

Marriage of Two Technologies at the NSLS: Infrared Beam Line and Infrared Microscope

From cocaine in human hair samples to minerals in extraterrestrial dust particles, a scanning infrared microscope temporarily installed at Brookhaven's National Synchrotron Light Source (NSLS) helps researchers determine the chemical and molecular properties of a wide variety of both organic and inorganic materials.

The microscope was manufactured

Its performance is enhanced by using synchrotron light, which is at least 100 times brighter than conventional infrared light sources.

Using the infrared microscope at beam line U2B, researchers can chemically analyze samples by a technique known as microspectroscopy. "This involves measuring an infrared absorption or reflectance spectrum for a

successful, we are now looking into creating a permanent infrared microspectroscopy users' facility at the NSLS," he added. "The NSLS ultraviolet ring provides a very stable, high-current, low-energy beam, making it one of the best sources for performing this type of microspectroscopy."

"We have achieved outstanding results," said John Reffner of Spectra-Tech, Inc., "Using infrared microspectroscopy at the NSLS, we can chemically analyze a sample as thin as five micrometers — one-tenth the width of a human hair — in seconds with the same precision of measurement on samples up to 50 times larger. We have achieved the full theoretical resolution of the infrared microscope, with no optical distortions."

Initial types of research performed to test the capabilities of the infrared microscope have been varied and have included the following:

- **Spectra-Tech** researchers, in collaboration with the **Polaroid Corporation** of Cambridge, Massachusetts, have achieved chemical profiles of a cross-section of film coated with five layers of various polymers, of which three were only five-micrometers thick. This kind of analysis may help to make better film.

- Scientists from the **Corporate Research Center of Grumman**, headquartered in Bethpage, New York, have examined semiconductors under the infrared microscope to detect tiny internal flaws as small as five micrometers in diameter. Defects and impurities in semiconductor materials may lead to malfunctions in devices that depend on them. These semiconductors are used in sensors, with potentially diverse applications, from mapping the earth's resources from space to detecting tumors or monitoring highway traffic.

- Researchers from **Carnegie Institution's Geophysical Laboratory** in Washington, D.C., have investigated the chemical composition of rocks and inclusions inside diamond, silicate minerals and some volatile materials, to understand better the state of the earth's interior and how it affects such phenomena as earthquakes and volcanoes.

- **Federal Bureau of Investigation (FBI)** researchers have determined the chemical composition of thin layers of paint and explosive particles less than ten micrometers in diameter. They also examined strands of human hair for drug residues.

Mary Tungol of the FBI's Materials Analy-

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Bebon Named Assistant Director



Michael Bebon

Michael Bebon has been appointed to the position of Assistant Director for Management and Physical Plant, effective February 1. In that position, he has assumed the responsibilities of E. Parke Rohrer, Associate Director for Management and Physical Plant, who began a six-month leave of absence on February 1.

"We are fortunate to have Mike to take over this effort while Parke takes his leave of absence and a well-deserved rest after many years of excellent service," said Laboratory Director Nicholas Samios.

In his new capacity, Bebon assumes responsibility for oversight of the Central Shops, Contracts & Procurement and Plant Engineering Divisions, as well as the Laboratory Operations Support and Quality Assurance Offices. Since June 1991, he has served as Rohrer's deputy, overseeing the day-to-day operations of those groups.

"I welcome the opportunity to continue working with the many dedicated and talented people in these organizations," Bebon continued. "I've worked with many of them for a long time, and, with their help and continued support, I'm confident we'll meet our goal of making BNL's reputation for support services excellence match the Laboratory's long-standing reputation for world-class science."

Bebon outlined his goals for his

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At beam line U2B at the National Synchrotron Light Source, researchers (from front to back) Mary Tungol, Federal Bureau of Investigation; Larry Carr, Grumman Corporation; Gwyn Williams, BNL; and John Reffner, Spectra-Tech, Inc., examine data from infrared microspectroscopy performed using the infrared microscope.



Photos on this page by Roger Stoutenburgh

by Spectra-Tech, Inc., based in Stamford, Connecticut, and installed by the company at the NSLS in collaboration with Grumman Corporation and the Carnegie Geophysical Institute. It will be on loan from Spectra-Tech until February 20, and may possibly be returned in mid-March.

This is the first time a commercial infrared microscope has been connected to a synchrotron light source.

tiny area of the sample close to or at the diffraction limit, which in practice means a few micrometers," said physicist Gwyn Williams, NSLS Department, who initiated the effort to combine the infrared beam line at U2B with the infrared microscope.

"The marriage of these existing technologies provides researchers with a new part of the spectrum for performing microspectroscopy," Williams added. "Almost all chemicals have a particular signature in the near-infrared region of the light spectrum, so that they can easily be identified using this technique."

"Since initial studies have been so

Coming Up

Physicist Wolfgang K.H. Panofsky, Director Emeritus of the Stanford Linear Accelerator Center and Chairman of the National Academy of Sciences' Committee on International Security and Arms Control, will deliver an AUI Distinguished Lecture on Tuesday, February 22. His talk, entitled "Plutonium Management and Disposition: A Report of the National Academy of Sciences," will begin at 4:30 p.m. in Berkner Hall.

Scientist Ann Reisman, Associate Chairman for International Programs in the Department of Advanced Technology, will deliver the next Brookhaven Lecture on Wednesday, February 23. Her talk on "BNL's International Safeguards Project Office — Helping to Deter Nuclear Weapons Proliferation," will begin at 4 p.m. in Berkner Hall.

Workshop Focuses on Infrared Microspectroscopy

Attended by 32 researchers, a day-long workshop called "Advances in Infrared Microspectroscopy with the National Synchrotron Light Source (NSLS)," was held at BNL on February 3. (See accompanying article.)

"The workshop was held to present the theory of synchrotron infrared microspectroscopy and to review the results of the preliminary applications of the technique at beam line U2B at the NSLS," said NSLS Physicist Gwyn Williams. Williams and John Reffner of Spectra-Tech, Inc., organized the conference with the help of Lydia Lever, NSLS (standing, left). Williams added, "We also discussed the possibility of designing a custom-made facility for infrared microspectroscopy at the NSLS."

Since more than half of the participants came from industry, Williams said, "This conference marked the beginning of a major potential technology transfer effort for the NSLS."

