

AFTERMATH

Plymouth State College Math Department News 2003

lblaine@mail.plymouth.edu, ple@mail.plymouth.edu, evans@mail.plymouth.edu, ferl@math.plymouth.edu, tedg@mail.plymouth.edu, hayden@mail.plymouth.edu, jonm@mail.plymouth.edu

Math Department Website: <http://www.plymouth.edu/math>

Chair's Column by Jon Maatta

Greetings once more! Last July I started my second three-year term as Chair. Sometimes I feel that I should have my head examined to continue on, but other times, like now, when I look back fondly on the students who are graduating this year, that it makes it all worthwhile. Congratulations to **Tyson Conrad, Robert Comey and April Stone**, all members of my first mathematics major IAC class, who have graduated this term. Congratulations are also in order to **William Bryer, Tim Chase, Roberta Cooke, Benjamin Hann, and Renee Thibeault**. It has been great to know these students, to have many of them in class, and to see how they have matured and blossomed in the past four years. Perhaps I should say Thank You instead of congratulations!

College Update

Major and interesting changes lie ahead for both the Department and the College (the University?). As you've probably heard, the College is attempting to change its name to Plymouth State University. The motion for the change has been approved by the Trustees of the USNH System and currently is before the legislature of New Hampshire. This is a positive move and the term university better reflects the types of programs that Plymouth State has had for some time: M.Ed., M.B.A., C.A.G.S., and so on. A more significant change for faculty at PS(U) will be the new General Education Program approved by faculty this spring. The new program will be phased in over the next few years. A three-credit first-year seminar will replace the current Introduction to the Academic Community requirement in the fall of 2004. The current perspectives (remember those: F, G, H, L, P, Q and so on), which were basically discipline offerings, will be completely replaced with courses that will emphasize the interdisciplinary nature of general education.

Mathematics Department Issues

Much of our time next year will be thinking about and developing new mathematics courses that will fit in to the program. In addition, on the horizon is a new course to replace our old MA107/108 and MA110 – Algebra courses. Provisionally admitted students will take this course (those students with less than three years of high-school algebra and geometry). Another issue that has been a topic of much discussion is that of assessment. Many of the certifying agencies (NCATE, NEASC) are requiring departments to have plans to evaluate both their programs and their

students' progress in the programs. The Department is in the process of creating the matrix for assessment, with the teaching certification program leading the way. I'm sure I'll have more to say about all of these issues next year.

A continuing challenge that the Department faces is the recruitment and retention of students. This year the Department had approximately 40 majors, with the vast majority of those being in mathematics education. The job market continues to be very robust for any mathematics degree, not just for mathematics teachers. Efforts of the past, upgrading our Department Web site (www.plymouth.edu/psc/math/index.htm) and outreach efforts via workshops and institutes continue, so we feel that the prospects of attracting students are strong. Mathematics educators, if you have prospective mathematics majors, let them know what a good choice Plymouth State is.

The Changing Face of the Department

A big change in the Department will occur this fall upon the retirement of Dr. Eldwin Wixson and Ms. Marilyn Wixson. Ed served the Department for 37 years and Marilyn has been with us for 21 years. How will the Department survive without them? Don't fret, both will be back teaching part-time in the fall.

We are excited to announce that joining our Department in the fall are two mathematics educators. Dr. Barbara Boschmanns and Dr. Brian Beaudrie. Barbara's specialty is the mathematics instruction of early childhood and childhood studies majors. Brian will be concentrating on the mathematics instruction for our secondary mathematics majors. As mentioned, we are excited about Barbara and Brian joining the Department. (Did I mention that Barbara and Brian were wed in late May? So, we lose one husband and wife team, but gain another.)

Last summer we advertised and successfully hired two full time lecturers. The full time lecturer position is a benefited one-year position, renewable depending on need and performance review. Ms. Gloria Ferland and Mr. Roger Blake joined our Department in the fall and had very successful 'first' years. As you probably recall, Gloria has been associated with the Department for many years. Roger started as part-time lecturer in the spring of 2002. I am happy and relieved that both will be with us again next year.

North Country Initiative for Teacher Recruitment

The Mathematics Department and Plymouth State College are participating in TeachNorth: a cooperative effort of 32 school districts, three colleges and the New Hampshire Department of Education. The goal is teacher recruitment for schools in northern New Hampshire. The Department's role is the accelerated delivery of the mathematics needed

for secondary certification. Currently, approximately 15 students are participating in the mathematics portion. Instructors who have taken part in the delivery are Dick Evans, Keith Ferland, Bob Mead, Bill Roberts and myself. I can say with first hand knowledge that these students are hard working and dedicated. I expect that many will be excellent teachers in the very near future.

