

Agora Online

A Newsletter for Faculty, Staff, and Friends of Lakehead University

January 2004 Vol. 21, No. 1

Photo: Peter Puna



Winter Wonderland Lakehead students take time to enjoy the fresh air and a game of hockey on Lake Tamblyn



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<http://agora.lakeheadu.ca>

Welcome to **Agora Online**, a monthly tip sheet of news and information you may read online at:

<http://agora.lakeheadu.ca>

Agora Online is produced by the Office of Communications and distributed to staff, faculty, and friends of Lakehead University.

We welcome your contributions. Please send them to:

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1. ATAC Update

The ATAC ~ *Future of the North* Campaign continues in full swing

2. New Proof Discovered for Pythagorean Theorem

Dr. Medhat Rahim, Faculty of Education at Lakehead University, recently published new proof of the famous Pythagorean theorem using a unique method

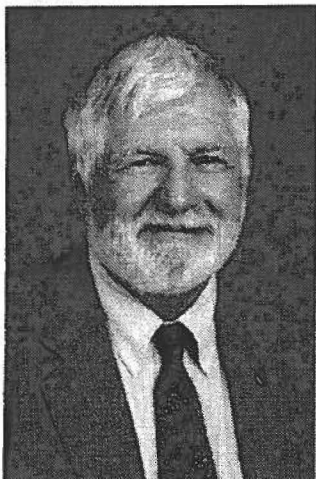
3. President's Message

Progress Report on Campus Climate

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CD Trojan
Development Office

President's Message ~ Progress Report: Campus Climate



By Dr. Fred Gilbert

President, Lakehead University

Looking back on the past year, Lakehead enjoyed many successes: Our faculty and students started benefiting from the technological capabilities of ATAC's classrooms; the NOMS Board had its inaugural meeting; and considerable progress was made in meeting the requirements of the Medical School's Fall 2005 opening; and Lakehead's Integrated Marketing Plan had us reaching out with a new visual identity. We enter the New Year with great expectations for continued success. Strategic planning is well under way and will be finalized this spring, providing us with a platform that should offer a strong focus for the future.

I primarily want to report on the progress made on the Campus Climate recommendations. I am joined by other members of the Administrative Executive Committee (AEC) in providing a summary of our progress.

Recommendation 1 – Workload

Progress:

~ Part of the current budgetary process is designed to reduce workload in impacted areas on campus

Recommendation 2 – Community Outreach

Progress:

~ A State-of-the-University session was held on December 3, 2003, where Mary Louise Hill, Vice President (Academic) and Provost, and Michael Pawlowski, Vice President Administration and Finance, joined me to report to members of the University community the institution's status on a number of areas as well as progress on major initiatives.

~ Key points were summarized in the President's message in the December issue of Agora.

Recommendation 3 – Internal Communications

Progress:

~ As part of our commitment to be inclusive, a questionnaire was developed with employee input from the Internal Relations Committee (IRC), to elicit employee feedback on a number of internal communications issues, processes, and vehicles. The questionnaire was sent out to pertinent groups with representation on the IRC, and responses were analyzed and aggregated. A policy was developed based on the survey results.

~ Both a summary of the survey results and the policy will be communicated internally via Communications Bulletin. The policy also will be posted on the website as soon as it becomes official.

Recommendation 4 – Deferred Maintenance & Related Issues

Progress:

~ A five-year deferred maintenance plan/budget has been developed to identify, prioritize, and address the most pressing concerns around facilities renewal/maintenance, mechanical safety, electrical requirements, health and safety, energy efficiency, and campus beautification, among others. The plan is undergoing final review to ensure that the most critical areas are addressed despite the limitations of inadequate government funding.

~ A high-level summary of the priority plan will be communicated to the University community as soon as it is approved; the five-year deferred maintenance plan will be reviewed yearly.

Recommendation 5 – Coaching & Training

Progress:

~ Human Resources forwarded to AEC in early September 2003 a framework for a training plan. Human Resources has had discussions on various coaching and training groups regarding packaged or tailored seminars. Groupings of employees are currently being determined as well as identifying the specific training for each group. The review will be completed soon and training will start in February 2004.

~ Information is being gathered through the budget process and the review of the University overtime policy. Once a better understanding of the workload staffing issue is known, work will begin on lowering expectations and identifying related training.

