

The Abell Report

What we think about, and what we'd like you to think about

Published as a community service by The Abell Foundation

Abell Salutes: The Expansion and Renovation Program of the Bethel African Methodist Episcopal Church

The Abell Foundation has awarded a grant of \$180,000 to the William E. Smith, Jr. Outreach Center, the community service center operated by the Bethel African Methodist Episcopal Church. The money is to be used for the center's expansion of facilities from its present location at 1301 Druid Hill Avenue into a new building at 1429 McCulloh Street.

The total cost of the project, including purchasing and renovating, is estimated to be \$700,000; completion is scheduled for fall of 1990.

Bethel A.M.E. founded its Community Outreach Center in 1979 to provide, out of funds contributed by congregation members, clothing, canned food and emergency financial services to the needy within its own community. Since that time, as the numbers of those applying for the services has increased, and federal and state support for social programs has contracted, the center has grown to become a major provider for comprehensive services to approximately 2,000 persons every week throughout the Baltimore metropolitan area. Such services address illiteracy, unemployment, hunger, homelessness and adolescent pregnancy. Many are referred to the center by the Department of Social Services, the Maryland Food Committee, and other churches and service programs.

Bethel traces its beginnings to 1785, when a group of free blacks organized a prayer group that began to meet regularly in the homes of members. By 1797 this group had grown into an organized congregation, purchasing a building on Saratoga Street, which it used as its church, and designating a minister. In 1810 the institution founded a free school, teaching reading, writing, mathematics and religion. The original school is still functioning.

Marine Biotechnology In Maryland: Dreams Into Research into Dollars Into Jobs. "While There's Still Time"

The Baltimore region has drawn its economic health from its port and a number of large manufacturing facilities. Our port has been declining in its relative significance, and heavy manufacturing is becoming more difficult to sustain in the face of increased foreign competition. It is of critical importance for our region, as it is for our country, that we be on the cutting edge of scientific exploration and discovery. The Abell Foundation believes that our community must have a strategy for adding to our scientific infrastructure if our region is to remain competitive. Periodically, this report will highlight opportunities that we feel are deserving of community support.

Dr. Rita Colwell has a dream for Marylanders that few of them share. That is because, she feels, they do not yet know one of Maryland's best-kept secrets, and because they have not yet made a significant commitment to the economic benefits of scientific research.

Here is that dream.

In less than a decade, there will be dozens of new businesses prospering here in Maryland whose owners only five or so years earlier hadn't the slightest notion they would be located in Maryland, or that they would be in business at all; they will be employing thousands—expanding the state's economic base, enriching its business diversity, and attracting to Maryland large numbers of the highly skilled and renowned from around the world. Dr. Colwell believes all this can happen if Maryland becomes a world center for research and development in the new and still-exotic field of marine biotechnology.

According to a task force report published by the University of Maryland, "With the maturation of marine biology to its present state-of-the-art, biotechnology has taken on new and exciting dimensions, and makes the time ripe for applying thousands of years of biotechnological knowledge to the

newly discovered world of marine biotechnology.

"Marine biotechnology's new tools result from breakthroughs in molecular biology and biochemistry, as scientists modify and transplant the genetic information of thousands of different cells and chart the complex molecular structures that regulate every phase of life, from heredity through growth and aging. This body of knowledge is creating new understanding of the vast wealth of ocean life and resultant economic benefits for humankind."

New Options

This new body of knowledge is also providing new options for scientists—and business and political leaders—in their planning for the future. Prominent in this future, and taking a leadership position within it, will be, in Dr. Colwell's dream, the state of Maryland. It is the view of the Abell Foundation that the issue of support for this program should be high on the community's agenda.

Dr. Colwell's optimism appears well-placed; at the heart and central to it, is the Center of Marine Biotechnology (COMB). The center was established in 1985 by the legislature of the state of Maryland

Some Recent Grants By The Abell Foundation

**Advocates for Children
and Youth** \$35,550
Establishment of an organization advocating improved services for special needs children in Maryland.

Baltimore City College \$2,170
Staff development to design an interdisciplinary history and English curriculum for 9th and 10th grades.

Enoch Pratt Free Library \$62,500
Purchase of books to be used in establishing a summer reading program, "Race to Read," in cooperation with the Baltimore City Public High Schools.