Technology News

Last August, the Department's computer lab was upgraded with new Dell PCs. Our 21 iMacs were replaced with 21 Dells. As was to be expected some conversion bugs took place, but the lab seems to be running fine now. Most the mathematics software that we had (or the College had) site licenses for were converted from Apple to PC. However, much of the software acquired through the years was not available for conversion. This software will gradually be acquired for the PC platform.

The Department and the College continue the commitment to upgrade faculty computers through the Computer Advisory Board (CAB). So three to four faculty members will see new computers on their desks this fall. In addition our multimedia room will be upgraded this summer and the Math Activity Center (MAC) will see two new PCs this fall as well.

Student Activities: Mathematics Association of Plymouth (MAP)

MAP had an active and interesting year; Kristin Noblet, Map 2002-2003 President, has contributed a nicely written and informative article for this issue of *AfterMath*.

Our last departmental event of the year, open to students, faculty and alumni, was the annual softball game. This year the weather cooperated with us and we were able to create two (nearly) complete teams. The students prevailed this year: students = at least 13, faculty = only 5. The game was fun with stellar plays all around, with special note to Larry Blaine for his running catch in right field and Keith Ferland's catch of a screaming line drive at second base. And of course, any game that ends with no faculty injuries or major sprains is a major success. After the game we all ventured over to Paul Estes' home for a barbeque and other fine food. (Editorial note: This game usually takes place near the end of the spring semester. Alums are always welcome; since there is usually short notice of it, alumni who wish to participate should e-mail Jon, Dick, or Keith to find out game time and place. T.G.)

I think that I speak for everyone when I say we all need a relaxing and re-energizing summer and look forward to the new academic year in the fall. Until next time!

Alumni News by Ted Giebutowski

Keith Ferland had an e-mail from 'old timer' **Dick Dumais '79**. He writes: "After 17 years as a technology coordinator (nine at Inter-lakes and eight at Gilford) I will become an academic coordinator of math and math teacher at Kingswood Regional High School in Wolfeboro, N.H. ... I

still keep pretty busy with sports. I'm an assistant coach for my daughter's JO softball team (Nor' Easters 16U based out of Gilford), secretary/treasurer for the Nor'Easter Softball Organization, cover sports occasionally for the *Citizen* (my *Clock* roots never go away!), continue to officiate volleyball games at the high school level and am the New Hampshire Volleyball Officials' Assignor." Sounds like Dick's daughter is following in his (sports) footsteps, too.

Dick Evans heard from **Pete Fagan '92**; here's some of Pete's news: "I took a job working for the Webb Schools of California this past spring. It was a move that I needed to make. Although I enjoyed Kingswood, I needed a bit of a change and dramatic it was. Webb is an interesting school, especially the focus of the kids. Out here in California, everything is about the SATs. The California system is so numbers driven and the SATs drive it. I am enjoying the teaching, but the curriculum is not much different than Kingswood and New Hampshire. ... My short term plan is to stay here for a couple of years and then back to N.H to finish my career (in about 20 more years)."

Dick also heard from **Liza Bradley '87**, asking about our summer math programs. She's been teaching at Pinkerton Academy for the last five years.

Paul Estes got e-mails from **Nicole Demers '01** and **Jon Plater '01**. Nicole and Jon were both interdisciplinary studies majors with math being one of their concentrations. Nicole writes "I start at USM in May and I am thrilled. I can't wait to move to Portland and start school!" And Jon is currently working for the *Concord Monitor* doing Web site development. He has also recently applied to be a part-time math tutor in Concord. We hope that works out for you, Jon. He also attached a photo of "my two babies." We'll put them on the math home page edition (see **Editorial Comments**) for you to click on. They're at: <mailto:Macintosh%20HD/System%20Folder/Preferences/Netscape%20Users/Ted%20Giebutowski/Mail/PSC.sbd/AFTERMATH.sbd/03?id=3E95BD27.5EB959E9%40oz.plymouth.edu&number=23903&part=1.2.1.2>

