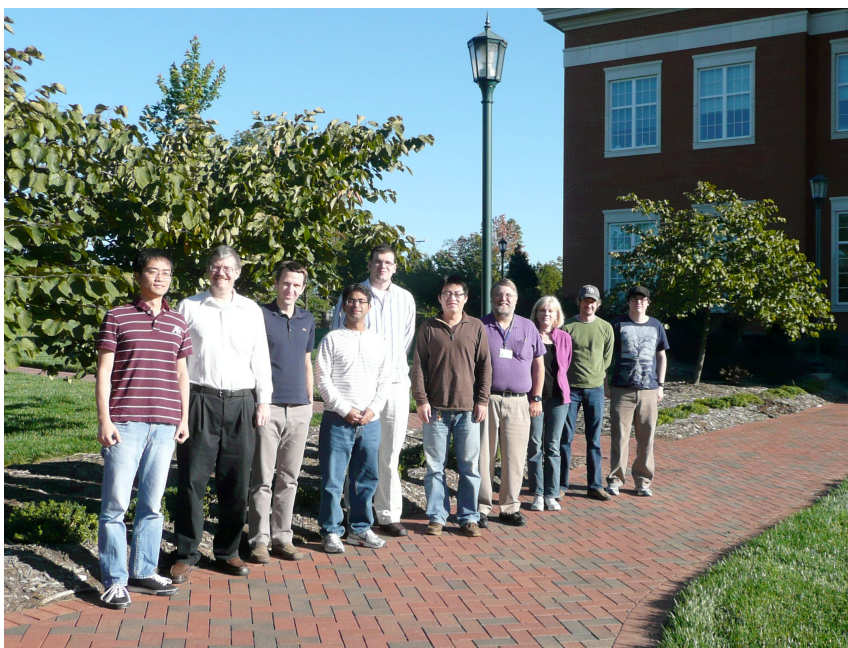


I formed the **BioMolecular Physics Group** (BMPG) when I arrived at UNC Charlotte in fall 2005. My close collaborator, Dr. Dennis R. Livesay from the Department of Bioinformatics and Genomics, and I oversee the BMPG Lab, which is located in the Bioinformatics building just a few minute walk from my office. Many of our students are being co-advised on joint projects. Our students occupy cubby workspace in a large open room with 12 designated desks with desktop computers and other shared resources (printers, white boards). Students from other faculty are located in this room (when space is available) if they are interested in Structural Biology or Biophysics. Our postdocs are stationed in an office immediately adjacent to the student lab. There is space for up to 6 postdocs, and again, postdocs working for other faculty occupy this space if we do not need all this space. Typically, the BMPG has one regular 2 hour meeting per week during the academic year, plus an occasional second meeting for literature reviews and special talks. During the summer, we hold a regular second weekly meeting for this purpose. We often host rotation students from Bioinformatics, and other faculty from UNC Charlotte and/or their students will frequently join the BMPG meetings. For example, the BMPG collaborates closely with Dr. Jing Wang from Computer Science dealing with analytical visualization of massive-datasets. We use novel visualization tools (developed by Scott Barlowe, a recent Ph.D. graduate working with Dr. Wang) to facilitate large-scale comparative studies. BMPG also collaborates closely with Drs. Nesmelova (Physics), Troutman (Biochemistry), Guo (Bioinformatics) and to a lesser degree during some past projects Drs. Baumketner (Physics) and Krueger (Biochemistry) and more recent collaboration with Dr. Nesmelov (Physics). In addition, the BMPG has established on-going collaboration with Dr. Tim Champion, Chair of the Department of Natural Sciences and Mathematics at John C. Smith University.

**Communication is important in science:** The purpose of the BMPG meetings is for members to describe their progress, albeit successes or failures, since their last update. We try to give everyone a chance to present an update each week. Sometimes, an individual may not have much to say, and gives a quick 2 to 5 minute summary in words only. Sometimes, a person will go up to the board and summarize some technical aspects of what they have been working on. However, most of the time, our students and postdocs present their weekly update as a Powerpoint presentation. We find this is a good way for students to organize their data, and forms a record of progress in their projects. These weekly student presentations (typically 15 to 30 minutes long) give a chance for the students to communicate what is going on in their project, and to learn what is going on in other students projects. Inevitably, there are always discussions about the results by members of the group. Individual meetings are scheduled between BMPG members to share information, help one another, and students and their supervisors meet “offline” for more detailed discussions. When you join my lab, the normal expectation is for you to join the BMPG meetings, and be part of the dialogue on all topics, which cover diverse areas. The BMPG meetings are designed for everyone to have ample opportunity to learn something new (especially me, since I can only speak for myself). All results presented (good or bad) provide new information, and I find the BMPG meetings represent the true nature of scientific research that feeds the inquiring mind.