Friends of the Family, Inc. \$5,000
Cost of a consultant to conduct an examination and evaluation of resources, early intervention programs, and services available for children ages 0-3 in the community.

**Institute for Christian-
Jewish Studies** \$25,000
Creation of a center to encourage greater intercultural and religious understanding in the community.

**People Encouraging
People, Inc.** \$35,000
Renovation costs of a 25,300 square foot facility at 4201 Primrose Avenue to house day support programs for the chronically mentally ill.

Western Maryland Food Bank \$37,836
Capital equipment to facilitate the distribution of surplus food to eligible non-profit agencies serving the needy in the Allegany County/tri-state area.

**The Johns Hopkins University
Center For Academically
Talented Youth** \$5,000
First phase of collaborative effort with Baltimore City Public Schools to test the effectiveness of the center's Self-Paced Individualized Math Program in a regular school setting.

The Johns Hopkins University \$5,000
Cost of a Public Issues Forum Series on Urban Education Reform in May and June, 1988.

as one of the four centers (and one program) that make up the Maryland Biotechnology Institute. COMB, as part of the institute and only recently coming into public view, is funded by the state and headquartered on the top floor of the Community College of Baltimore in the Inner Harbor (presently occupying 32,000 square feet, but needing to expand into 300,000). Dr. Colwell is the director of the institute and the center; she is supported by a staff drawn from scientists in the academic departments of the University of Maryland and Johns Hopkins, from federal laboratories, graduate students, industrial fellows and distinguished visiting scientists.

*This precious
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According to Dr. Fred Singleton, executive director and associate research scientist at COMB, the center here in Maryland, if it receives the resources it needs, is committed to "learning as much as we can about the basic genetics of marine life, including the growth, development and reproduction of fish, shellfish, jellyfish, seagrasses, seaweed, and marine bacteria." To venturesome, high-tech businesses intent on developing and marketing new products, this newly acquired and precious knowledge of the seas' treasure is the stuff of marketing spectaculars. The potential includes providing new drugs for the treatment of diseases; increasing and improving food production; playing a major role in cleaning up the bay; providing a means for removing pollutants from the environment; and bringing to reality the potential of the oceans to serve as a significant source of protein on a scale not heretofore predicted. (Only recently, at the Chesapeake Bay Institute at Shady Side, Maryland, scientists announced the results of research in which a gene that controls growth in rainbow trout has been introduced into common carp, creating a new line of fish that grows 20% faster than its natural relatives. The program is still in the experimental stage.)

"What the center is going to produce, and with luck, sooner rather than later, are commercially viable products," says Hans Mayer, who as deputy secretary of the Maryland Department of Economic and Community Development had a hand in the creation of COMB. "The whole complex process of bringing to market a myriad of new products that have their origins in marine organisms—and the jobs and the construction and the benefits of all those new dollars going to work in the economy—the whole complex process is going to begin many times over in the center's laboratories. Every time a research scientist down there, or an entrepreneur looking over his shoulder, shouts, 'Eureka!' everybody in Maryland ought to be shouting along with them."

The center's potential for enriching the Maryland economy is clearly worth shouting about. "If you want to speculate, although not too wildly," Mayer says, pulling out a calculator, "we can project the center's impact on Maryland in, say, ten years.

"If the center does a good job—gets an adequate facility to expand into, turns out product, gets media attention, develops close relationships with the University of Maryland and Johns Hopkins—if it does a lot of things right, it is entirely within reason to expect its presence to attract and create as many as 250 new companies over a decade. They will not be big companies—biotech does not make for many big companies, they may average as many as 40 employees—that is 10,000 jobs. If you take those 10,000 jobs at an average of \$30,000 each after 10 years, you will be pumping no less than \$300,000,000 a year into the Maryland economy."

If that all seems a bit heady, there are those believers to remind skeptics that Maryland already has the strong beginnings of the critical mass and the corporate culture that the biotech business likes, and is attracted to. Dr. Michael Hooker, president, University of Maryland

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Baltimore County, is foremost among those believers.

"We in Maryland now have the entrepreneurial role models that together make up a vital component of that corporate culture. The success here of companies like Nova—and I believe Nova is destined to become one of the leading pharmaceutical houses in the world—along with Crop Genetics and Genetic Therapy, serve as a magnet. We also have the funding dollars going into research, and it's this vein of research that entrepreneurs need to tap into. Adheron, a company located in Southern Maryland with venture capital out of Arizona, is doing just that, using our research to grow disease-free fish, and evaluating commercial applications of adhesives produced from marine organisms.

