CLEANER TIMES

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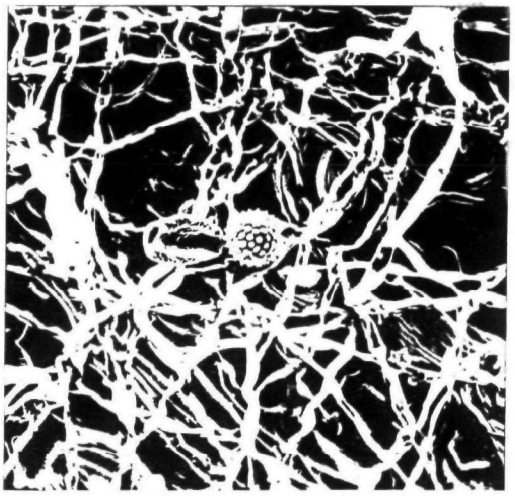
Open Space - the Lungs of a City



Scanning electron micrograph of ragweed pollen and collapsed fungus spore and fungal mycelium on the surface of a 15-week-old London Planetree leaf. Roughly 15 million persons in the U.S. are effected by hay fever or asthma, largely caused by pollen and fungal spores, and spend more than $70 million annually on prescription medications.

A recent study contracted by the Land Use Planning Office of the Strategies and Air Standards Division of OAQPS was entitled, "Open Space as an Air Resource Management Measure." Tom McCurdy was the project officer. The purpose of the study was to assess the effectiveness of open space in filtering various airborne pollutants. The findings suggest that in a proper management and landscape design plan, green belts, highway right-of-ways and urban parks can effectively reduce the spread of air pollution from both stationary and mobile sources. In some instances, reductions can be more cost-effective than traditional control methods. (Continued on page 2)

EMSL/RTP Gets New Director

Dr. Thomas R. Hauser

Dr. Thomas R. Hauser is the new Director of the Environmental and Support Laboratory (EMSL) in Research Triangle Park. Dr. Hauser's appointment was recently announced by Albert Trakowski, Deputy Assistant Administrator for Monitoring and Technical Support, Office of Research and Development, EPA, Washington, D.C. Hauser succeeds Dr. S. David Shearer who has moved to EPA Headquarters.

A long time career official, Dr. Hauser has held the position of Deputy Director of EMSL/RTP since October 1971. For the past 22 years Dr. Hauser has been employed in various chemical research and supervisory capacities in the federal air pollution control program.

Dr. Hauser, a native of Cincinnati, Ohio, received his bachelors and masters degrees in chemistry from Xavier University and his doctorate from the University of Cincinnati. A former instructor of chemistry at Xavier, he currently holds an adjunct professorship at North Carolina State University.

Dr. Hauser resides in Raleigh with his wife, Jean, and their four children.

Scanning electron micrograph of an aggregate particle completely blocking a stomate on surface of a 3-week-old London Planetree leaf.

Scanning electron micrograph of a leaf hair on the surface of a 17-week-old London Planetree leaf. The leaf hair has accumulated numerous particles.

Scanning electron micrograph of aggregate particles probably of soil origin, on the surface of a 7-week-old London Planetree leaf.

OPEN SPACE...(cont'd from page 1)

This study was reported in Conservation News (Vol. 42, No. 16), published by the National Wildlife Federation. Excerpts from the article are printed below.

"According to the researchers involved in the study, open spaces, with their associated vegetation and soil mixes, act as natural 'sinks' for air pollutants through several mechanisms. Through such processes as absorption, adsorption, impingement and deposition, open spaces can entrap pollutants generated by urban land uses. For example, leaf hairs (trichomes) on decidous trees act as a natural catch for particulates. Soil microorganisms metabolize carbon monoxide gases, providing an ideal sink for one of the most insidious automobile emissions. Similarly, sulfur dioxide (SO_2, a by-product of the combustion of fossil fuels) passes into plants through leaf stomata, where it is then converted into organic sulfur and assimilated by the plant. One researcher, in a study of the atmospheric concentration of sulfur dioxide in mid-Manhattan, found a significant drop in the SO_2 level created by the presence of Central Park. And, depending upon such environmental conditions as temperature, humidity, wind velocity, light intensity and soil conditions, a variety of other 'sinks' exist. In short, the study concludes that, 'Open Space, in its natural state or manipulated state, can have a varied and far reaching effect on regional air quality... The use and design of open space areas on a micro-scale can mitigate pollution transport characteristics.' The report further notes that 'The knowledge obtained from the investigation of open space as an air quality maintenance strategy should be used to re-evaluate the concept of the atmosphere as a sink. Historically, our view has been to dilute the pollutants with the atmosphere. However, vegetation and open space can be utilized as a sink or filtering device'."

