

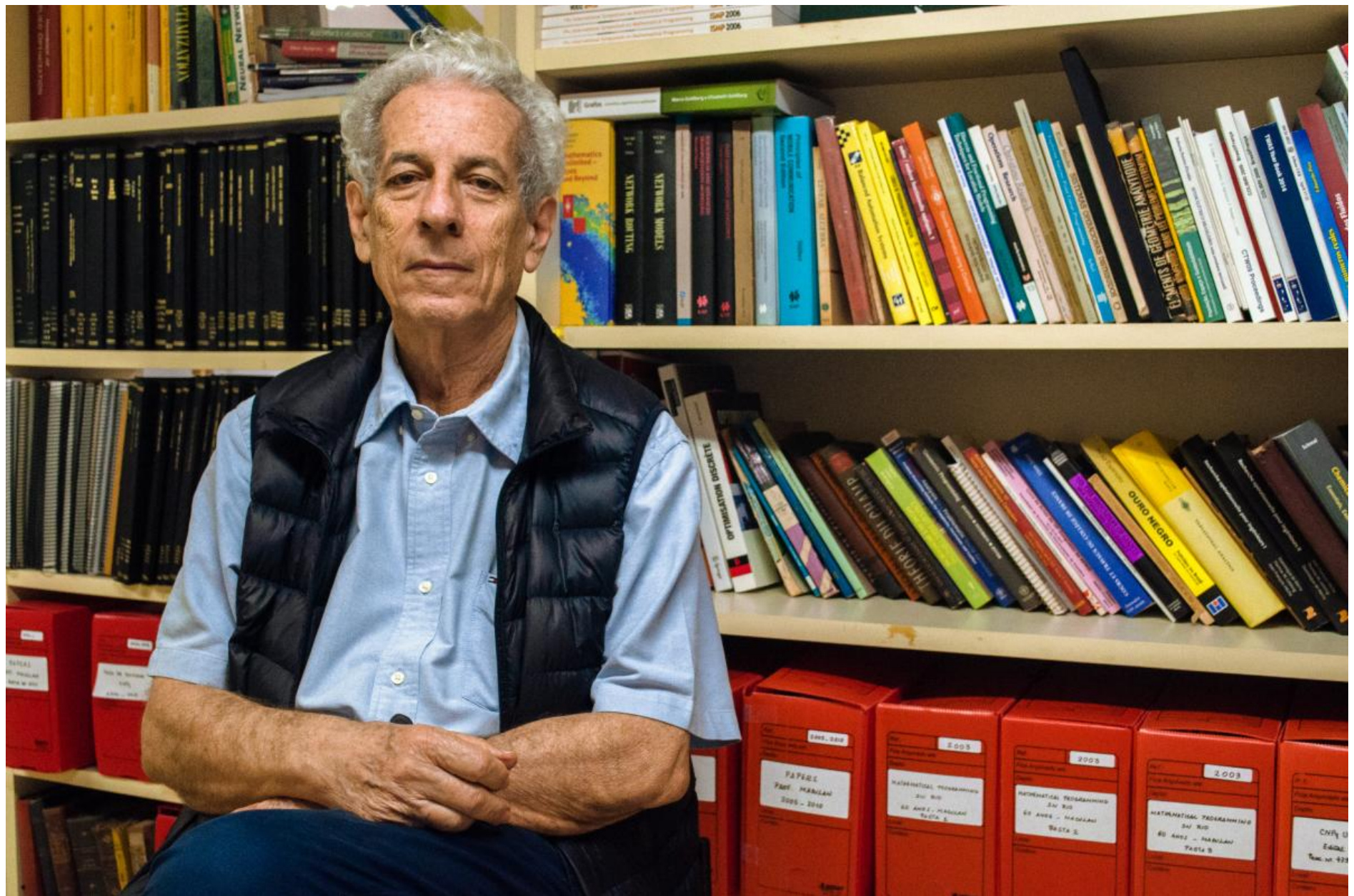


Professor Nelson Maculan Filho

Nelson at a glance

- 1943: born in Londrina (Paraná, Brazil)
- 1965: Mining engineer, Ouro Preto
- 1967: DEA, Paris, France
- 1971: Returns to Brazil, joins UFRJ
- 1975: PhD (UFRJ)
- 1988: HdR (UPD), Docência (UFRJ)
- 2014: Emeritus