Bob Thompson '79 dropped several of us a big update on his career. To summarize: "I enjoy receiving the *AfterMath* newsletter and reading what is going on in the math department and with the alumni. ... After graduating with a B.A. in Math I soon found a job at The Wyatt Company in Wellesley, Mass., as an actuarial assistant. I remained at Wyatt (now Watson Wyatt Worldwide) for nearly 20 years. ... I did pass actuarial exams to become an enrolled actuary and a member of the American Academy of Actuaries. I did actuarial and consulting work for many hospitals, manufacturing firms and utilities across New England. ... In May of 1999 Fidelity Investments expanded their Defined Benefit outsourcing in Marlboro, Mass., to include a business unit in Merrimack, N.H. I was contacted and didn't have to think twice about making the switch. ... I am the director of actuarial operations in Merrimack and oversee the Philip Morris relationship, which includes Philip Morris USA, Kraft Foods, Nabisco and Miller Brewing. ... One last note on the business side, I still occasionally use my *Mathematics of Finance* book that I used in Dr. Wixson's class. Some of my associates laugh when they see

that the book was published before they were born.” Bob lives in Nashua with his wife Katrina; they have two daughters, Kerrie and Kelly. He has run the Boston Marathon six times, and enjoys skiing.

I also recently received a follow-up e-mail from Bob volunteering that he had just received “approval from finance to hire some summer interns. If you have any math students that live in the Merrimack, N.H., area and are looking for a summer job, please have them send me their resumes as soon as possible. We are looking for math majors that are interested in a career with Fidelity Employer Services Company (FESCO) servicing Defined Benefit pension plans.” Bob has been terrific about notifying us of opportunities for our grads; I recall similar offers when he was at Watson-Wyatt. Thanks, Bob.

And **Mike Severino '01** writes that he is teaching advanced math and calculus as well as some lower level courses at Profile High School in Franconia, N.H. He'll be taking some summer courses at Plymouth State.

That's it! All the news that's fit to print—and that I managed to not lose! Thanks to all of you for participating.

Problem Corner by Larry Blaine

Starting with any positive integer n , get a new integer by the following process: if n is odd, the new integer is $3n + 1$; if n is even, the new integer is $n/2$. Now repeat the process over and over, starting with your latest integer as n . For example, starting with 7, you get the sequence: 7, 22, 11, 34, 17, 52, 26, 13, 40, 20, 10, 5, 16, 8, 4, 2, 1, 4, 2, 1, ... Note that whenever $n = 1$, the sequence gets ‘stuck’ at 4, 2, 1, 4, 2, 1, ... forever. The strange thing is that no matter what n you start with, you always seem to get 4, 2, 1, ... eventually. Can you figure out why? Experiment with various starting values before looking at the solution at the end of this *AfterMath*.

Mathematics Education at PSC by Dick Evans

Plymouth State Mathematics Well Represented at the NCTM Meeting in San Antonio

Laurie Boswell '76, '78G was one of the co-chairs for the National Council of Teachers of Mathematics annual meeting in San Antonio. The conference had over 1,100 speakers and 18,000 people in attendance. Laurie is also the first Plymouth State person (student or faculty member) to be a member of the NCTM Executive Board. Congratulations, Laurie, on a great meeting.

Laurie Boswell and Dick Evans gave a presentation at the National Council of Supervisors of Mathematics Annual Convention in San Antonio on “Meeting Students’ Needs: After School and Math Center Resources.” The presentation dealt with meeting the needs of the growing after school programs in the country and resources for delivering them. Laurie and Dick are two of the three co-authors of the *Afterschool Achievers Math Club—Grade 6, Grade 7 and Grade 8* books published by Great Source.

Dick Evans and his daughter, **Stephanie Wheeler '99G**, presented a workshop at the annual meeting of the National Council of Teachers of Mathematics in San Antonio, entitled “Rich Mathematical Activities for the Classroom.”

Greg Superchi '93, '99G gave two presentations at the NCTM annual meeting. One was entitled “Project Lead the Way: A Pre-engineering Program of Mathematics Application,” and the other, with former PSC Professor Judy Buck, was entitled “Using the CBL II to Explore Functions.” Greg also recently presented a workshop for New Hampshire teachers on behalf of the NH-IMPACT Center at Plymouth State, entitled “Using the TI-83 and CBL II in Math Classrooms.”

Linda Otten '90 and **Diane Klabachek** (part-time instructor in the Department) gave a presentation entitled “Got Pi? More to Pumpkins than Dessert” at the meeting in San Antonio.

Others in attendance at the meeting with PSC ties were **Peter Fagan '92**, who is now teaching in California, **Matt Treamer '77, '93G** and his wife, Kathy, who live in Lancaster, **Mike Severino '01** and **Ferd Prevost**, co-director of the NH-IMPACT Center.

