

## PRESIDENT'S FORUM

**W**e are well on our way to our next symposium. Please make sure to register early! Check out Pinchurst's booth in the vendor area. They will have a video and representatives to explain and answer any questions you might have about our next symposium site. Also, at the NCBA booth, we will have information regarding our new web site.

The Board of Directors voted to move our web site from Duke Hospital to a professional web site in Greensboro. We are in the process of getting a new web address. We will have more information on the new web site at the symposium. Make sure to include your email address on the symposium registration form. Our goal in the future is to have the newsletter sent to you as an attachment via email. This of course will be at your request. This will allow the association to save a lot of money in publishing and postage costs. Plus, we will be able to email you notices on seminars and news bulletins quickly and without delay.

It still isn't too late to run for the Board of Directors. We will still continue to take candidates names until the ballots are cast at our business meeting on Thursday, October 29, 1999. If you are interested in running for the

board, you can contact Sonny

Richards at **910-215-1298**.

On August 2-3, 1999, the state of North Carolina conducted a survey and evaluation of the Biomedical Program at Stanly Community College to see if it is feasible and justified to continue the Biomedical Program there. The survey was in two parts. The first part was a job analysis to see if the program meets "future job roles, responsibilities, and skill requirements". They looked to see if there should be modifications to the program i.e. computer training. The second part was a marketplace study to examine if there is a need to keep the program open. If the state decides to terminate the program, it would seriously affect how many graduates we have each year. As you know, the Alamance Community College terminated it's program when Norm Svec retired. If you have any questions or concerns, please contact Charlotte Morris at Stanly Community College at **704-982-0121 ext. 250**.

There is a new national biomedical organization starting up to replace the void SBET, which is called IMTA (International Medical Technology Association).

**Continued on page 3**

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### Calendar of Events

- NCBA Board of Directors Meeting  
September 10, 1999  
1:00 PM  
Joseph S. Koury Convention Center, Greensboro, NC
- NCBA Symposium  
October 27 - 29, 1999  
Joseph S. Koury Convention Center, Greensboro, NC

**1999 Board of Directors**  
**1999 NCBA Officers**

**President:**

Chris Dissinger, CBET  
Moses Cone Health Systems  
336-832-7911 - Business  
336-832-7076 - Fax

**Vice-President:**

Cheryl Spencer, CBET  
Onslow Memorial Hospital  
910-577-2824 - Business  
910-577-2566 - Fax

**Treasurer:**

James A. Tripp, Jr., CBET  
N.C. Baptist Hospital  
336-716-6799 - Business  
336-716-6121 - Fax

**Membership Secretary:**

Diane Aker, CBET  
Alamance Regional Medical Ctr.  
336-538-7760 - Business  
336-538-7722 - Fax

**Recording Secretary:**

Sonny Richards, CBET  
FirstHealth Moore Reg. Hospital  
910-215-1298 - Business  
910-215-4382 - Fax

**Editor:**

Howard Wigle  
N.C. Baptist Hospital  
336-716-3437 - Business  
336-716-9395 - Fax

**Ex-Officio:**

Ray Laxton  
Duke University Medical Ctr.  
919-681-2525 - Business  
919-681-7361 - Fax

**1999 AT-LARGE**  
**Board of Directors**

Obie D. Godley, CBET  
Pitt County Memorial Hospital  
252-816-4251 - Business  
252-816-6527 - Fax

Randall Meyers, CBET  
Carteret General Hospital  
252-247-1484 - Business  
252-247-1625 - Fax

Lane Rushing  
Physio-Control Corp.  
800-442-1142 x 2368 - Business  
919-661-2598 - Fax

Mark Sonntag  
Moses Cone Health Systems  
336-832-8031 - Business  
336-832-8194 - Fax

