007 are:

- Butler County Community College, Butler, PA
- Central Georgia Technical College, Macon, GA
- Ridgewater College, Hutchinson, MN

It is noted that NCSLI is a 501(c)3 non-profit, educational, charitable corporation and thus contributions are tax deductible. Many corporations have matching programs for individual contributions. Contact the NCSLI Business Office for more information on how to contribute to Scholarships or the Educational Development Fund at (303) 440-3339.

## 4. MSC Scholarships

The Measurement Science Conference (MSC) has an established fund to award scholarships to students in an Engineering, Science, or Quality Assurance degree program. The scholarship program places emphasis on papers or projects that discuss the advancement of measurement science technology. The scholarships are awarded during the MSC annual conference.





**Figure 2.** 2007 Measurement Science Conference, Scholarship Winners. L to R: Owen Cupp, Claudia Andrade, Christopher Herwerth (MSC-Paroscientific), Charles Chiang.

In 2007, MSC presented scholarships to the following individual students (see Figure 2):

- Claudia Andrade – California State Polytechnic University, Pomona, CA
- Charles Chiang – California State University, Los Angeles, CA
- Owen Cupp – California State University, Fullerton, CA

MSC was also a recipient of dedicated funds for metrology scholarships from Jerome Paros on behalf of ParoScientific. The 2007 Paroscientific Scholarship was presented to: Christopher A. Herwerth – California State University, Los Angeles, CA.

California State University, Dominguez Hills (CSUDH) received a \$150,000 endowment in 2002 from the Muriel Mantes Family Foundation to support students in the measurement sciences. Scholarships are available to students who are in the second year of the measurement sciences option. Muriel Mantes Scholarships were presented to two students attending CSUDH during the MSC Scholarship ceremonies in 2007. They were Cody Kulow and James Patch.

### 5. Joe Simmons Memorial Scholarship

The Joe Simmons Memorial Scholarship is co-sponsored by NCSL International, the Measurement Science Conference, and the American Society for Quality – Measurement Quality Division (ASQ-MQD). Funds collected by NCSLI are donated directly to the Joe Simmons Memorial Scholarship fund on behalf of NCSLI members. The Joe Simmons Memorial Scholarship award, provided to an individual student, is based solely on academic performance, especially in metrology-related courses, but also in general technical and communications courses as well. Race, gender, and economic need are not selection factors, although economic need may influence selection when applications are closely matched.

The Joe D. Simmons Memorial Scholarship for the academic year 2007–2008 has been awarded to Timothy F. Chereck, Central Georgia Technical College. Mr. Chereck is studying for an associate's degree in metrology as a part of a career-field

change from that of an industrial-electronics technician. As a technician, he repaired and/or adjusted malfunctioning production equipment that, while still functioning, was adversely affecting the quality of manufactured products. In this work, he was responsible for both hardware and software maintenance. This change to metrology was a natural move for Mr. Chereck because he was previously an end-user of the tools of metrology. He has a perfect academic record as a metrology student. The Simmons Scholarship Committee is pleased to recognize his ability and hard work by presenting its 2007–2008 award to Timothy Chereck.

To apply for the next Joe Simmons Memorial Scholarship, or get further information, information is available at the Scholarship's web site: [www.simmons-scholarship.net](http://www.simmons-scholarship.net). Applications are due each year by March 1. In 2007, the amount of the award was increased to \$3,000.

### 6. Tidewater Community College Scholarship

Tidewater Community College (TCC) has a dedicated metrology scholarship called "National Instruments/Chris Grachanen Metrology Scholarship" that was established in January 2005 by National Instruments Company. This scholarship's goal is to attract students into curricula that will prepare them to enter the metrology field in order to alleviate a shortage of trained metrologists. TCC was one of four colleges in the United States to receive \$5,000, based on excellence in their metrology curriculum, from National Instruments, Inc. The firm awarded the funds to selected colleges across the country that promote metrology education, as chosen by Chris Grachanen, a privilege he received for being selected Test and Measurement World's Test Engineer of the Year in the United States in 2004.

