Focus On

The 2012 Clinical/Biomedical Engineering Achievement Award Recipient

B
efore classes began in the fall of 1991, Arif Subhan, MS, CCE, FACCE, now the chief biomedical engineer at the VA Nebraska-Western Iowa Health Care System, Omaha, visited the office of the coordinator of clinical engineering at Drexel University, Philadelphia. As a graduate student, he was enrolled in medical instrumentation—biomed “101,” according to Subhan. The professor was Vernon Newhouse, a monumental figure in the field of biomedical engineering. Subhan was as indistinguishable as many other students who had entered Newhouse’s office in the past. His anonymity would last for a very short time.

Subhan asked Newhouse what book he was planning to use for the course. Upon hearing the book’s title, Subhan said, “Oh, I already have that one.” According to Subhan, Newhouse was one part surprised and one part impressed and said, “You seem to be very enthusiastic about this subject.” Since then, Subhan has made a pattern of distinguishing himself from his peers. Most recently, he did so at the bequest of his peers: The Association for the Advancement of Medical Instrumentation (AAMI) awarded him with the 2012 AAMI Clinical/Biomedical Engineering Achievement Award.

Getting Started

Subhan was born and raised in a hospital. He wasn’t sick—both of his parents were physicians in Pakistan. His two brothers also become physicians. After developing a talent for math, someone in his family suggested Subhan study engineering instead. He did, however, connect his engineering major to his family’s medical background while working on his senior project, after his adviser suggested that Subhan work on a biomed-related project.

After graduation, Subhan pursued a postgraduate diploma in biomedical engineering in England before returning to Pakistan to work as a biomedical engineer. Two years later, Subhan decided to attend Drexel for a master’s degree in the field. Following graduation, Subhan joined Masterplan, now part of Aramark, Charlotte, NC, for what turned out to be a 16-year tenure.

“It was fun to grow with the company and do different things along the way,” he says. Subhan stayed busy and, among other things, he consulted with local hospitals, performed quality assurance, developed policies and procedures, and clarified codes and standards for hundreds of hospitals in 30 states. Frank R. Painter, MS, CCE, who has known Subhan for more than a decade and is now a consultant in the profession, says that Subhan was the “go-to person for hundreds of people in the field.”

Having both technical expertise and a knack for clearly communicating complex information, Subhan was frequently tapped to work on conceptual projects. “Arif was one of the ‘Gang of a few’—an intellectual expert at the office,” says Malcolm Ridgway, PhD, CCE, the founder of Masterplan, and, at that time, senior vice president for technology management. “We had a lot of guidelines, books, trainings. We had a core group at the corporate office...
who specialized in doing data analysis and analyzing regulations. Arif was a part of that group. He helped analyze regulations for about 400 accounts.

Always Learning
Like many fields, working in biomedical engineering is like running on a treadmill. “As the technology changes, the knowledge of the staff needs to keep up,” Subhan says. “Sometimes you have to draw a line in the sand and say, ‘OK, if I want to educate myself, I have to spend a little money and time, and down the road it will help me in my career.’”

Subhan could have coasted. “Arif came with a master’s degree and quite a good set of credentials already when he came on board,” Ridgway says. “But he was certainly one for continually trying to polish his shield. His office was full of things hanging on the wall. There is a certain layer of people in the business who are self-improvers. Usually, this is manifested in opting to become certified. Which is exactly what Subhan did.

“I think that one of my achievements or turning points was getting my CCE (certified clinical engineer) in 2005,” Subhan says. However, Subhan, a continual self-improver, did not stop at becoming certified. “When I got that certification, there was no CCE review course. I worked with other people to develop a review course for prospective clinical engineers who want to pursue certification. That gave me an excellent opportunity to teach and learn more about the field.”