**1999 Standing Committees**

\*Denotes Chairperson

**Rules and Bylaws**

\* Chris Dissinger, Randall Meyers

**Nominating Committee:**

\* Sonny Richards, Lane Rushing,  
Helen Jones

**Finance Committee:**

\* Jim Tripp, Randall Myers, Cheryl  
L. Spencer

**Membership Committee:**

\* Diane Aker, Glenn Scales

**Education Committee:**

\* Cheryl L. Spencer, Jim Tripp,  
Obie D. Godley

**1999 Special Committees**

**Newsletter Committee:**

\* Lane Rushing, Howard Wigle, Jan  
Measley, Sonny Richards

**Scholarship Committee:**

\* Lane Rushing, Jim Tripp

**Vendor Coordination:**

\* Mark P. Sonntag, Diane Aker,  
Ray Laxton

**Hotel Coordination:**

\* Helen Jones, Cheryl L. Spencer,  
Mark P. Sonntag

**Public Relations:**

\* Mark Sonntag, Cheryl L. Spencer,  
Jim Tripp

**Internet Committee:**

\* Ray Laxton, Glenn Scales,  
Diane Aker, Mark P. Sonntag

**Professional of the Year:**

\* Ray Laxton, Obie D. Godley

**Archives Committee:**

\* Glenn Scales

**1999 Board of Directors E-Mail  
Addresses**

Chris Dissinger :  
chris.dissinger@mosescone.com  
Obie Godley:  
ogodley@pcmh.com  
Ray Laxton:  
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Howard Wigle:  
wigle@mindspring.com

NCBA News is an information service of the North Carolina Biomedical Association (NCBA). It has a distribution of about 500 and is published six (6) times per year. Articles and ads are due on or before the first day of even months. The newsletter is mailed on or about the first day of the odd months.

While the NCBA makes every effort to assure that its content is accurate, articles are the products of individual authors and the NCBA is not responsible for the content.

NCBA News intends to disseminate information and ideas to its subscribers. While the NCBA News accurately reflects the source of the articles, the content is of variable quality and validity. The Newsletter Committee will attempt to verify all articles, but neither the Editor nor the NCBA is responsible for information.

**YOUR HELP IS NEEDED!!!** Articles of interest to our readers are constantly needed and sometimes in short supply. If you have written any articles that may be of interest to our readers, submit

**PRESIDENT'S FORUM**

(From page 1)

Ray Laxton, our Ex-Officio and past President, will be the President of this association. If you are curious about the organization, you can contact IMTA at [imtaonline.com](http://imtaonline.com).

They may send a representative to the symposium to discuss this at a booth in the vendor area.

I hope this newsletter finds you well. If you have any questions or concerns, please feel free to contact me at [chris.dissinger@mosescone.com](mailto:chris.dissinger@mosescone.com) or 336-832-7911. Take care and I'll see you in October!

Chris Dissinger, CBET  
President, NCBA

**NCBA TREASURER'S REPORT as of 7/30/99**

**NCBA ASSETS**

First Citizens Bank Account	\$ 54,395.91
Eddie Whisnant Scholarship Acct \$	600.00
Norman Reeves Scholarship Acct.	\$ 1,200.00
CCB 16 Mo. CD	\$ 20,000.00
CCB 13 Mo. CD	\$ 20,000.00
Equip. Asset List (Page Scanner)	\$ 222.59
<b>Total of all Assets</b>	<b>\$ 96,418.50</b>

**NCBA LIABILITIES & EQUITY**

Symposium Bills	\$ 0.00
Newsletter Bills	\$ 0.00
Scholarship Bills	\$ 0.00
Equity	\$ 96,418.50
<b>Total Liabilities and Equity</b>	<b>\$ 96,418.50</b>

This is the basic overview of our current financial status. All liabilities have been paid to date. We do have a surplus in assets. The Board Members completed a survey of the membership and did determine that the majority of members favored a professional and current web site for the NCBA. The Board approved a portion of this surplus to be utilized for the set up and maintenance of this web site for the remainder of the year. The Board also approved the purchase of a computer and updated software for the office of Treasurer. The Ist Citizens CD matured and was cashed in, with a profit of 3,179.23. New CD's were purchased from CCB, since they offered a higher interest rate and yield. If you have any questions about NCBA finances, please contact me., Jim Tripp by E-mail: [cbetJIM@webtv.net](mailto:cbetJIM@webtv.net) or [jtripp@wfulmc.edu](mailto:jtripp@wfulmc.edu) or call (336) 716-6799.

**CORRECTION NOTICE**

I regret to inform you of two articles with errors in the July/Aug issue of the NCBA NEWS. I apologize for any inconvenience this may have caused you.

The first correction is in the Rules and By-Laws Changes under Article V Section 3. There was a failure to underline **in the fall**. It should have read as follows: Regular meetings of the General Membership of Association will be held at least annually **in the fall**. The remainder of the article was correct.

The budget report had several incorrect entries in the line items or the amounts of line items were incorrect.

In the **Income Report**, the line item

**Golf** should have been \$2,500.00 and not \$2,000.00. The line item **OTHER**, should have been \$1,200.00 and not \$1,000.00. The total amount of \$88,800.00 was correct for the total **Income Report**. In the **Expense Report**, line item Seminars in the amount of \$7000.00 was omitted. The correct amount for the line item **Symposium**, was \$55,500.00 and not \$7,000.00. The total amount for **Expenses** should have been \$88,800.00.