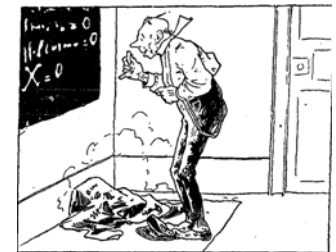




Nelson as a scientist

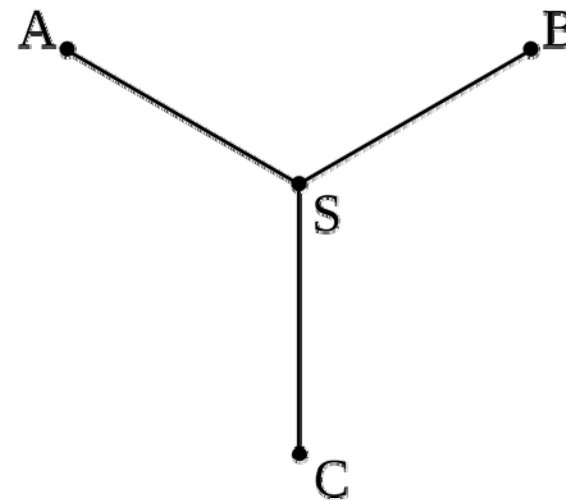
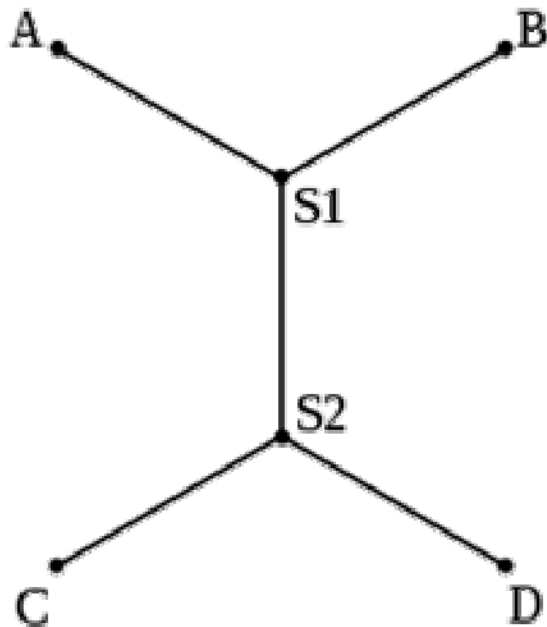
- Over **150 papers** in academic journals
- Published in virtually *all* major OR journals
- More than a dozen papers since 2020
- Over **150 co-authors**

- Theme: Combinatorial Optimization
 - Euclidian distance and Combinatorial Optimization