~ Departmental reviews by staff, supervisors, and directors of services provided by their respective departments, and possible alternatives, will be done on an ongoing basis.

Recommendation 6 – Having a Voice

Progress:

~ Suggestion boxes have been put up in the Agora, the Fieldhouse, and the Bora Laskin Building to encourage feedback from students, staff, and faculty.

~ In addition, the Internal Relations Committee continues to encourage the groups it represents to be forthcoming with suggestions to improve the different areas that impact our status, including campus climate, operations, marketing and promotion, and community engagement.

Recommendation 7 – Interpersonal Skills

Progress:

~ The University will add effective interpersonal skills as a criterion in all job descriptions and job evaluation procedures.

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More stories online...

4. Lakehead Scientists Research Toxicity Prediction Systems

Dr. Peter Lee is leading a research team of two graduate students and two technicians to research and develop novel toxicity prediction systems for the pulp and paper industry.

5. Wolves Join OUA All-Stars

Four players from the Lakehead Thunderwolves Men's Hockey Team were selected to be part of the 2003 Ontario University Athletics (OUA) All-Star Team that played two exhibition games against Canada's World Junior Team

6. Anticipating 2005: An Update on NOMS Symposium in December

7. 'Fatal Flower' blooms at Lakehead

Members of the local film community have teamed up with faculty and students from Lakehead to pay tribute to one of the most important episodes in the history of film in Canada

8. Former Lakehead Director Wins Prestigious Award

Dr. Claire Franklin, Senior Advisor to the Deputy Minister, Health Canada, was presented the 2003 Outstanding Achievement Award of the Public Service of Canada

9. Departmental Profile:

Department of Part-Time and Distance Education profiled

10. Welcome New Faculty and Staff

A listing of new hires since December 2003

11. Awards and Honours

Read about some exciting achievements by Lakehead's staff, faculty, and students online

12. Campus News

Thunder Bay's education community teams together; It's About You! program day on campus; and more!

Read the full stories online: <http://agora.lakeheadu.ca>

Dr. Medhat Rahim Discovers New Proof for Pythagorean Theorem

Dr. Medhat Rahim is a mathematics specialist at Lakehead's Faculty of Education. And now he has come up with a unique proof of an ancient theorem. "A new proof of the Pythagorean using a compass and unmarked straight edge," was published in the January-February 2003 issue of International Journal of Mathematical Education in Science and Technology.

Pythagoras was a Greek philosopher, religious teacher, and musician, well noted as the first pure mathematician. He is particularly remembered for his famous geometry theorem, now known as the Pythagorean theorem, from approximately 532 BC. Although the theorem was known to the Babylonians 1000 years earlier, he may have been the first to prove it. Evidence for this exists in the form of cuneiform clay tablet text, known as Plimpton 322; part of the Plimpton collection resides at Butler library of Columbia University in New York. Pythagoras founded an influential society of disciples. Men and women in the society were treated equally—an unusual concept at the time—and all property was held in common. Members of the society practiced the master's teachings, a religion of tenets. Pythagoras was interested in the principles of mathematics, the concept of number, the concept of a triangle or other mathematical figure, and the abstract idea of a proof.

Of Pythagoras' actual work nothing is known. His mathematics school practised secrecy and communalism, making it hard to distinguish between his own work and that of his followers. However, the school made outstanding contributions to mathematics, and it is possible to be fairly certain about some of Pythagoras's mathematical contributions.

Dr. Rahim may be one in a long line of Pythagoras' disciples. Rahim's proof is the 371st published proof of the theorem. The 370 proofs that come before this one are published in "The Pythagorean Proposition" (1968) by E.S. Loomis. "Pythagoras is the key concept in mathematics. So many other concepts are based on that one," says Rahim. "It is a game for every mathematician to challenge, to find another proof. Mine is the 371st proof – but at this time is the newest and most current. Other scholars have proved it before – and I expect that others will come after this one."

