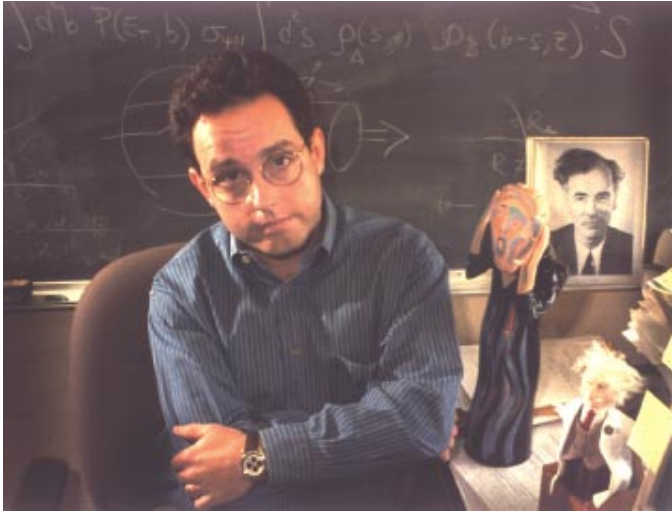


Scientists at BNL Ponder the Question: Has Quark-Gluon Plasma Been Discovered at CERN?

Theoretical nuclear physicist Sean Gavin is co-author of the "co-mover" model of nuclear collisions, which helps explain recent findings of a CERN experiment that raise the question of whether quark-gluon plasma has been found.



Roger Stoutenburg

When the Big Bang occurred some 20 billion years ago, the universe was a point with zero dimensions, and infinitely hot and dense.

Since temperature is a measure of the average energy of particles, the elementary particles created in the hot and dense Big Bang had such a high energy that they were free of any of the attractive forces that would later confine them. In particular, quarks and gluons, as yet unaffected by the strong force, coexisted independently in a plasma that filled the newly emerging universe.

But, as the infant universe began to expand and cool, these elementary particles lost energy and, unable to resist their attraction, clumped together into other particles.

So, since the universe turned one millionth of a second old, elementary particles called quarks and gluons have been bound to each other and confined within the likes of protons and neutrons. And, as the universe expanded and cooled even further, protons and neutrons gave in to their attractive forces to form atomic nuclei.

As a result, a quark-gluon plasma has not existed since the universe was one microsecond old — or has it? That is a question that nuclear scientists at laboratories around the world, including Brookhaven, are now pondering.

The reason: Researchers involved in experiment NA50 at the Super Proton Synchrotron (SPS) at the European particle-physics laboratory CERN in Switzerland have analyzed data that are not easy to explain — but one of the explanations is that they may have recreated quark-gluon plasma in relatively low energy collisions of lead ions with a lead target.

Aside from the desire to know the truth in all matters nuclear which they share with their colleagues worldwide, nuclear physicists at Brookhaven have a special interest in understand-

ing the results of NA50.

The reason: BNL's Relativistic Heavy Ion Collider (RHIC) is being built to come on line in 1999 to produce collisions of enough energy that the temperature and pressure conditions within the collider are sufficient to free quarks and gluons from their nuclear confines, thereby creating quark-gluon plasma.

So, whether quark-gluon plasma has been created, as is one explanation for NA50's findings, by an accelerator with much lower energy than RHIC is of great interest to BNL's nuclear physics community.

Taking particular interest are theoretical nuclear physicist Sean Gavin, formerly with BNL's Physics Department and now a visiting scientist stationed on site by Columbia University, and his collaborator Ramona Vogt of Lawrence Berkeley National Laboratory and the University of California, Davis.

They find that NA50's experimental data fits their "co-mover" model of nuclear collisions. In contrast to the nucleons that are the constituents of heavy ions, co-movers are the particles that are produced when heavy ions collide at relativistic energies.

In fact, their latest paper on this subject — "Charmonium suppression by co-mover scattering in Pb+Pb collisions" — appeared this week in the February 10 issue of the journal *Physical Review Letters*.

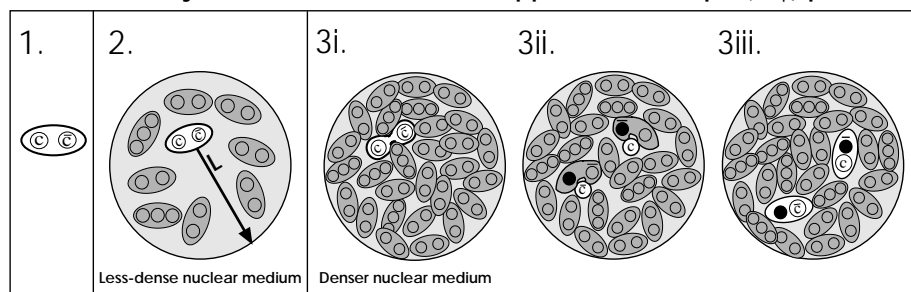
J/Psi Suppression

Gavin and Vogt became aware of NA50's data analysis this spring, while Gavin was preparing for a talk, "Heavy-Ion Physics Overview," that he presented at the annual AGS/RHIC Users Meeting last May.