As that project indicates, Subhan takes an interest in not just advancing his own career, but also advancing the careers of others. “Getting involved with professional activities is actually something I started doing when I was in Pakistan,” he says. “I’ve always had an interest in being involved, presenting papers, having that camaraderie, talking about what my issues are, and realizing that with whatever you’re dealing with, there are other people dealing with the same problem, and they might have good solutions.”

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In addition, Subhan serves as the chairman of the US Certification Commission, has been a consultant, teaches in the biomedical engineering program at the University of Connecticut, and sits on the editorial board of 24x7, where he helps project what the most important issues in the field will be. Painter, who leads the University of Connecticut program Subhan lectures in and who won the 2011 AAMI Clinical/Biomedical Engineering Achievement Award, nominated Subhan for the 2012 award and says that Subhan’s enthusiasm for the field makes him a popular and influential teacher. According to Painter, Subhan has a strong interest in helping people who are considering the profession and knows several clinical engineers who attribute Subhan with helping them into the field.

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Leader in the Field

Each year since 1983, AAMI has awarded the AAMI Clinical/Biomedical Engineering Achievement Award to an individual who has demonstrated outstanding service and accomplishment with a significant impact in the field. In 2012, Subhan became the award’s 25th recipient. “I felt honored that my peers selected me,” Subhan says. “It makes me humbled looking at the people in the past who’ve won. I don’t know if I’m lucky, but I got the opportunity not just to know, but to work with and be a student of the people who built this profession.”

Ridgway, who won the award in 2001 and conominated Subhan, says, “I think the award culminated a lot of work that he’s done. He works tirelessly on the training programs and certification programs. We like to acknowledge people who put in that extra effort.”

Back to Basics

Three years ago, Subhan received a call from the VA Nebraska-Western Iowa Healthcare System (VANWIHCS). The job offer differed greatly from the position he currently held at the time. In his new role as the chief biomedical engineer of biomedical engineering services at the VANWIHCS, Subhan would go from working on industrywide issues to focusing his attention on one health care system. “The universe he was living in got a little smaller, but he was able to be much more hands-on with the technology and the people,” Painter says.

Where some might have seen a step backward, Subhan saw a new opportunity, rich with potential. “I thought it was a good time to move back to the trenches,” he says. “I’m not that old, but the nature of the profession is such that the tech is growing so rapidly. I thought, ‘Maybe I should go back and see what’s happening in the clinical environment and at the bedside, and be the hands-on person rather than being the desk person.’”

He says he has found a new perspective in his current position. He has worked to implement new technology, and he has found the experience of working with teaching hospitals, which most VA hospitals are, to be positive. He says his time working as an independent service provider allowed him to see many different hospitals and ways of doing things, while working at the VA has allowed him to feel like he is part of a team: “To him, neither is better than the other. Doing each informs what he does professionally.

It is unlikely that Subhan will rest on his AAMI-appointed laurels. Reading through the list of accomplishments that led to his winning the AAMI award, it would be reasonable to think that Subhan is somehow an outlier, that what he has accomplished would be hard to reproduce. Put that idea to Subhan, however, and he would have a different story: “The opportunities are there,” he says. “It’s just a matter of pursuing them.”

Kurt Woock is the associate editor of 24x7. Contact him at kwoock@allied360.com.

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ver the course of nearly a
decade, Paul Conrad has
become familiar with practi-
cally every aspect of Stockton,
Calif-based Conquest Imaging. Now
the vice president of advertising and market-
ing, Conrad spends his time telling others
about Conquest’s multifaceted approach to
the ultrasound business. In short, Conquest
offers reconditioned products, repair ser-
tice, and training. During our conver-
sation, Conrad discussed how Conquest is
harnessing the Internet to enhance custom-
ers’ service experience, how the Affordable
Care Act might affect the ultrasound indus-
try, and the industry trends he is following
closely.

24x7: How would you sum up what
Conquest does?
Conrad: We offer ultrasound parts, probes,
and service in California and Nevada, have
probe repair, 24/7 technical support, and
training.

