



Math Department Faculty and Staff

Name	Photo key	Office	Phone	Email
Nizar Abed, M.S.	11	323A	520-7874	nsabed@xula.edu
Gur Dial Arora, Ph.D.	9	317B	520-5312	gdial@xula.edu
Valerio De Angelis, Ph.D.	16	317F	520-7463	vdeangel@xula.edu
Carroll J. Diaz, Jr, Ph.D. (Chairman)	15	318B	520-7467	cdiaz@xula.edu
John Dittmann, Ph.D.	10	317F	520-6741	jjdittma@xula.edu
V. J. DuRapau, Jr, Ph.D.	13	319B	520-7666	vdurapau@xula.edu
Susan Fredine, M.A.	7	323B	520-5307	sfredine@xula.edu
Erica Houston, B.S. (Administrative Assistant)	5	319	520-7461	ehouston@xula.edu
Julie J. Jackson, M.A. (Director, Math Lab)	6	323A	520-5310	jajackso@xula.edu
Lester W. Jones, Ph.D.	3	317A	520-7466	ljones@xula.edu
Vlajko L. Kocic, DM.S	12	317C	520-5309	vkocic@xula.edu
Michael F. Labranche, Ph.D.	8	318	520-7315	mlabranc@xula.edu
Paul R. McCreary, Ph.D.		323A	520-7470	pmccrear@xula.edu
Raquel C. Mesa, M.Ed.	4	317C	520-7472	rmesa@xula.edu
Thomas C. Palfrey, Ph.D.		323D	520-5311	tpalfrey@xula.edu
Donna S. Stutson, Ph.D.	14	319A	520-5308	dstutson@xula.edu
Vivian Toca, Dr. C.F.M.		323A	520-5310	vtoca@xula.edu
Sindhu Unnithan, Ph.D.	1	317D	520-5306	sunnitha@xula.edu

"People who don't count won't count." - Anatole France



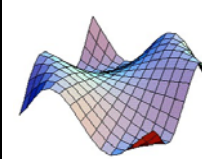
A Math Dept electronic classroom

"God exists since mathematics is consistent and the devil exists since we cannot prove the consistency." -- Morris Kline

"Mathematics is not a deductive science – that's a cliché. When you try to prove a theorem, you don't just list the hypotheses, and then start to reason. What you do is trial and error, experimentation, guesswork." -- Paul Halmos



This diagram with the photo keys refers to the photo on page 1



XulaMath News

A Newsletter from the Math Department

Every once in a while we receive email messages or otherwise hear from our former students. They write to let us know what they have been doing since they graduated, and often ask about the math department, their former professors, and generally want to know what has been going on since they left.

The purpose of this newsletter is to gather together the type of news and information we would like to share with all those who have been associated with the Xavier Mathematics Department, and of course we primarily have in mind our former students.

We hope that this will help you keep up to date with us, and it will encourage you to keep us better informed with what you have been doing. We always love to hear from you, and hope you



The Administration Building—Home of the Math Department

will make it a habit to let us know of the important (and also not so important) steps you are taking in your life.

This newsletter will be of interest to all current Xavier students who frequent the Mathematics Department, whether because they are math majors, or math minors, or simply because they take a class here.

By letting you know more about us and our activities, we hope that we will receive more feedback and

suggestions from you. This will in turn help us to constantly improve your educational environment, and fulfill the mission of Xavier University.

While receiving a newsletter like this is better than receiving no news at all, it is not a substitute for a live visit to our department. So we encourage you to drop by and ask about our programs, and if you do not live in New Orleans, plan to include a stop on the Xavier campus on your next visit to the city.

Dr. Diaz elected as new Chairman

On March 9, Dr. Carroll Diaz was unanimously elected to become the new Mathematics Department Chairman, beginning in the summer of 2004. Dr. Diaz will replace Dr. Vlajko Kocic, who served as Chairman for seven years (one year as Appointed Chair, and two consecutive terms as Chairman).

At the last departmental meeting, the math department recognized Dr. Kocic for his dedication and leadership as Chairman.

Dr. Diaz is currently a tenured Assistant Professor and has been a member of the Mathematics department since the fall of 1994. He received a B.S. in Mathematics with a minor in Economics and an M.S.

in Mathematics with a concentration in Statistics from the University of New Orleans' Lakefront Campus.

He also received an M.S. and Ph.D. in Biometry from LSU Health Sciences Center.



The mathematics department faculty and staff (see p. 4 for names)



Dr. Carroll Diaz (Chairman) and Ms. Erica Houston (Administrative Assistant)

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"Calculators can only calculate - they cannot do mathematics." -- John A. Van de Walle

Top Ten Excuses for Not Doing Math Homework

1. I accidentally divided by zero and my pencil crashed.
2. Isaac Newton's birthday.
3. I could only get arbitrarily close to my textbook. I couldn't actually reach it.
4. I have the proof, but there isn't room to write it in this margin.
5. I was watching the World Series and got tied up trying to prove that it converged.
6. I have a solar powered calculator and it was cloudy.
7. I locked the paper in my trunk but a four-dimensional dog got in and ate it.
8. I couldn't figure out whether I am the square root of negative one or I is the square root of negative one.
9. I took time out to snack on a doughnut and a cup of coffee. I spent the rest of the night trying to figure which one to dunk.
10. I could have sworn I put the homework inside a Klein bottle, but this morning I couldn't find it.