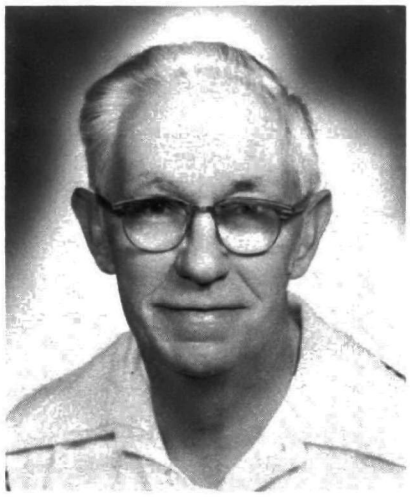
"Pollutant removal is maximized when a forest buffer is *moderately* permeable; one which is well stratified by the presence of ground cover, an understory, and an upper tree level. However, a forest buffer that contains a dense 'wall' or overlapping of layers can actually hinder the passage of wind through the forest, thereby reducing the exposure of air pollutants to the vegetation. Similarly, the report notes, that in at least one study it was concluded that the initial 65 to 85 feet of the forest edge can reduce the concentration of particulates by as much as 50 percent. Such removal, the report determines, can be enhanced by increasing the diversity of the plant species located within the first 65 to 85 feet of a greenbelt. Using such design criteria as briefly highlighted above, the study then devised various hypothetical models in which open space management practices were introduced. Specifically, the study used St. Louis, MO, as a test city."

"Open space is not, however, a single panacea to air pollution. As the report notes, such plans are not feasible for the removal of all pollutants. Based on the demonstration study and comparative cost analysis conducted in St. Louis, researchers concluded that while space plantings were feasible for removing sulfur dioxide (actually 3-½ times less expensive than scrubbers for the same degree of effectiveness), it was economically infeasible to rely on such practices for the removal of particulates like lead. Rather, their

(Continued on page 6)

Sawicki, O'Keefe Receive Bronze Medal

Dr. Eugene Sawicki



Andrew E. O'Keefe

Dr. Eugene Sawicki, Chief, Sampling and Analysis Methods Branch, and Andrew E. O'Keefe, Technical Advisor, ESRL/RTP, recently received the Bronze Medal for Commendable Service, the Agency's third highest honor award. The awards were presented to Dr. Sawicki and Mr. O'Keefe by Dr. Thomas Murphy, Deputy Assistant Administrator, Air, Land and Water Use, EPA, Washington.

Dr. Sawicki's citation read, "In recognition of his outstanding service to environmental protection. His foresight and dedication have significantly contributed to the scientific knowledge necessary to combat the concern posed by carcinogenic chemical pollutants in the environment."

Mr. O'Keefe was recognized for his distinguished service in the Federal Air Pollution Control Program where he has been an innovative technical leader responsible in large measure for expansion and improvement of the Agency's ability to characterize and measure air pollutants.

Share and be Recognized for your Creativity

The Recreation Association of the U.S. EPA announces an amateur art, photography and poetry contest. The theme: "Nature."

All EPA employees are eligible to enter one entry per category; employees who are association members may submit an additional entry in each category.

Each entry must be validated as personal creation during 1977. Entries will be accepted until November 18, at the ERA Office, Room 3132, Waterside Mall, Washington, D. C. 20460. Winning entries and awards will be announced before Christmas.

The categories for entries and prizes are as follows:

Photography: Category 1. Black and White; Category 2. Color. Entries should be 8 by 10 prints. Negatives or slides may be requested from winning employees.

Art: Category 1. Oil; Category 2. Water color, pastels, charcoal or acrylic.

Poetry: Entries are limited to 250 words and must be typed on one side of 8-1/2 by 11-inch paper.

For additional information, contact the Public Affairs Office, Ext. 2956, MD-31.

Houston Blair Joins PMD

The Cleaner Times spotlights an addition to the staff of the Personnel Management Division, Mr. Houston V. Blair. Mr. Blair was recently selected through nationwide merit promotion competition for the position of Labor Relations Specialist.

