

**Massachusetts Institute of Technology
Department of Electrical Engineering
and Computer Science**

**Proposal for Thesis Research in Partial
Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy**

TITLE: Parallel Processor Architecture
SUBMITTED BY: Peter Nuth
305 Memorial Drive, 606C
Cambridge, MA 02139

(SIGNATURE OF AUTHOR)

DATE OF SUBMISSION: May 23, 2016
EXPECTED DATE OF COMPLETION: September 1990
LABORATORY: Artificial Intelligence Laboratory

BRIEF STATEMENT OF THE PROBLEM:

The proposed research is a study of processor architecture for large scale parallel computer systems. The thesis introduces mechanisms for fast context switching, synchronization between tasks, and run-time binding of variable names to processor memory. Various design tradeoffs are evaluated through simulation of a processor running a typical load. This work contains estimates of the speed and complexity of the different alternatives as implemented in VLSI.

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Doctoral Thesis Supervision Agreement

TO: Department Graduate Committee
FROM: Professor William J. Dally

The program outlined in the proposal:

TITLE: Parallel Processor Architecture
AUTHOR: Peter Nuth
DATE: May 23, 2016

is adequate for a Doctoral thesis. I believe that appropriate readers for this thesis would be:

READER 1: Professor Arvind
READER 2: Professor Thomas Knight

Facilities and support for the research outlined in the proposal are available.
I am willing to supervise the thesis and evaluate the thesis report.

SIGNED: _____
ASSOCIATE PROFESSOR OF ELECTRICAL ENGINEERING
AND COMPUTER SCIENCE

DATE: _____

Comments:

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Doctoral Thesis Reader Agreement

TO: Department Graduate Committee
FROM: Professor Arvind

The program outlined in the proposal:

TITLE: Parallel Processor Architecture
AUTHOR: Peter Nuth
DATE: May 23, 2016
SUPERVISOR: Professor William J. Dally
OTHER READER: Professor Thomas Knight

is adequate for a Doctoral thesis. I am willing to aid in guiding the research
and in evaluating the thesis report as a reader.

SIGNED: _____
PROFESSOR OF ELECTRICAL ENGINEERING
AND COMPUTER SCIENCE

DATE: _____

Comments:

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Cambridge, Massachusetts 02139

Doctoral Thesis Reader Agreement

TO: Department Graduate Committee
FROM: Professor Thomas Knight

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SUPERVISOR: Professor William J. Dally
OTHER READER: Professor Arvind

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DATE: _____

Comments:
