

**Mitch Wand:
Mensch, Teacher, and Scientist
(Part 1)**

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Explaining the title

“Mitch”: short for “Mitchell”

Explaining the title

“Wand”: nothing magic,
it’s just his family name.

Explaining the title

“Wand”: nothing magic,
it’s just his family name.

(Now whether you think
there is something magic about Mitch
is another matter.)

Mensch

“Mensch” (Yiddish: mentsh)

means

“a person of integrity and honor.”

Leo Rosten on Mensch

“Someone to admire and emulate,
someone of noble character.”

Leo Rosten on Real Mensch

The key is nothing less than

- character,
- rectitude,
- dignity,
- a sense of what is right,
- responsible, and
- decorous.

Plan

1. Mitch the scholar
2. Mitch the family man
3. Mitch the mentor
4. Mitch the teacher
5. Mitch the researcher
6. Mitch's service to the community
7. Mitch the aphorist and trendsetter

1. Mitch the scholar

1. 1985-present: Professor, Northeastern U.
2. 1984-1985: Visiting Professor, Brandeis U.
3. 1983-1986: Professor, Indiana U.
4. 1977-1983: Associate Professor, Indiana U.
5. 1973-1977: Assistant Professor, Indiana U.
6. 1970-1973: Research Assistant, MIT

Mitch's education

- 1973: Ph.D. in Mathematics, MIT.
- 1969: S.B. in Mathematics, MIT.
- 1965: Mepham High School.

Mitch's fellowships

2007: ACM Fellow

1969–1970: Woodrow Wilson Fellow,
Stanford U. and MIT

1969–1973: NSF Graduate Fellow,
Stanford U. and MIT

Mitch's knighthood

De facto Knight of the λ -calculus, for:

- “Compiling lambda expressions using continuations and factorizations” (1978)
- “Continuation-based multiprocessing” (1980)
- “Continuation-based program transformation strategies” (1980)

Mitch's lightsaber



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2. Mitch the family man

- November 6, 1948: born in Philadelphia, PA; grows up in Bellmore, NY.



Mitch on the move at 9 months old



Mitch at 4



Mitch at 6



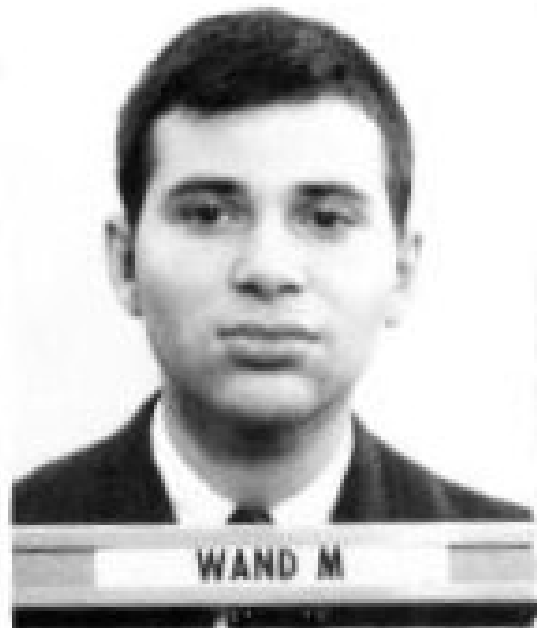
Mitch at 10



Mitch at 16



Mitch as a freshman at MIT



Hello happy driver



Portrait of Mitch as a young man



Portrait of Mitch as a young man (cont'd)



A sharp change

Mitch's life is about to take on some color.

Dec. 13, 1969: Mitch meets Barbara



June. 14, 1970: Mitch weds Barbara



2. Mitch the family man (cont'd)

- April 16, 1974: birth of Rebecca.
- July 13, 1978: birth of Jennifer.
- May 6, 1981: birth of Joshua.

Mitch as a young father



The happy parents



The happy parents (cont'd)



Mitch the seasoned father



Anime sana in corpore sano

Early 1990s: takes up golf with Josh.

Mid-1990s: starts taking jazz piano lessons.

And swimming too!



2. Mitch the family man (cont'd²)

1999: Rebecca gets married.

July 3, 2002: Mitch becomes grandfather of twin daughters, Lena and Vered.

2005: Joshua gets married.

May 23, 2006: Mitch becomes grandfather of boy, Noam.

2007: Jennifer gets married.

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Separating concerns



The Buck rule.

*

3. Mitch the mentor

10 PhD students and more to come!

10: Dave Herman

- Programming language design and specification, hygienic macro systems, embedded and domain-specific languages, advanced control constructs, program analysis, and expressive programs with expressible proofs, to say nothing of JavaScript.
- PhD student.

