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UCSC Research Park

Little Lockheed on the Hill?

A high-technology research park at the University of California at Santa Cruz would "almost certainly" involve the campus in defense and weapons-related research, according to Frank Brodhead of the American Friends Service Committee in Philadelphia.

Brodhead, who monitors Pentagon contracts awarded to U.S. universities, told the *Phoenix* that if UCSC goes ahead with its plans to build a $60 million on-campus research park, Santa Cruz residents "can simply assume that the majority of research will be directly or indirectly related to defense."

His contention is supported by an AFSC survey of university research contracts, which reveals that the Pentagon has poured millions of dollars into university research on a new and deadly generation of electronics weapons. The Defense Department spent $164 million on university research in 1976—a figure that has since tripled—and campus research parks are among the fattest recipients of military contracts for research in the areas of laser warfare, nuclear space weapons, and "smart" bombs programmed to follow their targets.

Last spring, UCSC Chancellor Robert Sinsheimer briefed local officials and business leaders on the university's proposed Research and Development Center, assuring them that the campus park would allow no tenants to conduct research "directly related" to weapons production.

But the Chancellor's assurances appear somewhat hollow in light of the Pentagon's strong ties to other university research parks. A fact-finding study UCSC released last spring examined other key campus research parks, including operations at Stanford, Princeton, and the University of North Carolina. However, the study neglected to mention that all of these universities do extensive research for the Department of Defense (see chart on page 11).

Though UCSC's fact-finding report recommends that the university "strongly consider" prohibiting the park from doing research "directly related to weapons designed for the destruction of human life," nothing in the report suggests that UCSC should turn town military contracts. Indeed, it may come as a surprise to many students and faculty that UCSC is already being paid to do defense work. From July 1980 to June 1981, UCSC was awarded nearly $400,000 in research contracts with the Department of Defense and other government agencies geared toward military research.

Glossing over the likelihood of defense-related research, the university has concentrated on promoting the jobs that a research park could bring to Santa Cruz's sagging economy. The UCSC study predicts that if the research park began operation in 1985, it would provide this area with 1200 new jobs and $1 million in property tax revenues by 1992. By that time, the report states, the center would do $60 million worth of business annually. The study implies that the park would draw scientists doing research in the fields of electrical engineering, computer science, and biotechnology.

Electrical engineering—part of the new engineering department UCSC hopes to develop along with the research and development center—teaches the theory and design of semiconductors and other electronic devices. Among other uses, semiconductors—tiny silicon chips that rapidly perform thousands of functions—are the backbone of advanced weapon design.

The Pentagon and the University

"It is not widely known even by [electronics] industry insiders," Mike Johnson of the *San Francisco Examiner* reported last fall, "but semiconductors are the largest 'indirect' product bought by the Defense Department. Tank, airplane and missile-makers—the direct sellers—buy the little chips by the millions." A study by Data Resources, Inc., a prominent economic forecasting company, found that semiconductor production used in defense-related hardware will jump from 18 percent now to 23 percent in 1986 due to the Reagan Administration's military build-up.

"Silicon Valley and its counterparts are

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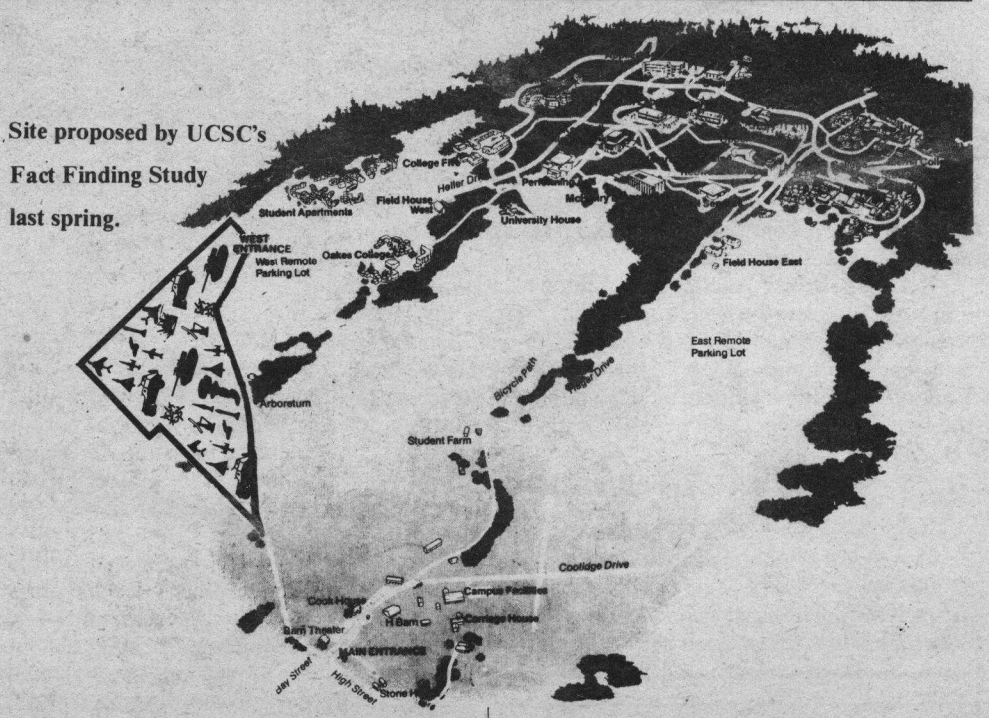

