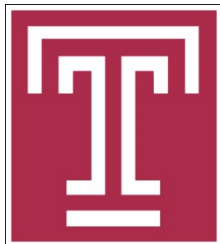


Balancing Teaching, Research, Service, and Administration

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Road Map

- Introduction
- Personal Experience
- Teaching
- Research
- Service
- Administration
- Conclusion



Introduction

- Teaching (T), Research (R), Service (S), and Administration (A)
 - What is expected of you
 - Reevaluate periodically (e.g., yearly)
- Time allocation in career path

T:30	R:60
S:10	A:0

T:20	R:50
S:20	A:10

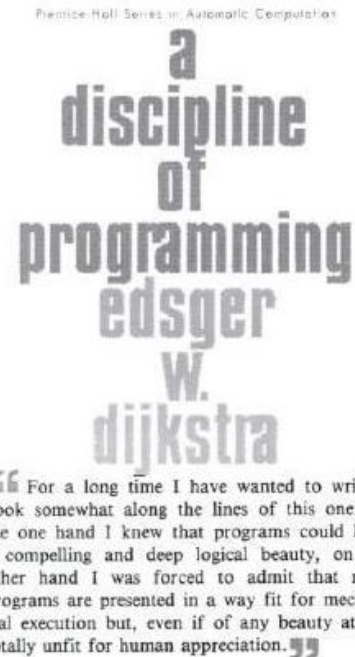
...

T:10	R:30
S:10	A:50

→ time

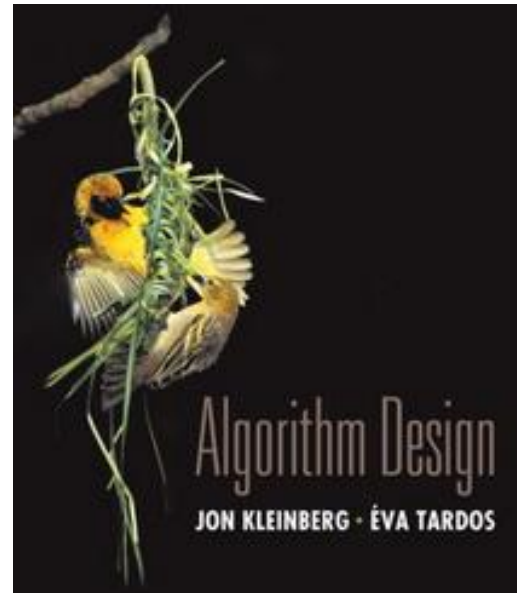
Personal Experience

- "Poor" education
 - 3 years of middle school (1975-78)
 - BS/MS, Shanghai U. of Sci. & Tech. (SUST), 1982/1985
 - PhD, Florida Atlantic University (FAU), 1989
- "Small" school experience
 - SUST (1985), FAU (1989), Temple U. (2009)
- "First"
 - Programming language: Algol 60 (1976)
 - English book: *A Discipline of Programming* (1982)
 - Class taught: Pascal (1985)



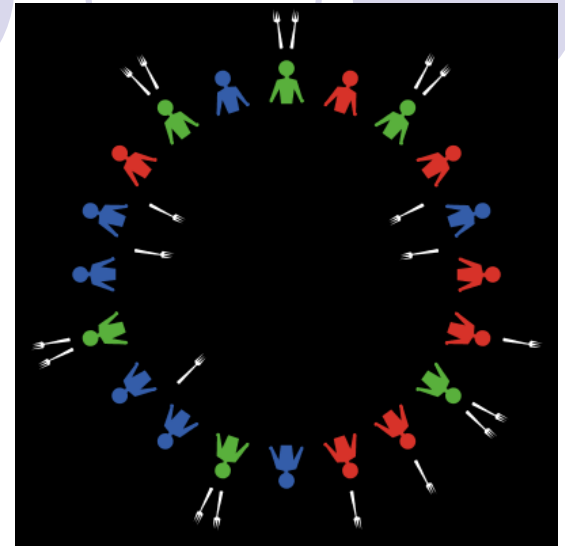
Teaching

- High-quality learning experience
 - Professor
 - Students
- Depth and breadth
 - Research areas
 - General topics
- Teaching and research relationship
 - Start teaching early in your career



Teaching Can Be Fun

- Algorithm: seating problem
 - Several couples are seated in a round table. Each neighbor of person A should be of the same gender of A or the spouse of A.

