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The quality of life for some cancer patients may soon be significantly improved, thanks to the work of a team of USF researchers.

Dr. Richard Gilbert, college of engineering, along with Drs. Richard Heller and Mark Jaroszeski of the College of Medicine's surgery department, have been working to develop a drug delivery system that uses electric fields to enable the cancer drug bleomycin to enter affected tissues.

The researchers, who have been working closely with the university's physicians, began their research with bleomycin in 1995.

Since then, their work has involved in vitro (laboratory) studies of the effectiveness of the drug using their delivery method, and has also included in vivo (animal) studies. The work is currently in the Food and Drug Administration Phase II stage of development, which involves clinical trials in humans.

Normally, Gilbert says, bleomycin has not been effective in the eradication of tumors, with only a 10 percent success rate. However, with the use of this system, melanoma tumors that are in situ, or not spreading, have had a 90 percent rate of effectiveness in locally destroying tumors. That is, the electrochemotherapy system would not be able to prevent malignant (spreading) tumors from recurring somewhere else.

Perhaps even more important is a related application with various head and neck tumors. The quality of life in such cancer patients is drastically altered with these tumors because so many essential functions are affected. Doctors have a narrow margin to work with when removing such growths surgically.

A facial cancer, for instance, can easily grow into the relatively thin skin and bone layers, at times causing loss of ability to talk, eat, smell or even breathe. Also, cosmetic effects must be considered. So, it is more desirable to avoid surgery by shrinking the tumor when possible.

The researchers' system operates on the theory of electrochemotherapy, which has been demonstrated to be an effective treatment for cutaneous (skin) cancers. The treatment includes administering a chemotherapeutic agent followed by electric pulses that are applied directly to the tumor.

The pulses facilitate delivery of the drug through the plasma membrane by causing the pores to open temporarily and allowing the drug to flow into the cell. Enhanced delivery is restricted to the area that has been electrically treated.

"Basically, (the cells of the) tumor itself are bounded by a membrane," Gilbert says, "So, the chemotherapeutic drug has to get by it to destroy this cell. That's our attack. So we are working out ways to facilitate the transport of cancer-killing drug from outside the cell to inside the cell. One molecule we have been using is bleomycin.

"By applying our delivery technique using bleomycin in the patient trial that was sanctioned at USF, we were able to remove about 90 percent of the tumors that we treated this way. There may have been 150 to 200 tumors that we treated." 

Genetronics is the San Diego based company that began conducting studies of the electrochemotherapy method, and then sanctioned the research at USF. Founded in 1983, Genetronics is recognized as the technology leader in the field of electroporation, the application of brief, controlled pulses of electric fields to cells, causing pores to open in the cell membrane.

Documentation of other studies also reveals that the method has been effective in treating pancreatic cancers, which are the fifth-leading cause of cancer-related death.

As recently as 1984, doctors used extensive radiation therapy both pre- and post-surgical treatment for cutaneous tumors that we treated.
Dean Heller has lessons to share

Katie Phillips
Nest Contributor

Bill Heller slipped into his jacket, issuing final instructions to his secretary as he did, and then walked at a near jog from his Bayboro Hall office to his car. As USF campus dean, he was due at a late afternoon meeting of the Downtown Partnership in St. Petersburg in five minutes' time. Although running late, Heller appeared unflustered, even when a pedestrian casually stepped into a crossing ahead of him, ignoring the "don't walk" signal. Heller gave a friendly wave and waited.

With the optimism of a man who lives by the philosophy that good things happen to good people, he drove right up to the hospital, ignoring the "no parking" sign. Heller gave a friendly wave and waited.

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After the war, Heller's father remarried and returned to share farming, moving frequently from job to job. "Home was tough," he said. "We were poor. My brother and I used to pick up the coals that fell from the tenders in the trains that passed on Illinois Central Railroad. But we were a close-knit family. I guess we didn't have anything else to do, so we did the chores together. As I got older, I did hired jobs—on other farms. I drove tractors and threw down silage."

Heller attended nine different schools in his 12 years of education, many of them rural, one-room schools with one teacher for all grades. "School was important to me," Heller said. "Through (my parents') divorce, probably the most important people in my life were my school teachers. You could talk to them, and they cared. In fact, I had one that really took an interest in me. I was a pretty good student and therefore I got along pretty well with my teachers."

Heller finished his education at Warren High School, East Dubuque, where he got involved in many after-school activities. "We lived seven miles from school," Heller said. "And we had to ride the bus home. If I stayed to play football till 6 p.m., then I had to walk seven miles home and I still had my chores to do after that."

So, at age 15, he rented a small apartment in town and worked his way through the rest of high school in a restaurant, a car dealership and a florist's shop. It meant he could be independent, "get a baseball, drama, debating and student government."

Those early experiences shaped Heller. "I got the opportunity to meet people and deal with myself. I had to adjust. By the time I married, I knew how to manage money and be responsible on the job."

Heller's bride was his high school sweetheart, Jeanne. Forty-four years later, they've raised three children, Cindy, Jim and Cerie, and have three grandchildren.

After school, Heller considered the military, teaching or the ministry as possible careers. "Two years in the army convinced him that the military was not for him. "And I never could see myself following a strict code of behavior like the minister had to do," said Heller with a grin. "So I enrolled at Southern Illinois University, got my B.A. in special education and taught in a public school, working specifically with a group of kids with mental retardation."

After getting his master's and doctorate degrees in special education, he taught at Indiana State University and worked on federal programs for special education in Washington D.C.

Exceptional efforts

Today, Heller's interest in special education is still as keen as ever. Every semester he teaches a class in special education to graduate students, and he is actively involved with the National Council for the Accreditation of Teacher Education. He regularly writes and edits articles on special education. Kareluk says, Heller can look at the photograph of the first special education class he ever taught and give the name of every child.

"I asked whether he thinks special education has changed for the better over the decades, Heller pauses reflectively. Special education is influenced by societal changes, he explains. "Long ago, most special education children were in mainstream classes. Then there was a movement to take them out and give them special intervention. These children were smart enough to know that they didn't have all the tools they needed to compete with other children, so they had an extremely poor self-concept. For many years they were taught outside the mainstream as exceptional children. In such an environment they had opportunities to be president of a club, or a leader in student government or class."

Now, society believes everyone should be equal and these children are back in regular classes. Heller sips his coffee and muses. "The regular classroom hasn't changed much," he says. "Teachers need to be better trained and able to teach all children effectively, if this approach is to stand a chance of working. Right now, many of our children with disabilities are literally being placed at risk by our schools."

"The society believes everyone should be equal," Heller said. "Some children need a lot of help, but there are others who need only a little. I believe that's the key to good education."

"I believe good things happen to good people," he said. "Everyone has potential, and I believe the key to anyone's success is respect. No one does anything by himself. You have to respect and rely on other people."

"I hope the community supports special education," he said. "I want to help these children."

"Will Rogers said he never met a man he didn't like. I really believe that fits me."
Distance learning: another opportunity to consider

Julie Rice
Next Contributor

As the millennium approaches and technology rapidly advances, students are offered easy and convenient ways to receiving a higher education. With distance learning classes, it's as easy as tuning into a local television station, turning on a tape player or accessing the Internet. It is obvious that many students are busier than ever trying to divide their time between school, work and family. Therefore, the traditional classroom setting is frequently being substituted with television, audio and online courses. In fact, more than a dozen universities across the United States offer complete online degree programs.

The University of South Florida offers distance classes at undergraduate and graduate levels, averaging 260 courses annually. Class subjects range from foreign language to nursing to engineering. The need for many distance courses is not surprising considering the many factors that play a role in students opting to take these classes.

Keri Smith, a 22-year-old business major at USF, works full-time and goes to school full-time, which causes problems scheduling classes around her job. "Having the option to take online and television classes is important to me because I always know that there is that alternative in case I cannot get into the classes that I need," Smith said. "It is a wonderful idea for anyone who has children or is disabled, and I think that is what the university needs to think about when setting up these different modes of education." She would, however, not choose to receive her degree entirely online because she enjoys the classroom atmosphere.

Distance classes can also be less expensive, but critics argue the benefit of a college experience outweighs saving a few dollars. Courtney Krippendorf, a 20-year-old student at St. Petersburg Junior College, said a computer in the home cannot replace learning in a classroom setting. "I learn a lot from my peers and talking to other students around campus, so I don't feel that distance classes would fulfill the student's need to learn," Krippendorf said.

"It is important that as a student you receive feedback from your professors and peers because so much of learning comes from helpful criticism." Students seem willing to accept the growing number of distance classes, agreeing that every student approaches school with a different attitude and agenda. For someone like Helen Rogers, a 22-year-old high school graduate and mother, the idea of being able to receive a degree off-campus is perfect. "I have an 18-month-old son and a full-time job, so going back to school doesn't seem very likely for me in the near future," Rogers said. "I have a good job now, but I really need and want a college degree. Since I might be able to get that through distance courses maybe getting a degree will not be impossible after all."