Site proposed by UCSC's Fact Finding Study last spring.

High Tech R & D at UCSC:

A Modest Proposal

Slated to open in 1985, UC Santa Cruz's proposed Research and Development Center would eventually occupy 78 acres of grazing land across Empire Grade from the West Entrance to UCSC.

The university's 34-page proposal recommends that land be leased to private firms engaged in research compatible with existing UCSC faculty research areas. But the study states the center's mission would also be to attract new "high quality research faculty and students" to UCSC to take advantage of the campus' "professional programs . . . and plans for expansion in selected areas of engineering."

UCSC "is endeavoring to broaden its technological program base into applied sciences and engineering," according to the study. "Distinguished institutions take advantage of the opportunity, whenever possible, to develop supportive links" with private industry.

The study projects that the center, upon completion in 1992, would provide 1200 new jobs; lease 50 acres of land for buildings, and use 28 acres for roads, neighborhood buffer, and "open space"; contain 600,000 square feet of operating space; bring $1 million in property tax revenues for the city of Santa Cruz; and conduct over $60 million worth of business annually.

In the next year, the University will produce feasibility studies and an environmental impact report considering alternative sites. A community public forum on the research park proposal is planned for October 7 at the Santa Cruz Civic Auditorium. ■

Tim Stroshane

INSIDE THE PHOENIX:

The Pentagon and the Universities

Department of Defense, Department of Energy, and National Aeronautics and Space Administration contracts, July 1980-June 1981.

Research Universities	DOD, DOE & NASA Contracts	Sample Research Contracts	Awarding Agency
Stanford University* Stanford, California	$20 million	Advanced Development of Space/Missile System	U.S. Ballistics Missile Systems
University of North North Carolina*	$1 million	Electrical Response of Charged Matter	U.S. Army Research Office
Rensselaer Polytechnic* Troy, New York	$2 million	Shield Anoekoic Chamber Research	U.S. Air Force Space Division
University of Texas* at Dallas	$712,000	Missile Space Advanced Development	U.S. Air Force Space Division
University of Utah* Salt Lake City	$7,300,000	Analysis of Environmental Samples	U.S. Air Force
Case-Western* Cleveland, Ohio	$549,000	High-voltage systems	U.S. Office of Naval Research
University of California at Santa Cruz	$394,000	Communications Electronics/Advanced Development (DOD contract)	Maryland Procurement Office
U.C. Berkeley	$9,280,000	—	—

*The research parks at these universities were studied by the UCSC committee that investigated the possibilities of a research park at UCSC and issued a 34-page "fact-finding" report.

This list is not all-inclusive: in 1981, the Pentagon's top 500 research contractors included major universities in almost every state. The Massachusetts Institute of Technology alone netted over $299,450,000 in defense funds.

Information for the chart was supplied by NARMIC (National Action Research on the Military-Industrial Complex), a project of the Philadelphia branch of the American Friends Service); *Aerospace Daily,* and the Department of Defense Annual Report.

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the technological heartbeat of U.S. military strategy," declares Brodhead. "The U.S. military is fast developing a new generation of electronic weapons that demand pinpoint accuracy, high speed, and a high-technology communications network." To create this weapons system, he continues, the Pentagon is anxious to recruit universities to replenish what it views as a mounting shortage of electrical engineers to do advanced military research. (California's Office of Economic Policy, Planning, and Research also predicts a statewide shortage of engineers by 1986 and has urged that California adopt programs to "increase the pool [of engineers and technicians] for high technology industries.")