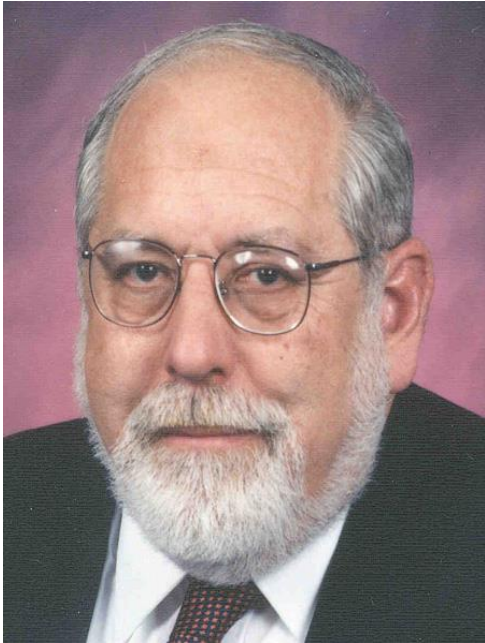


hhhhwww, hhwwhhww, hwwhwwhh, hwhwhwhw

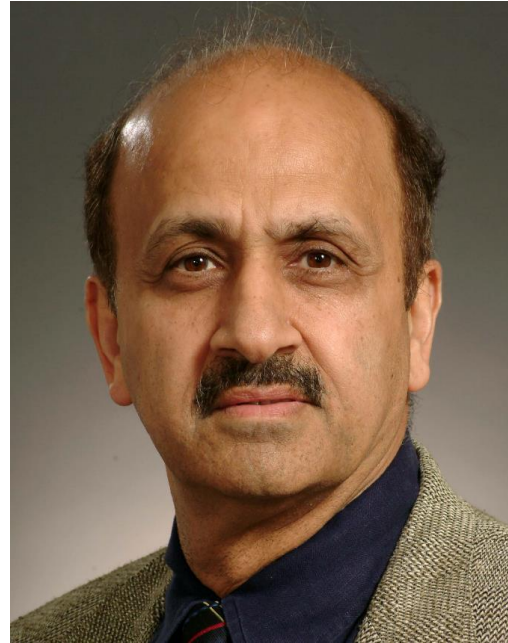
- Write a program that can quickly generate all "legal" streams
- Results in a paper and an international research collaboration

Scholar: A Serious Teacher

- Ken Batchner



- Sartaj Sahni



Research

A decorative graphic at the top of the slide consists of six circles arranged in two groups of three. The first group on the left has a solid light purple circle on the left, a white circle with a light purple outline in the middle, and a solid light purple circle on the right. The second group on the right has a solid light purple circle on the left, a white circle with a light purple outline in the middle, and a solid light purple circle on the right.

- Important decisions
 - Publication vs. grant
 - Individual research vs. collaborative research
 - Quantity vs. quality
- CRA recommendation: quality and impact
 - Top 3 to 5 publications
 - Extended h-index?
 - How to measure intangible quality?
- Quality comes from quantity
 - Analogy: leaves and flowers
 - Mozart and Beethoven: high quan. & high qual.
 - Orff (Carmina Burana) and Holst (Planets): low quan. & high qual.

Research Quality

- Originality

- Balancing reading literature and writing your own paper(s)

