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June

DRAFT PROPOSAL

(revised August 1994, with budgets)

Artist-in-Residency at Massachusetts Institute of Technology

James L. Acord, sculptor - P.O. Box 159
Richland, WA 99352 - (509) 375-5110

I am proposing an artist-in-residency at the Massachusetts Institute of Technology to create common ground between sculpture's traditional aesthetic concerns and the advanced materials, processes and technologies of contemporary engineering and science. Additionally, this residency gives M.I.T. the opportunity to bring my insights as an artist to the leaders of the world's technological future, and to the people that future will serve. Finally, and fundamentally, it will allow me to create art of lasting importance with our society's definitive technology in an environment which is preeminent in innovation and research.

The opportunities for a resident sculptor at M.I.T. are great, and may not all be immediately evident; yet four existing components would, I believe, anchor a successful artist-in-residency.

- 1): Consulting and Teaching, with the faculty and students. Being available to the larger community through the artist-in-residency at M.I.T.
- 2): New Works. Artistic collaboration with the current research in plutonium storage and non-proliferation issues in the Nuclear Engineering Department.
- 3): Transmutation. The transmutation of technetium 99 to ruthenium 100 via neutron capture within the Nuclear Engineering Department using the MITR-II research reactor.
- 4): Drawing and Sculpture. Creating prototype sculpture with transmuted material using the resources available at M.I.T. and, possibly, a major piece for the University.

The remainder of this draft proposal will examine these elements in greater detail.

CONSULTING AND TEACHING

The principle contribution a sculptor-in-residence would make to M.I.T. is in the artist's insight into the multiple worlds to which he is exposed. I propose that an artist-in-residence at M.I.T. would provide the engineering and science departments with studied artistic interpretations of the valuable work produced there, and the art department with the experience of a professional artist involved in the application of advanced technology in the arts, for example:

- * Graduate engineering students would have the opportunity to explain their projects to me in an informal setting. As I am representative of the non-technical community, my ability to understand their work, and explain it back to them, would offer a valuable experience in communication. Through the wide-ranging conversational structure of such a setting, topics of broader societal merit and value would arise and be discussed.

- * Art students would have a singular opportunity to learn first-hand the complexities involving a major, mixed-media and technology-based sculpture. Also, the sculpture-creating skills I have (such as stone-carving, a vanishing skill) could be offered.

For the M.I.T. community as a whole I would like to give periodic mixed-media performance/presentations (lectures) on the progress of my residency, my understanding of the events surrounding me and the artistic development they were catalyzing in my work. These performance/presentations could be available to the community beyond M.I.T., both on and off campus. In short, my speaking and presentation skills would be of value to many of M.I.T.'s existing communication programs.

Lastly, I have just completed an artist-in-residency with the Seattle Public School System working with middle- and high-school children in an alternative/transitional setting that involved issues of nuclear technology anchored by my artistic endeavors. I found the high-school setting rewarding and suggest it as an additional way to bring my residence to the larger community.

NEW WORKS

To bring the aesthetics and discipline of sculpture to transuranic elements is the most challenging project I can imagine. I see plutonium as the quintessential material - the symbol - of humanity's entrance into the nuclear age. Based on my knowledge of the nuclear engineering department's current involvement in addressing issues of non-proliferation, I believe that I could make an artistic contribution to this current work. My initial ideas include transmuting or denaturing plutonium, its containment and isolation in glass or ceramic and its storage in permanent sculptures: nuclear reliquaries.

TRANSMUTATION

To date, a crucial component of my efforts to integrate art and science is the transmutation of technetium 99 to ruthenium 100 using neutron capture. Technetium was the first man-made element, produced at the dawn of the nuclear age with early accelerator technology. Later, technetium was produced in quantity as a by-product of fission; tons of its reside in spent reactor fuel today. With a half-life of 213,000 years and an energetic decay, technetium 99 is representative of unresolved concerns over radioactive wastes.