Mr. Gerald H. Groon, Personnel Director, observed that few people in government can match the wealth of valuable experience accumulated by Mr. Blair in the Federal sector labor relations field. He noted that Mr. Blair has served in several labor relations capacities since the program was officially recognized in

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Dorothy Rose ..... Assistant Editor
Elaine Hyman ..... Reporter

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New Federal Pay Scale

	1	2	3	4	5	6	7	8	9	10
GS-1	$6,219	$6,426	$6,633	$6,840	$7,047	$7,254	$7,461	$7,668	$7,875	$8,082
2	7,035	7,270	7,505	7,740	7,975	8,210	8,445	8,680	8,915	9,150
3	7,930	8,194	8,458	8,722	8,986	9,250	9,514	9,778	10,042	10,306
4	8,902	9,199	9,496	9,793	10,090	10,387	10,684	10,981	11,278	11,575
5	9,959	10,291	10,623	10,955	11,287	11,619	11,951	12,283	12,615	12,947
6	11,101	11,471	11,841	12,211	12,581	12,951	13,321	13,691	14,061	14,431
7	12,336	12,747	13,158	13,569	13,980	14,391	14,802	15,213	15,624	16,035
8	13,662	14,117	14,572	15,027	15,482	15,937	16,392	16,847	17,302	17,757
9	15,090	15,593	16,096	16,599	17,102	17,605	18,108	18,611	19,114	19,617
10	16,618	17,172	17,726	18,280	18,834	19,388	19,942	20,496	21,050	21,604
11	18,258	18,867	19,476	20,085	20,694	21,303	21,912	22,521	23,130	23,739
12	21,883	22,612	23,341	24,070	24,799	25,528	26,257	26,986	27,715	28,444
13	26,022	26,889	27,756	28,623	29,490	30,357	31,224	32,091	32,958	33,825
14	30,750	31,775	32,800	33,825	34,850	35,875	36,900	37,925	38,950	39,975
15	36,171	37,377	38,583	39,789	40,955	42,201	43,407	44,613	45,819	47,025
16	42,423	43,837	45,251	46,665	48,079*	49,493*	50,907*	52,321*	53,735*	
17	49,696*	51,353*	53,010*	54,667*	56,324*					
18	58,245*									

*The rate for employees at these levels would be limited to the rate for level V of the Executive Schedule, $47,500.

EPA/RTP Learning Center Calendar

FY-78 Training Courses

Introduction to ADP
November 9-11, 1977; $175

Decision Making
December 7-8, 1977; $150

Creative Problem Solving
January 11-12, 1977; $150

Breaking Barriers
January 11-13, 1977; $200

Listening and Memory Development
January 24-25, 1978; $200

Listening and Memory Development
January 26-27, 1978; $200

Time Management
February 2-3, 1978; $295

Basic Management Functions
February 6-10, 1978; $200

Decision Making for Secretaries
February 21-23, 1978; $200

Introduction to Mini Computers
March 1-2, 1978; $225

Middle Management Institute
March 13-17, 1978; $225

Accelerated Reading
April 10-14, 1978; $200

Pre-Retirement
April 4-6, 1978; $25

Technical Communication
April 4-6, 1978; $185

Supervision and Group Performance
May 8-12, 1978; $215

Effective Letter Writing
May 16-18, 1978; $150

Additional courses will be added and announced as the training year progresses.

The following awards were approved during the month of August 1977:

QUALITY SALARY INCREASE

Jean Ewing - OA/PMD
Tena L. Pipkin - OA/WPC
Michael A. Trutna - OAQPS/CPDD
Patricia N. Wanzenried - OA/WPC.

September 1977:

QUALITY SALARY INCREASE

Robert M. Schell - OAQPS
Richard L. Ogan - IERL
Janice C. Phillips - EMSL
Richard B. Perry - IERL
Wade H. Ponder - IERL

Personnel Corner

Performance Evaluation Guidelines

The U.S. Civil Service Commission recently issued revised performance evaluation instructions designed to improve communications between supervisors and their employees. In addition to a completely refurbished Federal Personnel Manual, Chapter 430, "Performance Evaluation and Rating," the new material includes an Appendix A, a "Guide for Improved Performance Evaluation." While use of this section is discretionary, the "extensive guidance" provided can help supervisors and employees "achieve the mutually valuable goals of performance evaluation." These documents stress that performance evaluation is not "an end in itself." Rather, it serves as a "tool," which, when properly applied, produces "needed information about employee performance."

Effective performance evaluations can:

-Stimulate employees to improved work performances and commitment to organizational goals.

-Help supervisors to assign work more efficiently and make better employee-job matches.

-Keep employees advised of what is expected and how well they are meeting those expectations,

-Meet employees' needs for growth and development and provide assistance in setting career goals.