- Learn from artists

- Abstraction + imagination



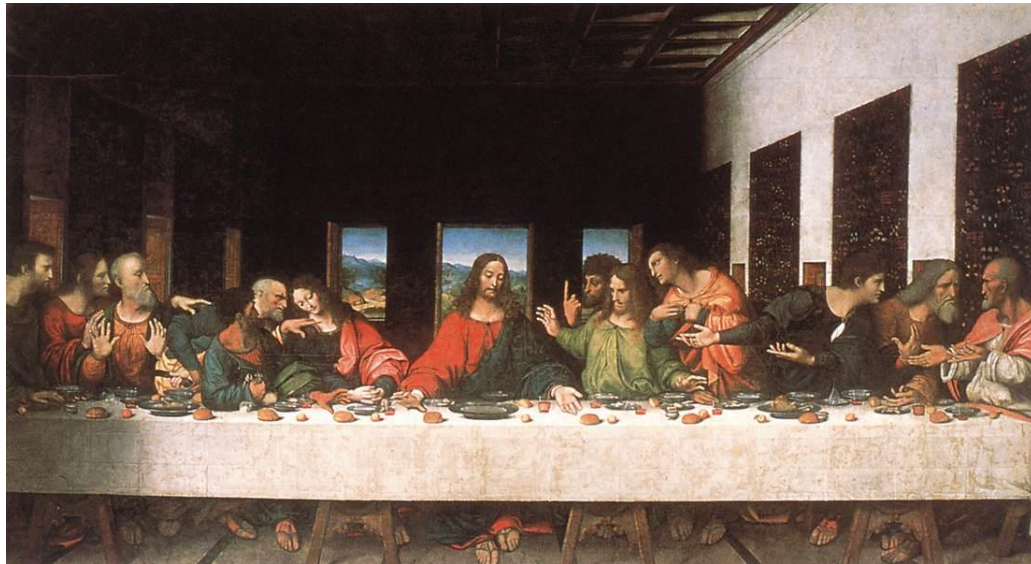
High Impact Paper

Low Impact Paper



Abstraction and Imagination

- Fibonacci seq. ($F_i = F_{i-1} + F_{i-2}$, 1, 2, 3, 5, 8, 13, ...)
 - 2, 4, 6, 10, 16, 26, 42, ...
 - 4, 8, 12, 20, 32, 54, 86, ...
 - 8, 16, 24, 40, 64, 104, 168, ...
- Fibonacci seq. in Last Supper



Research Can Be Fun

Mobile computing: cost optimization

Problem: The Washington, DC subway system charges fees based on travelling distance. For example, a passenger enters station A, stays there for X (say, 10) hours, and exits station B. The charge is proportional to the distance between A and B and is irrelevant to X.

- What are the potential flaws? Provide possible solutions.
- What happens if X is limited to 4 hours as in Nanjing, P. R. China?



A
1, 2 (in)

1 (out)
1 (in)

1 (out)
1 (in)

B
2 (out)
2 (in)

2 (out)
2 (in)

Research Can Be Fun (con't)

Problem: At the Shanghai int'l airport, taxi drivers have to wait for at least 4 hours. It is unfair to a driver if a passenger's destination is the Industrial Park, which is about 20 minutes away. Others will go to downtown, which is 50 minutes away.

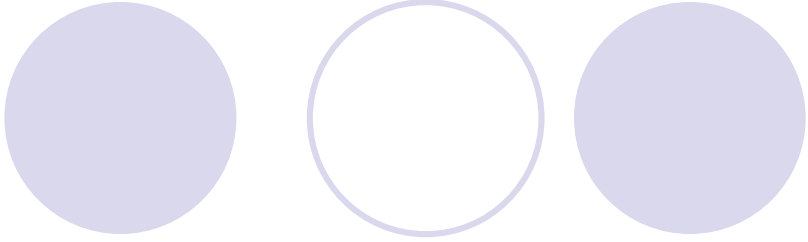
- Find a solution so that the interests of both the drivers and the customers are protected.
- Find potential flaws with the current solution at the Shanghai International Airport.



Service



- Internal vs. external
 - Department, college, university
 - Reviewer, TPC, panelist, editor, invited speaker
- External larger role
 - Conference GC and PC
 - Journal EIC
 - PDs in various agencies
 - Major roles in IEEE/ACM

- 
- How to choose?
 - Personal taste/judgement
 - General rule
 - Assis. professor (<35): department and limited external
 - Asso. professor (<40): college and external
 - Full professor (>40): university and larger role

Service Can Be Fun

- NSF PD
 - Task/time management
 - Mobilizing the community
 - Teamwork
- GC and TC
 - Optimal resource allocation
 - Best service with limited resources
 - Balancing quality (paper) and quantity (revenue)
 - Coordinating various chairs
- IEEE HPCA '99
 - Hotel selection
- NSF NeTS PI meeting '07
 - Effective program
- IEEE IPDPS '08
 - Keynote selection
- IEEE INFOCOM '11
 - Devils in details
- IEEE ICDCS '13
 - Dealing with the hotel
- ACM MobiHoc '14
 - Restaurant selection



