



Boyd Campbell, CBET, CRES
NCBA President

President's Forum

Many times we feel as if the biomedical profession has not been recognized for the important duties that are performed on a daily basis. When patients send letters of appreciation to our hospitals, they normally don't talk about how nice and helpful the biomed was who came by to repair their monitor or assisted the nurse in the operation of a device within the patient's room. There has been a push for a national biomedical week for several years that still has yet to come to life. However the opportunity comes along for those moments of recognition as a profession. Each year the NCBA petitions the governor's office to recognize our profession for the important services we perform on a routine basis. This year governor Michael Easley has proclaimed the week of August 4th through the 10th as Biomedical Equipment Technicians Week. I urge each of you to make this week known to your employers and throughout your facilities. We should be proud of our contributions that we make each day behind the scenes to improve patient care and help to keep the cost of healthcare down.

The NCBA provides another means of recognition for professionals who stand out in our field. Each year the NCBA in conjunction with Spacelabs Medical and Hill-Rom have sponsored two awards. The Manager of the Year Award sponsored by Spacelabs Medical and the Professional of the Year Award sponsored by Hill-Rom are both designed to recognize those professionals within the biomedical field who have contributed to our profession as well as their local communities. Each of these awards comes with a plaque as well as a check for \$1000.00. If you know someone who has given above and beyond what is expected we urge you to nominate them for these award by completing the nomination forms enclosed within the newsletter.

Also within this issue of the NCBA News: Steve Guerrant, CBET brings out some interesting thoughts on the uses of the sticker, Greg Smith with MET Laboratories deals with the issues concerning Non-Certified Medical Equipment and for the computer gurus out there Glenn Scales, CBET once again shares his helpful hints to make those Excel spreadsheets more friendly.

Don't forget to mark your calendars for the NCBA's 24th annual Symposium and Expo on December 2-4, 2002 at the Pinehurst Resort and Hotel. The Board is now putting the finishing touches on what is shaping up to be another spectacular event in the history of our association.

Lastly we would like to ask for your assistance. Next year will be a milestone in our history as we celebrate the 25th anniversary of the NCBA. We would like to hear your suggestions on how to best celebrate this important event.

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2002 Board of Directors

2002 NCBA Officers

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828-326-3899 – Business
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Vice-President:

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Duke University Health System
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919-966-6250 – Fax
treasurer@ncbiomedassoc.com

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Recording Secretary:

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Ex-Officio:

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Duke University Health System
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2002 At-Large Board Of Directors

Diane Aker, CBET
Alamance Regional Medical Center
336-538-7760 – Business
336-538-7722 – Fax
director1@ncbiomedassoc.com

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Premier, Inc.
800-825-1786 – Business
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Wayne Memorial Hospital
919-731-6077 – Business
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2002 Standing Committees

Rules and Bylaws

Boyd Campbell (Chair), Greg Johnson,
Mark Renfroe

Nominating Committee:

Helen Jones (Chair), Dan Harrison,
Linda Leitch

Finance Committee:

Charles Worrell (Chair), Dale Allman,
Nathan Cumbie, Jerry Kyle, Jim Tripp

Membership Committee:

Christina Fleming(Chair), Diane Aker,
Obie Godley, Mark Renfroe

Education Committee:

Linda Leitch (Chair), Sally Goebel, Dan
Harrison, Mike McCoy, Kevin Potts

2002 Special Committees

Apprenticeship:

Boyd Campbell (Chair)

Newsletter Committee:

Dan Harrison (Chair), Sally Goebel,
Glenn Scales

Scholarship Committee:

Boyd Campbell (Chair), Dale Allman,
Christina Fleming, Charles Worrell

Vendor Coordination:

Mark Renfroe (Chair), Diane Aker,
Ken Bisette, Ken Logan, Charles
Worrell

Hotel Coordination:

Helen Jones (Chair), Christina Fleming,
Jim Tripp, Charles Worrell

Public Relations:

Boyd Campbell (Chair), Diane Aker,
Sally Goebel

Internet Committee:

Glenn Scales(Chair), Dale Allman,
Mike Howell

Professional of the Year:

Boyd Campbell (Chair), Dan Harrison,
Helen Jones, Linda Leitch, Charles
Worrell

Historian:

Glenn Scales (Chair), Obie Godley,
Charles Worrell

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 odd numbered months. The newsletter is mailed on or about the 15th day of the odd numbered 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 frequently in short supply. If you have written any articles that may be of interest to our readers, submit it to Newsletter Editor, Glenn Scales, at editor@ncbiomedassoc.com.

NCBA Board Meeting Minutes - Friday, May 10, 2002

Wayne Memorial Hospital, Goldsboro, NC

Present:

Linda Leitch, Christina Fleming, Mark Renfro, Charles Worrell, Dale Allman, Dan Harrison, Diane Aker, and guest Obie Godley.

Absent:

Boyd Campbell, Helen Jones, Sally Goebel, and Brian Poplin.

Linda, in the absence of Boyd, called the meeting to order at 10:00 am. She thanked Mark for hosting the meeting. The minutes from the board meeting on March 8, 2002 were read. Charles moved for their acceptance; Mark seconded. The minutes were approved.