"Other components that help enrich this corporate culture are the availability of our university-based research, through the University of Maryland, Johns Hopkins, and N.I.H., and the availability of seed venture capital through such resources as The Abell Foundation and The Dome Corporation.

"Dr. Colwell is the absolute best marine microbiologist in the world"

"And, it should be noted, we have in Dr. Rita Colwell, who heads the development of our marine biotech program in Maryland, the absolute best marine microbiologist in the world.

"Maryland's geography works for us. While it is not strictly speaking necessary to be near the bay, it helps. The community is aware that its life is bound up with the life of the bay, and this perception translates into a special interest in and an appreciation for bay-related activities like aquaculture that speak to the future.

"In the end, a lot is going to depend on the funding, and most of that funding must come from the state. We should be getting funding in the area of \$20,000,000. We're getting \$2,000,000. The governor is all for it, and so are many legislators, but they must deal with competing priorities. However, with proper funding, it's clear that the Baltimore region has the potential,

within ten years, to become one of the major foci of biotech in the world, with marine biotech not only becoming a significant piece of the whole, but the most likely to put Maryland on the biotech map."

To the planners and dreamers like Drs. Colwell and Hooker, it is the state's inability to mount as aggressive a funding program as they think it needs that could ultimately choke the effort. "Other states are simply being more aggressive," Hooker points out. "Michigan, Ohio, New Jersey, for example. They are outspending us and thus outbuilding us."

Sending the Wrong Signals

Concerned supporters of the effort say that the state's softness on the funding of biotech development is sending the wrong signals to business and government throughout the world, and becoming self-fulfilling; the longer it takes to create an adequate research facility the further Maryland falls behind, the quicker critics will suggest that state money for biotech at this point is too late and pours good money after bad, and that the dollars can be better used in other areas of need crying out for funding.

Delegate Larry LaMotte, who has taken a personal interest in gathering support for the state's biotechnological development, is guardedly optimistic. "We're moving, but we have to fight the conservative members who are more comfortable investing in existing businesses than in future businesses. That resistance has to be overcome and I believe it will be."

On the question of the state's investing its money in "existing" versus "future" business, Delegate Rosapepe thinks legislators on both sides of the argument are talking about the same thing. "Existing" doesn't mean only steel and shipbuilding and coal mining. It means, too, our seafood industry. To me, it's nuts that so much of our seafood comes from out of state. Marine biotechnology can help grow our fish faster, and rid our fish and shellfish of disease, improving and expanding the harvest, and buoying up the Maryland economy."

LaMotte, Rosapepe and fellow marine biotech enthusiasts will be getting help in the form of a new agency that will be in place by the end of this year. To be called "Office of Technology Development," "It will," according to Scott Rowan, industrial representative for business and industrial development with the Maryland Department of Employment and Economic Development (DEED), "speed things up, acting as a clearinghouse and coordination center for all biotechnology in Maryland. The agency's efforts should make it possible to approach the legislature with more organized and documented requests for funding."

"What we need is more momentum in the private sector"

According to Walter Plosila, president of the Montgomery County High Technology Council, "Organization and leadership is what will keep the program moving. It is not so much a matter of more money, though more money is important, it is more a matter of expending prudently what we do have, and what we hope to get. It may be that to get where we've got to go we need to do some streamlining, and work more at developing relationships with the private sector. Raising the level of that effort may be as important as raising money."

David Carroll, the governor's coordinator of Chesapeake Bay programs, agrees. "More financial support for the program over the long run must come from the private sector. Centers aren't the problem and people aren't the problem, we have those. What we need is more momentum in the private sector providing needed leadership and money."

But while the debate over funding goes on in the halls of the legislature and the board rooms of corporations, the research goes on in the laboratories and the lecture halls of the universities—University of Maryland Baltimore County, University of Maryland College Park, Johns Hopkins, and at COMB.

In these facilities, researchers (faculty members and their support staffs now about 45 but hoping to increase to more than 300) using

sophisticated equipment with such world-of-tomorrow functions as DNA synthesizers, protein synthesizers, image analyzers and mono-clonal antibodies, are working to make the sea give up its secrets: in these facilities marine biotechnology researchers are looking at the promising applications of molecular biology: eliminating diseases from fish and shellfish, discovering marine pharmaceuticals to use in the fight against disease in humans and animals; producing the mechanism to control pollution; producing polysaccharides (jelling agents) to use in the food industry for a multi-billion dollar worldwide market; developing from marine

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animals and plants the compounds that can be used in the fight against cancer.