Attendees included: (back, from left) Carl Zimba, Polaroid Corporation; David Wetzel, Kansas State University; Victor Kalasinsky, Walter Reed Army Hospital; (and seated, from left) Peter Codella, General Electric Corporation; and Thomas Kubik, Nassau County Police Department.



Valentine's Day Special

Love in Sight on the Brookhaven Site

People in love often remember a particular place, such as the place they met, as special. These two stories introduce three now-married couples from two families who met at a very special place — the Brookhaven site.

Lovely Coincidence

The year was 1944. Norman Pothier was at Camp Upton, the former incarnation of today's BNL site, recovering from wounds received in a World War II battle in Italy.

Among the entertainments offered to servicemen recuperating at the compound were USO dances, to which young women from the area were invited. One of those who attended an October dance in the ballroom of a Camp Upton recreation hall was Marjorie Baldwin. She and Pothier met on the dance floor, fell in love and married the next year.

Little did the newlyweds know that their daughter, Cynthia, would one day work at the very same place where they met. But even more amazing is that she met her husband here, too!

In 1985, Cynthia Pothier arrived as a new employee in BNL's Management Information Systems (MIS) Division. While working there, she met Peter Pohlig, then an MIS employee and currently a senior systems specialist in the Safeguards & Security



At the July 1987 wedding of Cynthia and Peter Pohlig (the couple at right, with Cynthia's son Andrew Weber), another couple who had met on site was present — the bride's parents, Marjorie and Norman Pothier (at left).

Division. In a curious twist of romantic fate, they too fell in love and, in 1987, were married, 42 years after the Pothiers. It was only then that they discovered the fact that the two couples had more in common than family ties.

—Kara Villamil

Romance Bloomed In the Hall of 197

Marie Liguori was the first to arrive at the BNL site. Actually, she worked at Camp Upton, typing discharges for returning veterans. Then, when she heard that a new laboratory dedicated to researching peaceful uses of the atom was going to open on the Camp Upton site, she applied for a job.

Issued life number 131, she started in the BNL mailroom on February 2, 1947. When an opening for a library assistant became available in the Technical Information Division's Research Library, she transferred there in September 1952.

It was a fateful move because one of her tasks — storing classified documents in the vault — brought her to Bldg. 197, home of the Technical Photography & Duplicating Division. In fact, the vault was right next door to the print shop where Andy Brems was a pressman.

Brems had come to Brookhaven on June 28, 1948. Though a relatively late arrival — his life number was a whopping 2040 — he's more than made



Andy & Marie Brems

up for it. Last year, he was the second person at the Lab to observe a 45th anniversary, and he's still going strong as a senior Photography & Graphic Arts specialist.

Marie Liguori, however, is no longer at BNL. In fact, she's no longer Marie Liguori. She's Marie Brems and has been since 1958, when she and Andy Brems married, some six years after they met in the hallway of Bldg. 197 — midway between the vault and the pressroom.

Marie Brems left the Lab in 1959 because she was expecting the first of the couple's two children, and today she's home again, as a full-time babysitter for their first grandchild. But she looks fondly back on her days at BNL, saying, "I loved it there."

For Marie and Andy Brems, Brookhaven was not only a great place to work and get life numbers, it was also a great place to meet a life partner.

— Anita Cohen

An Artist's Urban Reflections



Ruby Fajer reflects on her reflections.

A unique view of the beautiful patterns and distortions formed by modern city buildings reflected momentarily in glass is captured by Ruby Fajer in her exhibition of color photographs, "Modern Urban Reflections," on show all this month at the Shoreham-Wading River Public Library, Route 25A.

Fajer, a chemistry associate in the Department of Applied Science (DAS), has worked part-time with different groups in the Environmental Chemistry Division for 20 years. But her career in photography is much more recent.

"I was always fascinated by urban architecture," explained Fajer. "You can see such an infinite variety of reflections among the glass structures. But it wasn't until two and a half years ago, on a trip to Chicago, that I decided to try photographing what I saw."

More photos emerged when Fajer visited New York and Miami. And, in the shop where she had some of them framed, it was suggested that she join the North Shore Art Guild, where members encouraged her to enter her work for display. As a result, she won third prize in a Gallery North show

last year, and her own show in Shoreham follows this year.

"Now I try to travel with my husband Jack [also in DAS] — but only if the buildings where he's going are interesting!" joked Fajer. "It's been so much fun to do this, mostly because it's so unexpected. When I sent out invitations to the show, I was still surprised that it was happening!"

— Liz Seubert

As Ogden Nash never said:
Dropping a VALENTINE
into the mail when
you want to keep
your nite incog... is FINE.
But, even if you don't
come from CAROLINA,
dropping more food
in the Food Drive bins,
which have bin
emptier of late... is FINA!
BNL FOOD DRIVE
PICKUP NEXT WEEK.

HMO Reps on Site

Between now and February 25, BNL employees working 20 or more hours a week are asked to choose their health-care coverage for the next year. With coverage effective March 1, eligible BNLers may select either the AUI Group Medical Insurance Plan administered by Connecticut General Life Insurance Company, or one of four Health Maintenance Organiza-

tions (HMOs): ChoiceCare, Empire Blue Cross Blue Shield (BCBS) Healthnet, Health Insurance Plan of Greater New York (HIP), or US Healthcare.

Each of the HMOs is sending a representative to Berkner Hall, on Wednesdays, February 16 and 23, when they will answer questions and provide literature about their plans, from 11 a.m. to 1:30 p.m.

Employees who wish to join an HMO, switch to another HMO or change from an HMO to the AUI Group Medical Insurance Plan can obtain the necessary forms by contacting Personnel Services, Bldg. 185, Ext. 2877. Those who are satisfied with their present medical coverage need not do anything for it to continue.

Arrivals & Departures

Arrivals

Evan H. Abramson App. Science
Alfons F. Haffmans Adv. Tech.
Raymond J. Parsick Adv. Tech.
Peter B. Thomas Physics
Yongxiang Zhao Physics

Departures

This list includes all employees who have terminated from the Lab, including retirees:

Harriet Castro Fiscal
Angela Johnson-Shaw Reactor

Infrared

(cont'd)

sis Unit explained, "We can determine if an individual has been taking certain drugs, such as cocaine, by examining his or her hair a centimeter at a time using mass spectrometry. Researchers at Walter Reed Army Hospital have detected drugs in hair using an infrared microscope, which has greatly improved resolution over mass spectrometry. We are attempting to improve the sensitivity of the infrared method, using the Spectra-Tech microscope at Brookhaven."