Ruthenium 100, the end product of my technetium 99 transmutation, is a uniquely appropriate material for sculpture. As a member of the platinum family of metals (corrosion resistant, noble and precious) it is eminently suitable for the creation of art. As a non-radioactive produce of nuclear process, created from a long lived fission product, its symbolic value is unmistakable. In short, this artistically driven transmutation will serve as a quintessential metaphor and symbol of the nuclear age. Happily, the aesthetic requirements of metaphor and symbol are small in volume: milligram quantities of transmuted material are sufficient for my artistic purpose. I envision using this transmuted material in very thin deposits upon a substratum through electro-spark deposition, electro-plating or other advanced fabrication technology available at M.I.T.

DRAWING AND SCULPTURE

Fundamental to an artist-in-residency will be the production of art that reflects the vision of M.I.T. and the artistic growth that vision catalyzes: a tangible expression of the collaboration.

Throughout the residency I will create drawings, models and test-pieces on a continuing basis. These works will be accessible to the faculty and students at M.I.T. through their informal display in the office/studio where they are produced. By the end of a nine-to-twelve month residency these art-works will comprise a collection substantial enough to anchor a major exhibit and illustrate the interdisciplinary accomplishments of the residency.

In the course of an artist-in-residency at M.I.T., without the additional support of a commissioned sculpture, I expect to be able to create small sculptures that will use carved stone, advanced metal alloys and materials produced by nuclear process. These art-works will demonstrate concepts and theories of advanced materials and technology usage in art that I have developed over the last decade. Supported by drawings and models they will amply demonstrate the value of the collaboration of art and science in the nuclear age: (see budget #1, attached).

The creation of a major work of sculpture during a residency would, I believe, add considerably to the success of our visionary undertaking. I envision this sculpture as blending my accumulated knowledge and capabilities as a traditional sculptor with my desire to utilize advanced materials and processes as made available through an artist-in-residency at M.I.T.

A sculpture using carved stone, advanced metal alloys (stainless steel, titanium, zirconium, etc.) in cast and fabricated forms directly reflecting the images of the nuclear age, glass and/or ceramics reflecting nuclear materials isolation/storage technologies and materials produced through nuclear process (transmutation) would represent the essence of accomplishment of the residency. Depending upon budget considerations and funding source, this prototype sculpture could take a number of forms.

A site-specific sculpture commissioned for the permanent art collection of M.I.T. would be the ideal choice. A commission in the range of \$250,000. would permit me to create a sculpture that would be both a tangible and lasting expression of the collaboration inherent in my artist-in-residency and a valuable addition to M.I.T.'s already distinguished sculpture collection. The creation of this commissioned work would extend my artist-in-residency at M.I.T. an additional six months (with diminished academic duties during that time to allow for full-time sculpturing). Alumni, patrons, corporations or other institutions associated with M.I.T. might be willing to underwrite such a work and I would be willing to donate one or more Breeder Blanket Assemblies as a material component for this sculpture. (see budget #2, attached)

Another possibility would be a prototype sculptural element for my primary-project, designed for the Hanford Nuclear Reservation. This art-work, the first tangible part of a major sculptural grouping, would serve as a symbolic representative of M.I.T.'s visionary contributions to many of the nation's high-technology endeavors which I envision using at the Hanford Project.

In sum, any major sculpture created during an artist-in-residency at M.I.T. would not only fuse art and science but also give vision and creative direction to the responsible use of a technology of the future. I believe that the potential is unmistakable and the probability of success extremely high.

CONCLUSION

In addition to my demonstrated talents as a sculptor, developed over thirty years of professional practice, I have, through my self-directed five year residency at the Hanford Nuclear Reservation gained a certain familiarity with nuclear science and technology. I believe this experience has left me well prepared to make good use of the facilities at M.I.T. and to contribute to the intellectual and artistic life of the university and the community. Additionally, I see M.I.T. as the leading educational institution in shaping society's understanding and use of advanced technology. An artist-in-residency in the Nuclear Engineering Program at M.I.T. would be a fruitful project for me and a visionary undertaking for the University.

Artist-in-Residency at Massachusetts Institute of Technology

Draft Proposal Budget (budget # 1)

James L. Acord, sculptor - P. O. Box 159
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This draft budget outlines a nine-month-to-one-year artist-in-residency at M.I.T. It is designed to supply the artist with the time and materials necessary for the full-time pursuit of the success of the residency, to purchase incidental art supplies to create art-works on a regular basis throughout the residency and be available to M.I.T. on a continuous basis.

