REMARKS BY GEORGIA TECH PRESIDENT G. WAYNE CLOUGH
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It is an honor to welcome this distinguished group of chemists to Georgia Tech. We are delighted that you have joined us to celebrate the 70th birthday of Mostafa El-Sayed, who in addition to being one of the world's foremost physical chemists is also a genuinely wonderful human being.

When Georgia Tech opened its doors 115 years ago, we offered one degree – mechanical engineering – and today we are best-known for having one of the top five engineering programs in the nation. But we are working very deliberately to bring the sciences up to that same level of excellence and prominence, and over the past several years the progress of the School of Chemistry and Biochemistry has been really exceptional.

The traditional disciplines are strongly represented in the curriculum of the school – analytical chemistry, biochemistry, organic and inorganic chemistry, physical chemistry, and polymer chemistry. But the many of the school's research endeavors are interdisciplinary, and graduate students are encouraged to address important questions from a broad perspective.

The faculty and graduate students are engaged with colleagues from other disciplines in such interdisciplinary fields as biomolecular structure and biophysics, the chemistry of materials, nanochemistry, pharmaceutical chemistry, photochemistry and photobiology, environmental chemistry, sensors, and computational chemistry.

This emphasis on broad interdisciplinary research has helped the School of Chemistry and Biochemistry to recruit a terrific group of exceptional faculty. Although no one keeps data to verify it, I suspect its young faculty have received more NSF CAREER Awards than any other chemistry school or department in the United States. Ten faculty have received either NSF CAREER Awards or its predecessor the NSF Presidential Young Investigator Awards. The department also includes five Alfred P. Sloan Fellows and a PECASE Awardee.

Of course, the key to attracting such an outstanding group of young faculty is the department's senior faculty. A world leader like Mostafa El-Sayed is like a magnet that attracts top quality young faculty and graduate students, all eager to have a chance to work with him. He was attracted to Georgia Tech by our openness and encouragement to engage in a wide array of genuinely interdisciplinary research, and that has opened up new areas and opportunities for research since he has been here.

Today, at the age of 70, Mostafa is at the peak of a research and academic career that has spanned more than 40 years. He was on the faculty at Harvard, Yale, Cal Tech, and UCLA before coming to Georgia Tech in 1994. He came to us as the Julius Brown Professor of Chemistry and Biochemistry, which is one of Georgia Tech's oldest endowed chairs. And it didn't take long for the School of Chemistry and Biochemistry to feel the impact of his leadership.

With the help of an NSF grant, he established the Laser Dynamics Laboratory, of which he is the director, and most of you already know about the outstanding work he has done in using lasers to define and measure the properties of materials at the nano level; to transform them, creating new materials; and then, in essence, to "photograph" the new materials, imaging the motion of their molecules. He says he is fascinated by this growing ability to see new materials with new properties taking shape in front of his eyes, and to measure them and try to explain them. Ground-breaking work like this is what earned Mostafa the 2002 Irving Langmuir Award in Chemical Physics.

Mostafa's outstanding research is helping to expand and enhance Georgia Tech's work and reputation in the sciences. But he is a leader on our campus in other respects. So, instead of describing the research accomplishments with which you are already familiar, I would like to tell you a little about a side of Mostafa that you may not be aware of. Every year he does something that senior faculty at major research universities are not expected to do and are not supposed to want to do – he teaches at least one semester of freshman chemistry. In fact, he says that when he loses this interest in teaching introductory chemistry, then he will know that it is time to retire.

He enjoys the feeling of giving something of himself to his students through teaching. He is delighted when his freshmen embrace the discipline under his tutelage and begin to understand and speak the language of science. He also values the honesty of youth, noting that teaching undergraduates provides him with instant feedback. If he is connecting with them, he says he can see it immediately in their eyes and in their faces, and if he has lost them, he can see that just as quickly. In fact, he says that instant feedback is part of what makes teaching fun.

For their part, Mostafa's students will tell you that it is a fantastic feeling to take a class from a renowned scientist in their freshman year, and to feel like their class is just as important to him as his research.

His keen interest in teaching undergraduates has made Mostafa a leader in Georgia Tech's undergraduate initiative. Our goal is involve all senior faculty with undergraduates, either in the classroom or the research lab. This approach enables us to leverage our research knowledge in the classroom, giving our undergraduates their fair share of the dynamic energy of a world-class research enterprise, which no liberal arts college can do. We want our undergraduates to experience the best of both worlds – the attention to the classroom of a liberal arts college and the opportunity to experience the research dynamic of a major university. And we believe that this combination will help to motivate bright young undergraduates to continue on to graduate school and academic careers.

The energy and commitment that Mostafa El-Sayed devotes to freshman students in introductory chemistry is an inspiration to other faculty, and has led the way in the successful implementation of our undergraduate initiative. We are now seeing the results in significantly improved retention rates. Last fall more than 91 percent of the prior year's freshmen were back.

So we are very grateful to Mostafa El-Sayed for the many contributions he has made not only to physical chemistry, but also to enhancing research and education at Georgia Tech. We are very proud to have him as a member of our faculty and pleased to welcome you to this symposium in

honor of his 70th birthday and in recognition of the outstanding achievements of his career as a chemist and a scholar.