• University of Chicago researchers, in collaboration with MVA, Inc., of Norcross, Georgia, are interested in obtaining new information about the way solar systems are formed. Thus, they have measured the absorption spectra of 10-micrometer interplanetary dust particles — micrometeorites collected in the stratosphere — using the infrared microscope. They then compared this data with the infrared emission spectra of astronomical objects such as protostellar objects — new solar systems in the early stages of formation — which are obtained using telescopes. These infrared data combined with electron microscopy studies of the particles allowed the scientists to infer which minerals may be present in these astronomical objects.

— Diane Greenberg

Bebon

(cont'd)

new position. "I plan to build on the many changes Parke has instituted, with one basic goal — to have our organizations become the standard of excellence for product and service quality across the DOE complex," he said. "My definition of quality is a broad one. It involves providing an excellent product or service at a fair cost to the user on a timely basis. In many areas, we are already doing that, but we certainly have opportunities for improvement."

"I intend to broaden our communications both internally and with our customers while continuing to focus on improving the ways we do business," Bebon continued. "In my view, the success of our efforts is the key to dealing with the current and future environment of expanding workload and shrinking resources."

Since coming to BNL in 1980 as a project engineer with the Brookhaven Area Office of the U.S. Department of Energy (DOE), Bebon has served in several DOE and BNL positions, including Manager of Plant Engineering from 1989 to 1991. He has been married to his wife Patricia for 21 years and has three children: Christy, Karen and Michelle. Active in community affairs, he is currently a member of the Little Flower School Board.

TO FRANK - I heard you like fishing, and I'm a great catch, so call me sometime, we'd make a great match.

LAURA ANN - After 15 years and 2 terrific children, you're "still the one" that does it! Love always, Dominic.

RUIMEI - Why does your smile on the volleyball court always make me fantasize? Your secret admirer.

KAT MOM - My world would be empty without you. Your Honey Bunny.

PATTY - What was already great keeps getting better. Happy Valentine's Day. Luv, Bill.

TO KENNY AND THE "TD-1'S AND TD-2'S" OF EAO - Thanks for a great first year! You deserve my personal searchlight award! Love, "Hazel."

PORCUPINE - this jewel in the rough is very glad to be considered worthy. Only you!

BIKER HUNK - looking forward to HOT temperatures for our next ride . . . B.B.

GENERAL - I know now that no two people can ever share the love we have for each other. 143. Donna.

HERMEE - You're all I'll ever want and need - your love and laughter, your heart and soul. Yours forever, Lily 9792.

JC - Instead of working so much overtime, maybe we can get together for a bite to eat. L.

FETT - You are the best for me. Pals forever. Love beyond Madrid, TTFE.



LOVE YOU - Joe.

TO MY GAL, ELLIE - All my love, all my life. Your guy, Don.

MR. GREAT SMILE - Hopefully, we will meet again, maybe in the cafeteria or at happy hour. D.

FUZZY - Through the years, as Valentine's Days come and go, my love for you will continue to grow. Love, Jeff.

OH BABY - Where would I be without you? Love those green eyes. Love, Mr. Buggy.

DANIELLE, STEPHANIE AND BEN - All my love today and everyday. Daddy.

SILVER FOX - Happy Valentine's Day. You get better every year. I'm so glad you are my best friend. Much love.

TO THE MAN WITHOUT HIS WARM FUZZY THING - It is missing you to! Rid yourself of aches. Play v-games . . . It shall return forever.

DEAR HONEY-BUNNY AND MY TWO BUNDLES OF JOY - You're my life, you're my everything! You make me so very happy!!! Love always, Neilly.

DJ - The longer I'm with U the more I love U. Good luck skating!?? Love, Joseph.

AJ - Roses are red & violets are blue, I love being married to you. Be my Valentine. Love, CJ.



DEAR SEAJAY - Glad to be your 98.6 heat source. Glad to be your friend! With love, one of the Blackbirds.

COMP - When we need a laugh - and a job well done - we know we can always count on you. xx BB

DM - Luv U 94.

TO MY WIFE - On our first Valentine's Day as husband and wife, I love you. You're very special to me!

T.M. - Be mine 1994 and many more. Just want to let you know "I love you." '94 til infinity. Love, me.

JW "ANGLER" - How about letting me tie some flies with you tonight? Love, LW.

JEANNE - My love for you grows each day, words can never express the love I have for you. Love, Tim.

KELLY - Only seven more months to go. See you in September. Love, Ricky.



LUTE and lyre strum;
Lady twirls, dark knight bows low.
The lovers frolic.

TO THE LADY NEXT DOOR - Is this the year? Only 'Tim' 'Will' tell. Your Neighbor.

HAPPY VALENTINE'S DAY ITCHY! - With lots of love, Flo.

HAPPY VALENTINE'S DAY - To my wife and sweet-heart forever. Looking forward to S.F.

TO MY INDIANA JONES - Thank you for the great mix of love and friendship. Love, your Amethyst.

LUSCIOUS - Happy to have a love for a lifetime. Love, your Little Snappy.

DEAR L.S. - My love for you is stronger than ever. Love, P.M.

WHO SAID I wanted to be your friend anyway? Happy Valentine's Day.

DEAR SW - Release that impish little girl with the twinkle in her eyes and come fly with me. AMFAS

THERE once was a man from 703,
Who had thoughts as small as a mustard seed.
God said have faith as great, don't hesitate
At Life and at Love, you'll succeed.

SPECIAL FIREMAN FOR PLAY WITH CUPID - Be my Valentine. What do you say, Mr. Salt and Pepper? Love, Linni.



FOOBER - Happy Valentine's Day. It's good to be back! Luv ya.

KAREN - Looking forward to the sun, the sand and you with no kids. Happy Valentine's Day. Love, G.

TOM AND KAYLEE - My two favorite Valentines, I love you both so much! Love, me.

HONEY - I never dreamed I could be this happy. You're the best husband in the world & our son was a gift from God. Love, me.

CUTIE - Our 1st Valentine. Can't wait to be your Mrs., to cook "sponge soup" with hugs and kisses! Your Sweetheart.