Administration

- Graduate PD
- Assoc/Vice Chair
- Chair
- Assis/Assoc/Vice Dean
- Dean
 - College, graduate, undergraduate, ...
- Assis/Assoc/Vice Provost and President
 - Research, Faculty Affairs, CIO, Int'l Affairs, ...
- Provost
- President



Faculty vs. Administration

- Most faculty felt that relationships are fair or poor
- Less than 5% of faculty felt that they were influential

Almost no Chinese

as provost and president in Carnegie R1 universities

Administration (con't)

- Importance of being a chair
 - Shape-up department direction
 - General starts from a solidier (e.g., chair)
- Most important function of a chair
 - Faculty recruitment
 - Secure resources
- Qualities
 - Vision
 - Knowledge
 - Commitment
 - Grit
 - Responsiveness
 - Fairness
 - Efficiency
 - Communication
 - Priority setting
 - Judgment
 - ...

Becoming A Good Administrator

- Music director in an orchestra
 - Sum of all its musicians
- Manager of a football team
 - Former MU manager: Sir Alex Ferguson



Administration Can Be Fun

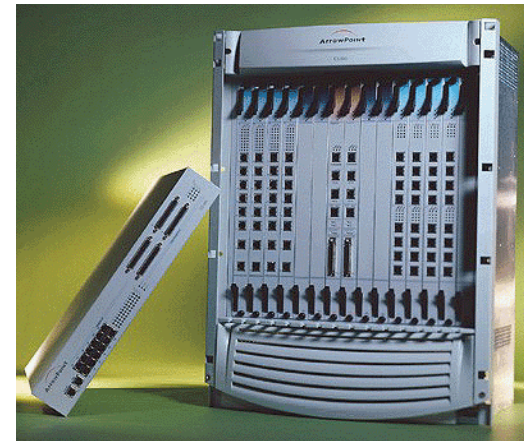
- Best approximation
(in impossible crises)
 - Judgment
 - Timing
- Mechanism design
 - Tie-in individual interests with societal (departmental) interests
- Case: Trust management
 - Direct trust
 - Indirect trust
- Case: TA assignment
 - Matching with a credit system and a slide window



Additional Note

- Nothing can replace
 - Hard work
- Dealing with new “task/opportunity”
 - Prioritize tasks
 - Leave some room
 - Important vs. emergent
 - Optimize online/offline schedule

- How to get more time
 - Less sleep
 - More exercise
 - Parallelism
 - Quick content switch