24x7: Did you have any biomed experi-
ence before?
Conrad: My brother brought with him
the technical end. As the company grew, I
was able to provide more organization and
infrastructure. I came in and put togeth-
er the company employee handbook and
operations manuals. What they had before
was meant for a smaller company. I tied
it all up so the company could run more
efficiently. Then I went on to advertising
and marketing. That’s what I’ve been doing
for the past 3 years, VP of marketing and
advertising.

24x7: We last spoke with you in December
2010. What is new with the company
since then?
Conrad: For about a year, I’ve been work-
ing on a fully interactive Web site that we
launched in August. It will give people
the opportunity to speak with a customer
service representative or the opportunity for
customers to go on our Web site and pick
a time for us to call them. There will also
be 33 videos on the Web site with training
videos added every month. So rather than
calling tech support, they can download
the video on their phone, go right up to the
system, and view the instructions.

24x7: In what ways is Conquest continu-
ing to evolve?
Conrad: I’m spearheading a research and
development project—a transportation
device for probes—we’re doing in conjunc-
tion with a major university. More than
80% of probe damage happens during
transportation between departments. This
device transports the probe in a safe, sterile
manner. It will be ready to launch by the
end of the year.

24x7: What is the awareness level of
reconditioned parts?
Conrad: I’d say about 50%. We continue
to promote through education and training
the difference between a harvested part and
a reconditioned part. Many times, a clinical
engineer doesn’t know who to order a single
part from, and they never think to look
into the difference between harvested and
reconditioned. If you open up a harvested
part, you can see the difference. If it’s a part
that’s been reconditioned, you’ll see really
quickly what I mean: All the buttons are
on it; you will not see dust bunnies; it will
have a new membrane. We bring the parts
back to meet or exceed factory-grade qual-
ity. If it’s not reconditioned, that machine
is going to go down a lot quicker.

24x7: Conquest also provides training.
Can you talk a bit about the people those
classes are designed for and how those
courses have evolved?
Conrad: We provide ultrasound training
for the health care technology technicians.
Our field service engineers, our internal
engineers, and our work with clinical bio-
meds designed it. Our focus is training on
the newest ultrasound equipment out there.
It’s the nuts and bolts of how to get in, fix
the system, and get out. Our program is
focused on the front end and the back end.
The classes, which can last 1 or 2 days, run
about $1,800. Training programs elsewhere
are often geared toward field engineers,
whereas we focus on biomedics in hospitals,
who make up to 80% of our clientele.

24x7: Do your clients or classes gener-
ally fit a certain profile, or do they come
in all shapes and sizes?
Conrad: I get clients from all over the
world. We had to bring in a Chinese
translator last year. We train upward of
1,000 people per year. We have classes
open to the public, and sometimes hospi-
tals send in an entire group. We pro-
vide training for 26 pieces of ultrasound
systems. We also train on the preventive
maintenance (PM) of a system. The PM
is one of the most popular classes.

24x7: What are the industry’s main
challenges right now, and in the next
5 years?
Conrad: With national health care to
start in 2014, hospitals are scrambling to
meet the government financial efficiency standards in order to take part. To do this, hospitals are looking within themselves to see where they can save money. I think what you’re finding currently in the marketplace is that hospitals are finding fat where they didn’t think they had it. You’ll see hospitals running a lot more efficiently than ever before. They might be running up to a third more efficiently than before in terms of total cost. The biomedical departments are canceling service contracts and are training themselves, becoming more knowledgeable than ever before on the operation and service of their own equipment.

**24x7: What trends are you following?**

**Conrad:** Over the last 2 years, hospitals have been moving all their equipment repairs internally. That trend will continue until on-site health care technology technicians will manage most equipment. We know for a fact that hospitals think health care is a big unknown. So, they’re not buying new equipment as quickly. They’re waiting to see what happens. 24x7

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Kurt Woock is the associate editor of 24x7. Contact him at kwoock@allied360.com.

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