SWEET THING - Riverhead or Bayonne - it doesn't matter - as long as we're together. 143-341. Hugs, Kitten.

MUSTAFA O. - With the exception of winning lotto, you are making my dreams come true. I love you! Patty G-O.

TO THE OTHER MAN IN MY LIFE - Welcome back Dad! Love, JoAnn.

DONNA-MARIE - To my beautiful and loving Valentine I love you. S.E.W.

BUMBURY - Here's to you and the "Grand Affair." Much love, Willie.

TO MY STALLION - Here's to our first, but not last special Valentine's Day together. Loving you always, your future wife.

I'M VERY PROUD to have you as my husband. Love to my best Valentine in the world. Megumi.

R.B. - Remember New Year's night '982? We've shared 12 years of love; let's keep sharing! Love, your "Special" Valentine.

TO A WONDERFUL VALENTINE - who captured my heart 35 years ago: Bestemor you have been the fulfillment of all my dreams.

NONA - Retired for a year and still love you very much! Love you forever, Bob.

TO MY BRIDE - You are my friend, companion & lover, a precious gift from God. Looking forward to exciting times ahead... "for such a time as this!" Love always, Irish.

TO MY OLD MAN - I miss you so much. Can hardly wait for spring. Love you, Me.

REM - For the way you are, the special things you do. From someone who thinks the world of you. Love you, MEH.

PIELLA - Would you be mine, could you be mine, won't you be my Valentine? I love you! The Cheekster.

MOM - Joe and me, you and Ray, swimming in TongoLunda Bay. 2 weeks 2 go 2 Huatulco. Love ya, J & D.

PEELY - Better days are coming. Keep believing in me and continue your support. I'll always be here. Love, Weely.

SNUGS - I like you too. Love, your Dying.

SWEETIE - Happiness is being married to my best friend. Happy Valentine's Day. Love, Koty's Mother.

HUN - A million "I love yous" is not as great as one action. Don't give up. I never will. Atilla.

TOGETHER FOREVER - Love, "Your Man." p.s. I love you!!

TOMMY DOWN THE STREET - I love you. Remember Pumpkin?

DEAREST TINA - You are and will always be the most special for my life. Love always, Conrad.

WE'RE LOOKING FOR A FEW GOOD MEN - Valentines sought for three eligible ladies. To apply, send note to: "Lonely Ladies" c/o Bulletin, Bldg. 134.

SWEETHEART - You're the best husband in the world, and I love you more than anything. Your Sweetie.

GREG - I will always love you, and I'll wait forever. Happy Valentine's Day. Love, Babe.

JUANITA - Thanks for being a wonderful godmother and aunt. We love you! Love, Christine and Chelsea.

JOSEPH - LIFESGR8 with U, but this frozen tundra is 2 much 2 bear. Take me away! Love U, DJ.

PETIE - Happy Valentine's Day! Hope to see you at Center after Florida trip. Save me a seat. Your Secret Admirer.

ANOTHER V-DAY - A new house, hope there are no ghosts to haunt us out. I love you.

CRYPTOGRAM LADY - I got the message. Have a nice day. E-Mail Male.

THE WIND CHILL at zero, the snow in a mound, cannot stop the burning of the love we have found.

THANK YOU FOR BEING YOU - and loving me. You're the best!



TO THE LOVE OF MY LIFE - I love you Scooter. Love, Mom.

TO CHRISTINE & CHELSEA - Happy Valentine's Day to my two little angels. Love, Auntie.

YENZU - Happy Birthday to you and everything good for you every year. This time on the day we are happy together.

DANCING - bowling, soccer, hockey, kids, romance, smoking, snow, love, cooking, pets, "afternoon naps," "sound familiar/crazy?" I love you always!!!

LADY - Think about "Through the Years." It will be this way forever. I love you, Himself.

L.M.F. - As time goes by, I realize just what you mean to me. Thanks again for making it all happen! I love you forever. J.A.S.

3-22-90 - Our lives together began. My lover, best friend, you're the best. I love you. Sweeties always, Sugarloft.

OUR FIRST SAINT VALENTINE'S DAY - In our new home by the sea - lucky we! I love you beary much, Hippity Hop!

HI "SWEET C" (DADDY) - We love you. Love, Jellybean & Chelswoman.

TO MIKE IN MIS - Your new ponytail is a real turn on. W, T, R & C like it too!

BOBBY - My sexy, strong yet sensitive husband who loves me for me, thank you for being you! Love you, Tina.

KOKOPELLI - We were there! North to Alaska next? Let's ride like the wind together, forever. Your loving Mr. Breeze.



PUPPYFACE - You're still the one for me! Kisses, Sunflower Seed Breath.

To J.H. - Why is it that every time you meet a guy, he's asking you out on a date? Bunk that! MSC.

DANA - Kisses from the boys - Dr, Cep, Weo, Moe, B³, Chiefic, Cement Bags, Millski & the Big Pink.

SLEEPLESS IN MANORVILLE - Looks, personality, intelligence. You've got it all. Thanks for being you. Love, Me.

ANGELA & TIM - Congratulations and happiness always!

MICHELLE - Cummings or goings - You're the best! Love, M.S. & J.H.

TO MY BESTEST PAL - I'll love you always. Love, J.W.

SANDE - I can't wait for our Valentine's trip to Hollywood. Love you deeply and forever, your Love Slave.

DEAR SUSANN - Meeting you in 1993 was the highlight of 1993 for me. Stay interesting. Be my Valentine. Sparklyn love, RPJ.

LYNETTE G. - You will always be unforgettable to me. Happy Valentine's Day. Love always, Robbie.

DEAR GUMBY - You are my one and only! I love you more each day! Love, Pokey.

LOUISE - We love you; you're the best Mommy and wife. Thanks for being so good to us. Love, Two Pats.

ANOULA - My wife, dance partner, mother of my little animals, best friend - what more could I ask for? Love always, me.

SWEETIE - You're more than nice, you're more than kind, so I thought you should be Valentined! XO to Lee from Cathy.



ROBERTA - A working water system! Marty.

MONSTER - Hey, how long has it been since I told you that "I love you?" Too long. Well I do!

TO MY STINKY - My honey is now a snow bunny. Love, Pootsy-pie.

LIGHTING - True love is worth waiting for. It only gets better! Uncommon.