UCSC's research-park-in-the-works is part of a nationwide boom in corporate financing of research at U.S. universities. Corporate investment in universities has swelled from $170 million in 1960 to a whopping $900 million in 1980. Many colleges, reeling from federal budget cuts, tax rollbacks, and a deepening recession, have embraced corporate support as a source of desperately needed funding.

"There is very definitely a profit motive for the campus as a whole," admits Steve Reed, UCSC's Director of Community Relations. "The prospect for state funding isn't good." Reed believes that the research center would give UCSC "the cash flow we need to deliver what we promise" as a university.

But some faculty members fear that a research center will undermine the already shrinking humanities programs at UCSC. Critics of the campus park point out that the University of Michigan, currently competing with Stanford and other universities for a $9.2 million Pentagon contract to build weapons for nuclear war in space, abolished its entire geography department last year and is considering the elimination of its art and education departments.

Bob Jorgenson, executive assistant to the Dean of Humanities, says "It's hard to see any positive impacts" on the overall campus curriculum. "It [a research park0 could lessen budget competitions if the sciences become more dependent on industry sources, which might free up funds for other programs. But it's too early to say. Science students are expensive to train."

Other UCSC professors are alarmed that corporate-financed research will endanger academic freedom at UCSC. The research park as presented in the fact-finding study "is a bad idea," says Physics Professor Peter Scott. "The science research will be secret whether it's for the military or for industry." Scott's worry is well-founded: last year the government threatened to slap security restrictions on the country's leading research universities. The presidents of Stanford, the University of California and other major colleges have bitterly protested the new secrecy requirements, whose enforcement would

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halt the free exchange of information among American and foreign scholars, especially in electrical engineering and the computer sciences. Foreign students would be prohibited from most science and engineering classes, faculty would be barred from participating in conferences attended by foreign nationals, or publishing their research.

UCSC: Ignoring Growth Control?

UCSC may locate its research park in an area unaccountable to local government. The fact-finding study suggests using "Inclusion Area A"—the bucolic grazing land on Empire Grade that borders the West Entrance of the campus and is governed by the County's Coastal Commission. If Santa Cruz chose to annex that land, the park would then be within the city's greenbelt, and subject to growth restrictions. But UCSC is considering placing the research center closer to the campus core, an area out of reach of local growth ordinances.

The research park, in fact, is intended to promote growth control in Santa Cruz County. The fact-finding study declares that the research park will mutually benefit the city and the campus by attracting "high quality research" and "by expanding and stabilizing the economic base" of the area. For this reason, the study argues, the park proposal "is especially timely." The university's attempt to sell the idea of the research park, however, has met with resistance from the Western Limits Association, a neighborhood group that fears the park would result in uncontrolled growth and environmental disruption. Some local officials are also concerned that the high salaries of research professionals could bid up housing prices and cause rents to skyrocket, making it even harder for low-income people to live in Santa Cruz County "I fear that the Center could eventually transform us into a mini-Palo Alto with the resultant economic and cultural homogeneity," County Supervisor Gary Patton wrote in a letter to the Chancellor this summer. Patton noted that the infusion of new jobs without sufficient housing could worsen "an already tight and expensive housing market." His aide, Andy Schiffrin, told the *Phoenix* the Center's growth impact "might knock the city and county's growth management system out of kilter."

Steve Reed of UCSC vehemently disagrees, stating that the university designed the project to be "phased in" over a period of seven years. "If we wanted to, we could bring in some big engineering firm to throw the thing up within a year," he told the *Phoenix,* "but the university is concerned about complying with local ordinances."

Even if local ordinances are strictly observed, critics charge, a campus research park could heavily tax Santa Cruz's water supply and strain its sewer facilities. Electronics firms use enormous amounts of water, and disposal of toxic waste has long been a problem for Santa Clara County's electronic industry. Supervisor Patton has also warned that growth caused by the research park could lead to severe traffic congestion, forcing the city to construct an eastern access road through Pogonip to the UCSC campus. ■

Diana H. and Tim Stroshane

Next Issue: The Electronics Industry in Santa Cruz