Respectfully,  
Howard Wigle, Editor



**NCBA News Advertising**

NCBA News is accepting advertising that relates to biomedical equipment and of interest to our readers. Suggested subjects are: Positions Desired, Position Available, Biomedical Equipment Wanted or For Sale (New or Used), or Announcements of Educational Opportunities or Service Schools in the area.

Advertising is open to all individu-

als, hospitals, and companies. The decision to carry a particular ad or classified will be the decision of the Editor with the support of the NCBA Board. Camera ready copies of actual size ads required. Corporate Members please remember what free advertisement your membership allows. Please contact the Newsletter Editor for other pricing.

**\*\*Prepayment of all advertising is required.\*\***

**Classified Advertising**

Except "Position Wanted" notice by members (one ad per year— limit 50 words— no charge) the following ads apply:

(Per 75 words)	Member	Not
Individual	\$5	\$7
Institute	\$15	\$25
Corporation	\$20	\$30

The NCBA Board of Directors has learned that the North Carolina Community College System's Office in Raleigh just recently performed a feasibility study of the BMET program at Stanly. The Stanly program is one of two BMET programs currently being offered in the State of North Carolina. The other is through Caldwell Community College in Hudson, North Carolina. This news was indeed alarming, in light of the fact that the BMET program at Alamance Community College, in Burlington, N.C. had been dismantled in the mid 1990's.

From the Boards perspective the State of North Carolina simply could not afford to loose another source from which to procure the life's blood that is so desperately needed to sustain the field of Biomedical Electronics Technology for its immediate as well as long range future. In its effort to demonstrate its support for continuance of the Stanly BMET program, Chris Dissinger, President, NCBA drafted a letter to Dr. Elizabeth Jones, North Carolina Community College System Office in Raleigh, North Carolina. In his letter to Dr. Jones, Chris stated that "Stanly Community College has been instrumental as the pioneer of our collegiate Biomedical Program in North Carolina. It is this foresight that has made North Carolina progressive and a leader for training biomedical technicians in the United States." Chris continued by stating "The Board of Directors of the North Carolina Biomedical Association, which represents 280 BMETs and Managers, and 128 Corporate Members, is very concerned over the possible demise of the biomedical program at Stanly Community College. This could seriously impact hospital biomedical departments, manufacturers, and independent service organizations ability to fill job vacancies."

In concluding his remarks, Chris conveyed the feelings of the entire

NCBA Board by stating "We hope the

great state of North Carolina will continue the Biomedical Program at Stanly Community College, and continue to ensure that the program meets the academic and technical needs of the biomedical industry."

On August 3-4, 1999, I was especially privileged to be invited to serve as a member of a two day Job Analysis Panel, commissioned by Stanly Community College to define the responsibilities and tasks associated with the Job Classification "Biomedical Equipment Technician." In addition to myself, the other panel members were Boyd Campbell, Catawba Memorial Hospital, Obie Godley, Pitt County Memorial Hospital, Ray Laxton, Duke University Medical Center, John Palmer, Carolinas Medical Center, Lane Rushing, Physio Control, Tom Stegall, Carolinas Medical Center, and Sonny White, Moses Cone Health Systems. Acting as facilitator for the DACUM (day-kum) Job Analysis Process Panel was Charlotte Morris, Dean of Institutional Development. Also present for the entire two-day process were Mike Hogan, BMET Program Director, Stanly Community College, and John Noblitt, BMET Program Director, Caldwell Community College.

As defined in the Job Analysis Literature presented to the Panel Members, the DACUM process for conducting a job analysis involves men and women with reputations for being the "top performers" at their jobs, working on a short term committee assignment with a qualified DACUM facilitator. These workers become the Panel of Experts who describe the occupation in the language of the occupation.

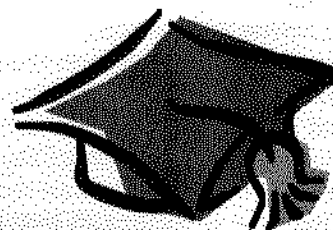
The Panel works under the guidance of a facilitator for two days to develop the DACUM chart. The chart contains a list of general categories of job tasks called DUTIES, and several TASKS for each duty. Brainstorming techniques are used to obtain the collective expertise and consensus of the committee.

The end result of the process is

development of a chart, which is a graphic profile of the skills required in the occupation. The duties and tasks identified on the chart, provides the foundation for developing training and numerous performance improvement initiatives for that particular job function.