SAMUEL - 15 words, it's not enough to express the way I feel about you. Te amo mucho, Patria.

BARB - Roses are red, and bromophenol is blue, your lab is contaminated, and so are you! Woof! With love, Mark.

HERE IS TO LOVING, to romance, to us. May we travel together through time; we alone count as none, but together we're one, for our partnership puts romance to rhyme.

DEAR C.J. - Happy Valentine's Day. Love always, A.J.

KAREN - Another Valentine's Day? Time goes so fast when you're having fun! All my love, all the time, Ray.

DEAR DOUG - We love you! Lady Di and "Lady."

TO MOM & DAD VILLAMIL - If you're reading this, you take your "little girl's" work too seriously! Happy V-Day! Love, Kara.

HAPPY THIRD ANNIVERSARY TO THE WOMAN I LOVE - And many more yet to come. Love, Rick.

DADDY - Every day you are the best in all the great big world. Here are O's & X's from two very lucky girls! Love, Termite & Meister.

TO MY DEAREST JACKIE - I love you for so many reasons, great and small, but most of all, I love you because you're you. Bruce.

DAD - You may be retired, but you'll never be forgotten! Love always, your Daughter.

Tennis Anyone?

The Tennis Committee will sponsor a night of tennis on Saturday, March 12, at the Eastern Athletic Club, Montauk Highway, Blue Point. Four courts have been reserved for BNL employees, family members and friends, and the games will begin at 7 p.m. and end by 11 p.m. The price of \$20 per person must be paid before February 25. To make reservations, contact Rita Kito, Ext. 3320; Ed Gill, Ext. 7207; or Joe Carbonaro, Ext. 5139.

Pick a Student, Pick a Teacher

Completed applications for the following summer programs run by the Office of Educational Programs (OEP) will be available for review from February 14 through February 25, from 9 a.m. to 4:30 p.m., at the Science Education Center, Bldg. 438.

Student Programs

- **Summer Students** - The traditional summer program in which junior and senior undergraduates receive ten-week summer research appointments, June 6 to August 12. OEP pays the individual stipends of \$225 per week and round-trip transportation. The sponsoring department pays for the student's housing at \$78 per week.
- **Summer Interns** - This is the same as the Summer Student Program except that appointments are offered to students who have participated in a prior Department of Energy (DOE) High School Honors Program at BNL. Generally these students are finishing their college freshman year, but a few may be recent high school graduates. OEP pays all costs associated with these students: stipend, travel and housing.

A special effort is made to offer minority students a summer research

opportunity at BNL; so, if the student you choose is a minority, then you will be contributing to this effort. If you have questions, call OEP, Ext. 4503.

Teacher Programs

Applications from teachers at Suffolk, Nassau and New York City schools who wish to take part in BNL's Teacher Research Associate (TRAC and NYU) programs this summer may now be reviewed.

These programs provide opportunities for secondary school science, mathematics and technology teachers to participate in the Lab's research, under the direction of staff advisors, but at no cost to the advisor's department. The 1994 TRAC and NYU teacher programs will begin on June 27. Teachers are appointed for eight weeks in the TRAC program and for six weeks in the NYU program, with the possibility of extensions.

Correct Deposit

According to Teachers Federal Credit Union (TFCU), a problem prevented electronic deposits of BNL members' January 31 paychecks from being distributed among various accounts as members may have specified. So, while correcting this problem, TFCU manually distributed each member's payroll deposit on Friday, February 4.

TFCU regrets any inconvenience that this problem may have caused. Members with questions about payroll deposit may call the TFCU Payroll Department, 698-7000, Ext. 664.

Social Club

The following events are on the Social Club's calendar; for more information, call Doris Terry, Ext. 7610:

- **Sat., 3/12** - Ringling Bros. & Barnum & Bailey Circus, Nassau Coliseum, 11 a.m., \$14.50 ea.; children under 3 free. Money due by 2/16.

- **Sun., 5/1** - Olympic & World Figure Skating Champions, Nassau Coliseum, 1 p.m., \$45 each. Money due by 2/16.

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1-on-1 Counseling From TIAA-CREF

A TIAA-CREF representative will visit the Lab on Thursday and Friday, March 17 and 18, for one-on-one counseling sessions to answer BNL employees' questions regarding the TIAA-CREF Retirement Plan. Such questions might include:

- What are the differences between TIAA and CREF?
- How should I allocate my money between TIAA and CREF?
- How can I save on taxes?
- What options and flexibilities do I have for my existing dollars with TIAA-CREF?
- What are my options for the retirement years?

To arrange a half-hour appointment, call Joyce Wund, Personnel Division, Ext. 7516, by February 17.

Bowling

Red/Green League

R. Mulderig bowled a 277/215/202/694 scratch series, R. Wiseman 256/608 scratch, F. Hohmann 245, R. Mulderig Jr. 234/202/623 scratch, E. Sperry III 234/201/601, H. Arnesen 233/217/646 scratch, W. Kristiansen 232, R. Mackinnon 224, J. Goode 211, R. Raynis 210/205/601 scratch, A. Pinelli 209, K. Asselta 204, E. Larsen 204, W. Powell 204, E. Meier 201, P. Ouvrard 200.

White League

Pete Wynkoop bowled a 222, Betty Jellet 204, Elaine Zukowski a 172.

Purple League

Ken Batchelor bowled a 214, Ben Bellingan 202, Ray Raynis 199/215, Andy Warkentien 191/248, Manny Dador 188, Kay Conkling 179, Mary Adessi 177, Paula Pozzoli 172. Dennis Klein made the 3/7/8/10 split, Denise Monteleone the 3/7 split.

Basketball

Games of February 3

Runaways 100		Deep Six 47	
Wayne Cummings	25	Darren Harris	13
Pete Ratzke	16	Tracy Fountaine	11
Charles Edwards	15	B. Hopson	11
Jerry Gaeta	15	Neil Tyler	9
Ed Meier	15	Ed Taylor	2
James Desmond	6	Dwayne Eleazer	1
Bob Wells	6		
Chris Saxen	2		

Three-point shots: Hopson (2), Fountaine, Gaeta, Meier, Tyler.