Treasurer's Report:

Charles distributed the treasurer's report, which included an Account List, Profit & Loss Statement, and a Register Report.

Per the Account List, the monies from First Citizens Bank (Checking Account, the Eddie Whisnant Scholarship Account, and the N. Reeves Scholarship Account) were moved to CCB in respectively named accounts. Charles reported that the checking account balance as of May 4, 2002 was \$17,785.30. Our CD's were \$23,915.19 and \$23,554.49. The two scholarship funds are \$600.14 each and the NCBA has an asset liability of \$118.99. The balance total was \$66,574.25.

Charles reported that there were no outstanding expenses remaining for the 2001 Symposium.

Dale made a motion to accept the Treasurer's Report; Christina seconded. The report was approved.

Action required: No action required.

Budget 2002:

Charles distributed a revised 2002 budget. As per the recommendation of the board to change the tax year of the

association, a new budget will begin May 1, 2002 and run through April 30, 2003. Therefore, two (2) tax returns will be filed for this calendar year. It was also noted that membership fees are now a separate line item from symposium registration, enabling a clear accountability of expenses.

Motion was made by Mark to approve the budget; seconded by Dan. Motion carried.

Membership Report:

Christina reported that the invoices for renewal of membership have been working well. We have had 35 individuals to renew since the February meeting. We now have 249 individual members, 22 student members, 5 associate members, and 13 honorary members for the total of 289 members. Dan moved that the membership report be accepted; Dale seconded. The report was approved.

Action required: No action required.

Education Report:

Linda reported that we had nine (9) attendees at the CBET Class. Comments for the class have been excellent. It was noted that this could possibly be an opportunity that we could offer NCBA members on an annual

basis. Also mentioned, was that the testing schedule should be made available to the students prior to the class in order to help them prepare. Dan suggested an article in the newsletter from a student would be great. Mark volunteered to have article written.

The Siemens Servo 300 Ventilator classes, originally scheduled for May 20-21 and May 29-30, have been combined into one session on May 29-30, 2002. There are currently nine (9) students enrolled. Siemen's will be handling details and will issue certificates.

Olympus will hold two (2) sessions of two (2) separate Endoscopy classes at Alamance Regional Medical Center this summer at a substantial discount to NCBA members. Endoscopy Inspection will be held on August 6 and repeated on August 8. EVIS System Setup and Support will be held on August 7 and again on August 9. Rough drafts of the applications were handed out. Linda will give information to Glenn to place on the Internet when completed.

Linda reported that these classes would complete our stand-alone classes for

Continued on page 14

NCBA News is accepting advertising that relates to biomedical equipment and of interest to our readers. Suggested subjects are: Positions Desired, Positions 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 individuals, hospitals, and companies. The decision to carry a particular ad or classified will be the decision of the Editor with support of the NCBA Board. Either jpeg or tiff files of the actual size ads is 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" notices by members (one ad per year – limit 50 words – no charge) the following ad rates apply:

<i>(Per 75 words)</i>	<u>Member</u>	<u>Non-member</u>
Individual	\$5. ⁰⁰	\$7. ⁰⁰
Institute	\$15. ⁰⁰	\$25. ⁰⁰
Corporation	\$20. ⁰⁰	\$30. ⁰⁰

Risk of Electrical Hazards from Non-Certified Medical Equipment

“I will follow that system of regimen which, according to my ability and judgement, I consider for the benefit of my patients... I will give no deadly medicine to any one if asked, nor suggest any such counsel...” – Hippocrates, 400 BCE

These are powerful words, sworn to by medical professionals for centuries. However, in the 21st century, the implications are new because the practice of medicine is inextricably tied to the equipment we use, and the electricity that powers it. Risk Management and Biomedical Engineering professionals around the world understand this. But what is the application of this knowledge? What kind of risk does Medical Electrical equipment represent?

Preventive Maintenance & Periodic Safety tests are not Safety Certification. It’s true that these tests are very important, and have prevented many potential disasters, but this is not Safety Certification. A Certified product is identified by an approved Testing Laboratory Certification Mark on the equipment. This is a summary what that Mark means:

THE TESTS:

	Product Safety Certification	Preventative Maintenance
Insulation Resistance Test	Performed only in Field Labeling Evaluations.	Typically Performed at regular intervals
Dielectric Strength Test	Performed during Certification process and by the Listed product manufacturer on the production line before Labeling	Not Performed by Hospital Engineering or Biomedical Staff
Temperature Test	Performed during the Certification process.	Not Performed by Hospital Engineering or Biomedical Staff
*Abnormal condition Temperature Test	Performed during the Certification process.	Not Performed by Hospital Engineering or Biomedical Staff
Leakage Current Test	Performed during Certification process and by the Listed product manufacturer on the production line before Labeling	Typically Performed at regular intervals
*Leakage Current Test after Abnormal condition or humidity conditioning.	Performed during the Certification process.	Not Performed by Hospital Engineering or Biomedical Staff
Enclosure mechanical strength and product stability tests.	Performed during the Certification process.	Not Performed by Hospital Engineering or Biomedical Staff
Mechanical Load tests	Performed during the Certification process.	Not Performed by Hospital Engineering or Biomedical Staff
Grounding Continuity	Performed only in Field Labeling Evaluations.	Typically Performed at regular intervals
Grounding Impedance	Performed during Certification process and by the Listed product manufacturer on the production line before Labeling	Not Performed by Hospital Engineering or Biomedical Staff
Radiation Tests for X-Ray equipment	Performed during the Certification process.	Not Performed by Hospital Engineering or Biomedical Staff
Transformer Overload Tests	Performed during the Certification process.	Not Performed by Hospital Engineering or Biomedical Staff
Transformer Short Circuit Tests	Performed during the Certification process.	Not Performed by Hospital Engineering or Biomedical Staff

*Abnormal tests are used to evaluate the product for Fire and Electric Shock hazards in a single fault condition. For an explanation of any the above referenced tests, their purpose, and how they are performed, call 800-321-4655.