I think that it would be a fair assumption to state that the process was a collaborative venture, at times intense, yet fruitful in terms of the quality, amount and accuracy of information extracted from each member of the panel. In addition to defining the DUTIES and TASKS associated with the BMET job function, the panel was asked to provide several listings identifying; Customers Supported, Non-Technical Skills Required, Specialized Skills (Not Presently Part of BMET Curriculum), and Future Concerns. The two-day exercise ended with the walls and windows of the room plastered from baseboard to ceiling with placards containing the many years of collective wisdom and experience of a truly dedicated and supportive group of experts. Serving as a member of that Panel, I am hopeful that the information, which was so efficiently extracted from our brains by Ms. Charlotte Morris, will not become a casualty of financial decisions based solely on the need to reduce cost. May the information we have provided, rather be used to restructure the training programs presently being offered at both Caldwell and Stanly, so that the graduates of tomorrow will adequately be prepared to meet the many challenges they will face in the future.

Submitted by:  
Howard L. Wigle, Editor



## NCBA BOARD OF DIRECTORS MEETING

The May 5 meeting of the NCBA Board of Directors was hosted by Howard Wigle, director, Biomedical Department, Wake Forest University Baptist Medical Center. NCBA President Chris Dissinger officiated. Topics discussed were as follows:

**Treasurer's Report:** Jim Tripp presented an overview of the financial standing of the NCBA. Reviewed and discussed by the Board were the Cash Flow Report, Balance Sheet, CD's, Scholarship Funds, and Profit and Loss Statement for calendar year 1998. The "non-profit and not-for-profit" terminology was discussed to ensure NCBA compliance with regulatory guidelines pertaining to "not-for-profit" organizations. Final discussion focused on discussion of a proposed "Operational Budget" for the NCBA.

**Membership Report:** In presenting the membership report Diane Akers noted very little change in current membership which presently stands at 432 members. Of noteworthy importance, was Diane's reference to the number of returned Newsletters due to incorrect address. Newsletter mailings will be suspended on all returned mailings until correct addresses can be established.

**Education Report:** Cheryl Spencer presented the education report. Indicated was the to-date progress in scheduling of classes to be presented at this year's NCBA Symposium in Greensboro, NC. The planned training agenda was an ambitious one focused to providing something for everyone. Cheryl relayed the positive feedback on the quality of instruction provided during the recent CBET review class conducted at Caldwell Community College in April of this year. There were a total of 9 participants.

**Scholarship Committee:** Lane Rushing reported that the Scholarship Forms had been sent and received by the Financial Aid Officers of Caldwell and Stanly Community Colleges.

There was some discussion about how the scholarships were funded.

**Rules and Bylaws:** Following a review of proposed changes to the Rules and Bylaws, Chris Dissinger stated that they must first be published in the Newsletter for membership awareness and possible comment. The proposed changes will appear in the July/August issue of the Newsletter.

**Nominating Committee:** Sonny Richards reported that to date the Board has received no requests to run for Board Membership.

**Newsletter Report:** Howard Wigle indicated that there were several printing errors in the last issue of the Newsletter, most likely due to differences in Software Programs and Printer Formats being utilized by the Newsletter Editor and Printer. Several suggestions offered by the Printer will be adopted in preparing the July/August issue of the Newsletter. As in the past, Howard encouraged the submission of articles by members of the Board, and the general membership.

**Vendor Relations:** Mark Sonntag indicated that he and Diane Aker distributed contracts to all vendors based on last year's information. Mark solicited feedback from the Board on ways to increase vendor contact and response. Some vendor contracts for the 1999 Symposium had already been received.

**Internet Committee:** Ray Laxton presented the Internet Committee Report. A myriad of topics relative to sponsoring a professionally managed NCBA Web Site was discussed. Topics included design / setup cost, annual site maintenance cost, cost of basic service plus cost of options such as Chat Room. There was some discussion about whether the web site would be utilized and to what extent. The Board decided to conduct a random telephone survey to determine the degree of interest, support, and likelihood of utilization by NCBA members. Results of the survey would be reviewed at the

July Board meeting.

There being no further business, the meeting was adjourned. The location and date of the next meeting was set for Alamance Regional Medical Center on July 16, 1999.

### Notice to Membership

Due to circumstances beyond our control, there were a number of class scheduling changes and additions which took place following the mailing of the July/August issue of the Newsletter. As a result of these changes, use of the Registration Form appearing in the July/August issue is not recommended. You are requested to use the Registration Form appearing in this issue of the Newsletter, or your Symposium Brochure.

### Job Opportunity

North Carolina Baptist Hospital  
Winston-Salem, NC

Seeking experienced BMET II with AA Degree in Biomed Technology with 3-5 Years experience.