"I was surfing the Web, looking for announcements on the latest results at the AGS [BNL's Alternating Gradi-

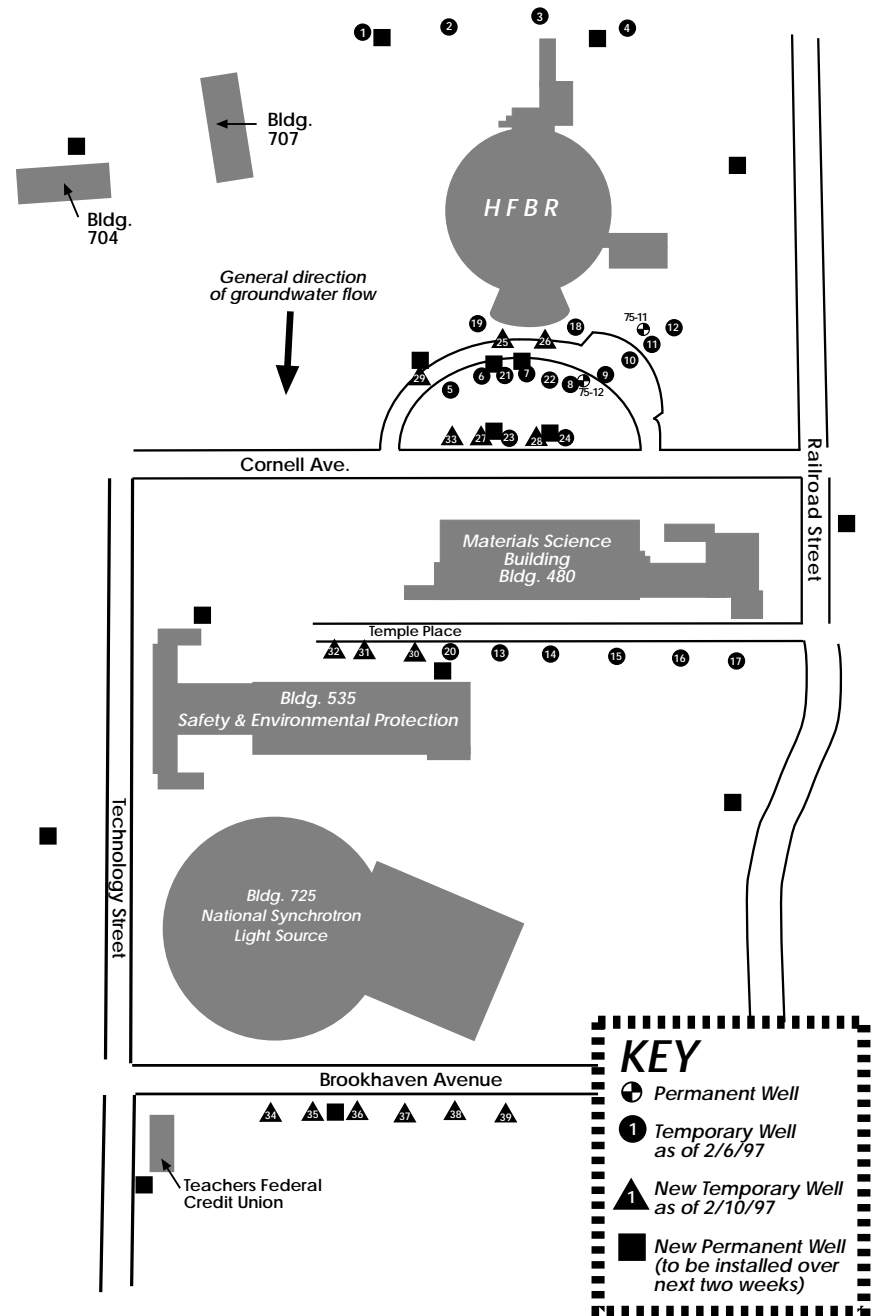
(continued on page 2)

How the density of the nuclear medium "suppresses" the J/psi (J/ψ) particle



1. Charm and anti-charm quarks (c and \bar{c}) are bound together to form J/ψ .
2. In a less-dense nuclear medium, J/ψ is likely to emerge intact — L is the distance the J/ψ travels within the collision zone.
3. In a higher-density nuclear medium: i) there is more chance that other quarks will be forced between the c and \bar{c} of the J/ψ ; ii) once separated, c and \bar{c} are more likely to combine with other quarks, as in iii).

Tritium Investigation Continues; More Wells Planned



If you see work crews drilling into the ground in the central part of the Lab site over the next two weeks, at the locations noted by squares in this map, you'll be witnessing part of BNL's ongoing investigation into the tritium contamination in groundwater near the High Flux Beam Reactor (HFBR). The crews will be installing 16 new permanent monitoring wells that will help assess the flow rate of the groundwater in the area. Some of them may eventually be used to pump water out of the ground as part of remediation efforts. Some of the new wells will be outside the projected path of the underground tritium plume, while others will be close to locations where tritium has been seen at up to 32 times the drinking water standard. These wells are in addition to the 39 temporary wells (circles and triangles) that were installed over the past month. "We're working overtime to address this contamination problem and to fix it," said Sue Davis, Associate Director for Reactor, Safety & Security. "If you work in a building near one of these well locations, rest assured that there continues to be no threat to your health from this contamination. And, for all who work and live on site, the Lab's drinking water supply remains safe to drink."