Summer Institutes

This summer will be a busy one in the Mathematics Department. The Math Department and the NH-IMPACT Center will be hosting several institutes for teachers.

We are fortunate to have Charles Lovitt, former Mathematics Consultant for the Curriculum Corporation of Australia, returning to campus for the sixth year. Charles will be teaching a course on developing algebraic notions and one on teaching geometric and data and chance notions the weeks of July 14 and 21, respectively.

We will also have Drs. Barbara and Doug Clarke from Monash University and Australian Catholic University, respectively, returning for the second year. They will share their research about teaching math to primary children the week of July 7–11.

The Math Recovery workshop will bring specialists to help teachers “recover” young children in a fashion similar to Reading Recovery programs. The program (about developing professional development groups) uses problem solving to build a professional development program in local schools and is modeled after a National Science Foundation program on leadership development. A list of these courses is given below. For more information at any time during the year, you can go to the Mathematics Department Web site at www.plymouth.edu/psc/math/index.html and click on the NH-IMPACT Center site for a listing of summer institutes and workshops.

- June 23–27:** Developing Mathematical Ideas – Numbers
- July 7:** Teaching Mathematics to Primary Children
- July 14–18:** Developing Algebraic Notions in Grades K–10
- July 14–18:** Developing Mathematical Ideas – Data
- July 21–25:** Developing Geometry and Data and Chance Notions in Grades K–10

Aug. 4–15: Math Recovery
Aug. 11–15: Establishing Mathematics Professional Development Groups

Mathematics Department Accreditation

This past year, the Mathematics Department had its initial review by the National Council for Accreditation of Teacher Education and the National Council of Teachers of Mathematics. The Department's programs for middle school and secondary school certification passed their initial review. NCATE will make a visit to campus in the spring of 2004 for an on-site inspection of the programs and to meet and discuss the programs with faculty.

This year also saw the Mathematics Department's programs for teacher certification reviewed by the New Hampshire State Department of Education. Plymouth State served as the pilot for the new accreditation procedures adopted by the State. The initial response was that all teacher education programs have met the standards, including the Mathematics Department.

Spring 2003 Kudos by Paul Estes

Outstanding Math Major Awards

This spring at the final Convocation, the Department honored four graduating math majors for outstanding achievement in their degree programs. The kudos went to **William Bryer** (Groton, N.H.), B.S. in Mathematics; **Benjamin Hann** (Franklin, N.H.), Actuarial Mathematics; **April Stone** (Fairfield, Vt.), Secondary Mathematics Education; and **Renee Thibeault** (Bowdoinham, Maine), Technical Management.

Mathematics Department Fellowship

The Mathematics Fellow for 2002-2003 was **Jennifer Judson** (Groveton, N.H.). Since Jen did such a superb job, the Department voted to continue her in that role for the fall. This fellowship involves working in the Math Activity Center helping students with problems in Calculus and Elementary Functions. As the recipient of this award, Jen receives a stipend, credited toward her tuition.

Mathematics Scholarships

As the continuing math major with the highest overall GPA, **Joy Bowen** (Walpole, N.H.) won the Barbara Dearborn Mathematics Scholarship. Barbara's daughter Mitzi Dearborn returned from Wisconsin to make the presentation to Joy.

The Hunter Baney Barton Memorial Scholarship alternates between our Department and the Natural Science Department. This year it was our turn to select the recipient. Our choice: **Courtney Williams** (Lyman, N.H.).

We were able to award four Geneva Smith Scholarships this year. Geneva Smith was the former Math Department professor for whom the dormitory Smith Hall is named. The four Geneva Smith Scholarship recipients were **Steven Baldasty** (Derry, N.H.), **Jennifer Judson** (Groveton, N.H.),

Kristin Noblet (Narragansett, R.I.) and **Wendy Wickman** (Center Ossipee, N.H.).

Math Association by Kristin Noblet

The Math Association has had a great year. Not only have we participated in established events such as the Student/Faculty Yankee Swap Party, the Mathematics Awards Banquet, and the Student/Faculty Softball Game, but we've helped with a few new events as well.

The Math Association joined up with PACE early in the year to put on a non-profit Halloween dance, entitled the "Haunted Howl-o-ween Bash." Everyone was encouraged to dress up; there were monetary prizes for the five best costumes. The event was a huge success.

