

Project finds new life in AmberVision

BY KATIE WILSON
TIMES WEST VIRGINIAN

FAIRMONT — The AmberView program has gone through some changes, with a new company taking over and some new capabilities.

The idea was a good one: On school picture day, a company collects photos and biographical information on children. If the child is ever reported missing, the AmberView program will send out photos and information of the child, enlisting everyone in the geographical area in the search.

Now, the program has been changed slightly. Originally a program of the West Virginia High Technology Consortium Foundation, it's now a program of SecurLinx, a multi-model biometrics company located in Morgantown.

Barry Hodge, CEO of SecurLinx, said his company was an early technology partner with the original AmberView program, and it was natural to take it over. Now, the commercial product AmberVision has been created and adapted for other uses as well, Hodge said.

Even though they commercialized the process, they didn't want to benefit from doing a good thing, Hodge said. Instead, the company has set up a nonprofit group to run the program. AmberVision costs a family \$11.99 a year. Of that, some goes to cover costs of the program, while the rest is returned to the school district where it's



offered.

Hodge said students in West Virginia and any student covered under the federal Free and Reduced Lunch program are enrolled for free.

When they begin offering AmberVision in a school district, Hodge said SecurLinx asks the schools to send information home to parents and offer computer access to parents who don't have it.

At this time, AmberVision is offered in school districts in Tennessee, Illinois, Alabama and West Virginia Catholic schools. SecurLinx is currently working on converting the former AmberView databases to AmberVision.

There are also some extras involved in the program. Using facial recognition software, AmberVision can compare photos of a child with a photo of the missing child to see if there's a possibility of a match. Also, the program can issue an alert to participating parents, school districts and law enforcement even when

an Amber Alert can't be issued, Hodge said.

"Amber Alerts can only be issued if someone has a description of the potential kidnapper and his car," Hodge said. "With AmberVision, we can send an alert if a child is missing under any circumstances."

Jason Hodge, SecurLinx operations manager, said the program has also been modified to suit other circumstances.

At this time, 32 states are using a similar program, also run by SecurLinx, to keep track of adults with dementia disorders such as Alzheimer's disease. That program is offered at a low, annual cost to nursing homes, Barry Hodge said.

Another program is called SecurePort, which keeps necessary information for those traveling or working overseas. In the event that person is missing or kidnapped, the program provides the same information as AmberVision (updated photo, basic biographical information) to authorities in an instant. The same program can be used by families to keep a secure database of information, such as vital statistics and medications.

All of the programs are very secure, Barry Hodge said. SecurePort also has a biometric card participants must use to verify their identity before they can access the information.

Creating so many different programs for use wasn't that difficult, Jason Hodge said. The key is versatile software



PHOTO BY KATIE WILSON

Jason Hodge, operations manager for SecurLinx, said the AmberVision program is already helping children and families across the nation using facial recognition software for identification.

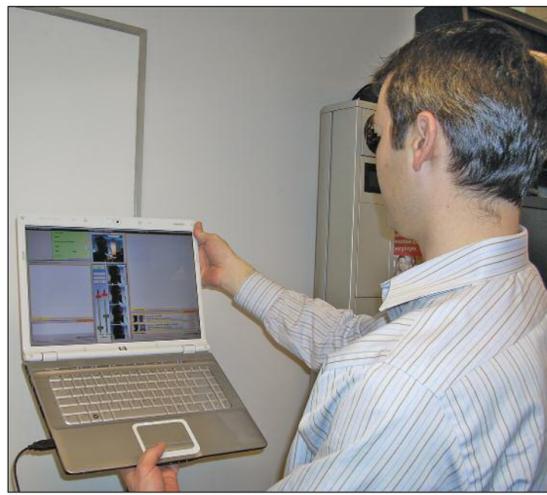


PHOTO BY KATIE WILSON

The facial-recognition software and procedures used by AmberVision has a variety of uses, from law enforcement to security. Using the programs, security guards at courthouses can verify who is in the building at any time and if they have any outstanding warrants.

software to find the individual in the system immediately," he said. "That saves the officer time and paperwork and can lead to better record-keeping."

The same principle applies with systems SecurLinx has set up in courthouses. Those systems keep track of the individuals coming in and out and can search through databases quickly to see if an individual should really be there.

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WVTCF's projects focus on sun's atmosphere

BY JESSICA BORDERS
TIMES WEST VIRGINIAN

FAIRMONT — The West Virginia High Technology Consortium Foundation's Solar Atmospheric Modeling program is looking at the effects of space weather on society.

The Solar Atmospheric Modeling program is under the WVHTC Foundation's Advanced Technologies Group. At the moment, the National Science Foundation is providing the WVHTC Foundation with funding for two grants in this area of research.

Dr. Michael Goodman, distinguished scientist at the foundation, is currently working full time on these two separate projects, which are related to space weather.

"One of them involves trying to understand the mechanisms in the sun's atmosphere that generate the ultraviolet emission from the atmosphere," he said.

The funding for this project was awarded about three years ago, and it's a four-year grant.

Goodman explained that the ultraviolet radiation that can be seen coming from the sun's atmosphere is of interest for climate modeling. That radiation interacts with the upper atmosphere and raises the temperature, and knowing the mechanisms that generate this extra energy will help scientists better understand the process.

