

Ian Schneider, turned the graduate students into defensive machines, shutting out the undergrads until halftime, 13-0. Asked if the practices made a difference, Ian responded, "The practices definitely helped us. We know that we're out of shape and we had to play a smart game in order to win. The practices allowed us to play people in their strong positions and understand what the others were going to do."

After making some adjustments at half-time, the undergrads were confident their superior conditioning would help get them back in the game. They rose to the occasion on the first drive of the second half, stopping the graduate students in their tracks. The undergrads then drove the length of the field for a touchdown, making the score 13-6. The graduate students, unshaken by the turn of events went on to rout the undergrads, scoring three straight touchdowns for an impressive 35-6 victory.

Despite the lopsided victory, everyone had fun. Following the game, a potluck picnic sponsored by the AIChE and ChE GSC was held at Pullen Park. The graduate students took this time to talk a little trash, while the undergrads were already talking rematch.



Orlin Velev

by Chris Kloxin



This school year, one will notice a new face among the faculty here in the chemical engineering department at NCSU. This is the face of assistant professor Orlin Velev. Dr. Velev joined the faculty at the beginning of the 2001 fall semester. In starting his new position, he has the challenge of both teaching graduate level thermodynamics (CHE 713) and

establishing a new research group. However, this challenge seems to only cultivate his enthusiasm to achieve success. Recently, I had the opportunity to sit down and get to know Velev a little better.

Orlin Velev grew up along side the Danube River in the town of Rouse, which is the fourth-largest city in Bulgaria. Being the son of two university professors, Velev was introduced to science at a young age. "I was interested in science since I started school. I joined into various extracurricular activities, such as electronics and chemistry, and did amateur electronics and chemistry experimentation at home. I wanted to study electrical engineering. However, as the first finalist at the National Chemistry Olympiad, I was directly accepted in Sofia University."

Although electrical engineering was his first passion, Velev soon realized his new love for physical chemistry. After finishing his degree, he was invited to continue on as a grad-

uate student in one of the most renowned colloidal science groups in Bulgaria. Velev received his Ph.D. from the University of Sofia in 1996.

Along the way, Velev met his wife Anka Dobreva-Veleva. She was also a finalist at the Bulgarian National Chemistry Olympiad and was at the same summer school to prepare for the International Chemistry Olympiad. They stayed in touch as undergraduate students and married just before she finished her undergraduate degree. She then received a graduate degree in Polymer Physics from the Bulgarian Academy of Sciences. They have been together in many places throughout the world such as the UK, Spain, Greece and Japan. Their son, Orlin Jr., was born in Japan in 1995.

After receiving his Ph.D. from the University of Sofia, Velev accepted a post-doctoral position at the University of Delaware under Professor Abraham Lenhoff and Dean Eric Kaler. He then applied his research in the colloidal science of emulsions and thin films to interactions and crystallization of protein molecules. During his time as a post-doc, the University of Delaware recognized his talent to produce innovative research, and in 1998, they made him an offer join the faculty as a research assistant professor. He accepted and continued to develop new ideas based on applications of colloidal assembly in photonic materials, biosensors, and electronic materials. Velev's originaive work has been published in such journals as *Science* and *Nature*.

Velev's research caught the attention of many top-ranked chemical engineering departments. During his last year at Delaware, Velev made the decision to join the faculty at NCSU for several reasons. "First of all, I liked the colleagues and the friendly and honest, 'no-nonsense' relations. I liked the research that is done in the Department, such as colloids, supercritical fluids, new materials, electronic materials and similar. Then there is the general strength of NCSU's nanoscience and all the interesting interdisciplinary centers (I believe that the number of such centers is somewhat proportional to the speed of growth and novelty level at a given university). You also have the superb new campus and the nice area and climate. It all adds up to an exciting and nice place where one would like to be."

Velev's excitement to be here is equally reciprocated by the faculty within the department. When asked why Velev was the clear choice in the faculty search, Peter Kilpatrick said, "Dr. Velev brings an infectious enthusiasm for his area of intellectual inquiry and burning desire to succeed which definitely set him apart from other candidates. This intensity is well reflected in the care and organization he put into his interview seminar, his write-up describing his research and teaching interests, and the personal interviews he conducted with the faculty."

Velev's portfolio of achievements was also key in selection. "His resume, which reflects 5 years of post-doctoral and research assistant professor experience, reflected a level of research accomplishment and maturity that far exceeded the other candidates. One very telling statistic was the fact that his research publications have already been cited a remarkable 650+ times, all within 5 years of receiving his PhD," Kilpatrick added.

Velev plans to continue the research that he worked on at Delaware as well as develop new ideas. "Here, I would like to continue with new, interesting research projects in emerging new areas between colloidal science and nanoscience. There will hardly be any large differences in the research area and philosophy, but there are important differences in terms of the scope and organization of the research. I will have the opportunity to do much wider and deeper studies with my graduate students, rather than when I was working partially on my own. I will have to make the transition from being the major researcher, to being the manager of the

research, which is not easy, as these projects have been very dependent on my skills and experience as an experimentalist. I hope to be able to provide continuous help to the graduate students."

Velev emphasizes the importance for faculty members to do collaborations both within the department and throughout NCSU. "There is a large spectrum of nanotechnology research going on in NCSU, so I see many opportunities for collaborations with people in Chemistry, Materials Science, Physics, and possibly Electrical Engineering. The CO₂ center provides a nice ground for collaborations in the colloidal and materials area too."



Interaction with other faculty members has already begun, making him an integral part of NCSU's future. Kilpatrick noted, "Dr. Velev fits in beautifully with our younger faculty and has already established outstanding relationships with Jan Genzer, Jason Haugh, and John Van Zanten, as well as a number of other faculty in the Department. His research interests synergistically interact with those of Professor Genzer, and I believe they are well on their way to establishing collaborative research projects. The Department has core competency in the 'nanoscience' area, and I think Dr. Velev's research interests complement this very well."

In addition, Velev foresees broader collaborations with our global chemical engineering community. "There are two avenues for collaboration outside NCSU. I am staying in touch with some of the best groups in USA and Europe doing research similar to mine, so surely we will pursue opportunities for joint research as they come along. Also, at the University of Delaware, at meetings, and during the faculty interviews I have come to know and eventually make friends with many of the outstanding new faculty in Chemical Engineering, and we will stay in touch and look for opportunities for joint projects."

The caliber of the people recruited is indicative of a chemical engineering department's success. If this is indeed true, then Orlin Velev is a sign of good things to come. He brings a sense of integrity and excellence that can only add to the bright future of this department.