Send resume to:

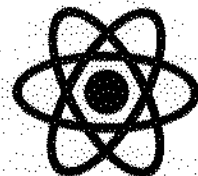
Wake Forest University Baptist  
Medical Center

Human Resource Department

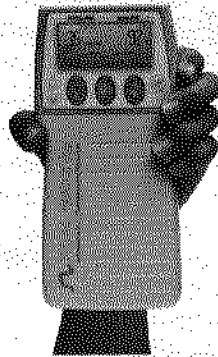
Medical Center Boulevard

Winston-Salem, NC 27157

Attention: Fran Griffin



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## News from Caldwell Community College

### Program Changes

In an effort to increase enrollment into the BMET program here at Caldwell Community College the program has been reengineered. In this process, all BMET classes have been moved to the second year of the program. Articulation agreements have been established with five area community colleges. The collaborative colleges are Mitchell C.C., Wilkes, C.C., Gaston C.C., Mayland C.C., and McDowell Community College. Caldwell will hold two seats for each of the collaborative colleges for student enrollment into the second year of the BMET program. This rearranging of the class offerings will also make it easier for students across the state to get the first year of the biomedical curriculum credit. These students would also be able to transfer into the second year of the program at Caldwell Community College providing there is

room in the second year class. The new BMET program is offered in the following manner:

Semester 1: BMT 111 - Introduction to BMET, CIS 110 Intro. To Computers, ENG 111 & 111A Expository Writing and Lab, ELC 112 DC/AC Electronics MAT 121 Algebra/Trig.

Semester 2: BMT 113 Medical Electronics, BMT 120 Biomedical Anatomy & Physiology, ELN 133 Digital Electronics, ELN 237 Local Area Networks, PHY 131 Physics - Mechanics.

Semester 3: COM 120 Interpersonal Communications, ENG 112 or ENG 113 English, Humanities/Fine Arts Elective, Social Science Elective.

Semester 4: BMT 112 Hosp. Safety & Standards, BMT 211 Biomedical Measurements, BMT 212 BMET Instrumentation 1, BMT 222 Imaging Techniques, ELN 232 intro to Micro processors.

Semester 5: BMT 213 BMET Instrumentation 2, BMT 224 Biomedical Laser/Fiber Optics, COE 112 Co-op Work Experience, and COE 115 Work Experience Seminar

Substitution Courses - BMT 113 = ELN 131 & 132, BMT 120 = BIO 161, ELN 237 = NET 110, BMT 111 - Two day seminar, Day 1 at CCC&TI, Day 2 Job Shadowing in an area BMET shop. Semester 5 is offered in two mini sessions of eight weeks each.

If you have any questions please contact John Noblitt, CBET Program Director, Caldwell Community College (828) 726-2263 or 2233 or [jnoblitt@caldwell.cc.nc.us](mailto:jnoblitt@caldwell.cc.nc.us)

In April of this year, Caldwell Community College and Technical Institute in conjunction with the NCBA held a

**Continued Page 8**

CBET review class. We had nine participants in the class coming from as far as White Plains, MD and Martinsburg, WV.

Comments from the participants were well received. As stated by participant Lonnie Carter "I thought the CBET Review class was an excellent class. The information was very good as well as the instruction. I also thought the hospitality and home cooked meals were an excellent idea". The Biomedical Students Association catered the food for the participants this year. This seemed to go over very well with all the participants.

Congratulations should be extended to two participants who opted not to wait for the fall test and take the test in May. Mr. Lee Cline of Catawba Memorial Hospital and Mr. William Morris of Alamance Regional Medical Center should now be addressed as Mr. Lee Cline, CBET and Mr. William Morris, CBET. Congratulations to both of you from all NCBA members, and good luck to the other participants in pursuing their CBET.

#### Spacelabs' National BMET Scholarship Awarded.

Congratulations to Mr. Randy Powell for receiving the \$1000.00 National BMET Scholarship. Randy is a rising sophomore here at Caldwell and a very deserving candidate. Randy shows all the qualities to become an excellent biomedical technician. Spacelabs has made an excellent choice. In fact, this is two excellent choices in back to back years, last year Ms. Crisci Fleming from Caldwell won this prestigious award.

#### Caldwell Graduates go to work.

Employment is the true success of any college student. Congratulations to the following C.C.C. & T.I. 1999 graduates.

Jeff Austin - Carolinas Medical Center, Charlotte, NC

Crisci Fleming - Moore Regional Medical Center, Pinehurst, NC

## Biomedical Equipment Technology at Stanly Community College

The Biomedical Equipment Technology program at Stanly Community College is riding a two year upward trend in student enrollment. We have enrolled approximately 15 students for the 1999 fall semester. This trend is partially due to changes in the curriculum, new recruiting strategies, and growing support from the Biomedical community.