— Kara Villamil

The Talk of the Town: Comments on Quark-Gluon Plasma

Here are comments from three other physicists in BNL's Physics Department regarding the possibility that Experiment NA50 at CERN discovered quark-gluon plasma:

"We welcome these results because they show an interesting suppression of J/ψ ," says senior theoretical nuclear physicist Sidney Kahana. "But, given that the energy at which this experiment was done is considerably lower than RHIC's will be, that effect could have come about as a result of scenarios other than the creation of quark-gluon plasma."

"So, whether we are looking at normal hadronic interactions or new quark effects remains to be seen, but I don't believe that it was a phase transition. The data are only partly digested, so a more thorough analysis remains to be done. And, in the last two paragraphs of a paper by Michel Gonnin of the *Ecole Polytechnique*, even the author is properly

(continued on page 2)

County Legislators Schedule Two Public Hearings on BNL

Suffolk County Legislators Michael Caracciolo and Fred Towle have scheduled two public hearings related to the recent finding of tritium contamination in the groundwater near the High Flux Beam Reactor. Their notice to county residents said that both legislators "are extremely concerned and have invited Federal, State and Local Officials to make a presentation at the above hearings. Following the presentation, there will be a question and answer period."

On Thursday, February 20, a Legislative Public Hearing will begin at 1 p.m., and a BNL Task Force Public Hearing will commence at 7 p.m. Both meetings will be held in the Legislature Meeting Room of the County Center in Riverhead.

Outreach Workshop Environmental Issues at BNL

These days, BNLers may experience difficult moments if they are asked questions about the Lab's environmental problems. Also, employees reading about the Lab in the newspaper frequently can't help but worry.

Sometimes, such stressors are easier to deal with if the concerns and feelings underlying them are discussed with others who are facing similar stress. That's the purpose of the Outreach Workshops on Employees' Concerns and Feelings About Environmental Issues at BNL scheduled for next week: to offer employees the opportunity to explore their concerns and feelings about environmental issues at BNL with their peers.

Psychologists Joseph Gisondo and Dianne Polowczyk of BNL's Employee

Assistance Program will lead two workshops, one on Tuesday, February 18, from noon to 1 p.m., and the other on Wednesday, February 19, from 12:15 to 1:15 p.m., both in Room B, Berkner Hall.

Because this kind of workshop is most effective in small groups, each workshop will be limited to 25 employees. After a brief introduction to the general issues by a member of the Public Affairs Office, Gisondo and Polowczyk will each guide half of the participants in discussion and, perhaps, some role playing.

Registration is on a first-come, first-served basis, so please return the form sent earlier this week to all employees to Dianne Polowczyk, Bldg. 490, by February 17, or call Ext. 4567.

Quark-Gluon Plasma (cont'd.)

ent Synchrotron] and CERN's SPS, when I came upon the NA50 data that show a striking effect of J/ψ suppression in lead-lead [Pb+Pb] collisions when compared to the results of experiments with ions of lighter nuclei — so you could have knocked me over with a feather," explains Gavin.

Made up of a charm quark and its antiquark, the J/ψ particle was discovered in 1974 at the AGS by Samuel Ting and, concurrently, at the Stanford Linear Accelerator Center by Burton Richter, earning the two discoverers the 1976 Nobel Prize in physics.

When a beam of heavy ions such as lead is sent into targets made of the same element in an accelerator such as the SPS, the J/ψ is one particle that is created in the beginning of the collision, as a result of the initial contact between interacting nuclei. These newly created J/ψ particles then continue moving through the interaction, emerging on the other side where they can be detected.

The rate at which J/ψ particles emerge, however, depends upon what went on within the interaction zone of the colliding nuclei. When compared with proton collisions, J/ψ production is "suppressed" in heavy-ion collisions, meaning the J/ψ particles are destroyed.

The NA50 experiment, however, found a striking increase in J/ψ suppression — leading NA50 researchers to conclude that the lead-lead collisions produced conditions of sufficient temperature and pressure to create the phase transition necessary to produce quark-gluon plasma, which would dissolve the J/ψ .

"While Ramona and I agree with their data's showing that J/ψ production was additionally suppressed, we have found that the way they plotted their data, rather than the data themselves, has resulted in the striking effect that they are claiming," states Gavin.

In addition to disputing the way NA50 graphed its data, Gavin and

Vogt's co-mover model allows additional J/ψ suppression under that experiment's conditions — but their theory does not predict the formation of quark-gluon plasma in lead-lead collisions at the relatively low energy of the NA50 experiment.

Replotting the Data

After seeing NA50's Web page, Gavin immediately e-mailed the experiment's spokesman Louis Kluberg at the *Ecole Polytechnique* in France to get their data.

Upon examining the plot versus NA50's measurements, Gavin and Vogt questioned why the data were plotted as a function of a quantity called L , the distance that the J/ψ particles have traveled within the collision zone (see diagram on page 1).

"In plotting the data as a function of L , they showed what appeared to be

The Talk of the Town

(cont'd.)

circumspect regarding the anomalous J/ψ suppression. In his last sentence, he rightly suggests that more analysis is needed, both experimental and theoretical."