Dr. Colwell compares the development of biotechnology as a breakthrough in the history of science with the splitting of the atom. “What we’re doing separates the past from the future no less spectacularly than the discovery of atomic energy. The research we are doing here in Maryland in marine biotechnology is at the cutting edge and ranks with the best being done anywhere in the world. And we have got to work at sustaining the momentum that has placed us at the forefront so that we can stay there.”

The world Dr. Colwell speaks of is a very large one, and a very competitive one, and includes such formidable competing marine centers as Scripps Institute of Oceanography in La Jolla, California, the University of California at Santa Barbara, and Woods Hole Oceanography Institution in Massachusetts.

And those centers are only the competing centers in the United States. There is, in addition, foreign competition from Taiwan, China, Cuba, Argentina, Chile, and in particular, Japan—which has committed \$350 million to marine biotechnology over the next ten years. (“The research of foreign countries,” according to Dr.

Singleton, “can be distinguished from America’s. Foreign research is way behind American in both innovation and creativity. Right now, theirs is playing catch-up, but they are working hard to close the gap.”)

Baltimore can become the marine biotechnology capital of the world . . .

Clearly, Maryland, for all the progress in which Dr. Colwell takes pride and comfort, has its work cut out for it. An objective observer might reasonably take the view that if the public and private sectors act promptly and together, Baltimore can become the marine biotechnology capital of the world, and that few opportunities of this magnitude are ever presented to a community.

A measure of just how much progress COMB has made is the recent \$6.7-million award it received recently from the Office of Naval Research to train scientists in marine biotechnology. “The award,” Dr. Colwell notes, “was won in open competition against the best from around the country. The recognition says a lot about who we in Maryland are, what we do, and how our peers assess our future.”

* * * *

250 new businesses, 10,000 new jobs, \$300,000,000 additional dollars at work in the community, the elimination of diseases among fish and shellfish, fish that grow three times faster, a whole new group of lifesaving pharmaceuticals, a contribution to the cure for cancer, Maryland as a world center for marine biotechnology, and all in the next ten years—this is the dream Dr. Colwell dreams, and is now sharing with the Maryland community. But is the dream attainable? Can it, will it, all happen? A studied answer would seem to be, yes, all of the elements are in place—but there is a haunting “if” . . .

If the legislative and the executive branches of state government and the academic community and the private sector can work together in common cause to make it all happen.

While there is still time.

Some Recent Grants By The Abell Foundation

Baltimore Chamber Orchestra \$5,000
Cost of bringing 42 concerts into the Baltimore City Public Schools with a special target of schools with “at-risk” children.

Bread on the Water \$19,000
Purchase of capital equipment for the warehouse to facilitate the distribution of food to soup kitchens, emergency food pantries and other non-profits serving the hungry in Maryland.

B.U.I.L.D. \$35,000
Personnel costs and operating expenses of a program initiative to encourage parental involvement in 40 Baltimore City Public Schools.

English Speaking Union \$12,500
Development of a pilot project to improve the speaking of English among students and teachers in the Baltimore City Public Schools.

Fellowship of Lights \$10,000
Rehabilitation and furnishing of a newly acquired building to serve as a 10-bed transitional shelter for abused and neglected adolescent girls.

Fund for Educational Excellence \$100,000
Mini subgrants to teachers in the Baltimore City Public School System for enrichment projects.

Institute for Independent Education \$12,000
Pilot project to encourage support of four black neighborhood private schools for their scholarship programs and minor capital improvements.

Jubilee Jobs \$50,000
Operating expenses for expansion of job placement services for low income unemployed people by developing job leads, conducting 12 job search workshops, teaching job keeping skills, and facilitating development of a communication network for job development and job counselors.

Missing & Exploited Children's Association \$225
Direct services to benefit abused, missing and exploited children's organizations.

Patterson Park Emergency Food Center, Inc. \$30,000
Renovation of three abandoned adjoining row homes donated by the city in order to provide shelter to 25 persons at any one time; also, the cost of a part-time bookkeeper.