-- Vital Sines Online, PSU



Xavier students attend the LA-MS MAA Section meeting at SLU in Hammond



The March 5 math meeting in Hammond

On March 5, seven Xavier students (Lyrial Chism, senior, mathematics and computer science; Chika Chukwu, sophomore, chemistry; Quashee Collier, graduate, education; Alexandra Lecorps, junior, biology; Mary Moore, junior, mathematics; Andrea Tyson, junior, mathematics; and Leah Wooden, senior, mathematics) and two faculty members (Dr. Valerio De Angelis, mathematics, and Dr. Paul McCreary, mathematics) attended the Louisiana - Mississippi section meeting of the Mathematical Association of America, held this year at Southeastern Louisiana University in Hammond, LA.

Six students also participated in the undergraduate mathematics competition. Alexandra Lecorps earned an Honorable Mention for the presentation of her paper "Using Linear Algebra to find the GCD and LCM of two numbers". She researched the topic and wrote the paper under the supervision of Dr. De Angelis in the spring of 2003. The paper presented at the meeting is published in the current issue of XULAnexus (<http://www.xula.edu/xulanexus/issue3/GCD.pdf>). Dr. De Angelis presented a paper titled "Pairings and Signed Permutations".

"We've all heard that a million monkeys banging on a million typewriters will eventually reproduce the entire works of Shakespeare. Now, thanks to the internet, we know this is not true."
-- Professor Robert Silensky

9th Annual Xavier Math Fair

On Saturday, November 8, the Mathematics Department held its 9th Annual Math Fair. Students from several New Orleans High Schools attended the event, which was supported by donations from several sponsors.

Towers Perrin, John Wiley and Prentice Hall provided money, gift certificates, books and other items. Ms. Barbara Gundy of Towers Perrin came from New York to attend the fair, and

spoke to the students before the competition, highlighting the career opportunities for math majors.


Teams from the attending high schools competed by taking a two hour test, given at two levels (lower and upper), and by participating in a quiz bowl. Participants received t-shirts and gifts bag, and enjoyed a free pizza lunch.

Prizes consisting of top-of-the line hand-held calculators, software, and books were awarded to the stu-

dents who obtained the highest scores on the test (for each level). Matthew Hebert, Samuel White and Thomas Sires tied for first place in the upper division, and Eric Everett placed first in the lower division.

"Mathematics is a more powerful instrument of knowledge than any other that has been bequeathed to us by human agency." -- Descartes

Solve for x :

 $|x - 2| = 5$

A question from the Math Fair Quiz Bowl



Some of the participants at the Xavier 9th Annual Math Fair



Nobody, not even in the provinces, should ever be allowed to ask an intelligent question in pure mathematics across the dinner table.
-- Oscar Wilde

Mathematics/Computer Science Opportunity

What: A project for two undergraduates majoring in the sciences (math, biology, chemistry, etc.)

When: For four weeks, sometime this summer, yet to be determined
Doing What: Learn how to set up and operate the new 3D visualization system in the Mathematics Department. Learn to do at least one of the following:

- Change a color scheme in a 3D animation
- Change the motion of an object in animation
- Change the shape of a surface in an animation scene
- Set up a visualization research project

If there is time and interest enough, we construct an animation to demonstrate a topic from Linear Algebra, third semester Calculus, or Differential Equations.

Interested?? Contact Dr. McCreary

As long as algebra is taught in school, there will be prayer in school.
--Cokie Roberts



Math Senior Tahera Darensberg and Dr. DuRapau at the Annual Math Dept Christmas party, hosted by Dr. Arora.

Freshman Mathematics Community Research Project

During the spring and summer 2004, Mathematics faculty members Mrs. Susan Fredine and Dr. V. J. DuRapau, Jr., and students Mr. Kody Melancon (Math Education major) and Ms. Andrea Tyson (Math major) have been working on the *Freshman Mathematics Community Research Project*. This work was partially funded by a Communities Initiative grant that is administered by Xavier's Center for the Advancement of Teaching and funded by the Bush and William and Flora Hewlett foundations.

The research project targets administrative and pedagogical (teaching) questions about Xavier's Pre-Calculus and Developmental Mathematics courses. There are four questions that are being addressed by this research project: (1) What would be the effect of raising the ACT cut-off score to place students in Pre-Calculus? (2) How do students who pass developmental mathematics do in later (degree-credit) mathematics courses? (3) What do developmental students feel would help them succeed in the developmental courses? And (4) What pedagogical methods do others use to help students succeed in developmental courses?

The project researches these problems in several ways. The effect of raising the ACT cut-off scores and the success of developmental students in subsequent mathematics courses is being addressed by appropriate quantitative statistical data analyses. Ways to increase the motivation of students in developmental courses and pedagogical methods used in developmental courses is being explored through qualitative statistical methods, specifically interviews of developmental students, and by researching best practices in developmental mathematics education.

Information gained from the findings should be helpful to the Mathematics Department and the entire University in meeting the needs of students in freshman mathematics courses.

3D Visualization, DNA, and Mathematics

This past February, members of the Department of Mathematics, both faculty and students, participated in a unique mini-conference on 3D visualization and other uses of mathematics in DNA modeling. Students and Faculty donned polarized "sunglasses" that let the viewer "fly" through 3 dimensional scenes of the Grand Canyon (on the large end) and molecular models of DNA (on the small end of the size scale). Members of the department convinced university officials to purchase three full 3D systems so that we can use them in laboratories and classrooms at Xavier. The students in the photograph are enjoying a ride through a virtual Northern Arizona countryside.