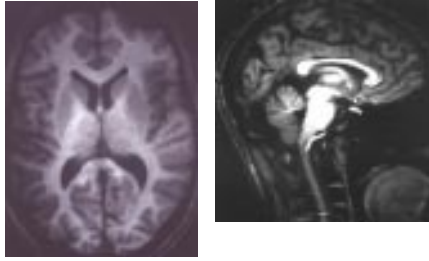
"While their results are intriguing, this was not an unambiguous discovery of quark-gluon plasma," states experimental nuclear physicist Samuel Aronson, who is the Project Director of the PHENIX experiment, one of two large detectors being built for RHIC. "Though they did a good job with the experiment, you can't claim discovery of quark-gluon plasma based on one signature, in this case J/ψ suppression. Quark-gluon plasma is complicated enough that you won't find it with one signal. You'll have to correlate it with other signatures at the same energy density to know if your signal is reliable and means something.

"The beauty of RHIC is that it will permit a systematic study, using different heavy-ion species at varying energies, so you can make phenomena come and go, and, as is PHENIX's approach, obtain multiple signatures. This is the only approach to studying a threshold effect such as quark-gluon plasma."

"Something is going on in the lead-lead system that isn't going on with collisions involving lighter nuclei, but, while it is a good experiment, this isn't the definitive experiment," comments theoretical high-energy physicist Robert Pisarski.

"But," he continues, "it has vindicated the direction of looking at electromagnetic signatures that the PHENIX experiment is taking, while showing the necessity of having a more traditional nuclear physics detector such as STAR [the other large RHIC detector under construction] look at hadronic chemistry in a complementary approach." — M.B.

Two New Views Of the Brain



These pictures of the human brain were taken with BNL's new magnetic resonance imaging, or MRI, machine. One of the seven most powerful such instruments in the world, this MRI's huge magnet produces a field at least twice as strong as the fields from doctors' MRI scanners. That power allows BNL scientists to make super-detailed pictures of the human brain, like the views from underneath (transverse) and the side (sagittal) shown at left and right above, respectively. Such detail will make possible research on topics ranging from drug addiction to the basic principles of MRI imaging itself. In addition to allowing researchers to see structures within the brain as small as a half a millimeter across — half the thickness of a penny — the new MRI will ultimately be able to take hundreds of scans a minute, making "movies" of brain function. Research is now getting under way at the new MRI, which is part of the Lab's Center for Imaging and Neuroscience.

a sharp transition between the confined quark state and the deconfined quark-gluon plasma state," observes Gavin. "But, L is a derived quantity, meaning it had to be calculated based on certain assumptions because it can't be measured."

So, what the two collaborators wanted to know from NA50 was how L corresponded to the measured quantity called transverse energy, known in the field as E_T .

After tracking down how L and E_T correspond, Gavin and Vogt replotted the data — this time as a function of E_T — and the graph shocked them.

As Gavin explains: "After digging out a calculation that Ramona had done in 1994, we compared her plot to our plot of the NA50 data and found that they fit — which means that the NA50 data support our co-mover model

Coming Up

James Veligdan, a senior research engineer in the Department of Advanced Technology, will give the 324th Brookhaven Lecture on Wednesday, February 26.* His talk on "Plane and Fancy: Flat Panel Laser Display" will begin at 4 p.m. in Berkner Hall.

*Note change of date from February 19.

Robert G. Shulman, Sterling Professor of Molecular Biophysics and Biochemistry at Yale University, will give the second talk of the BNL 50th Anniversary Distinguished Lecture Series on Thursday, February 27, at 4 p.m. in Berkner Hall. His topic will be "Exploring Brain Function With Nuclear Magnetic Resonance."

Note to Diners

The Lab will be closed on Monday, February 17, for Presidents' Day. Throughout the three-day weekend, the Cafeteria will offer weekend snack-bar service from 9 a.m. to 2 p.m. The Brookhaven Center Club will be closed Saturday and Sunday, and will reopen on Monday, 5-9 p.m. Vended food in Bldg. 912 will be available continuously.

On Valentine's Day,

Boiling Desire
may capture your heart.
But, before you eagerly Succumb,
Give-Passionately - to the
BNL FOOD DRIVE!
Pickup all next week
No Time to shop? Send personal checks
to BNL FOOD DRIVE, c/o Rita Kite, Bldg. 460; or Donna Wadman, Bldg. 599.

of non-quark-gluon-plasma J/ψ suppression."

Co-Mover Results Confirmed

In addition to Gavin and Vogt, other nuclear theorists are reexamining NA50's conclusions using different techniques. For instance, using what is called a cascade model, BNL Guest Scientist David Kahana of the State University of New York has confirmed Gavin and Vogt's results.

Observes Gavin, "The more people who look at the NA50 data in different ways, the better, because every model of these interactions looks at what is happening in different detail."

While NA50 is preparing to collect more data at higher energy, Gavin adds, "We are trying to make more detailed predictions in advance of their and other experimental results, and, in turn, their results will help us collar other species involved in the co-mover model."