-Make management aware of employees' potential for development for higher level positions.

The Commission recognizes that few employees and supervisors enjoy discussing problems and shortcomings, but such sessions are essential to improving job performance. "It is also important to see that employees receive appropriate recognition for very high-quality performance," according to the Commission report.

In order to reduce "bias and unfairness" and increase the "objectivity" of evaluations, performance-appraisers should avoid:

-Rating everyone as average, which is unfair both to those who excel and to those who need help,

-Summing up the "whole employee" in a few all-purpose words,

-Assigning "halo effect" ratings, in which one strong factor or one vivid event overshadows or obscures the rest of the evaluation,

-Ignoring the coaching and counseling side of the evaluation,

-Confusing performance with personality when the latter has no direct relationship to job requirements.

Among the benefits emerging from effective performance evaluation procedures, CSC concludes, are:

-A strengthening and improving of communication lines between supervisors and their subordinates,

-Clarification of job requirements and performance expectations,

-Better coordination of workplace tasks and programs,

-A heightened commitment to meeting workplace goals.

Ike Gatling Appointed EPA/RTP EEO Officer

Isiah (Ike) O. Gatling was recently selected to serve as Equal Employment Opportunity Officer for EPA's Research Triangle Park operation. In announcing the appointment, Edward Jenkins, Acting Director, EPA Office of Civil Rights, praised Gatling's outstanding experience and exposure in the area of Equal Employment Opportunity in the Federal Government.

Prior to joining EPA, Mr. Gatling served eight years with the U.S. Coast Guard as Civil Rights Officer, Federal Women's Program Coordinator and Military Equal Opportunity Advisor. Earlier in his career, he held a similar position with the U.S. Army Headquarters Training and Doctrine Command in Fort Monroe, Virginia, where he was also in charge of the program for Spanish-speaking minority employees.

Mr. Gatling received his BS degree in health education from North Carolina Central University and an MA in education and psychological counseling from Hampton Institute. He has also done work toward a doctorate in the field of human relations at George Washington University, Golden Gate University, College of William and Mary, and the University of Rhode Island.

In accepting the appointment, Mr. Gatling said that he intends to have equal employment opportunity in EPA become an integral part of the overall Agency mission.

EPA Scholarships Awarded

In a brief ceremony recently, George Robert Gillis, Jr., and his sister, Janie Elizabeth Gillis, were awarded EPA scholarships by E. L. Plyler, IERL/RTP.

George, a junior at High Point College, is majoring in human relations. Janie attends Methodist College and is majoring in religion. She plans to go into the ministry.

George Gillis, Sr., father of the two students, is a mechanical engineering technician in the Combustion Research Branch of IERL.

The staff of the Cleaner Times, along with friends and co-workers, extend their heartfelt sympathy to the family of the late Karl R. Kurfis. Karl, 43, died of a heart attack September 24 at his home in Longmont, Colorado. He had recently transferred from the Meteorology and Assessment Division of ESRL to ERDA. Survivors are his wife Sylvia and two sons, Robert and Kenneth. Karl was buried near Warren, Ohio.

Thanks to you,

CFC is Working!

Last year, because of the generosity of EPA and other Federal employees, the Combined Federal Campaign was successful in raising funds for many humanitarian needs in our area. As Federal employees, we have an opportunity once again to share our abundance with people in need through the Combined Federal Campaign. This campaign, the only major fund-raising drive conducted in the Research Triangle area, provides funds for three service agencies: The United Fund, the National Health Agencies and The International Service Agency.

When you make a contribution, your have the option of designating the charitable organization that you want to receive your gift, and you may have your contribution directed to the community in which you reside. Payroll deductions may be made for as little as 50 cents per pay period.

OPEN SPACE...(cont'd from page 2)

studies demonstrated that the use of mechanical devices, at the source, provided a far more cost effective control technology for particulate removal. More importantly, the report strongly cautioned that the dearth of quantitative information on the subject severely limited the reliability of the sink and emission factors derived in the study. Questions regarding the impact of the accumulation of pollutants (including such toxic substances as lead and flourine in soils and vegetation) on soil fertility, groundwater quality and food chains, were left unanswered. And the study noted that the use of open space without a close evaluation of the entire community infrastructure could have an actual negative impact on air quality. If, for example, the isolation of large tracts of open space resulted in an increase in vehicular travel, total levels of emissions from mobile sources could increase."