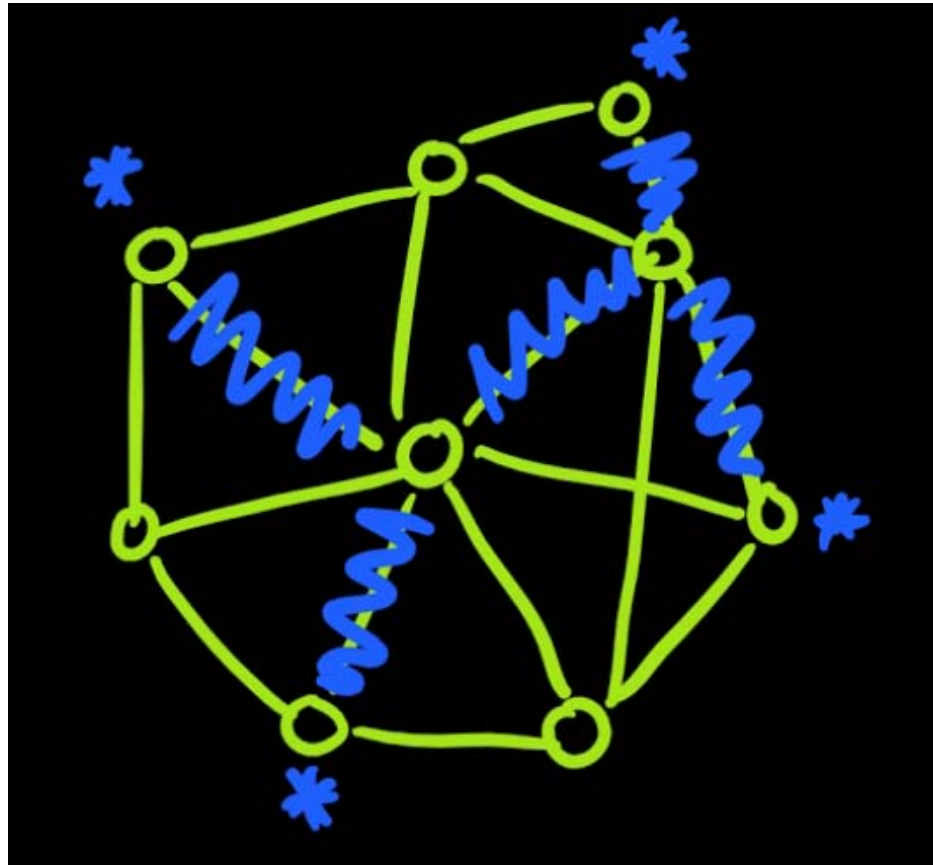
Steiner Tree Problem

Join p points in \mathbb{R}^n at minimum distance



Notice the ***Steiner points*** (S, S1, S2)

Steiner Trees in Graphs



Not to be confused with MST

Nelson's *very* small world

- Paul Erdős (3)
 - Jayme Luiz Szwarcfiter (1)
 - John Adrian Bondy (2)
 - Paul Erdős (3)

- Michael R. Fellows (2)
- Michael Loss (4)
- David Newbery (3)

An Experimental Study of the
Small World Problem*

JEFFREY TRAVERS

Harvard University

AND

STANLEY MILGRAM

The City University of New York

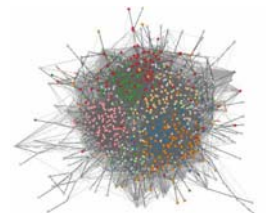
Nelson's *very* small world

- **All OR at $d \leq 3$**
 - Founding fathers and young researchers
- **Most TCS at $d \leq 3$**
 - Jack R. Edmonds (3)
 - Richard M. Karp (3)
 - C. H. Papadimitriou (2)
- **Game theorists $d \leq 4$**
 - Robert John Aumann (4)
 - John Forbes Nash Jr. (3)
 - Martin Shubik (2)
- **Decision theorists**
 - Peter C. Fishburn (3)
 - Howard Raiffa (3)
 - Fred S. Roberts (2)
- **Social choice**
 - Kenneth Joseph Arrow (4)
 - John C. Harsanyi (4)
 - Amartya K. Sen (4)
- **Discrete Math**
 - Noga Alon (3)
 - Ulrich Faigle (2)
 - John G. Kemeny (4)
- **Math**
 - Pierre-Louis Lions (3)
 - Cédric Villani (4)
 - Wendelin Werner (3)
- **Economists**
 - Harry M. Markowitz (3)
 - Daniel L. McFadden (3)
 - Merton H. Miller (3)
- **Psychology**
 - R. Duncan Luce (3)
 - Amos Tversky (3)
- **Philosophers**
 - Patrick C. Suppes (4)
 - Brian Skyrms (4)
- **Heroes**
 - Daniel Ellsberg (4)

Is it not the case for everyone?

- Not really at $d \leq 4$

*When you publish clearly written papers
on interesting subjects
in interesting journals
on interesting subjects
collaborating with interesting people*