The BMET curriculum has been restructured to allow a student to finish the first year of the program at any college with an Electronics program. This student would then transfer into Stanly Community College for the remaining year of the program. This design also allows students at our campus to earn certificates in the other electronic-based programs.

Another reason for our recent growth is a unique realm recruiting strategies. One of the most interesting recruiting endeavors was the Electronics Blast. This was a competition held by Stanly Community College for area high schools. These schools sent students to compete at three different levels of electronic troubleshooting. These levels ranged from basic AC/DC troubleshooting to complex digital circuits.

Chuck Hagerty - Lake Norman Regional Hospital, Mooresville, NC

Steve Hawley - Carolinas Medical Center, Charlotte, NC

Benji Johnson - N.C. Baptist, Winston-Salem, NC

John McGuire - Premier, Inc.

Jim Miller - Piedmont Medical Center, Rock Hill, SC

Welcome to the REAL world of Biomed.

Submitted by:

John Noblitt, CBET

Program Director / Biomedical Equipment Technology

Caldwell Community College and Technical Institute

[jnoblitt@caldwell.cc.nc.us](mailto:jnoblitt@caldwell.cc.nc.us)

Medals were awarded to the top three competitors in each level and a trophy was awarded to the winning school. This event turned out to be a lot of fun for everyone involved and it also generated a lot of interest in our BMET program.

But the best explanation for the growth at Stanly Community College is the biomedical society. Over the past several months, the BMET program at Stanly Community College has seen a wealth of support from numerous Biomedical Services and Clinical Engineering departments. These departments have performed tasks ranging from giving tours of their local facility to donating medical equipment. This support will continue in the future through projects like a mentoring program, job shadowing, and guest lectures. If you would be interested in participating in any such programs or have any ideas for other future programs, contact Mike Hogan at (704) 982-8285. It is the involvement of the biomedical society that will be the most important factor in shaping the future of our field. Mike Hogan, Biomedical Equipment Technology Program Director

### Ultrasound Training

North Carolina Baptist Hospital will be hosting two Ditec Inc. "Fundamentals of Diagnostic Ultrasound" training seminars in September and December of this year. Ultrasound training on Accuson, ATL, and HP systems will be provided by Joe Weidner of Ditec Inc. Seminar cost is \$1495 per student. Class dates are as follows:

September 20-24, 1999

December 6-10, 1999

For information on attending one of these seminars, please contact Joe Weidner, Ditec Inc. at (440) 519-1555

## Clear the way to Capacitor Performance

A characteristic of metalized thin-film capacitors  
by Tom Swenson-Healey, product analyst,  
with Tim Sedlack, service representative, Physio-Control

Have you ever wondered about a snapping sound generated from your LIFEPAK 9 defibrillator? Not to worry. The snapping sound (commonly referred to as clearing) is emitted from the storage capacitor- phenomenon inherent with a newly developed capacitor technology called metalized thin-film. The ability of a capacitor to "clear" helps ensure the component will maintain a high level of performance and effectiveness through its useful life.

The LIFEPAK 9 defibrillator storage capacitor employs a very thin plastic film dielectric with metallic layer deposited on one side, which acts as the plates for the capacitor. A similar analogy would be the metal/plastic film candy wrappers used today.

The surface area of the capacitor film is relatively large and is rolled up within the capacitor body. During normal use the defibrillator capacitor is cycled thousands of times in its life. The clearing phenomenon is a normal characteristic of the aging process for metalized capacitors, which begins with first charge/discharge cycle and continues through the useful life of the component. With higher operating voltages, the dielectric of the capacitor can breach or short between the plates in a particular area, typically minute in relation to the overall surface area of the film, due to foreign particles of micro imperfections in the plastic.

This momentary short allows the flow of a brief (<20 microsecond) but high current, which vaporizes the metallic film in a confined area and can be accompanied by an audible snap. At this time, current flow stops; the capacitor has healed the site of the breach without measurably decreasing the overall dielectric properties of the capacitor.

Clearing most often occurs when the

defibrillator is in the "ready" state at higher energy levels with the storage capacitor fully charged. The longer the defibrillator remains in this state, the more likely that clearing will occur. This phenomenon is less likely to be apparent in clinical use than in a laboratory setting because typically, the defibrillator is discharged as soon as, or shortly after, it reaches full charge and is not held in a "ready" state. In addition, any snapping emitted from the device in actual patient use would tend to be difficult to hear due to the ambient noise level at the scene.