"Perhaps the most encouraging aspect of the open space management plan is the multiple benefits it directly and indirectly generates. By maintaining stretches of open space, prime urban recreation and refuge areas are created, noise levels are muffled, and visual blight often associated with high density development is soothed by the presence of green vegetation."

Person-to-Person

The Source Receptor Analysis Branch (MDAD/OAQPS) recently welcomed two new employees, Nancy A. Mayer and Tom Braverman. Nancy is a graduate of the College of Engineering, Cornell University, and Tom is a graduate of the School of Civil Engineering from Duke University. This Branch also has a new IPA employee. He is Dr. Hank Cole from the University of Wisconsin at Parkside, where he was assigned as Associate Professor of Earth Science.

George Schewe and his wife Mary are the proud parents of a 7-lb, 3-oz baby boy named George Jeremiah, born July 29 at 1:45 p.m. George, Sr. is in MDAD/OAQPS.

Dan deRoeck, CPDD/OAQPS, and Kathy, HERL/RTP, ushered Allison Neill deRoeck into the world August 16 at Durham County General. Allison weighed in at 8-lbs, 8-ozs.

George Schewe along with other members of St. Michael's in Cary recycled over 14,000 beer cans this past summer. The 550 pounds of aluminum from their recent activity plus 200 pounds collected earlier have netted more than $125.00 for church work in addition to helping with an environmental problem.

IERL/RTP hosted a picnic at the ERC picnic area September 29. Employees and their families shared a real southern meal with their guests the Soviet delegation who were here to participate in the 2nd U.S./U.S.S.R. Symposium on Particulate Control. Everyone had a good time.

Martha Daniel, IERL/RTP, while on a trip to Los Angeles, had the pleasure of meeting and talking with Liza Minnelli, a motion picture star. Martha was very excited about the meeting and so were her co-workers when she told them about it.

Conferences

The Sixth National Congress on Waste Management Technology and Resource and Energy Recovery will be held November 13-16, at the Washington Hilton Hotel, Washington, D. C. There will be workshops on resource recovery, sanitary landfill, hazardous waste management and a critical assessment of the 1976 Resource Conservation and Recovery Act's (RCRA) first year.

The Association for the Advancement of Medical Instrumentation has issued a "Call for Papers and Films" for the 13th Annual Meeting and Exhibit Program, March 28-April 1, 1978, at the Washington Hilton, Washington, D.C.

The Association of Official Analytical Chemists (AOAC) will hold its 91st annual meeting October 17-20, at the Marriott Hotel, Twin Bridges, Washington, D.C. Scientists and researchers from government, industry and academia in North America and Europe are expected to attend. Three symposia are scheduled to take place: Drug Residues in Animal Tissues; High Pressure Liquid Chromatography; and Environmental Pollutants. The AOAC will also sponsor a spring training conference and exhibition May 1-3, 1978, at the Marriott Hotel in Atlanta, Georgia. This conference is designed to provide state-of-the-art presentations in selected analytical subject areas.

Speaking Engagements

Bill Hunt, MDAD/OAQPS, presented a talk on "Trends in Air Pollution" for the Research Triangle Park Jaycees. He was also interviewed by WUNC radio on "The Pollutant Standard Index."

B. Harris, Sanitary Engineer, IERL/RTP, participated in the US/USSR Symposium on Particulate Control, September 25-October 2, at Research Triangle Park. His subject was "Sizing Techniques for Submicron Particles."

L. Johnson, Analytical Chemist, IERL/RTP, was a panelist at the ASTM Conference, October 3-6 in San Francisco. The topic was "Organic Environmental Analysis."

Dr. Tom Wagner, Clinical Studies Lab, HERL/RTP, gave an overview of EPA in North Carolina, at a meeting of the Chapel Hill Civitan Club, at the Country Squire Restaurant, October 4.

Joe Bumgarner, EMSL/RTP, gave a general talk on environmental control to students at Guy B. Phillips Jr. High School, October 5.

Carole Sawicki, ESRL/RTP, spoke to the Calvander Home Extension Club on "Effects of Pollution on Health" at the Homestead Community Center, October 12.

John Robson, SASD/OAQPS, addressed the West Durham Exchange Club, at the Acorn Restaurant on the subject of "Land Use and Pollution," October 26.

J. Wasser, Research Chemical Engineer, IERL/RTP, attended the National Oil Jobbers' Council, November 1. He discussed "Environmental Considerations for Residential Equipment." The meeting was in Houston, Texas.