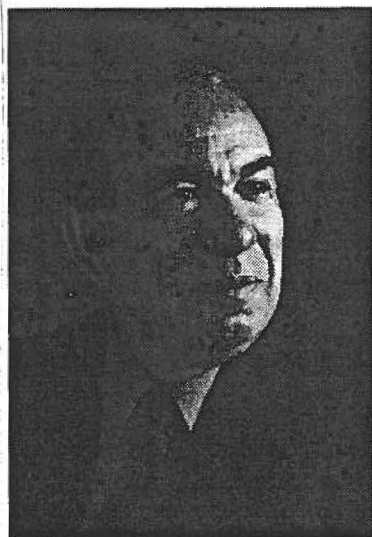
Rahim's proof is unique in that it does not use number-oriented measurements, simply a compass and an unmarked straight edge. It can be understood by high-school as well as upper-level students. The proof came to him in the summer of 2001, while attending the Canadian Mathematics Educational Study Group (CMESG) Conference in Montreal. He was traveling by train from Toronto to Montreal, working on his laptop, when the idea came to him to try the technique without using numbers. Over the course of the three-hour journey, the ideas clicked and the first draft was completed. His peers excitedly encouraged him to send it for publication, indicating that they'd never seen anything like it before.

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Dr. Medhat Rahim Discovers New Proof for Pythagorean Theorem

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Beauty is the first test

Dr. Rahim's paper in the International Journal of Mathematical Education in Science and Technology begins with a quote from G.H. Hardy (1877-1947), a well-known mathematician who taught for many years at Cambridge University, and stated:

A mathematician, like a painter or poet, is a maker of patterns. If his patterns are more permanent than theirs, it is because they are made with ideas. The mathematician's patterns like the painter's or the poet's must be beautiful; the ideas, like the colors or the words, must fit together in a harmonious way. Beauty is the first test; there is no permanent place in the world for ugly mathematics.

Rahim's life's work makes use of patterns. His work in Education uses visualization techniques that are based on models and manipulation of shapes, rather than memorization of equations. He recently presented "Dances with Polygons" in Dubai in October 2003, a presentation received with much amazement—so much so that he has been invited back next May for three weeks to train mathematics teachers in Dubai. Using PowerPoint and AutoCad software, he visually provides reasons for simple mathematical formulations, such as the area of a rectangle. He postulates that the area of a number of geometric shapes can be determined using the formula for the area of a rectangle. On screen, simple shapes such as rectangles and parallelograms, followed by more complex polygonal shapes like pentagon, hexagon, or any

n-gon for $n \geq 3$, are dissected into other simple shapes such as triangles and trapezoids. The resulting shapes then move across the screen, their 'legs' flipping up and dancing across the screen like synchronized swimmers. The patterns are an art-form – pleasing to watch and making mathematical formulas something more than just equations to be memorized.

Adding another proof to the famous theorem was just another pattern, pushing the frontier of mathematics beyond its existing level, widening its base of knowledge. "Pythagoras is one of the challenges for a mathematician. Proofs are one of the ways that we contribute to the enlargement of the body of knowledge. It is the job of all mathematicians," he states. "But I feel it is the best paper I've ever written. It is more than the proof. It is also about a feeling you get from discovering something new, rather than using existing theorems. It keeps you going, so you feel as if you can live forever in the accounts of the mathematics world." □

President's Message

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Recommendation 8 – Conflict Resolution Vis-à-vis Collective Agreements

Progress:

~ No action needed - effective mechanisms have been in place to deal with conflict as a result of collective agreement requirements.

Recommendation 9 – Communication of Recommendations & Actions

Progress:

~ Communicating Campus Climate progress will be done on an ongoing basis; this represents the first progress report.

Recommendation 10 – Implementation Progress

Progress:

~ This report represents the first progress report to the Board of Governors following the President's response to the Board in August 2003. Administration commits to updating the Board of progress on all recommendations twice during the academic year.

~ The Internal Relations Committee will continue to serve as a sounding board to ensure appropriate representation from all internal stakeholder groups.

Recommendation 11 – Student Surveys

Progress:

~ No new action required. The University is engaged in a large number of student surveys annually, and the Office of Institutional Analysis/Government Relations has compiled a list of student surveys. The surveys provide data that can be used to determine students' perspectives on campus climate.

We will continue to report on any actions taken with respect to Campus Climate recommendations, and will continue to work closely with the Internal Relations Committee to identify opportunities for continuous improvement.

I would like to begin the New Year by expressing the hopes that the short holiday break revitalized all of us and that 2004 has in store continued renewal for Lakehead University. □

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