"NA50's results are interesting because they add to the body of evidence that a high-temperature, high-density plasma can be created," Gavin concludes. "But, what will really blow all this controversy away is when RHIC is turned on and its high-energy gold-on-gold collisions result in enormous J/ψ suppression, as well as many other signatures that correlate with the formation of quark-gluon plasma."
— Marsha Belford

BUNIA - (xo)™.

BAR-WAR - Zinagro in '97. Life, love, travel, fun all with you by my side.

CHIT - Guki muki and valu valu forever as before. Yours, Chit.

RED HOT MAMMA - Your wheels are 11 today. How time flies when you're in love. Let's get together tonite. Barnacle.



BOBBY - I am now officially Bobby's girl!! Here's to our first Valentine's Day together as husband & wife. I will love you always. SueSue.

PYNE - Will never stop loving you. This Valentine's Day maybe there is still some lip gloss! Love, me.

DEAR JEANNE - Thanks for making my life so wonderful. I love you more than you could possibly know. Love, Tim.

LADY SONDRRA - You still want me and love me. Why? Beats me! (Just a figure of speech). Your lover, Don.

JILLYBEAN - Stormy starts, fabulous fourths and on from there. I'm sure glad you felt BASH-ful. Our love keeps growing. Mr. Chips.

VICKI - My love for you is everlasting. Thank you for being a great wife and my best friend. Love, Dennis.

DEAR SUNSHINE - SA-RANG-HAE, Yeobo. Missing you and longing to see our Ggan-dol. Your dawn.

L.S. - I believe in you and me. Love, P.M.

KATE - No matter how things may seem right now, I know we'll be okay together. I love you. R.

D. - It's been seven years of happiness! I love you! R.

ROSES ARE RED, violets are blue, I love my Boo and my Boos two!

TO THE PERSON I LOVE & MARRIED - Thank you for all your years of love, devotion & tenderness. Happy Valentine's Day.

SWEETIE - You're pure joy with your sense of humor and sunny personality. Love, Koty's Mother.

KAREN IN PERSONNEL - You are gorgeous. Please be single. Please meet me for dinner at Senix, Thur., 2/20 at 6:00.



JOHN McG. - Miss our days in the file room! Your tree friends.

AMY - Happy Valentine's Day and Happy Birthday to mom. We love you so much, much, much. Tsai Sharon.

LESLIE - With all my love today, tomorrow & always. Love, Lou.

BEAR - Thanks for being my partner in life. I love you! xos, bunia.

COME, RG, and like Titania I'll wind you in my arms, as doth the woodbine the sweet honeysuckle gently entwist.

CINDY VON - You're a sexy lady and a great friend. Sorry, I didn't know you earlier. Maybe someday I can meet mom. Love, A-Cop.

TO MY WILD ROSE - Looking forward to many more wonderful times together as we share life. Love you! Mûsh.

KIDDO - You're the one I love! Your Man.

P. - As you know, some sauces are better than others. You, however, are the best! Absolutely delicious!! B.

RAB - Let's take the white stretch limo to the mountains, hit the slopes, jump in the hot tub and have whipped cream for dessert. Love, your ski instructor.

TO MY OWN WILLIAM TELL - Meet you in Maine for another Honeymoon!

B - Enquer me membra d'un mati que nos fezem de guerra fi, e on se donet un don tan gran, nos drudaries e nos anels.

SWEETIE - So you've got a yen for "Dorfon Golf," huh? Well, it's yours, if you'll be mine! xxxxx from your honey.

CONSUELA - Many changes happen in a year, but, in all our years, our love has never c h a n g e d . Manuel.

BIRD - Meong-Meong Kking-Kking?? Chic-chic Pok-Pok!! From Wind.

TO MY DEAREST BOO BOO BEAR - You are my true first love!!! Our love will last forever! Love, your Sweetie.

MARIA - The hazel sparkle in your eyes is a gateway to the passion in your soul. Let me share it forever. Wally G.

TO MY WOUBIE LOVER - This past year has been wonderful. Let's make it last forever. Love, Woubie.

SUZIE - The Kladdah rings we exchanged in October say it all. Love, Bobby.

LOVE DRIPS - You have given security, warmth, and unconditional love. Precious angel sent to me from heaven. Love you, Mija.

MISS M - This coupon entitles the bearer to free hugs, kisses, and massage. (Xerox copies accepted.) Ralph.

CSA - If I could turn back the hands of time, life would really be worth living. Love, Daniel.

KENNY AND THE BOYS OF ENG - Thanx again for taking care of business. Farewell and all my love, Hazel.

MASTER - After all these years (almost 3) I still love you! Happy Valentine's Birthday. Your Little Vixen.

DEAR HON - Please lift my punishment, please. I love you, Me.

MY DEAREST VALENTINE - You are truly the "sunshine" in my life! Thanks for giving me the kiss of life! RT.

JOE VOLLEYBALL - I love playing VB with U. Bump, set, spike, duck! Love, The 1 U Coach.

MOM - It's fun 2 B your kids, 15 work days till "Hands Up Baby"!! Love, J & D.

MJÁ - Come with me, our passion flies higher. You flame my love desire. Melt my body in your hot fire. Love Drips.

ADRIAN - Thanks for always being there. I'm the luckiest person in the whole world and will always love you. Bruce.