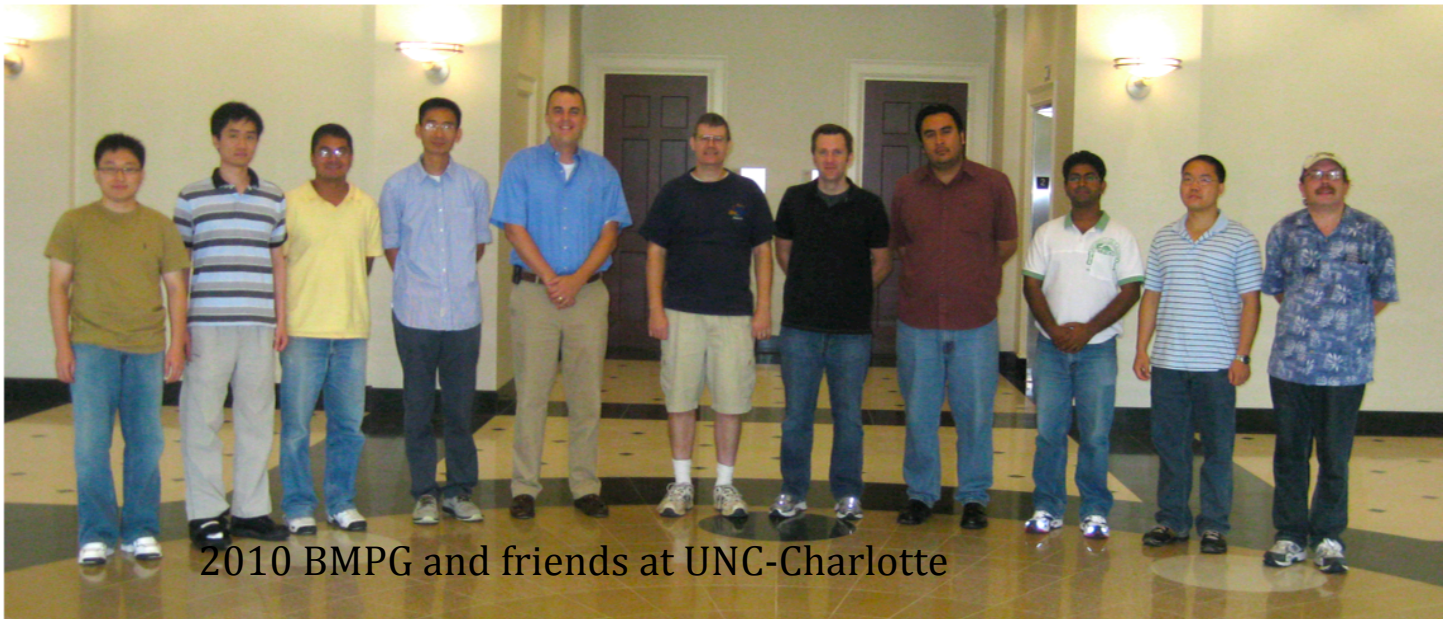
### **BMPG Pictures: Fall semester 2012**



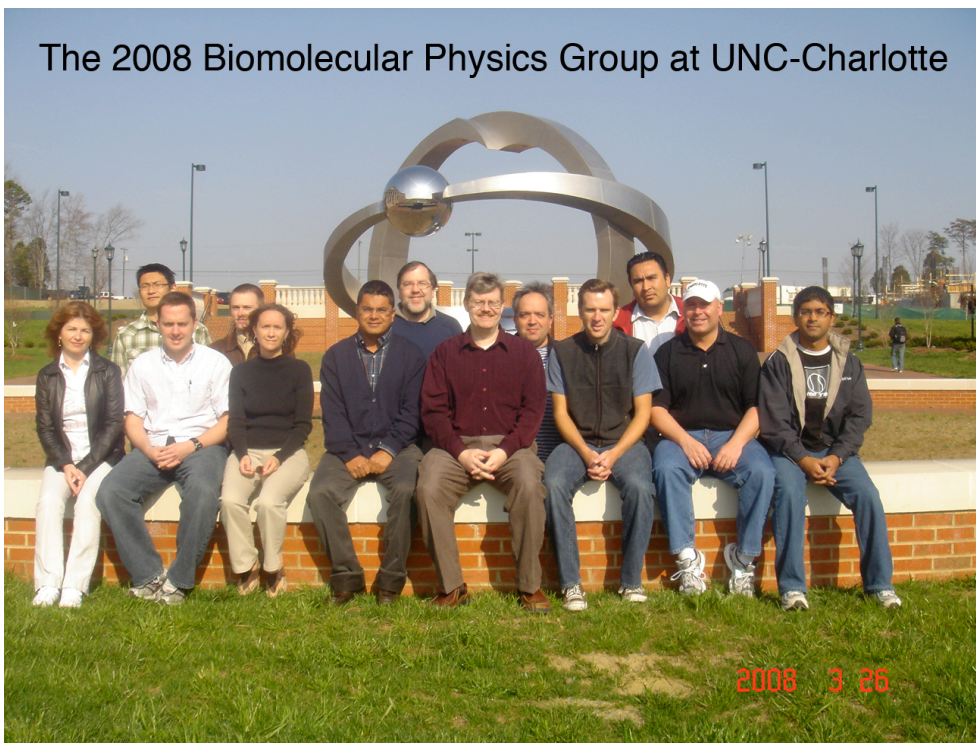
*Some students and faculty attending a morning BMPG meeting sometime in early November, 2012. From left to right: Wei Song who is my Ph.D. graduate student; me; Dr. Dennis Livesay; Deep, who is a Ph.D. student supervised by Dr. Livesay and co-advised by me who has already successfully defended; Aaron, a (Physics/Math dual major) who is my undergraduate student doing a Physics Honors thesis; Dr. Tong Li, who is a postdoc working for Dennis and I on anti-bodies, supported by a grant from MedImmune, Dr. Tim Champion from John C. Smith University, Dr. Irina Nesmelova; Chuck, who is an undergraduate working for Dr. Nesmelova and I on a collaborative project, and Matt, who is a Ph.D. student working for Dr. Livesay.*