According to Barbara Emil, Dean of Educational Outreach at USF, there were 11,155 enrollments in distance learning classes from the summer of 1997 to the spring of 1998. "The enhancement of classroom learning with access to diverse learning tools and the flexibility of the courses is what attracts students to these courses," Emil said.

"If it were not for these options [students] would be unable to continue their education," Emil said. "Although the student must be very self-disciplined, the 'anytime, anywhere' characteristic of distance classes is very convenient." For more information about distance classes offered at USF, call the Open University Telecourses office at (813) 974-2996, Monday through Thursday, 8 a.m. to 7 p.m. and Friday 8 a.m. to 5 p.m.
postoperatively to combat head and neck cancers. After surgery and radiation, a multiagent chemotherapeutic regimen (several drugs given over a certain period of treatment) was often followed. These treatments sometimes caused damage to the surrounding tissues, and the chemotherapeutic agents at that time had only a 60 percent rate of effectiveness. The tumors usually returned in a few months.

"In order to provide a successful treatment for a particular cancer," Gilbert says, "the key is the molecule that is expected (to) alter the course of the disease." Jaroszieszki said that the team has published numerous articles about their work for various scientific journals. All three are involved in every aspect of the research. Resident physicians, graduate students of engineering, medical students (MD), and graduate medical students (PhD) have also been involved.

"We have examined many aspects of this type of treatment," says Jaroszieszki. Some aspects that we investigated are electrode designs and drug administration routes. Some of the articles are preclinical animal studies and some are Phase I/II clinical studies conducted by our research group at USE.

Jaroszieszki says they have effectively treated tumors in a large number of animal models with "very high success." Also, human tumors (melanoma and basal cell carcinoma) had unprecedented response rates.

Melanoma is considered by some to be more life-threatening than most of the head and neck tumors because of its systemic (to the whole body) effects, although cases of both types have been increasing each year and can metastasize (spread).

Treatment of melanoma, however, will usually not prevent the cancer from occurring in another area. In the USEF trial the delivery method was effective for local control, with no recurrences at the treatment site.

However, the electrochemotherapy treatment does not affect systemic disease. The next phase of the group's research is to work on adding a systemic component to the treatment.

Controlled studies included drug delivery alone and electric pulses alone, and neither was as effective. Currently, electrochemotherapy is administered as a single treatment, another advantage to the method, because it enables the patient to have a shorter hospital or outpatient stay.

Gilbert, Heller and Jaroszieszki's work is unique to Florida. No other universities in the state work on this problem. The residents and students of the life sciences and microbiology at USEF became involved with this research frequently, he says.

The development of the actual drugs to be used is an entirely different line of work, says Gilbert.

"We don't develop the molecules," he says. "We do constantly research the literature to find out if there is a good candidate from molecules that should work but don't seem to."
Johnny Diaz hit the ball miles into the outfield. "Run, Katie," yelled Bobbie McKenzie. I ran. Two seconds later, he yelled, "Get back, Katie! Go back!" I protest! I can't stop that fast!

You can't run while the ball is in the air. Why not? What's the logic of that? Don't run past the base - that's a foul. A foul? How can I slow up when I'm running this fast? In runners you run like hell and if you run past the base that's OK. Just so the runners are mounting up. We bolster each other with compliments on the great plays.

And then we're fielding again for one last inning. The Pansies are ahead by five runs.

"We've got to hold them," Dennis Hans urges. "We can do it." I take up my position on the outfield, hold my borrowed glove, flex my knees and prepare to defend the honor of the Pansies to the end.

I indulge in Walter Mitty fantasies... A long, high ball comes hurtling towards me like a huge lead shot... I screw up my eyes against the glare of the sun as I track its course... I sprint into position and raise my arm... I relax and wait... My fingers close tightly around the ball as it drops sweetly into the leather glove... I hug it tightly to my breast, exultantly. The team cheers, of course. The game is disrupted as they rush to pat me on the back and hoist me high. I protest, of course. That's modesty again. "Put me down," I murmur, embarrassed. "It's just beginner's luck." I wipe away my secret tears of joy and return to the business of policing the outfield. Fact is, I'm a kind of decorative object out there. The real action is going on in the infield, where Dardenne, Black, Hans, Johnny Diaz and George and Catherine Minisea are doing the hard work.