KELLIE - You're the best little girl a dad could ever want. Love, Dad.

KAREN - Thank you for being my one true love through the years. All my love always, Ray.

Moonlight on armor, Dark Knight moves in the shadow Your lady, waiting.



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

LOZA JO - You are my sunshine and my special angel. I love you.

AMY - Happy Birthday to you in same Valentine's Day. Min, shin te gain kon, bein an.

SF - 41, blonde, green eyes, 5'6", would like to meet a happy, active, romantic easygoing SM, 38-48. Write PO Box 8, Upton, 11973.



JMS - Last year has given us plenty of challenges we must say, and, although I don't always say it, I love you more each day. TGS.

HONEY PIE - I want to tell the whole world that I love you! I LOVE YOU!! Your Baby Doll.

BIG POPPA - The friendship we have means a lot 2 me. U R and always will B some 1 special 2 me. Love always, P.B.E.

VETTING2 - Roses are red, violets are blue, I'd rather be sailing, how about you? All my love, Meathead.

CAT WOMAN - You are so Purr-fect. I love you. Hunky Man.



FLO - Finding you was the best event of my life. The perfect mother, companion and best friend. We all love you.

SPEEDRACER, SUNSHINE, MUSHIE MAN - I love you all so much! Happy Valentine's Day! Love & kisses, Me.

AJ & JJ - Roses are red, violets are blue, CJ loves both of you. Be my Valentine?

CP - 64 'til 24, imagine more than 1? But who's counting? Better get to VS..... want to come? 1437BF Me.

MR. BREEZE - Nothing mushy, just a very special reminder - love you always. Your wife, DMB.

LINDA JEAN - You're in my thoughts, my dreams, my heart. I've always loved you and always will forever. Love, Pooky.

VERONICA - Thank you for 6 of the greatest years of my life! You will always be my Valentine! Love always, Joey.

RICKY - What more could I want? A beautiful daughter and the best husband. You've made my life perfect. Love, Kelly.

TO THE MEN IN MY LIFE - You make everyday Valentine's Day. I love you all very much. Love, Tina.

TO MY HANDSOME PRINCE - You're better than a dream come true! You alone have my heart forever. Love, Your Angel.

TO MY MAIN MAN - I love you!! Big Hug, Big Kiss, Vern.

BUMP, SET, SPIKE - I'm glad we decided to play on the same team 18 years ago! Love, Joseph.

KOKOPELLI - We done it right and you promised for the rest of your life! Mezu love you forever. Mr. Breeze.

DEAR BOB & ALL YOUR BETTER PAJAMA MAKERS - Happy Valentine's Day! With lots of love, Cupid's Daughter.

JOANNE - Seeing you is beautiful, touching you is magical, kissing you is heavenly, loving you is ecstasy. Quantum.

FACE - Our little creation is almost here; you are going to be the best daddy ever. Happy 6th Valentine's Day. Pamela.

BRIGHT EYES - I'll always love you with a passion. I need you more than you know. "1437," love J.S.

Black History in the Sciences

By bringing to light the contributions of African-Americans from the past and present and honoring African-Americans' hard-won achievements and challenges overcome, Black History Month can inspire Americans of all ethnic backgrounds to emulate role models such as these pioneering Ph.D. scientists — ensuring a better, richer history for the future.

The following information is taken from "The Faces of Science: African-Americans in the Sciences," from Louisiana State University Libraries, Baton Rouge, Louisiana, which can be found on the World Wide Web at: http://www.lib.lsu.edu/lib/chem/display/first_phds.html.

First Science Ph.D.s Awarded to African-Americans

Table with 4 columns: Discipline, Date, Name, Institution. Lists scientists like Roscoe Lewis McKinney, Harvey Washington Banks, etc.

* second Ph.D. awarded to an African-American
** first Ph.D. awarded to an African-American, first African-American elected to Phi Beta Kappa
*** first African-American nurse to earn a Ph.D.

NEEN - all my love all my life. J.
GREEN EYES - There's something between us that won't ever leave us. All my love, Brown Eyes.
JEFF - You are the LOML. Deserts, mountains, cliffs, freezing beaches are paradise with you. Thanks for love and adventure!



RHODA - Our love will continue forever as it has for the last 44 years. Joel.

DEAR KRISTINE - A Valentine's Day greeting to the woman of my life. Have a wonderful day sweetheart. Love, Ernie.

TOOTS - It seems the longer we stay together, the more I want to be with you. Love you always, Putz.

AKS - I'll be home at 12:00 so that I may ravage you, if I haven't done so already. Love TS.

TOMY LOVELY WIFE VICKY - For a Happy Valentine's Day.

CAROL - Love always in spite of everything. Marty.

POOTSIE-PIE - I love you more with each passing year - and, boy, have they passed! Love forever, your Little Stinky.

DEAR M. - Fevered lips unquenched, longing sweet caress, love forbidden to confess, endless pain must I bear, in tortured silence and despair. Unfulfilled in Upton.

RAB - Thanks for your love and friendship. There's always a "special" place in my heart just for you! Love, "A".

KELLY & CASEY - Happy Valentine's Day to my two girls. Love, Daddy.

