He decided to study physics in college during his junior or senior year in high school in Armenia where he is originally from. It wasn’t any particular individual or incident or experience that had influenced the decision; it was physics itself.

“Since I started learning physics in high school, I have always enjoyed the subject,” says Dr. Pavel Lukashev, an assistant professor in physics at the University of Northern Iowa.

So, after high school, he enrolled in the Yerevan State University for undergraduate studies in physics and received a Diploma (equivalent to B.S.) in 1996. Four years later, he obtained his M.S. in Industrial Engineering and Systems Management from the American University of Armenia.

Then, he set out for the United States where he got his M.S. and Ph.D. in physics from the Case Western Reserve University in Cleveland, Ohio in 2003 and 2007 respectively.

Between 2007 and 2014, he worked as a postdoctoral research associate at the University of Nebraska system — first in Omaha (UNO) and then in Lincoln (UNL). “As a research associate, I was involved in various research projects in computational and theoretical condensed matter physics and materials science,” says Dr. Lukashev.

He joined the Department of Physics at UNI in August 2014; he liked that it “offers excellent opportunities in both academic research and teaching.”

“For example, our department owns a 20-node supercomputer which I use to perform all my research calculations,” explains Dr. Lukashev. “This was a major factor, as I couldn’t do my research if this machine was not available.”

He also liked the overall atmosphere at the department, especially his colleagues who are “excellent, very helpful, and friendly.”

Dr. Lukashev is currently working on a number of projects in computational materials science, more specifically, in the field of spintronics (i.e., spin-based electronics).

“I do research on the so-called half-metals, which are materials with potential device application in modern electronics, for example, in magneto-resistive random access memories (MRAM),” he says.

“I also study how external pressure can tune and improve various properties of magnetic materials, and have recently submitted a few papers for publication on this subject,” he adds.

Dr. Lukashev enjoys working with students in undergraduate research projects and believes these projects give them “valuable computational skills which they can later use in graduate school or on the job market.”

He is also a strong believer in active involvement of STEM students with faculty members in research projects.

“This involvement boosts their career, develops scientific culture, and provides them with knowledge and skills which is usually not available in the regular classroom environment,” he explains.

“Meaningful research and a few publications or presentations really lift students’ résumé to an entirely new level, for future job or graduate school applications,” he adds.

“Also, students may gain a lot by simply talking to their faculty advisors about future career opportunities.”

So, one of his advices for students interested to major in STEM subjects at UNI is to get involved in research projects with a faculty advisor – if possible, in publishable research projects.

However, his first and foremost advice for students is: “Work hard!” “It really pays back in the future career, be it graduate school or industry,” he says.

Dr. Lukashev also believes students should broaden their horizons.

“I have noticed that sometimes students limit their potential career choices to only a handful of opportunities,” he says. “This shouldn’t be so.”