Goodman is trying to learn how that region of the atmosphere is heated and consequently generates ultraviolet radiation. He said he started this work quite some time ago, and has had several National Science Foundation grants to pursue this research.

"I continue to develop more and more advanced models and gain more insight into what is going on," Goodman said.



PHOTO BY DANNY SNYDER

Dr. Michael Goodman, distinguished scientist at the West Virginia High Technology Consortium Foundation, is researching Solar Atmospheric Modeling. He is currently working on two projects, funded by the National Science Foundation, that are related to space weather.

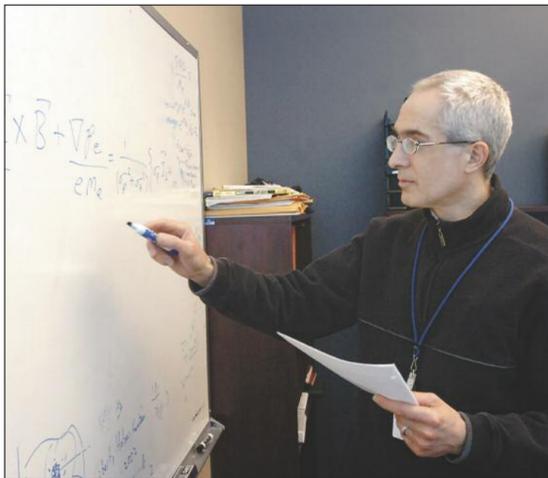


PHOTO BY DANNY SNYDER

Dr. Michael Goodman from the West Virginia High Technology Consortium Foundation is mainly a theoretician and enjoys doing basic science.

The most recent Solar Atmospheric Modeling project is a three-year grant that was awarded this past summer. It is focused on a layer of the sun's atmosphere, the corona, which is very hot — typically a million degrees or

more, Goodman said.

"We don't know why it is so hot," he said. "That's another fundamental mystery of the sun."

The temperature is in the million-degree range a few thousand miles from the sur-

face of the sun. Goodman said this has a lot of consequences for space weather flares, coronal mass ejections and solar wind, which are the major drivers of space weather.

He is looking at a well-known, well-studied process called magnetic reconnection. Even though many people are doing this research, the process is not well understood because it's very hard to model and scientists don't yet have the observations that will allow them to see the details.

So Goodman is basically working to model magnetic reconnection in the sun's corona.

"We're trying to understand how that process could heat the corona and the role that it plays in, for example, giant flares and coronal mass ejections, which can cause a lot of damage to our satellites and they can trigger geomagnetic storms that can bring down power grids on earth and dis-

rupt communications and pose a threat to astronauts," he said.

Goodman said space weather will cause an increasing threat as the earth's dependence on electronic devices and power transmission increases and as more satellites are sent into space. Also, humans will move further into space and in the distant future colonize other planets. The particles that are emitted by the explosive events on the sun can damage electronics and satellites, harm astronauts and trigger geomagnetic storms.

"Space weather is having a greater and greater impact on our society," he said.

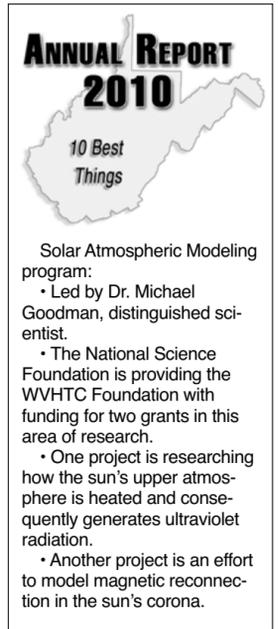
Being able to predict space weather is of practical importance, and it's important to understand the basic physics in order to make those predictions, Goodman said. For instance, if scientists understand what generates a flare, they can make better predictions of when it is beginning to occur and in turn be able to give more warning.

Goodman said he is mainly a theoretician and enjoys doing the basic science.

"I try to come up with an idea, a model that will help us better understand a process that we think is important in generating our space weather, and I try to solve that model," he said. "I try to extract information from it and then publish the results."

The WVHTC Foundation's Advanced Technologies Group focuses on applied research and advanced development in three core areas: Optics and photonics, data analysis and signal processing, power electronics and electromagnetics, and space weather prediction and plasma physics.

"It is addressing a very important problem," Dr. Brian Lemoff, vice president for Advanced Technologies, said of Goodman's research in



Solar Atmospheric Modeling program:

- Led by Dr. Michael Goodman, distinguished scientist.
- The National Science Foundation is providing the WVHTC Foundation with funding for two grants in this area of research.
- One project is researching how the sun's upper atmosphere is heated and consequently generates ultraviolet radiation.
- Another project is an effort to model magnetic reconnection in the sun's corona.

space weather. "All life on Earth is dependent upon the sun, and really everything that happens on Earth can be influenced by any change in the sun's behavior. And surprisingly, there really is very little known about why the sun behaves the way it does. Most of our knowledge and understanding of the sun is just experimental."

Goodman produces high-quality basic research, and his work has been published in prominent scientific journals and presented at major scientific conferences, Lemoff said. He is considered to be one of the foremost experts in this area of study, and the Advanced Technologies Group is very proud of that.

"The work that Dr. Goodman is doing is very important because it's one of the few efforts out there to actually try to not only understand what the sun is doing but why it does what it's doing," Lemoff said. "That may help lead to us being able in the future to predict what it's going to do."

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