*Since this picture was taken, the BMPG has 4 new members (Deep left for a nice postdoc position). Not shown: Samantha, a Chemistry graduate student who is supervised by Dr. Troutman; Alex who is a Physics graduate student working for me; Chis, who is a undergraduate (Physics/Math dual major) doing a Physics Honors thesis with me; and Alvin who is a Bioinformatics Ph.D. rotation student.*



**Spring semester 2010**

From left to right: Dr. Chuanbin Du, postdoc of Drs. Livesay and Jacobs; Wei Song, who is the Ph.D. graduate student of Dr. Jacobs; Dr. KC Duka, postdoc of Dr. Livesay; Dr. Guo, who has collaborated with the BMPG; Kyle who is a Ph.D. graduate student of Dr. Fodor was visiting us; me; Dr. Livesay; Luis, a Ph.D. graduate student of Drs. Livesay and Jacobs who finished August 2011; Deep, Ph.D. graduate student of Dr. Livesay and who I co-advise; Drs. Hui Wang a postdoc of mine and Dr. Livesay, and Oleg Vorov a Research Associate of Drs. Jacobs and Livesay. Dr. Vorov passed away in fall 2011. Notably missing from this picture is Charles, my Ph.D. student. Also note that this is the first year the BMPG was located in the Bioinformatics Building. Before that we were in Grigg (Physics and Optical Science). Also note that Dr. Dukka will be visiting our BMPG meetings on a semi-regular basis now that he is a professor at North Carolina A&T and is currently collaborating with us, again!

**Spring semester 2008**

From left to right front row: Kristina, a Ph.D. rotation student, who at the time was working for Dr. Baumketner; Mike, a undergraduate student (Physics/Math dual major) working for me; Jenny, another Physics undergraduate student working for me at the time, and is now a physics graduate student continuing to work for me. Dr. KC Dukka, postdoc of Dr. Livesay; me; Dr. Livesay; Charles, my Ph.D. student who has since defended his thesis in Aug 2012. Deep, a Ph.D. student of Dr. Livesay and for whom I co-advise.

From left to right back row: Ming, a Ph.D. rotation student. Dr. Andrei Istomin, a postdoc for Dr. Livesay and Jacobs, Dr. Jim Mottonen, a Research Associate of mine and Dr. Livesay; Dr. Yildirim Aktas from Physics who was visiting our lab, and Luis, a Ph.D. graduate student of Dr. Livesay that I co-advise.

Notably missing from this picture is Dr. Oleg Vorov, a Research Associate of mine and Dr. Livesay. Also, note that the Bioinformatics building has not been

started to be built yet (looking to the far right top corner).

**Fall semester 2007**



*From left to right sitting down: Deep, graduate student of Dr. Livesay and co-advised by Dr. Jacobs; Mike, undergraduate student (Physics and Math dual major); me; Dr. Jim Mottonen, a Research Associate of mine and Dr. Livesay.*

*From left to right standing up: Dr. Oleg Vorov, who is a Research Associate working for me and Dr. Livesay; Dr. Livesay, Dr. KC Duka, who is a postdoctoral fellow working for Dr. Livesay and who worked on joint projects involving Dr. Jacobs, and Dr. Andrei Istomin, a postdoc working for Dr. Livesay and Jacobs. We were in one of the many breakout rooms in Grigg. Our meetings are quite dynamic, and everyone tends to participate with passion.*