A.T. - Loving you makes life a great adventure. Always & forever, C.M.

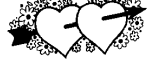
PIZZAMAN - After 15 years, it's still "The Sweetest Thing" and I "Truly" love love you. Your L.S.

DEAREST RHOSE BUDD - We are wonderfully real, so, in summary, I love YOU. Here's to our hopefilled future. Love, Peppie Le Pu.

OLLIE - If a dream is a wish your heart makes, then I'll never stop dreaming of "our" someday. T.B.

C.D. - You are the personification of beauty and grace. I am so glad you are in my life. C.B.

MS. NASTY - When we're together like ink and a blotter the more absorbed makes it better and hotter. Mr. Nasty.



SAMUEL - Te amo mucho mi amor. Your wife, Patria.

CAROL - Be my Valentine today and forever. Love you, Alberto.

MY BROWNIE EYED GIRL - Thank you for a taste of your love, joy, and happiness. More, more, more! yGeg.

KAREN - The past 30 years you were, you are now, and always will be "the wind beneath my wings." Love, Russ.

HUGS AND SQUEEZES, A SMOOCH OR A SMILE - You're the one making it all worthwhile. Happy Valentine's Day. With love from Daddy's Girls, MM, Termie & Meister.

MINK - Happy Valentine's Day. I love you! Min.

TO THIS WEEK'S COVER MODEL - You're my Studmuffin of Science, and I can't wait to be your Southern Belle! Love, your Newlywed Hunsker.



DAD - Whatever life brings my way, I can count on only one thing: you'll be there for me. Thanks! xos, your favorite daughter.

Computing Corner

The Computing & Communications Division (CCD) offers the following:

MIX Meeting

"The Computer Acquisition Process: Getting the Right Machine Quickly" will be discussed at CCD's next Monthly Information eXchange (MIX) meeting, on Wednesday, February 19, at 11 a.m. in Room B, Berkner Hall. All are welcome to attend.

Windows 95

Those already familiar with Windows 95 are invited to discuss "Windows 95: Tips and Tricks" on Friday, February 21, from 9:30 to 10:30 a.m. in CCD's second-floor seminar room, Bldg. 515. To reserve your seat, contact Donna-Ree Rodriguez, Ext. 7261 or e-mail donnaree@bnl.gov.

March Computer Training

This is the last call for the following training classes:

Table with 4 columns: date, time, course. Lists training classes like Intro.toUNIX*, PERL prog.*, C++ prog.*, Solaris system admin.**

* \$300 training fee ** \$600 training fee
To register, send an ILR for the appropriate amount to Pam Mansfield, Bldg. 515, by Friday, February 21. For more information, call Ed McFadden, Ext. 4188 or e-mail emc@bnl.gov.

Lifeguard Training

BERA will offer a lifeguard training course at the BNL swimming pool, Bldg. 478, over 12 to 14 weeks beginning Sunday, February 23, from 9 a.m. to noon.

The course is open to BERA members who are at least 16 years old, and the class size will be limited. Participants must pass a swimming pretest that will be given during the first class.

Registration is taking place now at the BNL pool. For fee and other information, call Head Lifeguard Susan Dwyer, Ext. 3147 or 3496, after 4 p.m.

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MARSHA BELFORD, Assistant Editor
Bldg. 134, P.O. Box 5000
Upton NY 11973-5000
Tel. (516) 344-2345; Fax (516) 344-3368
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Basketball

Games on January 30

PE Wolfpack	74	Chemistry	64
Wayne Cummings	19	Lee Walcott	25
Troy Mayo	18	Simon North	13
Charles Edwards	10	Dennis Ryan	13
Jerry Hobson	10	Tracey Fountaine	7
James Desmond	6	Steve Springston	4
Hal Van Derroef	6	Chris Fockenber	2
Darren Harris	4		
Mike Fulkerson	1		

Three-point shots: Walcott (5), Ryan (3), Hobson (2), Desmond, Mayo.

Magic 99	Knicks 30		
Chris Ingoglia	23	Mike Mallardi	8
Terry Buck	15	Dan Delgado	6
Ray Jackson	14	Tauaj Islesias	6
Hector Machado	12	Chris Rissland	6
Jerry Gaeta	8	Tom Dilgen	2
Al Langhorn	6	Bob Wells	2
Greg Mack	6		
Pete Ratzke	6		
Mitch Williams	6		
Fred Maier	3		

Three-point shots: Ingolio (3), Machado (2), Mallardi (2), Lalor, Rissland

**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 Human Resources Division lists new placement notices, first, to give employees an opportunity to request consideration for themselves through Human Resources, 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 (344-7744), for a complete listing of all openings.

Current job openings can also be accessed via the BNL Home Page on the World Wide Web. Outside users should open "http://www.bnl.gov/bnl.html", then, under "Information," select "Jobs." For scientific staff openings, select "Scientific Personnel Openings"; for all other vacancies, select "General Personnel Openings."

SCIENTIFIC RECRUITMENT - Doctorate usually required. Candidates may apply directly to the department representative named.