The useful life of the capacitor is related to the number of charge/discharge cycles. In normal use, the 9 capacitor is rated for 5,000 charge/discharge cycles to full energy, with cycle confidence level of 99 percent. Environmental conditions, ambient temperatures, and overall care and maintenance, of the device do, however, impact the useful life of the capacitor. With this new technology, the capacitor, toward the end of useful life, begins to develop a significant loss of capacitance (film surface area), which is a measurable value and can be observed by the biomedical maintenance technicians. In the LIFEPAK 9 defibrillator, a loss of capacitance, at end of life, can be manifested by an excessive time to reach full charge and an almost continual need for "refresh" once the device is in a charged "Ready" state at high energy levels.

Heeding these observations can help to avoid the substantial shorts which can occur with previous technology storage capacitors that rendered the defibrillator unusable, often without a measurable/detectable warning to technicians and/or operators.

Reprinted by permission of Medtronic Physio-Control.

## Membership Update

August 17, 1999

Here we are again, making our way quickly through 1999. Our membership is fairly level by this time of year, but there is always a chance to grow. The current membership in the NCBA stands at 435 members and is as follows: 283 Individual members, 129 Corporate, 9 Students, 12 Honorary, and 3 Associate members. That means, that since the last report we have had 2 renewals and 3 NEW members, of Gaston Memorial Hospital and they are: Don Shaub, Larry Trull and Wilbert Allen Woolard. WELCOME ABOARD! We are always glad to see new people.

Don't forget to send name, address, phone number, email address, and employer changes to the following:

Diane Aker, Membership Secretary

for NCBA

Alamance Regional Medical Center

Phone: 336-538-7760

Fax: 336-538-7722

Email: akerdian@armc.com

## Job Opportunity

The Moses Cone Health Systems, a progressive, not-for-profit, 900+ bed regional medical center, is located in the beautiful Piedmont area of North Carolina in Greensboro, a city of 200,000. We are currently seeking qualified candidates for the following position:

### Biomedical Equipment Tech

Performs preventative maintenance, safety testing and medical equipment repairs, minimizing instrument downtime and assuring efficient and safe operating conditions. Associates degree in Biomedical Engineering, Electrical Technology, military training or equivalent work experience and special courses required.

If you are interested in joining a dynamic and progressive organization, Please send resume to Moses Cone Health System, 1200 N. Elm Street, Greensboro, NC 27401; Fax: (336) 832-7608. EOE



# REGISTRATION FORM: 1999 NCBA SYMPOSIUM

Name: \_\_\_\_\_ CBET \_\_\_\_\_ CCE \_\_\_\_\_ OTHER \_\_\_\_\_

Home Address: \_\_\_\_\_ City State, Zip \_\_\_\_\_

Facility/Company: \_\_\_\_\_ Occupation/Position \_\_\_\_\_

Work Address: \_\_\_\_\_ City, State, Zip \_\_\_\_\_

Work Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ email: \_\_\_\_\_

College or University: \_\_\_\_\_ Current Curriculum: \_\_\_\_\_

Mail future NCBA information to: Home \_\_\_\_\_ Work \_\_\_\_\_ Member of ASHE \_\_\_\_\_ AAMI \_\_\_\_\_

Advanced Registration Fees	Walk-in Registration Fees	Student Adv. Registration Fees	Student Walk-in Registration Fees
<input type="checkbox"/> One day \$125 <input type="checkbox"/> Two days \$200 <input type="checkbox"/> Three days \$250	<input type="checkbox"/> One day \$150 <input type="checkbox"/> Two days \$225 <input type="checkbox"/> Three days \$275	<input type="checkbox"/> One day \$40 <input type="checkbox"/> Two days \$60 <input type="checkbox"/> Three days \$70	<input type="checkbox"/> One day \$50 <input type="checkbox"/> Two days \$75 <input type="checkbox"/> Three days \$85
<b>Wednesday: October 27, 1999</b> <input type="checkbox"/> JCAHO/Sentinel Events 9:00am-4:00pm <input type="checkbox"/> Marquette Networking 9:00am-4:00pm <input type="checkbox"/> Dinamap Plus 9:00am-12:00pm <input type="checkbox"/> Critikon Compact 1:00pm-4:00pm <input type="checkbox"/> McGaw Horizon Pump 9:00am-4:00pm <input type="checkbox"/> Pentax 3300 Video Processor 9:00am-4:00pm <input type="checkbox"/> NCBA Golf Tournament 1:00pm-7:00pm *There is an additional \$45 entry fee; see details in the schedule	<b>Thursday, October 28, 1999</b> <input type="checkbox"/> Cadmet/Selections 2:00pm-3:00pm <input type="checkbox"/> Choosing a Wireless Network 3:30pm-5:00pm <input type="checkbox"/> Medserv-Human Element 2:00pm-5:00pm <input type="checkbox"/> Laser and ISO 9000 2:00pm-5:00pm <input type="checkbox"/> Managing Risks in MEMP 2:00pm-5:00pm <input type="checkbox"/> Rauland Nurse Call System 2:00pm-5:00pm <input type="checkbox"/> Zoll M Series Defibrillator 2:00pm-5:00pm	<b>Friday, October 29, 1999</b> <input type="checkbox"/> One Source/Endoscopes 9:00am-12:00pm <input type="checkbox"/> Recruiting for Success 1:00pm-4:00pm <input type="checkbox"/> Device-Related Accidents 9:00am-12:00pm <input type="checkbox"/> RSTI CCD Camera 1:00pm-4:00pm <input type="checkbox"/> 120 Series Fetal Monitor 9:00am-4:00pm <input type="checkbox"/> Coherent Holmium laser 9:00am-4:00pm <input type="checkbox"/> New Horizon/ Hard Drive 9:00am-4:00pm <input type="checkbox"/> *Excel Computer Class 9:00am-4:00pm <input type="checkbox"/> *Word Computer Class 9:00am-4:00pm *Offsite classes are first come first serve with a limit of 24 students.	