But I'm fiercely competitive, and that's my team, and we're winning. And we're not going to lose if competitive. It's got us into all sorts of trouble. My ancestors fought each other on the least pretext. They loved to win. And so do I. This is my first softball game. I need to be able to say we won.

The Tulips score one run, then another, then a magnificent rounder. My heart sinks. I think fleetingl y of the words of my macabre ancestor, Lady Macbeth: "Screw up your courage to the sticking place and well'll not fail." I screw it up.

"C'mon guys. You've got to get the..."

The morning after with Katie Phillips

Katie Phillips
Next Contributor

When I try to open the refrigerator door, there's a numb feeling in my arm. ... when I bend to tuck in the blankets, I wince with pain and bend my knees instead. My groin feels as if someone has subjected me to the Indian torture treatment... What happened?

Well the Pansies played the Tulips in their annual USF softball game for the Flower bowl Trophy, the morning of March 21, at Woodlawn Park, St. Petersburg, while most of the vibrant, talented and youthful journalist students were abed. Truth to tell, the Pansies actually had to borrow two team members from the Tulips, Bobby McKenzie and Johnny Diaz, to allow the game to take place.

I was a Pan - and proud of it. Well I was, on Sunday. But this is Monday - and now I'm not so sure.

Why do I do this to myself? I ask. I'm a sane, middle-aged, Scottish exile and my nation has a reputation for being "canny." What's happening to us in this foreign land? Perhaps it's too much sun.

Softball, I've figured, is a cross between what we call "rounders" and American baseball. It has some of the same rules that we have in rounders, only my nation has a reputation for being more... I play rounders with a wooden bat

Jeanette Cosden arrives and gets roped into the team, whether she wants to play or not. I think this means we have an extra player now... is that fair? No matter. The last inning. The Pansies are ahead by five runs.

"Screw it up," Dennis Hans urges. "We can do it." I take up my position on the outfield, hold my borrowed glove, flex my knees and prepare to defend the honor of the...
ON CAMPUS

April 6 COC Meeting, 4:15 p.m., CAC 133.
April 6 Lecture: "The Effects of Sanctions and Assualts on the People of Iraq," speaker Ramsey Clark, human rights lawyer and former US Attorney General, 7 p.m., CAC. Free and open to the public.
April 6 Lecture: "Screening out the Past, From Amistad to Rosewood," 4 p.m., Environmental Protection Building, 100 8th Ave. SE, 553-1842.
April 7 Counseling and Career Center presents a company tour of Enterprise Rent-A-Car, call Amy Hopkins for time, 553-1129.
April 8-12 Spring Fling Week
April 12 Workshop: "Resume Writing I: First Impressions for Interviewing, Tips, Hints and Tricks of the Trade," 5-6 p.m., DAV 112, 553-1129.
April 12 Caricaturists, 11:30-1 p.m. & 4:30-6 p.m., Davis Lobby.
April 12 Lecture: "Spanish Explorations on the 16th Century Gulf Coast—the archeological evidence," 6:30 p.m., CAC. Free and open to the public, 553-3458.
April 13 Workshop: "Stress Management," 5-6 p.m., DAV 112, 553-1129.
April 13 Ventrioloquist, Taylor Mason, 7 p.m., DAV 130.
April 13 New Student Orientation, 1 p.m. and 6 p.m., CAC.
April 13 Harborside Productions Show, DAV 130. Time TBA.
April 14 Student Government Meeting, 4 p.m., CAC.
April 14 Lecture: "Ethics and the Urgent Organization," 12-1:30 p.m., Davis Hall, RSVP 553-1129.
April 14 "Fun in the Sun" day, 11-2 p.m., Harborside.
April 15 Spring Splash, 5-9 p.m., COQ pool.
April 16 Workshop: "Interviewing I: First Impressions for Interviewing, Tips, Hints and Tricks of the Trade," 5-6 p.m., DAV 112, 553-1129.
April 16 "The Swing Thing" continues, 8 p.m., The Coliseum, 535 4th Ave. N., doors open at 6:45 p.m., 727-892-5202.
April 16 Fundraiser benefiting local shelters for abused women and children, 7 p.m. -1 a.m., Silver Meteor Gallery, call for address.
April 20 St. Petersburg Bar Association presents public forum: "Probate Law," 7-8:30 p.m., The Palladium, 253 5th Ave. N., 823-7474 for info.
April 20 COC Meeting, 3 p.m., CAC 133.