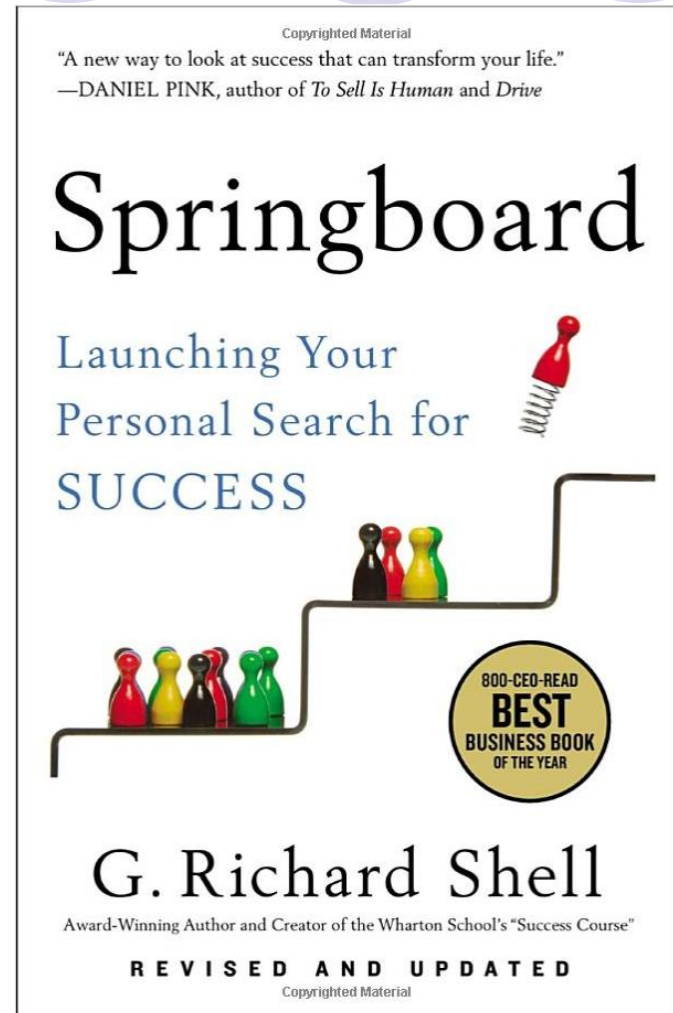
Balancing the Big Picture

Success

- Outer achievements
- Inner satisfaction/fulfillment

Science and humanism

- Case: Attending a conference
 - Experience local culture (e.g. food) and shopping
 - Visit museums and attend a concert or sporting event



Success vs. Happiness

Success ≠ Happiness

- Meaningful work, love, and good health

Levels of happiness

- Momentary (avoiding happiness dream)
- Overall (be aware of expectation gap)
- Spiritual (serving a purpose larger than yourself)

Copyrighted Material
"A richly, enjoyably wise and suggestive book."
— *The New York Times*

The Importance of Living



The Classic Bestseller
That Introduced Millions
to the Noble Art of Leaving
Things Undone

Lin Yutang

Conclusion

- Assistant professor
 - $T + R + S$
- Associate professor
 - $T + R + S$
- Full professor
 - $T + R + S + A$
- Chair
 - $T + R + S + A$
- Dean (and up)
 - $S + A$



Conclusion (cont'd)

- Quality, style, and taste
 - Show passion and enjoy what you do
 - Do not cut corners
 - "You can fool all the people some of the time; you fool some of the people all the time; but you can't fool all the people all the time."
- Balancing the big picture
 - Career, family, and health



Future Events in Philadelphia

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CONFERENCE ON
PARALLEL
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<http://www.kkant.net/icpp2016>

Philadelphia, PA August 16-19, 2016

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Scope

Parallel and distributed computing is a central topic in science, engineering and society. ICPP, the International Conference on Parallel Processing, provides a forum for engineers and scientists in academia, industry and government to present their latest research findings in all aspects of parallel and distributed computing. ICPP 2016 will be organized around the following tracks:

- Algorithms
- Applications
- Computer Architecture
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- IO, Storage & File Systems
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- Programming Models & Languages

Paper Submission

Paper submissions should be formatted according to the IEEE standard double-column format with a font size 10 pt or larger. Each paper is strictly limited to 10 pages in length. Submissions should represent original, substantive research results. See the conference website for electronic paper submission instructions.

Important Dates

Paper Submission Deadline **February 26, 2016**
Author Notification **May 06, 2016**
Final Manuscript Due **June 03, 2016**

Workshops

Workshops with more focused scope will be held on Aug 16. Proposals should be submitted to Pavan Balaji (balaji@anl.gov) and Anne Benoit (Anne.Benoit@ens-lyon.fr) by Oct 16, 2015

Proceedings

Proceedings of the conference and workshops will be available on CD or USB at the conference and will be submitted to IEEE Xplore and CSDL.

Further Information

Please contact Jie Wu (jiewu@temple.edu), Krishna Kant (kkant@temple.edu), or Hong Jiang (jiang@cse.unl.edu)



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IEEE Conference on Communications and Network Security (CNS) provides an outstanding forum for cyber security researchers, practitioners, policy makers, and users to exchange ideas, techniques and tools, raise awareness, and share experience related to all practical and theoretical aspects of communications and network security.

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- Security and privacy in content delivery network
- Security and privacy in cloud computing and federated cloud
- Security and privacy in crowdsourcing
- Security and privacy in the Internet of Things
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Accepted and presented technical papers will be published in the IEEE CNS 2016 Conference Proceedings and submitted to IEEE Xplore® as well as other Abstracting and Indexing (A&I) databases. See the website for author requirements of accepted authors.

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Paper Submission (extended): ~~20 April~~ 2016 27 April 2016
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