The Math Association also aided Dr. and Mrs. Ferland in presenting their sabbatical—a trip to Greece! The presentation was open to anyone interested, faculty and students alike. It was an informative presentation, complete with artifacts and a slide show. The Math Association provided refreshments for afterwards.

We also had a couple of successful fundraisers this year. The first was one that has become somewhat of a tradition—selling snacks in the Math Activities Center and the Math Office. We offered fruit and juices for reasonable prices. The other fundraiser was a very new idea: "Who wants to see their professor kiss a cow or a pig?" Mathematics faculty volunteered to participate in a competition where students and faculty would put money in containers featuring the specific faculty members' pictures. The member who earned the most money would win the prize of kissing a cow or a pig. **Mr. Barry** and **Dr. Maatta** won and had to kiss a cow, an event that was fully documented.

Our largest accomplishment this year, as it has been for many years, was the Math Banquet. The Banquet was held at the Common Man Inn, a recent addition to Main Street, Plymouth. In previous years we have asked speakers to present a math-related topic, but this year we decided to be different. A video slide show was compiled of photos and video clips taken over the course of the year, with music playing in the background. But that wasn't all: Graduating seniors received roses; students maintaining a GPA of 3.5 or better received awards; **the Wixson's** were recognized for their upcoming retirement and given "good-bye" messages from other faculty members; **Mr. Blake** was given an award for being this year's distinguished teacher; **Dr. Maatta**, our advisor, and **Wendy Burnham**, department administrative assistant, were given "thank you" gifts for their contributions to the association and its related functions;

And finally, the officers of the Math Association for next year were announced:

President: Nick Hurley
Vice President: Joy Bowen
Secretary: Jennifer Judson
Treasurer: Phil Jones

The food was delicious and the event was wonderful. We hope it will go as well next year.

in your e-mail address, and click 'Submit' ; that will save us a bit in mailing costs.

Math Activity Center by Jack Barry

The MAC has just completed its 21st semester of operation, assisting PSC students taking mathematics courses. This year the center has helped approximately 400 students with over 2,000 hours of tutoring. I would like to extend my appreciation to the tutors, both past and present, for the wonderful efforts and sacrifices you've made for the PSC community. Also, I would like to give a special thanks to those tutors graduating this year, **Bob Comey** and **Tyson Conrad**. Finally, I hope that all you *Aftermath* readers have a safe and enjoyable summer!

Problem Corner Solution by Larry Blaine

If you figured it out, you may be the world's best mathematician, because nobody else can! This is the very notorious $3n + 1$ problem, also called the *Collatz Problem*, and is a fine example of a mathematical puzzle that seems simple to understand, yet has resisted all attempts at solution. To read more about the $3n + 1$ problem, see the article "The $3n + 1$ Problem and Its Generalizations" by Jeff Lagarias in the *American Mathematical Monthly*, Vol. 92, pp. 3-23, or just enter " $3n + 1$ problem" into a search engine.

Editorial Comments by Ted Giebutowski

Our new Web site (Mathematics Department Home Page) is up! The Department's Web site committee (Roger Blake, Dick Evans, Bill Roberts and I) has had several meetings with **Tina Newberry**, public relations Web administrator and Wendy Burnham, our department's administrative assistant, throughout the year. To get to it via the PSC home page click on: <http://www.plymouth.edu>, click on "Academics," then click on the Mathematics Department and there it is. Or, go directly to it via: <http://www.plymouth.edu/math>.

With the committee's input, Tina has designed a very attractive site with neat links; check them out. Also, you will notice on the right side of your screen, either a picture of and statement by one of our students, or a short vignette about what an alum is doing. These latter were garnered from the wonderful e-mails I and the rest of the department have received over the last several years, so keep in touch; keep the cards and e-mails coming. The student and alumni profiles rotate, so, to paraphrase Twain on New England's weather: "If you don't like the profile you get, hit 'Reload'." On the left side of your screen, beneath the links, you will find an option to receive *AfterMath* electronically. Just type

Now that the site is launched, Tina will be training Wendy to take over the Web site and our committee will then work with Wendy in adding or changing information and links as the need arises. You can be a help in this process! If you spot something that isn't working, or think of something the site should have, e-mail any member of the committee or Wendy with your suggestion.

This gives an added dimension to using e-mail when communicating how you are doing. You can add a picture! Fair is fair: You now have the ability to get a glimpse of the ravages time has wreaked on the math faculty (click on "Faculty"). Well, we and your fellow alums are eager to see what you (or your dogs, cars, etc.) now look like!