Don't forget to answer the specific questions in the prompt! Sometimes it is helpful to copy the statement of Purpose prompt into your document so you can easily refer back to it and make sure your own Personal Statement is on-track.

**MIT Statement of Objectives**

Provide your reasons for choosing to do graduate work in the field you have chosen. Prepare your statement of objective and goals in advance; clearly state your present career plans. Include as far as you can, your particular interests, to which you have devoted yourself, what is your experience, and how you have developed your background and MIT's programs support these interests. The statement could be set forth for the issues and problems you wish to address. Explain your motivation in terms of your long-term professional goals, and present your background as well as science experiences to date. Present your application to the department of your choice. Your background, interests, and goals should be presented in the context of your current professional objectives. You should set forth the issues and problems you wish to address. Explain your long-term professional goals. The Admissions Committee will recognize any factor that might enhance your enrollment of your academic and work experience to date.

**More explanation of research background as well as science outreach.**

MIT’s fiscal sector is on track.

Make sure your own Personal Statement is on track.

**Application to question in prompt the applicant particular interest.**

MIT programs support these interests.

**Drews into the technical details of the project described here.**

**Explanation of why current is important.**

We’ve got fifteen minutes to get your data before we have to seal the reactor off and prepare for a two-day shutdown. The team had spent the first two years tending to the accelerator’s mechanical systems, upgrading, and finally installing a particle accelerator at Alcator C-MOD, MIT’s fusion reactor.

In addition to my experimental work with accelerators, last year I had the opportunity to take the Leap program at MIT, which provided me with the opportunity to work on a project described above. Concrete actions and skills developed.

**AGNOSTIC is a novel fusion diagnostic, allowing in-situ ion beam analysis of Alcator’s plasma facing surfaces to better understand the interaction between fusion plasma and surrounding material surfaces.** Repairing, upgrading, and installing AGNOSTIC’s radio-frequency quadrupole (RFQ) particle accelerator on Alcator has allowed me to see and hone the skills I learned as a design major in electrical engineering and computer science, with a concentration in nuclear science and engineering.

As a master’s candidate at MIT, I have been part of the AGOSTIC project for Alcator C-MOD. AGOSTIC is a novel fusion diagnostic, allowing in-situ ion beam analysis of materials via nuclear reactions. The goal of the project is to develop a tool for the future device.

I believe that my research interests align with the Department of Nuclear Science and Engineering’s new expanded core and research thrusts and that MIT would be the ideal place to continue my studies. My research has focused on developing a novel diagnostic for use in analyzing and characterizing plasma facing materials in the extreme environment of a tokamak—specifically fast neutron damage in these materials. This project has involved working with the plasma facing tiles of Alcator’s inner wall.

In addition to utilizing the newest developments in detector technology, I will use nanomaterials science and nuclear physics knowledge to address the reactor design aspects of the diagnostic. The DOE specifically mentioned particle analysis and materials science as one of their “research charges” to the US fusion community. Fast neutron interactions in important research topics within the field, and the ability to perform in-situ fast neutron analysis greatly would aid in developing a diagnostics tool for the future device.

**Writing things up and see what’s good / fit between student and school.**

Thank you for taking the time to read my application, and I look forward to hearing from you.

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**References:**

I believe that the department of Nuclear Science and Engineering at MIT would be the ideal place to continue my studies. My research interests align with the Department of Nuclear Science and Engineering’s new expanded core and research thrusts and that MIT would be the ideal place to continue my studies. I strongly believe in the importance of making science accessible to the public, and that is why I have presented our reactor design in both the MIT and Harvard Energy Nights.

In addition to my experimental work with accelerators, last year I had the opportunity to take the Leap program at MIT, which provided me with the opportunity to work on a project described above. Concrete actions and skills developed.

As a master’s candidate at MIT, I have been part of the AGOSTIC project for Alcator C-MOD. AGOSTIC is a novel fusion diagnostic, allowing in-situ ion beam analysis of materials via nuclear reactions. The goal of the project is to develop a tool for the future device.

I believe that my research interests align with the Department of Nuclear Science and Engineering’s new expanded core and research thrusts and that NSE would be the ideal place to continue my studies. My research has focused on developing a novel diagnostic for use in analyzing and characterizing plasma facing materials in the extreme environment of a tokamak—specifically fast neutron damage in these materials. This project has involved working with the plasma facing tiles of Alcator’s inner wall.

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The reactor is a critical component of the ITER tokamak, and it is designed to operate at full power for extended periods of time. Tritium retention will be an important safety issue for ITER, and the ability to track the retention of tritium throughout ITER’s life campaign would make AGOSTIC’s value tenfold for the future device.

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**Advisers comments about funding and briefly illustrate possible solutions.**

**Advisers comments about long-term professional goals, and thesis how education at MIT could help achieve these.**

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22, 62, the fusion engineering design course. During this course, I used MCNP, a Monte-Carlo particle transport code, to design an advanced nuclear shell blanket for our compact, high field reactor concept. Designing the blanket helped me understand how the geometry of our tritium breeding blanket would affect the neutron distribution in the core. I continued to develop the design of the blanket during the course and presented my results at the Fusion Engineering Design Conference. I was successful in using MCNP to design a blanket that could help achieve the goals of the ITER project.

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