Additionally, this draft budget outline allows for the expenses necessary to remain in compliance with the artist's radioactive material license and the ownership and possession of 12 breeder-blanked assemblies containing a ton of depleted uranium as sealed source material. License compliance expenses included are; quarterly trips to Hanford, Washington for required surveys, inventories, urinalysis, etc. (estimated as involving a four day absence from Cambridge every three months); maintenance of a resident studio/office in Richland, Washington (emergency response telephone, mail forwarding, etc.); and a Certified Health Physicist on retainer for response to surprise compliance inspections or any emergency.

This budget does not include the costs of creating a major commissioned sculpture for M.I.T. (see draft proposal budget #2)

SALARY: per month;	\$6,800.
OFFICE: (space, telephone, mail, etc.) per month;	supplied by M.I.T.
REACTOR AND LABORATORY TIME: (access, prototype development, engineering help, etc.)	supplied by M.I.T.
TRAVEL: (as M.I.T. resident artist; car rental, air-fare, etc.) per month	supplied by M.I.T.

Moving Expense Richland-Cambridge-Richland (air-fare and ground transport of tools and equipment):	\$4,200.
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Estimated nine-month budget for Artist-in-Residency:	\$65,400
Estimated twelve-month budget for Artist-in-Residency:	\$85,800

Artist-in-Residency at Massachusetts Institute of Technology
Draft Proposal Budget
(budget # 2)

James L. Acord, sculptor - P. O. Box 159
Richland, WA 99352 - (509) 375-5110

The creation of a site-specific sculpture for the permanent art collect of M.I.T. would be the perfect anchor for an artist-in-residency in the nuclear engineering department: giving permanent and tangible expression to the success of this visionary fusing of art and science.

I envision a large outdoor sculpture composed of three tightly integrated material elements: a) carved stone; b) glass and/or ceramics; and c) advanced metal alloys (stainless-steel, titanium, transmuted material, zirconium, etc.) in cast and fabricated forms. The sculpture as a whole will represent images of the nuclear age, while its various components will reflect the processes and technologies that this age has produced. The excellence of the aesthetics and workmanship of the sculpture, coupled with the quality of material usage, will reflect the innovative leadership in engineering associated with M.I.T. and my artistic ability.

As this sculpture will reflect the insight and knowledge I gain during my residency at M.I.T. it is only possible to outline a budget and time-line in the broadest terms at present.

During the first six months of an artist-in-residency plans, models and maquettes, visual supporting material and a detailed budget will be developed. Funding sources for the sculpture would be identified and approached. I envision the funding for this major sculpture commission to come from alumni and patrons of M.I.T. and corporations and institutions associated with research at M.I.T. (who might be enthusiastic about contributing materials and fabricating help to the sculpture as payment-in-kind). I am willing to donate one or more of my 12 breeder-blanket assemblies as material components to the sculpture and believe that Siemens AG of Germany (who donated the assemblies from the SNR 300 reactor for my artistic use) would supply some funding for any sculpture project that used any of these breeder-blanket assemblies. Lastly, I have received a 1994-1995 fellowship from the National Endowment for the Arts in *new genres*. This \$5,000 grant is *no-stipulation*, which means I may apply it toward any project I wish. I propose that my new genres fellowship go toward the creation of an outdoor sculpture for M.I.T.'s permanent art collection and that this initial N.E.A. funding will help in securing additional funding.

First three months at M.I.T. (conceptional and budget development)

Second quarter: (model/maquette, supporting visual materials, fund-raising, etc.)

Third quarter: (Order stone, engineering and planing, official permits, contracts for off-site fabrication, site preparation, etc.)

Forth quarter: (Contracts let out to sub-contractors, materials ordered, site prepared to receive materials, etc.)

Fifth quarter: (Full-time work on sculpture, all sub-contracted construction done, stones set, student-worker opportunities, etc.)

Sixth and last quarter: (detailed carving, fitting, finishing touches done on site)

Eighteen month total budget (estimated)

\$275,000