Funds from this award were also distributed to Butler County Community College, which used the funds to develop a creative new video DVD for metrology outreach efforts.

### 7. Summary

Efforts to share information and lessons learned among several metrology organizations are having a successful impact on the financial resources available to schools with metrology and metrology-related programs, as well as a benefit to the students themselves. Schools and students are benefiting from these organized scholarship efforts. As noted by Herb O'Neil, Tidewater College: "As an example: Tiia Plath's entry into the field of metrology was made possible by (in part) the NCSLI scholarship grant. She currently works in the metrology field [DC, low frequency] at MTS, Eden Prairie, MN and has for several years. Her success is the true benefit from this program. There are fifty other stories that could be told – about hundreds of other students who have benefited by their association with the NCSLI outreach efforts." Another example of the impact of the scholarship support comes from Fleming College in Canada, where Benjamin White-Argumedo was one of the two NCSLI scholarship recipients in 2006. This year he won both the Pepsi-Quaker-Tropicana-Gatorade Canada Award and the Siemens Miltronics Process Instruments award as a top graduate in the Automation Technology Program.

Opportunities are available for greater collaboration to support our next generation of metrology professionals. NCSLI has provided scholarships in the United States and in Canada. NCSLI, ASQ-MQD, and MSC, along with U.S. based metrology scholarship organizations, have been sharing information and outreach ideas. NCSLI seeks greater international involvement in all areas of its operations, including obtaining and sharing worldwide information and resources on metrology scholarships. A list of internet links containing more information about metrology scholarships, as well as colleges and universities with metrology programs, is contained in Appendix 3. In addition, opportunities to contribute organizational and individual resources in support of ongoing scholarship efforts are available through each of the organizations noted in this paper.

## 8. References

- [1] Measurement Science Conference, 2007. Conference Notes.
- [2] Joe D. Simmons Memorial Scholarship, 2007 Press Release.
- [3] Georgia L. Harris, NCSLI, Board of Director Reports, January 2007 and April 2007.
- [4] Unpublished communications: Chris Grachanen, Edward Morse, Bobbie Mattison, Randall Francis, Herb O'Neil, Graham Cameron.
- [5] California State University, Dominguez Hills, Press Release, July 24, 2002.

## 9. Appendix 1

### 2007 NCSLI Scholarships at University of North Carolina at Charlotte

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This year, as in the past, two \$1,000 Scholarships were awarded to graduate students based on a written description of their metrology-related research project. This year's first awardee is Samira Khanam, who is studying the inter-relationship between task-specific measuring uncertainty for CMMs, CMM measurement capability (TUR) for specific geometric tolerances, and the idea of "Test Uncertainty" as described in ISO TS 23165. She has attended the NCSLI Uncertainty Roadshow that was hosted at Charlotte, and writes "... the NCSLI Newsletters and Measure magazine helped me to learn more about NCSLI, and recent developments in the field of dimensional measurement. I am also interested in the seminars on Measurement Uncertainty and Basic Dimensional Metrology." Our second awardee, Prashanth Ramu, is evaluating the errors and uncertainty of a 5-axis multi-sensor coordinate measuring machine. He writes "The number of scholarships that I can compete for are limited owing to the fact that I am an international student. Moreover, the number of scholarship awards in the field of metrology where I am working are few, and very competitive. The prestigious NCSLI scholarship increases my chances of getting recognized in this field for my work. Not only that, but the prize

money will help me defray the cost of books for the project and also for a trip to a relevant conference."

On the benefits of our University's relationship with NCSLI: we were able to host the *Uncertainty Roadshow* this spring, and provided attendees with tours of our dimensional metrology labs. This interaction led to a sizeable industrial donation of dimensional metrology equipment (used, but in excellent condition) to support our educational mission.

Note: The Education Liaison, Outreach Subcommittee is working to expand opportunities for equipment donations and matching with metrology programs at colleges and universities. Contact Mark Lapinskes, mark.lapinskes@sypris.com, or Phil Smith, psmith@a2la.org, for more information.