Mail check and registration form to:  
 NCBA 6300-138 Creedmoor Rd, PMB 272, Raleigh, NC 27612-6730

## CORPORATE MEMBERS

As you know, the North Carolina Biomedical Association is organizing a golf tournament to be held Wednesday, October 27, 1999 at Bryan Park Golf Course. I am asking for your support, as the Golf Chairperson and NCBA Member, at this event through donations of prizes, golf accessories (balls, tees, towels, Etc...), and/or financial contributions. If your company is interested in making a contribution to this event, please contact Mark Sonntag, Moses Cone Health System Contract Administration at 336-832-8031 by October 1, 1999. For those who would like to sponsor a golf hole, the cost will be \$100. All members who support the golf tournament will be identified to participants and given credit for their involvement.

**THANK YOU FOR YOUR SUPPORT.**

Sincerely,

Mark P. Sonntag,

NCBA Golf Tournament Chairperson

Moses Cone Health System



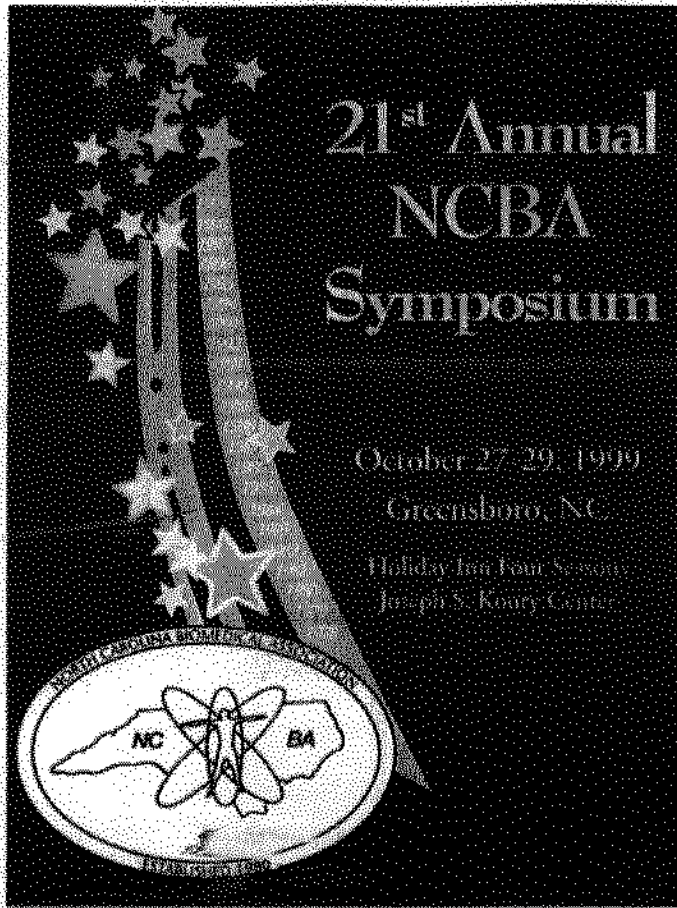
Size • Because **None**  
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 6300-138 Creedmoor Road Suite 272  
 Raleigh, NC 27612-6730  
 Phone: (919) 688-6890  
 Website: <http://messthesia.mc.duke.edu/ncba>

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