A Sticker is Worth a *THOUSAND* Words

By Steve Guarrant CBET, Duke University Health System

For those of you that have been in the Biomed profession for a few years, the sticker or maintenance label, not the unique inventory number that is applied to a medical device, can be, and usually is, a very controversial thing. There was a time when JCAHO required them, however at this moment, each institution and individual department is allowed to define and use this tool however they choose. Therefore a great deal of variation is possible.

This small and sometimes multicolored label has the potential for communicating good and bad as well as understanding and misunderstanding. So, what kind of data might you find on this tool? Let's look at some possibilities:

- To give no data – no sticker
- To describe the maintenance interval of the device
- To identify a future date of service and or maintenance
- To give information about what was done to the equipment
- To identify an individual that provided some service
- To identify devices that do not belong to the institution but are here for evaluation, on loan, rental, research, or patient owned
- To allow a clinician to determine if a device is OK to use, based on the policies of the institution
- To flag a device for scrutiny by a JCAHO surveyor
- To identify one type of management, i.e., periodic maintenance, and not others

All of this data can be coded so that only a few people can interpret it, or make it readable for everyone. It can represent a short hand record of the equipment documentation at your institution. Some equipment management programs incorporate some of the data above into the unique inventory number label. Data elements that seldom, if ever, change, could be printed onto a label such as: inventory number, serial number, model number, interval, classification, associated components, building/location, and owner cost center. All or none of this can be incorporated into a barcode.

In the final analysis, this tool is a visible yardstick by which your equipment management program can be measured. On one end you have no sticker which can mean that your program is invisible at the point of care. The other end is full disclosure, which can demonstrate that the equipment management program is taking full accountability for a continuum of equipment service and documentation. In the latter, the stickers and records must correlate consistently, a daunting task.

Since we have full control, how can we use this tool to add value to our medical institutions and ultimately the patient? Is your current equipment management program a star when JCAHO and other regulatory agencies come around or a black eye? Would you say your equipment management program is visible? If the answer is yes, what degree of visibility is the best?

A good place to start in determining visibility is; who is the audience you want to reach with sticker and or inventory label data. The players could be; BMETs, nurses, doctors, other clinicians, owner/managers, surveyors, patients, administrators, manufacturers, third party service/supplier companies, and or equipment movers. The answers here determine the openness, or coding of the data. The amount of equipment inventory data that is literally in the hands of the BMETs, in the field, can help define what data is placed on the device and on which label. The accountability of the equipment owner to keep up with their inventory should be considered. Next is, what do we want our readers to know and what can we back up with equipment records. The variations are endless and as we all know, what ever we state we will do, we must do.

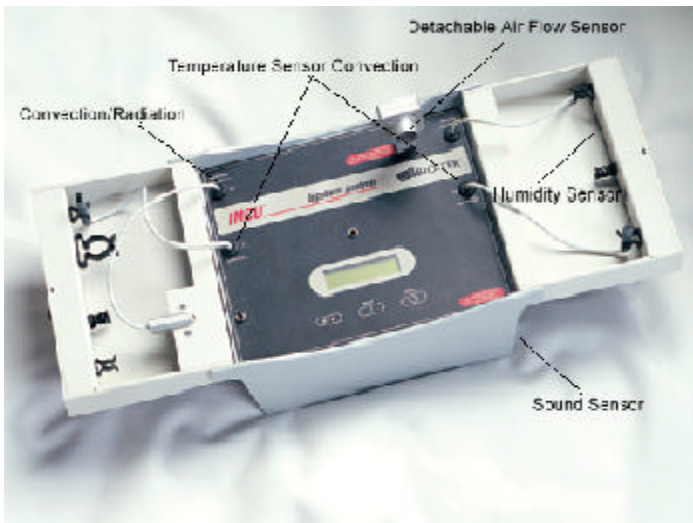
I believe that a well thought out plan for labels and stickers is an important part of any equipment management program. It needs to accurately reflect the current condition of your program and therefore must be flexible to allow for changes as your equipment management program evolves. A well-worded and accurate policy on this form of documentation is essential and needs to be reviewed regularly. With the printing technology available today timely modification to this information is becoming much easier.

I, for one, want to know your thoughts on this topic and how your respective equipment management programs handle this tool. I would encourage you to voice your thoughts in this forum so that we might collectively better manage the technology we are charged to take care of.