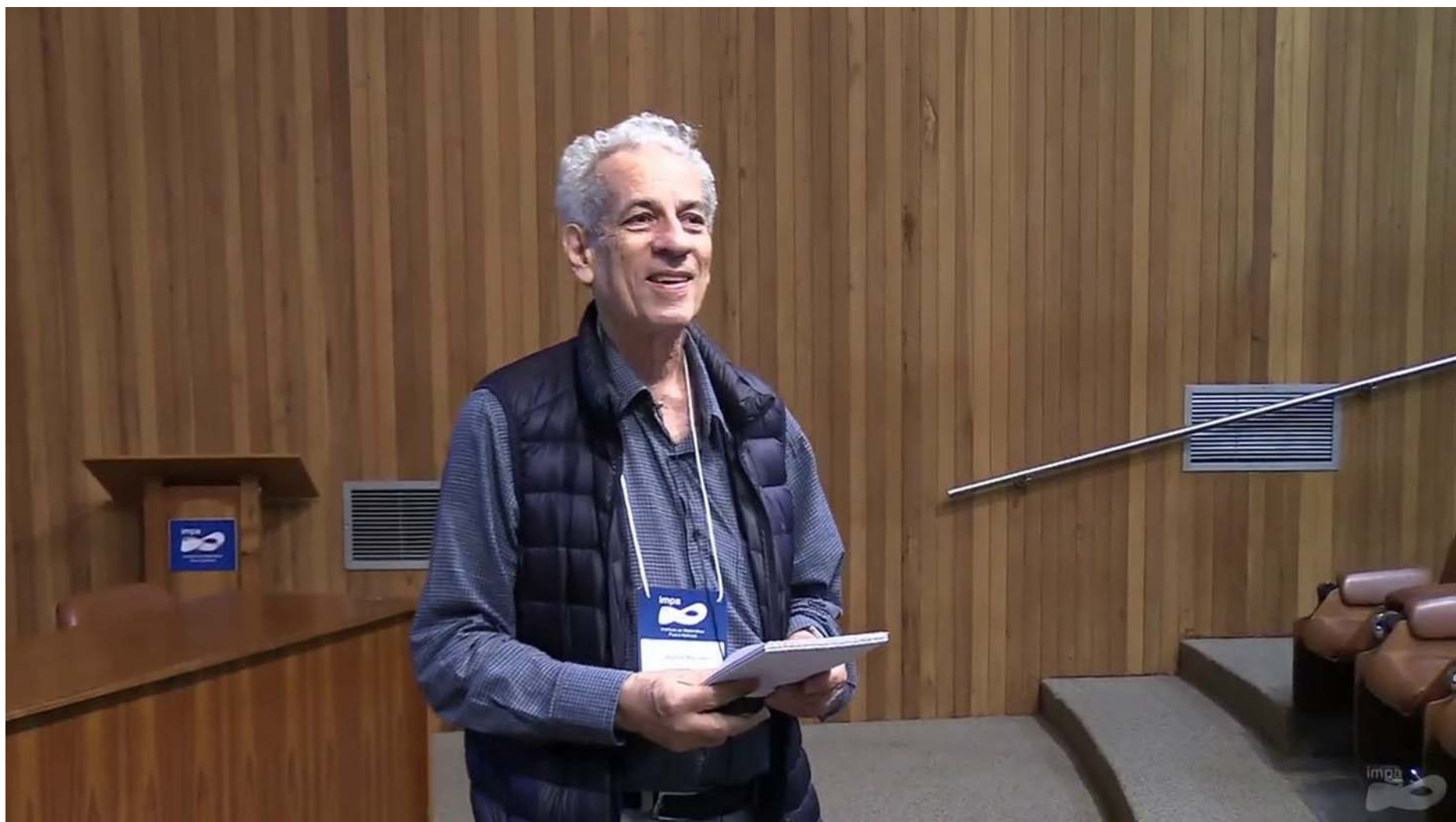




Nelson as a teacher

- Supervised **75** PhD
- Supervised **150** MSc
- ***CENTRAL*** person in the diffusion of OR in Brazil
- Nelson is devoted to his students
 - Pesquisa Operacional, 2003
- Nelson attracts students in Brazil
- Never stopped teaching