OFF CAMPUS

April 6 St. Petersburg Bar Association presents public forum: "Probate Law," 7-8:30 p.m., The Palladium, 253 5th Ave. N., 823-7474 for info.
April 7 Pinellas Chapter of Florida Native Plant Society presents "Practical Experience using Native Plants in your Landscape," 7:30 p.m., 12175 125 St. in Largo, Plant Sale from 9-3 p.m.
April 13 Lecture: "Habitat Fragmentation in Florida," 7:30 p.m. at Environmental Studies Area, 2900 31st St. S., 727-893-7326.
April 16 "The Swing Thing" continues, 8 p.m., The Coliseum, 535 4th Ave. N., doors open at 6:45 p.m., 727-892-5202.
April 19 Fundraiser benefiting local shelters for abused women and children, 7 p.m. -1 a.m., Silver Meteor Gallery, call for address.
April 20 St. Petersburg Bar Association presents public forum: "Employment Law," 7-8:30 p.m., The Palladium, 253 5th Ave. N., 823-7474 for info.

ON GOING

Every Saturday & Sunday starting April 3rd African Festival Market, 9 a.m.-sundown, Campbell Park, 16th St. & 5th Ave. S., 727-821-2437.
Every Wednesday Tea Dance Series at the Coliseum, 535 4th Ave. N. 11:30-12:30 p.m. dance lessons, 12:30-1 p.m. taped music & 1-3 p.m. live band. Call 892-5202 for info.
Every First Friday Gulfport Gallery Walk, 6-10 p.m., 28th Ave. on Beach Blvd., 331-7741 for info.
1st Friday Monthly Get Down Town Music Series. Outdoor concerts in the Quartet, Central Ave. blocked off from 2nd St. to 3rd St.
1st Saturday Monthly through April. Historic Downtown Walking Tour, meet in Williams Park band shell, 4th St. & 2nd Ave. at 10 a.m., free, 824-7802 or 821-9800.
Early April until mid-May American Stage in the Park, Demens Landing, downtown St. Petersburg. Call 822-8814 for info.

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Campus volunteers had a ball boosting funds

Sharon Milian
Nest Contributor

The sight of a dozen muscular, black-shirted Tampa Bay Devil Rays behind the fence at AI Lang Stadium was enough to make ladies, at least, take notice. But it couldn’t deter a group of men and women from the USF Society of Professional Journalists, who along with the Phi Theta Kappa honors society, were out to do a day’s work. Stargazing would have to wait.

The concession stand, where they had come to work and earn money for their clubs, beckoned. The early birds, including Jennifer Clarke of the financial aid department and the stand manager, Harris Blair, busied themselves putting hot dogs on the grills, then wrapping them. The others, greener at the job, trickled in and began to learn the ropes.

There were Eugene Maes, Peter Uprichard and Marjorie Simmons of PTK, and Marjorie Stephens and Julie Sauers of SPJ. Together, they quickly formed a team. Nachos: check. Popcorn: check. Tap beer at a tilt. How hard could it be?

The volunteers found out, as several lines began to form, each one five deep at times. The “cash register” was a sectioned drawer lying on a table. It became essential to figure sales mentally. The key was to keep all the items in a row so the workers could point as they counted.

The customers seemed to understand that this was just a friendly neighborhood ballpark, with only the essentials provided in the snack bar, and they feasted good-naturedly on hot dogs and peanuts, killing the first keg of beer well before closing time.

So the day went, quickly at times, with the volunteers joking with each other and the customers between busy sports. “The view from the stand, at the east entrance of the stadium, was one of the placid marina. The weather was mild and sunny, a good day to work from the concrete shelter. The workers all admitted they had fun.”

Clark said “This is much more organized than last year and I had a good time. I enjoyed it.” And she added, “I am tired. I worked much harder today than I generally do at my regular job (except for the first week of classes). But hey, it had a good time. And it’s for a good cause.”

Gilbert Correa, building manager at the Campus Activities Center, said that fundraising by working at the stadium was a worthwhile cause.

“I know that groups enjoy stadium fundraising,” he said. “The groups will also be working at Tropicana field. They are able to make more there. If they do a couple of games, they can make from $500 to $600. It’s a good experience for the clubs to get together.”

After the sales had been tallied, a few remained for paperwork while the rest stepped out into the entrance to the stands. The baseball players were there on the field, practicing post-game. It was easy to watch—just as easy as being a snack bar jerk for a day at AI Lang Stadium.