Two New Devices from Bio-Tek Instruments

The new INCU, Incubator Analyzer, is a portable device designed to verify the proper operation and environment of infant incubators. This unit records parameters important to the care of infants such as airflow, sound level, temperature (four individual measurement probes), and relative humidity. Event markers can be placed on the recording to identify certain activities or periods.



The rechargeable battery allows the unit to be placed within the incubator chamber for up to 35 hours. The recorded data can then be viewed on the display or downloaded to a dedicated program allowing the user to graphically view the various parameters.

This device is the first of its kind that combines all the parameters required by AAMI and IEC to properly evaluate closed incubators or open warmers. Marc Fresia, Product Manager, stated: "We are happy to finally be able to provide a single device that will reduce the time and amount of equipment needed to test this life-critical apparatus."

Bio-Tek Instruments announces the latest electrosurgery test device, the Model RF 303_{RS} with an RS-232 serial port for communication and a new Signal Averaging Mode (SAM™) making the unit compatible with more ESUs.

The RF 303_{RS} RS-232 port allows for two types of operation: Simplex and Duplex modes. 1) Simplex Mode (uni-directional): User controls operation of the 303_{RS} from its own keypad. Data is sent to a host device at a fixed baud rate. Hosts include serial printers, compatible terminal devices, personal computers...etc. In the simplex mode the 303_{RS} does not receive commands or data from a remote terminal or computer. 2) Duplex Mode (bi-directional): User inputs commands to the 303_{RS} and views data output from the 303_{RS}

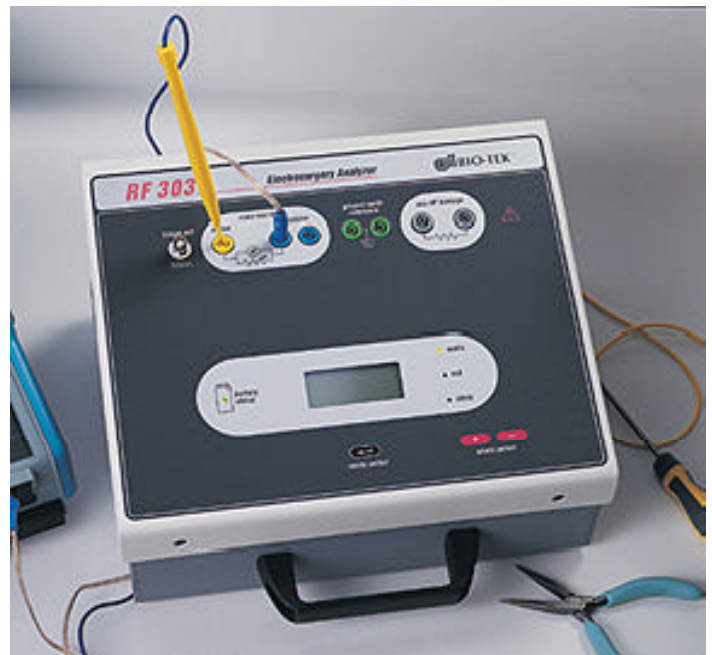
at a remote terminal or computer. Bio-Tek's OTIS program or other system can be used to control the 303_{RS} for performing preprogrammed and custom ESU auto sequences.

There are over ten (10) commands that allow the user to select loads and modes, report display readings, and determine settings and firmware versions. Every command returns some value or acknowledgement.

The **NEW** RF 303ps incorporates Signal Averaging Mode (SAM™ technology - a unique measuring mode that assures compatibility with most ESUs including older units.

The Normal Mode (RF303 default) is sufficient for most units under test; however, if output readings are variable and require stabilizing, the SAM™ system allows the user to manually select two (2) additional (slower) sampling times resolving and producing a stable and accurate reading.

All existing RF 303 units can be upgraded to the _{RS} version.



Bio-Tek Instruments of Winooski, Vermont is a leading developer and provider of biomedical test equipment and is part of Lionheart Technologies holdings. Bio-Tek's customers include hospitals, independent service organizations, and manufacturers of medical equipment throughout the world. Bio-Tek's biomedical products, which include electrical safety analyzers, patient simulators and ventilator testers, are sold in over 50 countries worldwide. Bio-Tek is an ISO9001/EN 46001 certified organization and has been in business for over 30 years, www.biotek.com .

North Carolina Biomedical Association
Manager of the Year Nomination
Sponsored by Spacelabs Medical

Do you know a manager who has given personally and professionally to the field of Biomedical / Clinical Engineering as well as to their local community? The North Carolina Biomedical Association in conjunction with Spacelabs Medical has created the Manager of the Year Award to be presented annually at the NCBA Symposium for just such a person. **The winner will receive a check for \$1,000 and a plaque identifying them as the NCBA Manager of the Year.** We are looking for managers who have made significant contributions in each of the following areas:

Professional Achievement

Professional achievement activities are those turning points during a career that set the manager apart from his or her peers. Criteria for professional achievement are:

- Leadership of employees or projects, in a manner that exemplifies dedication and professionalism to the field of biomedical technology.
- Contributions to the advancement and recognition of biomedical technology within the medical community.
- Seeking out continual development through constant learning, educational participation, and professional growth.

Community Contribution

Community contribution activities include any activities which provide a significant social, moral, economic, or educational benefit to the local community of the nominee. Criteria for community contribution are:

- Participation in community activities that differ from those associated with professional responsibilities.
- Demonstrated leadership in community or charitable organizations.