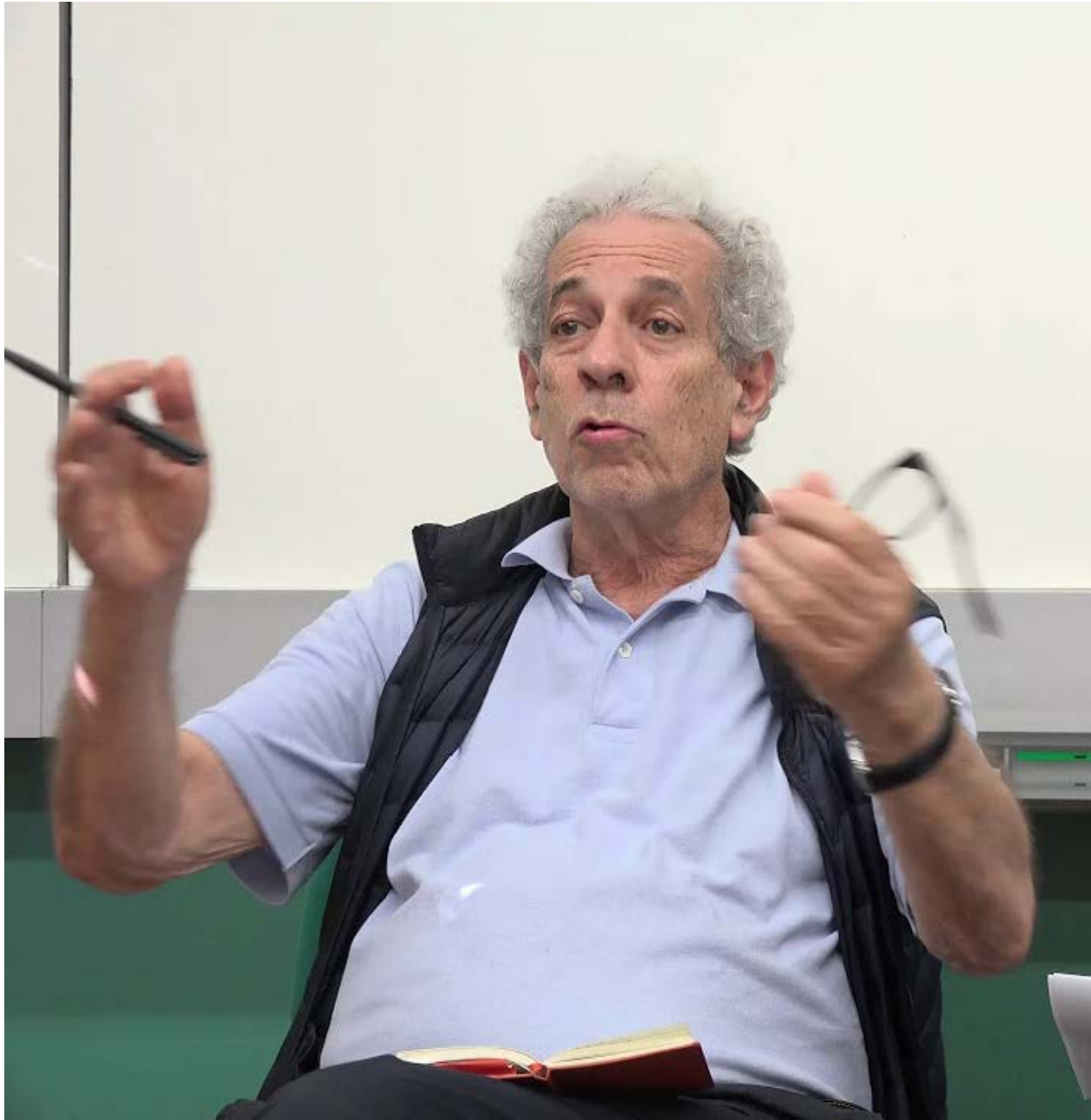
“Eu gostaria de destacar algumas facetas de Nelson: a primeira é a sua capacidade de liderança, ele é quem eu posso chamar de um líder natural. Também devo destacar sua constante preocupação com seus alunos, tanto no nível acadêmico quanto no pessoal e humano. Não foram poucas as



Nelson as an organizer

- SOBRAPO (1974-1976)
- ALIO (1988-1990 and 1998-2000)
- IFORS (1983-1986)
- International conferences in Rio (ISMP, Summer School on CO)
- Took *many* responsibilities at UFRJ





Nelson as a leader

- Rector UFRJ, Brazil (Jul 1990-Jul 1994)
 - Complete U with 43 823 students
- National Secretary of Higher Education, Ministry of Education (SESu-MEC), Brasília, Brazil (Feb 2004-Dec 2006)
 - New Universities, new campuses
 - Recruitment of professors
 - Open, free and easy access to higher education
(Brazil has 23 U in ARWU, 30 U in France)



Saul Gass' quote



“[...] as the ideas, methods, and applications of operations research (OR) spread around the world, each country tended to adapt OR to fit its professional, academic, and cultural environments. Often, there were a few dedicated persons who led the way and became recognized as the country's OR pioneers. In the case of France, such a person was Bernard Roy”

For Brazil, there is not doubt, this person is
Professor Nelson Maculan Filho