

THE CONUNDRUM OF INCOMPATIBLE MISSIONS

- UARCs are established and operated to provide impartial, unbiased advice and assistance in their designated core competencies to their Government sponsors as specified in the DoD's UARC Management Plan, the draft ARL/UHM contract, the draft ARL/UHM management plan, and the legislative testimony of UH's designated representatives
- These functions are fundamentally incompatible with the commitments necessary to transition new technologies from the laboratory to production for applications in defense and the civilian economy

Our Specific Concerns

We are in the midst of a major effort to apply the technology we have devised to the development of a series of new products for defense and industry:

- i. Area, tactical and standoff sensors for explosives, chemical toxins and nuclear materials, and
- ii. Compact, low cost x-ray crystallography systems for analysis of protein structure and function

Both efforts are funded and have 3-5 year time lines to product release.

Our Specific Concerns

- These efforts represent the culmination of 30 years of research into the capabilities of a new technology that I invented and first demonstrated as a graduate student at CalTech and Stanford
- After the expenditure of \$2 billion on efforts to develop high power laser weapons systems based on this technology, our efforts here at UH are widely regarded as essential to justify further research on the remarkable underlying physics and scientific applications of the technology

Conflict of Missions

- The efforts in “product development” in which we are now engaged require us to commit our energies and resources to the development of specific products in collaboration with specific private sector partners, to license the technology to our partners on an exclusive basis, and to convey the services needed to transfer the technology to our partners in exchange for the funding needed to finance these efforts
- Each of these commitments, while fundamental to the pursuit of our scientific and academic missions at UH, would constitute fundamental organizational conflicts of interest as activities incompatible with the impartiality UH must to guaranty under the draft ARL/UHM contract and DoD UARC Management Plan

Options for Dealing With Organizational Conflict of Interest

- As described by Professor Szarmes, UHM would be responsible under the draft contract either to terminate those activities which would constitute an organizational conflict of interest or to isolate those faculty, staff and facilities funded by the UARC from influence by the offending activities
- No documents or plans have been released to describe how UARC faculty, staff and facilities could be isolated from activities such as ours
- UH's administration is on record as testifying that activities such as ours could not be carried on within the proposed integrated "virtual UARC" (page 9, lines 8-14 of 4 February 2003 Legislative Testimony)

OCI - Effect on Sponsors

- DoD sponsorship for our research is unlikely to continue in a situation in which our activities are identified as incompatible with UH's primary obligations as the "trusted agent of the Government" in the proposed UARC
- Private sector sponsorship is unlikely to continue in a situation in which the standard solution to the perception of organizational conflicts of interest at UARCs is to offer non-exclusive licenses to all potential users of the technology at issue
- The remarkably poor record of the DoD's existing UARCs in transferring their technologies from the laboratory to production clearly confirms the difficulties inherent in working with the private sector while serving as a "trusted agent of the Government"

Why Isn't This a Problem at Hopkins,

- All prior UARCs employ physical and organizational barriers to isolate their staff from the missions and activities of their universities' academic faculty and staff
- The collegial and interdisciplinary relationships that have established UH as the leader of the fields designated as our “core competencies” would make the separation enforced at Hopkins, Penn, Texas and Washington impractical and counterproductive here

Another Very Practical Consideration

- Though seemingly paradoxical, history has clearly established that the transformational technologies most critical both to national security and to our high tech economy are not likely to emerge from organizations serving “established” interests and responsibilities
- Innovation favors an active but unaffiliated status !!!

(see attached VuGraphs from the Defense Science Board’s 2000 Report on the Capabilities of “non-DoD Providers”)



Historically, “Disruptive Innovations” Come from Sources External to Established Organizations

- Many concepts and initial developments originated external to Services or existing dominant commercial firms
- **Military**
 - jet engine
 - atomic bomb
 - ballistic missiles
 - nuclear power
 - stealth technology
- **Commercial**
 - diesel locomotive
 - antibiotics
 - photocopier
 - personal computer
 - internet
- “Disruptive” external developments are usually threats to existing technology and organizations
 - Pursued late and with reluctance
 - Opportunities missed for early advantage
- External sources have been a primary means of developing breakthrough capabilities
- DoD’s process for addressing “disruptive” technology lags behind commercial industry’s

Observations

- Support for, or opposition to the establishment of the proposed UH UARC is not a test of support for, or opposition to, research in support of national security, business formation, or the expansion of research funding
- The primary effect of the proposed UH UARC would be to reorient the efforts of UH faculty and staff to provide the advice, consultation, and management services which form the core of UARC operations, and to discourage unrestricted basic research, exploration of phenomena unrelated to current operational requirements and technology transfer

CONCLUSIONS

- UH Manoa can not expect to emerge as a center for the development of innovative new technologies and business formation in a system in which UH faculty and staff are constrained to limit their commitments to the development of these technologies
- IF UH Manoa is to play a role in bringing these technologies and businesses to Hawai'i, the present UARC proposal must be abandoned and a new approach devised compatible with our fundamental responsibilities to education and training, science, technology and economic development

Special Request to Colleagues

- We strongly support - not oppose - the efforts being made to expand the sources of funding you need to continue and extend your research
- Please also respect the objectives of those of us for whom the proposed UARC would constrain or terminate the efforts that we need to continue to serve our professions, national security and economic development here at UH Manoa