SCIENTIST - Trained in accelerator, high-energy or nuclear physics, to work in the Accelerator Physics Group of the RHIC Project. Experience in accelerator operations is desired, and strong proficiency in accelerator hardware and/or software is preferred. Must be equipped to address accelerator physics design issues, develop high-level controls software and participate in accelerator commissioning. Contact: Stephen Peggs, RHIC Project.

POSTDOCTORAL RESEARCH ASSOCIATE - Trained in condensed-matter physics or physical chemistry, with experience in powder diffraction/materials synthesis or x-ray/neutron scattering to work in the materials chemistry program. Will participate in studies of the structure and dynamics of molecular films adsorbed on surfaces and on problems related to surface-mediated chemical reactions. Research will include experiments at the HFBR and NSLS. Additional experience with UHV, material characterization techniques and computer-simulation methods is desirable. Contact: John Larese, Chemistry Department.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

DD 3782. REGISTERED NURSE - (part-time, term appointment) - Requires a NYS license, a BS preferred, to join a research team evaluating the safety and efficacy of boron neutron capture therapy for glioblastoma multiforme. Position requires direct patient care, strict adherence to study protocols, including vital signs monitoring and management of IV lines, as well as the ability to learn and conduct laboratory research. Must be able to accommodate unscheduled overtime. Medical Department.

DD 3783. REGISTERED NURSE - (term appointment) - Requires a NYS license and BCLS certification, ACLS certification preferred, to participate in imaging studies with radioactive tracers and act as patient advocate. In addition, demonstrated organization skills to work rapidly and accurately within a restricted time frame and schedule flexibility are required, as is experience in phlebotomy, monitoring EKG, blood pressure and pulse, ordering supplies, and record keeping. Experience in brain imaging is desired. Medical Department.

NS 3101. PROGRAMMING/ANALYST POSITION - Requires a master's degree in computer science or a closely related field and several years' experience in a systems support position within a research environment. Knowledge of and experience with UNIX system support and administration necessary. Expertise in network file systems, NFS and AFS; familiarity with X-windows environment; and programming skills in Fortran, C and C++ highly desirable. RHIC Project.

NS 3102. PROGRAMMING/COMPUTER ANALYST POSITION - Requires a master's degree in computer science or a closely related field and substantial experience in a systems support position within a research environment. Knowledge of and experience with UNIX system support and administration required. Experience with medium- to large-scale robotic systems and hierarchical storage management software necessary. Knowledge of and expertise in network file systems, NFS and AFS; familiarity with X-windows environment; and programming skills in Fortran, C and C++ also required. RHIC Project.

Games on February 6

Chemistry	73	Knicks	46
Simon North	18	Tauaj Islesias	13
Lee Walcott	18	Louis Lalor	9
Tracey Fountaine	13	Andy Byers	7
Steve Springston	8	Bob Wells	6
Rich Domenech	6	Tom Dilgen	4
Chris Fockenber	4	Dwayne Eleazer	3
Joseph Dvorak	2	Chris Rissland	2
Dennis Ryan	2	Pat Woodward	2
Mike White	2		

Three-point shots: Walcott (2), Domenech.

PE Wolfpack	69	Chemistry	53
Troy Mayo	26	Al Boerner	12
Rob Singleton	12	John Duggan	10
Charlie Edwards	11	Tim Powers	10
Wayne Cummings	7	Gerry Shepherd	8
Brian Hobson	6	Pat Moylan	4
Mike Fulkerson	5	Steve Nappi	4
Jerry Hobson	2	Steve Jao	3
		John Skonieczny	2

Three-point shots: Mayo (3), Boerner (2), Powers (2), Cummings, Jao.

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

1996 Basketball MVPs

The Most Valuable Players (MVPs) of the 1996 Championship Game were **Jim Garrison** and **Kiley Reynolds**, who then played on the Mustangs, which won the 1996 Basketball Championship by defeating Magic 58 to 57.

Volleyball

Standings as of February 7

Open League	League 1
Shank, Cary & Throw 36-12	Rude Dogs 40-11
Pass, Set & Crush 29-19	Bikers 'n Spikers 37-11
Far Side 26-19	Scared Hitless 24-27
Death Volley 15-30	Net(e)scapers 14-37
Spikers 11-37	Set to Kill 11-40

League II	League III
Safe Sets 30-6	Silver Bullets 41-1
Spiked Jello 28-8	Group Sets 29-13
Monday Nite Live! 24-12	Night Court 8-4
Jao-About-That 23-13	Just 4 Fun 24-18
Fossils 21-15	Upton Ups 24-18
Lift Carry Throw 11-25	New Comers 22-20
Nuts & Bolts 10-26	Court Hogs 13-29
Jolly VOLLIES 6-30	OER 7-35

BNL Gospel Choir To Perform on 2/21

In a celebration of Black History Month, the BNL Gospel Choir will perform at St. Joseph's College, Patchogue, on Friday, February 21. The show starts at 7 p.m., and admission is free, though donations will be accepted. For more information, call Fran Ligon, Ext. 3709.

Arrivals & Departures

Arrivals

Dieter Lott.....NSLS
Peter Middelkamp.....Instrumentation
Krzysztof Polewski.....Biology

Departures

This list includes all employees who have terminated from the Lab, including retirees:
Palakkal Asoka-Kumar.....Physics