Magic 54		Scram 34	
Mitchell Williams	10	Al Boerner	10
Neil Donahue	7	Tim Powers	8
Raymond Jackson	7	John Duggan	4
James Garrison	6	Steve Nappi	4
Derrick Hoggard	6	John Skonieczny	4
Terrence Buck	5	Joe Barkwill	2
Troy Mayo	4	Ken Johnson	2
Carlos Victoria	4		
James Rank	3		
Patrick Browne	2		

Three-point shots: Williams (3), Garrison (2), Hoggard, Powers, Rank.

Cafeteria Menu

Monday, February 14	
Soup: Minestrone	.80/1.10
A la Carte: Flank steak w/mushrooms	3.65
Fitness: Broccoli quiche	3.35
Deli: Pastrami sandwich	2.95
Grill: Reuben platter	2.95
Salad: Tuna flake bowl	
Tuesday, February 15	
Soup: Chicken rice	.80/1.10
A la Carte: Omelet display cooking	
Fitness: Sole w/onion, tomato & oregano	3.75
Deli: Hot roast beef sandwich au jus	2.95
Grill: BBQ pork sandwich	2.95
Salad: Chef's	
Wednesday, February 16	
Soup: Cream of spinach	.80/1.10
A la Carte: Manicotti w/veg.	3.35
Fitness: Mushroom-Dijon chicken	3.65
Deli: Virginia ham sandwich	2.95
Grill: Monte Cristo platter	2.95
Salad: Fresh fruit	
Thursday, February 17	
Soup: Beef barley	.80/1.10
A la Carte: Chicken Kiev w/rice	3.65
Fitness: Baked flounder Florentine	3.75
Deli: Corned beef sandwich	2.95
Grill: Chicken breast on croissant	3.15
Salad: Oriental chicken	
Friday, February 18	
Soup: Seafood gumbo	.80/1.10
A la Carte: Chicken piccata w/rice pilaf	3.65
Fitness: Exhibition cooking	
Deli: Hot turkey sandwich w/gravy	2.95
Grill: Pacific mahimahi	3.85
Salad: Cantaloupe	

Hospitality Committee

The Women's Forum, conducted by Marion Davis-Parzen and sponsored by the BNL Hospitality Committee, will meet Tuesday, February 15, from 10 a.m. to noon, in the lounge of the Recreation Building in the apartment area on site. The group meets to discuss problems or concerns facing women, especially those on site. Wives of Lab employees and guests are invited to join the group and share experiences, whether they're new to the Lab or have been on site for a while.

Amateur Radio

The BNL Amateur Radio Club will sponsor a free technician license class. Beginning Saturday, February 19, the sessions will be held for six consecutive weeks in Bldg. 1005, 3rd floor conference room, from 10 a.m. to noon. The course will end on March 26 with an FCC examination when a test fee of \$5.75 will be collected. No Morse code is required for this license.

To attend the class, register with Nick Franco, Ext. 5467, or E-mail FRANCO@bnl.gov. Walk-ins will be allowed only for the examination.

Note to Employees:

Attendance at lectures, meetings and other special programs held during normal working hours is subject to supervisory concurrence.

PSI Meeting

"Understanding the New Food Labels" will be presented by Sally Foulke, Ph.D, C.H.E., of the Cornell Cooperative Extension of Suffolk County, at the next meeting of the Upton Chapter of Professional Secretaries International (PSI), on Thursday, February 17, in the South Dining Room of the Brookhaven Center at 6 p.m.

All are invited. For further information, contact Susan Carlsen, Ext. 7647, or Sharon Jones, Ext. 2493.

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position. Consideration is given to candidates in the following order: (1) present employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present employees within the Laboratory; and (3) outside applicants. In keeping with the Affirmative Action plan, selections are made without regard to age, race, color, religion, national origin, sex, handicap or veteran status.

Each week, the Personnel Division lists new placement notices. The purpose of these listings is, first, to give employees an opportunity to request consideration for themselves through Personnel, and second, for general recruiting under open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people.

Except when operational needs require otherwise, positions will be open for one week after publication. For more information, contact the Employment Manager, Ext. 2882, or call the JOBLINE, Ext. 7744 (282-7744), for a complete listing of all openings.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

MK 3000. MANAGER, OFFICE OF ENVIRONMENTAL RESTORATION - Requires a BS in engineering, substantial project-management experience and management experience at a senior level of a technical organization. In addition, excellent oral and written communication skills are required. Must be familiar with standard project-management techniques with respect to budgeting and monitoring, and controlling large multifaceted projects. A working knowledge of DOE Order 4700.1 Project Management System is desirable, as is experience managing consultants and contractors to achieve program objectives. Background in environmental protection/restoration and familiarity with NEPA, CERCLA and RCRA highly desirable. Will be responsible for the environmental restoration of the Laboratory site in a safe, cost effective and environmentally sound manner in compliance with all applicable laws, rules and regulations. Director's Office.

NS 2746. PLANT ENGINEERING ADMINISTRATOR - Requires bachelor's degree in accounting or related field, excellent communication skills, previous super-

visory experience, knowledge of budget and report preparation, and IBMPC-compatible computer spreadsheet programs. Novell network administration experience and CPA certification and/or MBA is highly desirable. Knowledge of IPAP, JCARS and the B&E is also desirable. Will be responsible for planning, preparing, controlling and analyzing budgets, financial reports, labor rates and personnel records for the Division. Will serve as liaison between Division and other staff on site, and have supervisory responsibilities for administrative staff. Plant Engineering Division.

Motor Vehicles & Supplies

91 CAMRY - 4-dr., 4-cyl., 4-spd., a/t, ac, 33k mi., indigo blue metallic, excel. cond., \$7,000, free TV and VCR w/purchase. Takashita, Ext. 5322.

91 GEO METRO - blue, 2-dr., 5-spd., 37k mi., 50+ mpg, excel. cond., \$3,995. Joe, Ext. 2898.

90 BLAZER 4x4 - K5, full-size, loaded, white, excel., \$13,500; '89 Probe LX, blue, loaded, excel. cond., \$7,200. Diana, Ext. 4536 or 399-3910 eves.

88 ISUZU TROOPER 4x4 - 4-dr., ac, am/fm cass., p/s, p/b, low mi., excel. cond., \$6,800. 722-3905.

87 CAMARO - red, black int., V-6 a/t, p/s, p/w, cruise, am/fm cass., ac, tinted windows, excel. cond., \$4,200 neg. Jennifer, 732-8124.