Biomedical Community

Biomedical community contributions are those activities, which enhance the professional biomedical community. Criteria for biomedical community contributions are:

- Participatory member in the North Carolina Biomedical Association.
- Demonstrated leadership in the field of biomedical technology on a local, state, or national level.
- Significant contribution to the advancement of the profession through speaking, writing, or networking activities.

SUBMISSIONS:

All submissions will be made on the reverse side of this form and submitted to the NCBA Board of Directors so that they are received no later than October 31st in the year of submission.

NCBA Manager of the Year Nomination

(Please Type)

1. Name of Candidate: _____

Title: _____

Employer: _____

Work Address: _____

Work City/State/Zip Code: _____

Work Telephone: _____ Fax: _____

E-Mail Address: _____

Home Address: _____

Home City/State/Zip Code: _____

Home Telephone: _____ Fax: _____

2. Please attach a letter of nomination that states the reason, and provides a comprehensive explanation of why this individual is being nominated.
3. An updated resume with the current position held by the nominee, **must** be attached for the nominee to be considered.
4. Additional letters of support are strongly encouraged in order to help identify the nominee's ability to meet the criteria listed. Supporting letters should be from individuals familiar with the nominee's contributions, and should not exceed two pages in length.
5. Additional documentation is encouraged, including (but not limited to) a list of cited articles, published materials, or speaking engagements.
6. Mail your complete set of materials to:

North Carolina Biomedical Association
6300-138 Creedmoor Road, PMB 272
Raleigh, NC 27612-6730
Phone: (919) 688-6890
Attention: Manager of the Year

7. All entries must be received no later than October 31st in the year of submission.

North Carolina Biomedical Association
Professional of the Year Nomination
Sponsored by Hill-Rom

Do you know someone who has given personally and professionally to the field of Biomedical / Clinical Engineering as well as to their local community? The North Carolina Biomedical Association in conjunction with Hill-Rom has created the Professional of the Year Award to be presented annually at the NCBA Symposium for just such a person. **The winner will receive a check for \$1,000, and a plaque identifying them as the NCBA Professional of the Year.** We are looking for individuals who have made contributions in each of the following areas:

Professional Achievement

Professional achievement activities are those performed in the course of day-to-day duty to their employer. Examples of professional achievement are:

- Assisted person in another department in a time of great need which clearly placed the needs of others above their own.
- Performed assigned duties in an outstanding manner.
- Made significant contributions to the mission of the institution which were clearly above and beyond the normal assigned tasks.

Community Contribution

Community contribution activities include any activities which provide a significant social, moral, economic, or educational benefit to the local community of the nominee. Examples of community contribution are:

- Organized a community-wide fund raising drive for a charitable organization.
- Contributed numerous hours to a charitable cause.
- Organized a community-wide educational program which improved or contributed to the improvement of the community inhabitants.

Biomedical Community Contribution

Biomedical community contributions are those activities which enhance the professional biomedical community. Examples of contributions are:

- Published articles in biomedical related professional journals, magazines, or periodicals.
- Presentations at a biomedical organization functions.
- Participation in panel discussions at biomedical organization functions.
- Volunteer work assisting a biomedical organization.

SUBMISSIONS:

All submissions will be made on the reverse side of this form and submitted to the NCBA Board of Directors so that they are received no later than October 31st in the year of submission.

NCBA Professional of the Year Nomination

(Please Type)

1. Name of Candidate: _____

Title: _____

Institution: _____

Work Address: _____

Work City/State/Zip Code: _____

Work Telephone: _____ Fax: _____

E-Mail Address: _____

Home Address: _____

Home City/State/Zip Code: _____

Home Telephone: _____ Fax: _____

2. Please attach a letter of nomination that states the reason and provides a comprehensive explanation of why this individual is being nominated. Please provide examples in ALL THREE areas listed on the reverse side of this form.
3. A resume of the individual being nominated **must** be attached for the nominee to be considered.
4. If you wish to provide additional letters of support, each letter should not exceed two pages.
5. Additional documentation may be provided, including a list of cited articles, published materials, or speaking engagements.
6. Mail your complete set of materials to:

North Carolina Biomedical Association
6300-138 Creedmoor Road, PMB 272
Raleigh, NC 27612-6730
Phone: (919) 688-6890
Attention: Professional of the Year

7. All entries must be received no later than October 31st in the year of submission.

State of North Carolina



MICHAEL F. EASLEY
GOVERNOR

BIOMEDICAL EQUIPMENT TECHNICIANS WEEK

2002

BY THE GOVERNOR OF THE STATE OF NORTH CAROLINA

A PROCLAMATION

WHEREAS, modern health care relies upon machines, as well as, people for the best treatment available. Diagnostic instruments such as patient monitors, EKG machines, and laboratory and X-ray equipment help establish the need for care. Therapeutic systems such as anesthesia machines, physical therapy instruments, pacemakers, and radiation devices provide needed service to patients; and

WHEREAS, while health care costs are a major concern, costs can be controlled by effectively selecting and repairing medical equipment by qualified clinical engineers and biomedical technicians; and

WHEREAS, the biomedical technician has the level of education, experience and competence needed to work professionally with physicians, hospital administrators and other personnel regarding the technological aspects of health care delivery. They install, inspect, repair, calibrate and modify medical devices and medical support systems. These professionals offer advice about the operation, underlying physiological principles and the practical, safe clinical application of medical devices. They also supervise biomedical equipment maintenance activities;

NOW, THEREFORE, I, MICHAEL F. EASLEY, Governor of the State of North Carolina, do hereby proclaim August 4-10, 2002, as "BIOMEDICAL EQUIPMENT TECHNICIANS WEEK" in North Carolina, and urge our citizens to recognize the importance of this profession in maintaining quality health care in our State.



Michael F. Easley
MICHAEL F. EASLEY

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Great Seal of the State of North Carolina at the Capitol in Raleigh this twenty-third day of April in the year of our Lord two thousand and two, and of the Independence of the United States of America the two hundred and twenty-sixth.

Update from Stanly Community College

On behalf of the students and faculty here at Stanly Community College, let me begin by saying thank you to the NCBA for your continued support of our Biomedical Equipment Technology program. It is through your generosity, educational programs and financial assistance that we are able to produce technicians who are properly trained for today's work force. The NCBA has been a pioneer in the biomedical community, and today continues to exemplify to our students the characteristic known in the business world as "quality". My hat is off to the NCBA and it's leaders for the excellent job that they perform, not just at the symposium, but in their year round commitment to those of us in the biomedical profession.

Through funds donated by the NCBA, our students have medical equipment test instruments and digital multimeters in the form of "present day" test equipment. Our test equipment is now very similar to what will be seen in the current work place. Students can graduate with a working knowledge of the latest in digital test equipment.

Funds allocated by the state have been lacking over the past few years. Supplies needed to repair and maintain lab equipment has been cut from most budgets. The donations given to us have assisted in providing new tool kits for students to work with, along with components desperately needed for laboratory projects. Without your generosity, equipment would have to be cannibalized in order to keep other equipment running.

There is no way to fully express our gratitude. However, when those students walk across that stage on May 13, those of you in the NCBA can know that they played a big role in the student's success. Thanks again, and I look forward to working with each of you in the future.

David Wilson, Program Director

Biomedical Equipment Technology Program

<h1>The Battery Clinic, Inc.</h1>			
<i>MEDICAL, INDUSTRIAL, COMMERCIAL</i>		Batteries For:	
<h2>800-786-1511</h2>		Portable X-Ray Machines	
The Battery Clinic, Inc.		<ul style="list-style-type: none"> ● General Electric AMX Units ● Philips Medical Units ● Picker International Units ● Raytheon Units ● CGR Batrix Units ● OEC C-Arm Units ● <i>And Many Others</i> 	
is a company devoted to <i>Quality</i> and <i>Customer Satisfaction</i> . With many years experience in the battery field, we can help you with most every type of battery or battery question. If we don't know, we will try to find out for you. When you need a battery or information on a battery, give us a call. "We've Got The Cure."		Biomedical Equipment	
www.BatteryClinic.com		<ul style="list-style-type: none"> ● Defibrillators ● Monitors ● Pumps ● Bed Scales ● Recorders ● Oximeters ● Transports <small>Call Us for Best 1991 Pricing!</small> ● Patient Cables & Leadwires 	
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Continued from page 4

Certified products undergo rigorous Testing and Evaluation. Many pieces of non-certified Equipment may pass PM's, at least in the short term, but due to the construction, represent a high degree of risk. Incorrect construction can result in internal wiring and component failure, and these failures are likely to result in Electrical Fire, Electrical Shock hazard, Energy hazard, Chemical hazards, Radiation or Mechanical hazards. These hazards will directly affect your medical staff and patients.

THE EVALUATION:

	Product Safety Certification	Preventative Maintenance
Internal Electrical Component Certification	Performed during the Certification process and Field Labeling Evaluations.	Not Performed by Hospital Engineering or Biomedical Staff
Proper use of Certified Components	Performed during the Certification process and Field Labeling Evaluations.	Not Performed by Hospital Engineering or Biomedical Staff
Internal wiring size, type and methods.	Performed during the Certification process and Field Labeling Evaluations.	Not Performed by Hospital Engineering or Biomedical Staff
Live part Spacings, Creepage and Clearance.	Performed during the Certification process.	Not Performed by Hospital Engineering or Biomedical Staff
Accessibility of enclosure openings	Performed during the Certification process and Field Labeling Evaluations.	Not Performed by Hospital Engineering or Biomedical Staff
Moving Parts Casualty Hazards	Performed during the Certification process and Field Labeling Evaluations.	Not Performed by Hospital Engineering or Biomedical Staff
Laser CDRH Report verification	Performed during the Certification process and Field Labeling Evaluations.	Not Performed by Hospital Engineering or Biomedical Staff
Review of safety markings on the Product.	Performed during the Certification process and Field Labeling Evaluations.	Not Performed by Hospital Engineering or Biomedical Staff
Review of safety information in the Operator's Manual	Performed during the Certification process.	Not Performed by Hospital Engineering or Biomedical Staff

Should Biomedical Engineers refuse to test and approve non-Certified equipment? Equipment that has not been tested by an accredited Testing laboratory represents potential risks to patients, doctors, and all other medical and service personnel. Biomed departments and contract Biomed Service companies need to be constantly aware of these risks, and report any non-Certified equipment to their Risk Management and Facilities Engineering departments.