9: Vasilieos Koutavas

- graduated in 2009
- concurrency, programming languages, and proving interesting properties about the behavior of programs
- postdoctoral research fellow at Trinity College, Dublin, with Matthew Hennessy

8: Galen Williamson

- graduated in 2004
- event models, control-flow analysis
- at MITRE

7: Igor Siveroni

- graduated in 2001
- formal frameworks for program analyses and their application to program optimization and verification
- Imperial College, London, UK

6: Gregory T. Sullivan

- graduated in 1997
- functional language implementation,
program specialization for AI
- principal engineer at BAE Systems
Advanced Information Technologies

5: David Gladstein

- graduated in 1995
- distributed programming language design and implementation
- software engineer in San Francisco

4: Paul Steckler

- graduated in 1994
- lightweight closure conversion
- working at a government-sponsored startup building a static analysis (bug-finding) tool in Sydney, Australia.

3: Dino P. Oliva

- graduated in 1993
- semantics-based compilation and verification (VLISP)
- software architect at Bloomberg, New York

2: William A. White

- graduated in 1990
- programming languages
- software engineer

1: Margaret Montenyohl

- graduated in 1986
- semantics-based program analysis
- Cary, North Carolina

*

0: and also...

- undergraduate students
- graduate students
- post-docs
- visitors

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4. Mitch the teacher

- his teaching themes and
how they have fueled his research
- the textbooks he (co-)authored

Mitch's teaching and research themes

- Programming
- Programming languages
- Semantics and logic
- Program verification and construction

Mitch's textbooks

- “Induction, Recursion and Programming”
(1980)
- “VLISP: a Verified Implementation of
Scheme,” with Josh Guttman (1985)
- EOPL, with Dan Friedman and Chris Haynes
(1991, 2001, 2008)

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5. Mitch the researcher

Published well over 100 articles.

2009

“A separation logic for the pi-calculus”

Has already elicited the interest
of, e.g., Sir Tony Hoare.

2006

“On the correctness of the Krivine machine”

2005

“Bottom-up beta-reduction:
uplinks and lambda-DAGs”

with Olin

2004

“Relating models of backtracking”

with Dale Vaillancourt

2003

“CPS Transformation of flow information”

with Jens Palsberg

1998

“The theory of Fexprs is trivial”

1997

“Lightweight closure conversion”

with Paul Steckler

1995

“The VLISP Verified PreScheme Compiler”

with Dino and John Ramsdell

1991

“Correctness of procedure representations
in higher-order assembly language”

1990–1994

“Conditional lambda-theories and
the verification of static properties
of programs”

with Zheng-Yu Wang

1987

“A simple algorithm and proof
for type inference”

One of the most cited papers
of Fundamenta Informaticae.

1988, 1986 and 1984

- “The mystery of the tower revealed:
a non-reflective description
of the reflective tower”
- “Reification: reflection without metaphysics”

with Dan

1985: the birth of call/cc

“A scheme for a higher-level semantic algebra”

with Will and Dan

1985

- “Embedding Type Structure in Semantics”
- “Continuation Semantics
in Typed Lambda-Calculi”
with Albert Meyer

1982

“Semantics-Directed Machine Architecture”

“Deriving target code
as a representation of continuation semantics”

1978–1980

“Continuation-based
program transformation strategies”

1978–1980

“Continuation-based
program transformation strategies”

What did Mitch look like by then?

1975–1978

“Compiling lambda expressions
using continuations and factorizations”

with Dan

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6. Mitch's service to the community

Workshops, symposiums and conferences:

- Program committee member (POPL, LFP, LICS, OOPSLA, FPCA, CW, PEPM, PADL, AOSD, WFAL, Scheme, ESOP, FOOL, FOAL, ICFP).
- Program chair (LFP, ICFP)
- General chair (ICFP).

Mitch's service to the community

Editorial boards:

- Lisp / Higher-Order and Symb. Comput.
- Journal of Functional Programming
- Information and Control
- Mathematical Structures in Comp. Science
- Logical Methods in Comp. Science

Mitch's service to the community

Steering committees:

- Scheme Workshop
- Scheme Language
- ICFP
- Continuation Workshop

Mitch's service to the community

- Funding agencies.
- Associate Dean of the College of Computer Science, 1985–1991.

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7. Mitch the trendsetter

- Content: has a cunning sense of the interesting problem and how to solve it elegantly.
- Form: has a noticeable sense of words (“mutatis mutandis”, “morass”, “mumble”...)
- Generosity.

Has a visible impact.

7. Mitch the trendsetter

- Content: has a cunning sense of the interesting problem and how to solve it elegantly.
- Form: has a noticeable sense of words (“mutatis mutandis”, “morass”, “mumble”...)
- Generosity. (He is a real Mensch.)

Has a visible impact.

Mitch the aphorist

When asked whether he prefers call by name
or call by value:

“I prefer call by value
because it is so much more predictable.”

Cunning Mitch

“And this is a detail
that we want to study in detail.”

(LICS 1990)

Logical Mitch

About the fork calculus:

Logical Mitch

About the fork calculus:

“How does the fork calculus help one to solve the dining philosophers problem?”

Recap

1. Mitch the scholar ✓
2. Mitch the family man ✓
3. Mitch the mentor ✓
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7. Mitch the aphorist and trendsetter ✓

To be continued