87 JEEP COMMANCHE 4x4 - new engine & clutch, \$3,500 neg. 744-2096.

86 AUDI 5000S - nice shape, runs but needs work, \$1,000. 878-1178.

86 HONDA CIVIC - needs work, \$950. Ext. 3291.

86 JAGUAR - full power, recently restored, mint, \$11,500; '69 XKE, 2-dr., 6-cyl., good cond., \$12,000. 331-1841.

85 FORD TEMPO - needs work, \$500 neg. Ext. 4080.

85 OLDSMOBILE CALAIS - blue, \$1,000. Ext. 1229.

85 PORSCHE 911 - Cabriolet, Carrera, conv., whale-tail, white, black roof & leather int., Blaupunkt radio, ZR-Yoko tires, 35k mi., mint, \$27,000. Jim, 289-0876.

84 CUTLASS CIERA - hit in rear, runs & drives, fix or use for parts, \$250. Rich, Ext. 4986 or 589-9103.

84 DODGE DAYTONA - 5-spd., \$500. Bob, Ext. 2309 or Lisa, 821-3306 eves.

82 CHRYSLER NEW YORKER - 4 dr., a/t, p/s, p/b, p/w, ac, runs well, asking \$750. Nancy, Ext. 7548.

81 AUDI 5000S - 130k mi., runs well, looks good, \$1,700. Chas, Ext. 5462.

80 CHEVY MALIBU CLASSIC - V-6, ac, a/t, p/s, p/b, as is, \$600 neg. Andy, Ext. 7519.

78 FORD PICKUP - 6-cyl., m/t, needs minor work, runs well, \$800; '76 Dodge Van, red custom, m/t, new tires, needs body work, \$1,500. Don, 924-3385.

73 VOLKSWAGEN THING - needs restoration, \$300. Ext. 3751 or 589-5490.

66 MUSTANG - 40k mi. on new engine, alarm & kill switch, many new parts, mint cond., \$4,000. J. Petro, Ext. 8735 or 286-4969 after 5 p.m.

CARBURETOR - Holley 750 CFM, double pumper, \$125. Brett, 929-4753.

IGNITION BOX - MSD 6A, w/tachometer adapter, \$105 neg.; new Edelbrock performer manifold w/ rebuilt 600 CFM Holley, \$225. Joe, 345-3175.

MOTOR - Chevy 454, big block, new cam, disassembled, good project, \$300. Edward, 661-9155.

RIMS - Ford pickup, alum., '69 Mustang rear seat, like new, truck & Mustang parts, cheap. Wayne, Ext. 7238.

TIRES - 2, 9.50x16.5 snows w/8-lug wheels, v.g. cond., \$75 both. Joe, Ext. 5409.

TIRES - all season steel-belted radials, 235-75R/15, like new, \$45 ea., Steve, Ext. 4211.

WHEELS & TIRES - two, P175/85/R13 for Chrysler e.g. K-car, \$40. Bill, Ext. 3698.

Miscellaneous

CAR SEAT - Fisher Price, good cond. Ext. 3571 or 341-1025.

CAR SEAT - Evenflo, infants up to 20 lbs., \$25; Fisher Price bathtub, \$5; Sesame St. playgym, \$5; Century playpen, \$45. Chris, 744-6874.

CAR SEAT - & toys. Ramesh, Ext. 3267.

CHAMPAGNE - 1949 Dom Perignon, collector's item, best offer. Eric, Ext. 2073.

FUR JACKET - crystal fox, like new, fingertip length, size medium, \$250. Lynn, 289-6639.

RECORDS - albums, \$3/ea., \$35/all; wooden picnic table, w/benches; wood kitchen table; cuckoo clock; toys; baby clothes. Mary, 924-6235.

RING - women's 14k gold, 2 carat total diamond weight, cocktail ring, \$3,195 appraisal, size 10, sell for \$700. Ruth, Ext. 3305.

TICKETS - 2, *Dialogues of the Carmelites*, 3/19, Metropolitan Opera, \$22/ea. Stas, Ext. 7849.

TRIP - Ft. Lauderdale, FL, for two, 4 nights at Hilton Hotel, cruise to Freeport, \$200/ea. Mike, Ext. 2242.

TYPEWRITER - electric, \$20; rocking horse, \$20; old yellow wicker letter holder, \$40; phone, \$10; 2 new lamps, \$25. Kathy, 744-2203.

Free

CAT - beautiful, long hair, white Angora, owner moving, needs loving home, has all shots, spayed, Gina, 368-0804 eves.

DOG - Husky Spitz, white, looking for loving family, loves other animals and children, sad owner moving to apt. Mary, 924-6235.

Lost & Found

FOUND - gold Claddagh hoop earring, back of Post Office. Gail, Ext. 7985, to claim.

FOUND - keys on Union Savings Bank key chain. John, Ext. 3422 or 929-4101.

Car Pools

BOHEMIA-E.ISLIP-OAKDALE - looking for 1 or 2 drivers for existing car pool. Frank, Ext. 2314.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, creed, sex or national origin of the applicant.

For Rent

CENTER MORICHES S. - lg. 3 1/2-rm. apt., full bath, kit., w/w, refrig., no pets, adults, avail. 3/1, \$700/mo. all. 878-0480 eves.

MASTIC PARK - extra large apt., 1 1/2 bdrm., dinette, l/r, city water, carpeted, upper floor, parking, 10 min. to Lab, \$600/mo., sec., ref. 281-7844 eves.

MIDDLE ISLAND - furn. 2-bdrm. condo, 1.5 bath, cac, all appl., 5 min. to Lab, clubhouse, \$875/mo. 751-8351.

MILLER PLACE - 2-bdrm., full bath, kit.-l/r combo, furn. or unfurn., priv. ent., ac, \$700/mo. cable, util. incl. + sec. Helga, Ext. 2671.

RIDGE - furn. studio apt., priv. ent., fenced yard, \$450/mo. 3 mi. to Lab. Carol, Ext. 2673 or 744-8632.

ROCKY POINT - 3-bdrm. house to share, avail. immed. thru July 1, all appl., lg. yard, near beach, \$500/mo. + 1/2 util. 821-1244.

ROCKY POINT - 3-rm. apt., \$525/mo. + util.; 4-rm. apt., \$575/mo. + util., both have oil heat, wood stove, near beach, no pets. 744-5282.