Should Risk Management review all equipment for Safety Certification Marks? A CE Mark, by itself, is not evidence of electrical Safety Certification. Many equipment distributors and manufacturers will claim it is. Most foreign test labs are not approved to certify equipment for the US and Canada. For a List of OSHA approved Testing Labs, visit the OSHA website: <http://www.osha.gov/dts/otpca/nrtl/index.html>. Non-Certified Laboratory and Physical Plant equipment also represents similar hazards, and should be inspected for Testing Laboratory Marks. Risk Management Departments need to compile a list of non-Certified equipment, so it can be determined if the equipment will be Field Label Certified by a Testing Lab, or discarded and replaced.

2003 may be too late to have non-Certified equipment Field Labeled. January 1, 2003 marks the implementation of tougher Product Safety Standards. Specifically, UL2601-1 replaces UL 544 (Medical and Dental Equipment) and UL187 (X-Ray Equipment). Most non-Certified products will not pass the new UL2601 Standard, and will have to be taken out of service. Contact your local Testing Laboratory to get the Field Labeling process started. You can save your valuable equipment and help avoid the expense of replacing it.

Greg Smith is a Product Safety Project Engineer for MET Laboratories in Morrisville, NC and a long-standing member of the NCBA. For additional information and an explanation of our special programs for Medical equipment Certification, call 800-321-4655.

NCBA Board Minutes (continued)

this year, allowing time for symposium training. Charles made a motion to accept the Education Report; Christina seconded. Motion approved.

Action required: Mark to get article to Glenn for newsletter on Certification class. Linda to forward Glenn copy of Olympus applications when completed.

Rules & By-laws: No report.

Newsletter:

In Glenn's absence, Linda passed on that Awards Forms were need for the newsletter. All present wished Glenn well in his recovery.

Nominating Committee: No report.

Old Business:

1) The purchase of a laptop computer for the Membership Secretary is no longer needed, as one has been made available for this function.

2) Discussion followed on recognition of NCBA Week, beginning August 5, 2002 . Dale recommended that Boyd email the AHA announcement of order to inform the Administrators of local hospitals of NCBA recognition week. Board suggested looking into having something sent out to membership. Obie agreed to gather pricing information for board to review. Christina will provide cost for shipping to membership. Board will vote via email.

3) The 25th anniversary year celebration was brought up for discussion. Dale suggested that this become a standing agenda item in order to get the planning in process. A separate committee needs to be formed.

4) Membership certificates with this year stamp (possibly handed out at symposium) were suggested to begin with the 25th anniversary events.. Diane will work with Christina to find possible certificates and gold foil stamps. Samples will be brought to the next meeting.

Action required: Obie to check pricing of pens. Boyd to add 25th celebration to agenda items. Christina and Diane to bring sample certificates to next meeting.

New business:

Recommendation to form standing 25th Anniversary Committee was made.

Symposium Planning:

In Helen's absence, Linda reported that Helen and Boyd would be attending a meeting scheduled for May 15, 2002 at Pinehurst to negotiate the next 3 year's contract. Helen will

report at next meeting on the possibly of continuing at Pinehurst.

Education: Linda distributed a draft class schedule for the symposium. Included was possible training provided by Scaletronics, South Pacific, Datex-Ohmeda, Aspect, Spacelabs, DITEC, Hill-Rom, and Steris. Other possibilities were discussed and will be contracted.

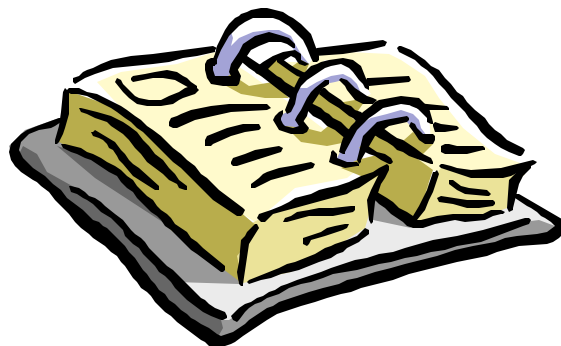
Vendor relations: Mark submitted the final new vendor form, which will be sent out. Membership had no concerns regarding the symposium.

Golf has been set, Course # 3 on Wednesday about 10 am (weather permitting).

Being no further business, Charles moved that we adjourn; Dan seconded. The meeting was concluded at 1:20 PM.

Respectfully submitted,

Diane Aker



Two Olympus Endoscopy Classes

When: August 6-9, 2002

Where: Alamance Regional Med. Center
Burlington, North Carolina

What: Course Number: 9-090, Endoscope Inspection,
Dates: August 6th and August 8th

Course Number: 9-100, EVIS System Setup & Support, **Dates: August 7th and August 9th**

Cost: \$350 per class for NCBA members, \$495 per class for non-members. Lunch provided by Olympus and breaks sponsored by the NCBA.

Detailed information including the required registration form can be obtained at the NCBA web site Events page in either MS Word or Adobe PDF format. Call Linda Leitch at 919-681-4293 with questions.