## 10. Appendix 2

### Interview with Ridgewater College Foundation Executive Director, Bobbie Mattison

**Q1:** In what ways are NCSLI Scholarship funds used?

**A1:** The funds are offered and awarded to Ridgewater College students who are enrolled in the measurement science program. The NCSL scholarship funds, like all other scholarships awarded through the Ridgewater College Foundation, are applied directly to student accounts to pay for their tuition and fees.

**Q2:** How many students are assisted?

**A2:** Since 1993, the NCSL Scholarship awards have been offered each semester to students enrolled in the measurement science program. The NCSL scholarships have assisted over 50 students with awards ranging from \$500 to \$3,000, and totaling over \$45,000.

**Q3:** How do students express their appreciation?

**A3:** Upon receiving the scholarship award, the students consistently express their appreciation to the department, College, instructor and/or Foundation either verbally or in writing. In addition, the recipients of the NCSL scholarship award are given an opportunity at the annual Scholarship Awards Dinner to be recognized and when they meet with a representative of the scholarship, at the Awards Dinner, they are always most appreciative and thank the representative in person. A consistent theme with students receiving these scholarship awards is that it not only helps them financially with the costs of their education, but it also boosts their confidence and reinforces their desire to learn, as well as taking away some of the stress of coursework, tests, and grades.

**Q4:** Does the NCSLI Scholarship program make a difference for your school or students?

**A4:** The NCSLI Scholarship program makes an incredible difference for our Ridgewater College students. The scholarships are directed at a very distinct area of study, and if funds were not available, our measurement science students would have very few options for scholarship support. As the students consistently indicate to us, these scholarship funds help them not only financially, but also contribute to boosting their confidence and reinforcing their desire to learn, as well as taking away some of the stress of coursework, tests, and grades. These scholarship

funds also aid in recruitment effort of the Ridgewater College measurement science program.

**Q5:** Does your administration express interest?

**A5:** Yes. The college's Administration routinely requests scholarship information, including amounts and types of scholarships offered and awarded, from the Ridgewater College Foundation. In addition, the Administration, working with the Foundation Executive Director and Foundation Board of Directors, formulates goals and strategies each year to expand and increase scholarship opportunities for students.

**Q6:** Anything else you would like to mention?

**A6:** Ridgewater College offers an AAS Degree in Engineering Technology, Calibration. In addition, Ridgewater offers a diploma and certificates in Physical and Electrical Measurement Sciences and is accredited by the North Central Association Higher Learning Commission.

## 11. Appendix 3

### Links for More Information about Colleges, Universities, and Metrology Scholarships

Butler County Community College, Butler, PA  
[www.butlercc.edu/](http://www.butlercc.edu/)

Central Georgia Technical College, Macon, GA

[www.cgtechcollege.org/](http://www.cgtechcollege.org/)

Ridgewater College, Hutchinson, MN

[www.ridgewater.mnscu.edu/](http://www.ridgewater.mnscu.edu/)

Fleming College, Peterborough, Ontario Canada

[www.flemingc.on.ca/](http://www.flemingc.on.ca/)

University of North Carolina at Charlotte, Charlotte, NC

[www.uncc.edu/](http://www.uncc.edu/)

University of Central Florida, Orlando, FL

[www.ucf.edu/](http://www.ucf.edu/)

California State Polytechnic, Pomona, CA

[www.csupomona.edu/](http://www.csupomona.edu/)

California State University, Los Angeles, CA

[www.calstatela.edu/](http://www.calstatela.edu/)

California State University, Fullerton, CA

[www.fullerton.edu/](http://www.fullerton.edu/)

California State University, Dominguez Hills, CA

[www.csudh.edu/](http://www.csudh.edu/)

Tidewater Community College, Virginia Beach, VA

[www.tcc.edu/](http://www.tcc.edu/)

Joe D. Simmons Scholarship

[www.simmons-scholarship.net](http://www.simmons-scholarship.net)