SHIRLEY - new, lg. studio apt., priv. ent., carpeted, separate kit., cable, suitable 1, nonsmoker, no pets, avail. 3/1, \$525/mo. 395-3914.

SHIRLEY - 1 bdrm., waterfront, eik, l/r, full bath, fp, priv. ent., parking, furn., \$650/mo., 1 mo. sec. Matthew, 399-2989.

SHOREHAM - new, partially furn. 1 rm. apt., full bath, kit., priv. ent., immed. occup. 821-4318.

HILTON HEAD, SC - 2-bdrm. condo, sleeps 6, furn., 2 baths, beach, tennis, golf nearby, \$300, Jan.-March. Guy, Ext. 3147 or 689-5378.

KEY WEST, FL - 4/16-4/23, condo, sleeps 2, on water, kit., pool, priv. beach, gym, marina, boat rentals, hot tub, w/d, tiki bar, walk to town. Sheryl, Ext. 7716.

KISSIMMEE, FL - 1 mi. from Disney, 2 bdrm., 2 baths, full kit., sleeps 6, ground floor, 2 pools on site. 4/10-17. John, 924-4262.

LAKE PLACID, NY - 3-bdrm. condo, 2 baths, walk to village, skating, arena and restaurants, shuttle to Whiteface, view of Lake Placid and Whiteface. Tom, Ext. 4819 or 744-0681.

ST. THOMAS - Bluebeard's Castle, sleeps 4, bath, kitchenette, 2 restaurants and pool, free ride to town and beach, harbor view. 4/23-30. John, 924-4262.

For Sale

AQUEBOGUE - 3-bdrm. ranch, skylights, fd/r w/hardwood floors, l/r w/fp, Jacuzzi, 1/4 acre, fenced yard, \$149,000. Sharon, Ext. 5919 or 722-3010.

BELLPORT - 3-bdrm. ranch, l/r w/fp, d/r, bath, full bsmt., 20'x16' deck, det. 3-car gar., shy 1/2 acre, SCSD, city water, near village and Bellport dock, ask. \$125,900. Maryann, Ext. 2352 or 286-3377.

CALVERTON - 2-bdrm. townhouse, 5 appl., carpeted, cac, fp, patio, upper deck. Ext. 3558.

CENTER MORICHES - comm. bldg., 3 rents, priv. mort., poss 2nd., good cond. on Main St., ample parking. George, 878-1178.

MANORVILLE - 2 1/4 wooded acres w/pond, \$45,000. 345-3490 after 6 p.m.

MEDFORD - Blue Ridge Country Club, 5-rm. condo, 1 1/2 baths, incl. golf, tennis, billiards, in/out pools, whirlpool sauna, clubhouse & restaurant, 15 min. to Lab, \$88,900. 736-8742.

MIDDLE ISLAND - Fairview at Artist Lake upper condo, 2 bdrm., 1.5 baths, cac, gas heat, all appl., pool, tennis., 5 min. to Lab., \$79,900. 751-8351.

MIDDLE ISLAND - 2-bdrm. upper, Fairview at Artist Lake, 1 1/2 baths, cac, gas heat, all appl., pool, tennis, clubhouse, 5 min. to BNL, \$78,000. Mike, 924-7579.

PT. JEFFERSON STA. - 3-4 bdrm. high ranch, 2 full baths, w/w, cac, fp/coal stove, sprinkler, fenced, front/rear decks, appl., skylights, legal income apt., 1/2 acre, treed, Bob, Ext. 2309.

RIDGE - 3-bdrm. townhouse, 1 1/2 baths, lg. l/r, 5 min. to Lab, \$69,900. 924-4734.

RIVERHEAD - 1-bdrm. mobile home, family park, fenced lot, covered deck, clean, \$9,500. 929-3325.

ROCKY POINT - 4-bdrm. Colonial, 2 1/2 baths, gas heat, cac, l/r, d/r, eik, den, fin. bsmt., gar., ask. \$118,990. Don, Ext. 7237 or 744-2921 after 5:30 p.m.

SHIRLEY - 100'x100', 3-bdrm., l/r, d/r, den, bsmt., 3 decks, carpeted, new kit., new windows, \$121,990. Nick, 281-1862.

WADING RIVER - 3-bdrm., 2 1/2-bath Colonial, 2-car gar., cust. kit. w/Jennair, gazebo, shed, igs, igp, deck, steam bath, SWRSD, 1.1 acre, \$239,000. 929-8323.

PORT CHARLOTTE, FL - 1/4-acre bldg., lot, \$10,900. 929-8323.

WEST PALM BEACH, FL - 1-bdrm. condo, 1 bath, full furn., ready to move in, screened patio, golf, tennis, in/outdoor pools, clubhouse, Century Village, 50 or over, no dogs, \$17,500. Regina, 286-8849.

Wanted

ARMOIRE - old, cheap, cond. does not matter, Rebecca who left the message, please call back, I lost the number. 821-2854.

HAM CODE PRACTICE CASSETTE TAPES - 5-15 W.P.M., will buy or copy for fee, need to upgrade, TNX, Wazlv. Bill, 281-6498.

HANLEY SPORTSER - any condition, cheap. Al, Ext. 4718.

HOUSE TO SIT - mature couple will house sit and care for pets while you're away, have refs. 423-6762.

KENNEL - portable, airline-approved, 27"wx40"dx30" h or larger; huge insulated dog house. Diana, Ext. 5735.

PARTS - 1986 Nissan Stanza. Chas, Ext. 5462.

PEOPLE - interested in French group, meet 2/28, 7 p.m., on modern French singers. Joe, 878-2236 eves.

PEOPLE - who like good company and good food to participate in informal discussion on Great Decisions for 8 wks. Margaret, 473-9129.

POKER TABLE - or foldable poker-table top. Eric, Ext. 2073.

RADIO-CONTROLLED CAR - or truck. Ext. 5400 or 878-6098.

ROOM FOR RENT - Ext. 2058.

ROWBOAT - aluminum, 10 or 12 ft., in very good cond. Tom, Ext. 4507.

SKIERS - to ski Windham, 2/23, \$43 for bus and lift, send payment to Augie Hoffman, Bldg. 510C.

TABLE - 42-48" diameter, butcher block or oak on center pedestal. John, Ext.