Merging and Unmerging Data

by Glenn Scales, CBET

There are times when you need to merge two data elements into one cell of a spreadsheet. For instance, suppose you have a phone number in one cell and the area code in another, but you want the full eleven digit number in a separate cell. In this case you will need to merge the two cells into one.

Lets assume that the phone numbers are in column A starting in row 2, and the area codes are in column B. Now in cell C2 you will need to enter the formula

```
=B2&"-"&A2
```

This tells Excel to join the area code in B2 with a hyphen, followed by the phone number from A2. Copy the formula as far down column C as needed. Next, select column C, choose Edit | Copy, then Edit | Paste Special, then Values and OK. This pastes the cell contents (not the formulas) back into column C. You can now delete columns A and B.

That wasn't too bad, but what if you want to go the other way – extracting the phone number without the area code. Excel gives you a very easy way to extract part of a cell's contents using the LEFT, RIGHT or MID formulas. The use of these formulas is pretty straight forward. For instance, the formula =RIGHT(A1,8) would give you the seven digit phone number (including the hyphen. This is easy because a list of phone numbers is always the same length, so if you extract the right most 8 digits of a phone number, you will always get something like 555-1212 (8 characters).

Now, what if you want to extract the last name of a list of names, such as John Smith or Edward Randolph. Obviously Smith and Randolph are different lengths so the RIGHT formula won't work. Well actually it will, with a bit of adjustment. The formula has two arguments: the cell that contains the data and the number of characters.

To make the RIGHT formula work with variable length data such as last names, you will need to substitute another formula in place of the second argument that specifies the number of characters to be extracted. The formula uses the FIND function, which finds one text string within another text string and returns the number of the starting position of the found string, and the LEN function that determines the total length of the text in the specified cell.

Sounds complicated, but in fact all we are going to do is look for the space in the text string that contains the full name and use the numeric value in the second argument in our formula. If the full name is in cell A1, the formula in cell B1 should read

```
=RIGHT(A2,LEN(A2)-FIND(" ",A2))
```

This should look familiar. The first argument, A2 tells the RIGHT formula to look in cell A2 for the data. The second argument is usually a number, specifying the number of characters from the right of the text string. In this case, instead of a fixed number, we will use two formulas, LEN(A2) and FIND(" ",A2). The LEN function tells us how long the full name is and the FIND function tells us the numerical position of the space between the first and last name. The difference between the total length and the position of the space gives us a variable number equal to the length of the last name.

To test how this works, open Excel and enter some names in column A, with the above formula copied down the appropriate number of rows in column B.

You can use a similar technique to break apart a City, State, Zip such as "Raleigh, NC 27612" into three separate data elements. If you assume that your string is in cell A5, then

```
City: =LEFT(A5,(FIND(",",A5)-1))
```

```
State: =MID(A5,FIND(",",A5)+2,FIND(" ",A5)-6)
```

```
Zip: =RIGHT(A5,FIND(",",A5)-3)
```

Once you understand how the FIND and LEN functions work, you can configure the LEFT, RIGHT and MID functions to extract a portion of a text string. Don't forget, that as far as Excel is concerned, the data in the cell with the formula, is actually the formula. Its just that Excel, by default, displays the results of the formula in the cell. To get the actual data rather than the formula, remember to choose Edit | Copy, then Edit | Paste Special, then Values and OK. This pastes the cell contents (not the formulas) back into the column.



Alternate-Row Shading

One way to make your data legible is to apply cell shading to every other row in a range. In Excel 97 or later, select the range and choose Format, Conditional Formatting. In the Conditional Formatting dialog box, select Formula Is from the drop-down list, and enter this formula: =MOD(ROW(),2)=0. Click Format, select the Patterns tab, and specify a color for the shaded rows. Click OK twice and you're done! You'll find that the row shading persists even if you insert or delete rows within the original range.

SCHEDULE of NCBA BOARD of DIRECTORS MEETINGS for 2002

March 8, 2002, Time: 10:00 a.m.
Duke University Hospital, Durham, NC
Host - Brian Poplin, Ph: 919-681-2525

May 10, 2002, Time: 10:00 a.m.
Wayne Memorial Hospital, Goldsboro, NC
Host – Mark Renfroe, Ph: 919-731-6077

July 12, 2002, Time: 10:00 a.m.
Catawba Memorial Hospital, Hickory, NC
Host - Boyd Campbell, Ph: 828-326-3899

September 13, 2002, Time: 10:00 a.m.
Premier, Charlotte, NC
Host - Dale Allman, Ph: 800-825-1786

November 8, 2002, Time: 10:00 a.m.
Pinehurst Resort & Hotel, Pinehurst, NC
Ph: 800-487-4653, www.pinehurst.com

December 2-4, 2002
2002 NCBA Symposium and Expo
Pinehurst Resort & Hotel, Pinehurst, NC

January 10, 2003, Time: 10:00 a.m.
NC Baptist Hospital, Winston-Salem, NC
Host – Helen Jones, Ph: 336-716-612

February 7-8, 2003, Time 8:30 a.m.
Board of Directors Planning Retreat
Myrtle Beach, SC

Board Meetings are open to the NCBA Membership. Please plan to attend.

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