J. Kilgroe, IERL/RTP, attended the New York Public Service Commission meeting in New York, N. Y., November 1 to discuss "Testimony on Coal Cleaning."

S. Rakes, Chemical Engineer, IERL/RTP, will attend the Royal Dutch Engineers Conference on Fluid Bed Combustion and Gasification, Utrecht, the Netherlands, November 22. He will discuss "Fluid Bed Combustion and Gasification."

J. Dorsey, Chief, Process Measurements Branch, IERL/RTP, will be the General Chairman at the Process Measurements Programs for Environmental Assessments Symposium, February 13-15, 1978, in Atlanta, Georgia.

EPA Hosts Meeting

The U.S. Environmental Protection Agency will host a conference entitled "Conference on Data Validation," November 4, 1977. The conference is sponsored by the ERC/RTP Interlaboratory Quality Assurance Coordinating Committee, and will be held at the Research Center's Auditorium, Research Triangle Park.

The meeting will open with Dr. John Burchard, Senior ORD Official welcoming the guests.

The various sessions will include speakers from ERC laboratories, OAQPS, EPA Contractors and other Federal agencies.

Facts Worth Printing

By Betty G. Abramson

Several benefits can be yours by volunteering to serve as a member of Merit Promotion Panel. You gain valuable knowledge of what comprises an effective SF 171; you can learn first hand the processes that make the merit promotion system function and you can feel satisfied that you contributed your services to the Agency. Brenda Riley and Diann Westmoreland (extension 3014) will welcome your inquiries about serving on a panel.

The Second Annual Meeting of the RTP FWPC's was held at ERC on September 12, 1977. There were sixteen participants representing six Federal agencies. The following topics were discussed; Sponsoring a Federally-Funded Day Care Center; Job Sharing; EEO Training for Supervisors, Counsellors, and FWPC's; Expansion of Night Courses; Job Information Network for Women and Lack of Advanced Job Opportunity for Government Employees at RTP. Five Task Force Committees were set up to study these projects; Training, Job Restructuring, Communications, FWP Women's Fair and a National Secretaries' Week Program. Copies of the minutes are available to anyone, upon request, by calling Betty Abramson on extention 5395. The next meeting is scheduled to November 4, at NCHS.

Various books and pamphlets of subject of particular interest to women have been ordered for circulation. As we receive them, the titles and locations of these publications will be announced in this column.

HOUSTON BLAIR...(continued from page 3)

government in January 1962, including service as the first president of AFGE Local 3347 and most recently as the Local's Chief Steward.

Commenting on his new assignment, Mr. Blair pointed out that one of his primary responsibilities will be to work closely with EPA-RTP management and AFGE Local 3347 in order to foster the development and maintenance of a constructive and cooperative labor-management relationship. He expressed the belief that this kind of relationship will benefit both the well-being of employees and the efficient administration of EPA by providing employees appropriate opportunities to participate in the formulation and implementation of personnel policies and practices affecting conditions of their employment.

Journalism Class Focuses Attention on Coal Cleaning

With the energy crunch and increasing use of coal, IERL/RTP's Fuel Process Branch is leading an EPA research effort to find economically attractive cleaning processes to remove sulfur, a major pollutant of concern, from coal. Recently, Dr. David Kirchgessner, geologist in the Branch, met with a group of students for a mock press conference at UNC - Chapel Hill's School of Journalism.

Dr. Kirchgessner explained to the class that physical cleaning, which has been used for many years to remove rock and other substances from coal after it is mined, is now being used to remove sulfur. Kirchgessner also covered the principle entailed in chemical processing of coal to separate sulfur He emphasized to the students that both of these cleaning processes produce concentrated residues, which in themselves constitute a disposal problem - another environmental challenge faced by our Agency. A question-and-answer period concluded the session.

The journalism students, armed with the information gained in the interview, then set out to write their stories. The completed pieces were forwarded to Dr. Kirchgessner; he reviewed the articles and noted the errors and misunderstandings that had crept into the reporting.

In the subsequent meeting with the students, Dr. Kirchgessner held a critique on the work that he had reviewed. "Without exception, the articles had errors. The students were surprised at their inaccurate reporting, and the participants took on a new appreciation for their roles as reporters," according to Dr. Kirchgessner. He said that part of the exercise was to show students the difficulties encountered in reporting on technical material. Kirchgessner feels that this was an extremely worthwhile effort. He said, "This project was successful in elevating the students' awareness of the voids in their knowledge and should exhort them to delve deeper into subject matter, especially when they are writing stories about scientific research."