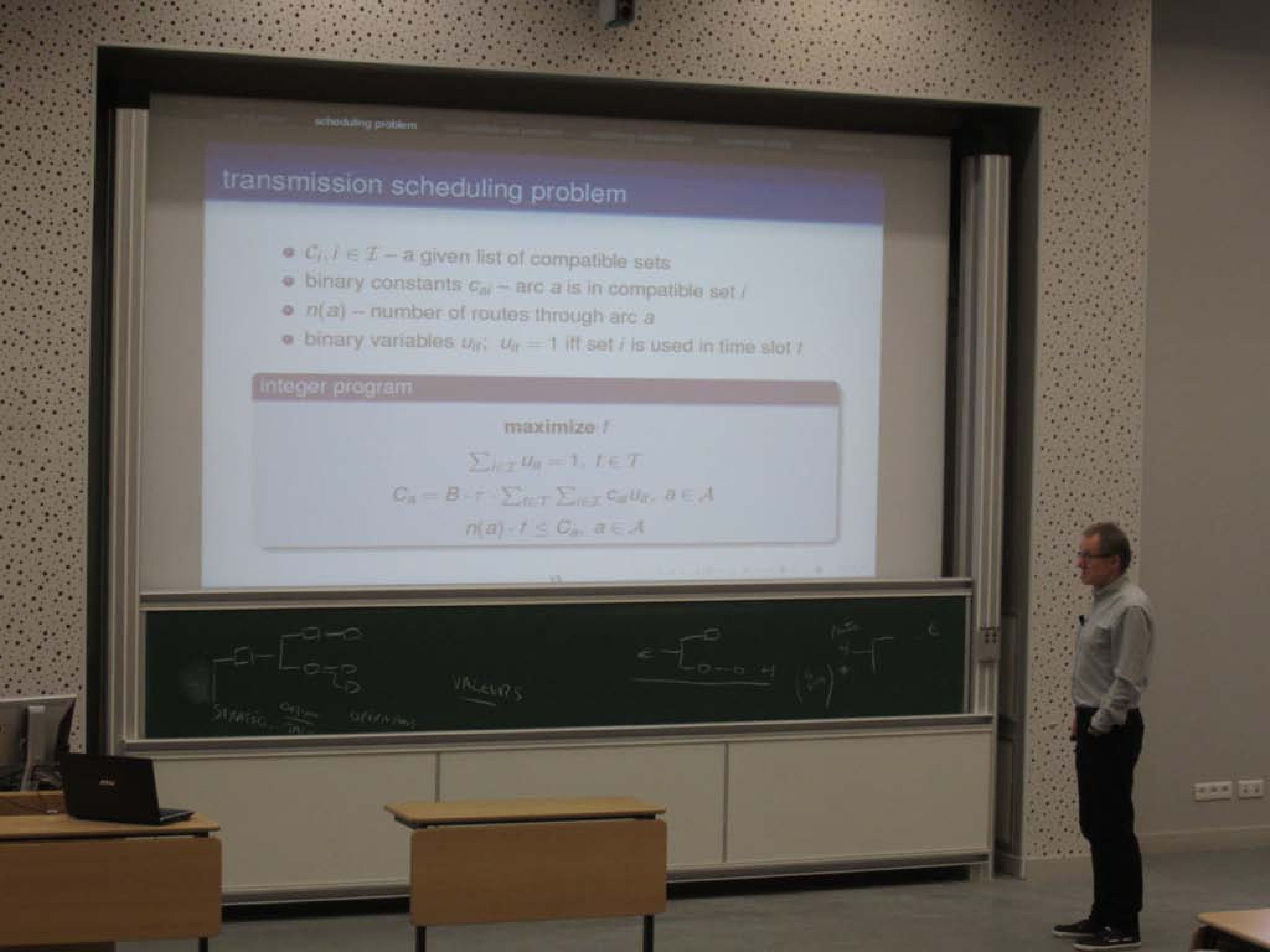
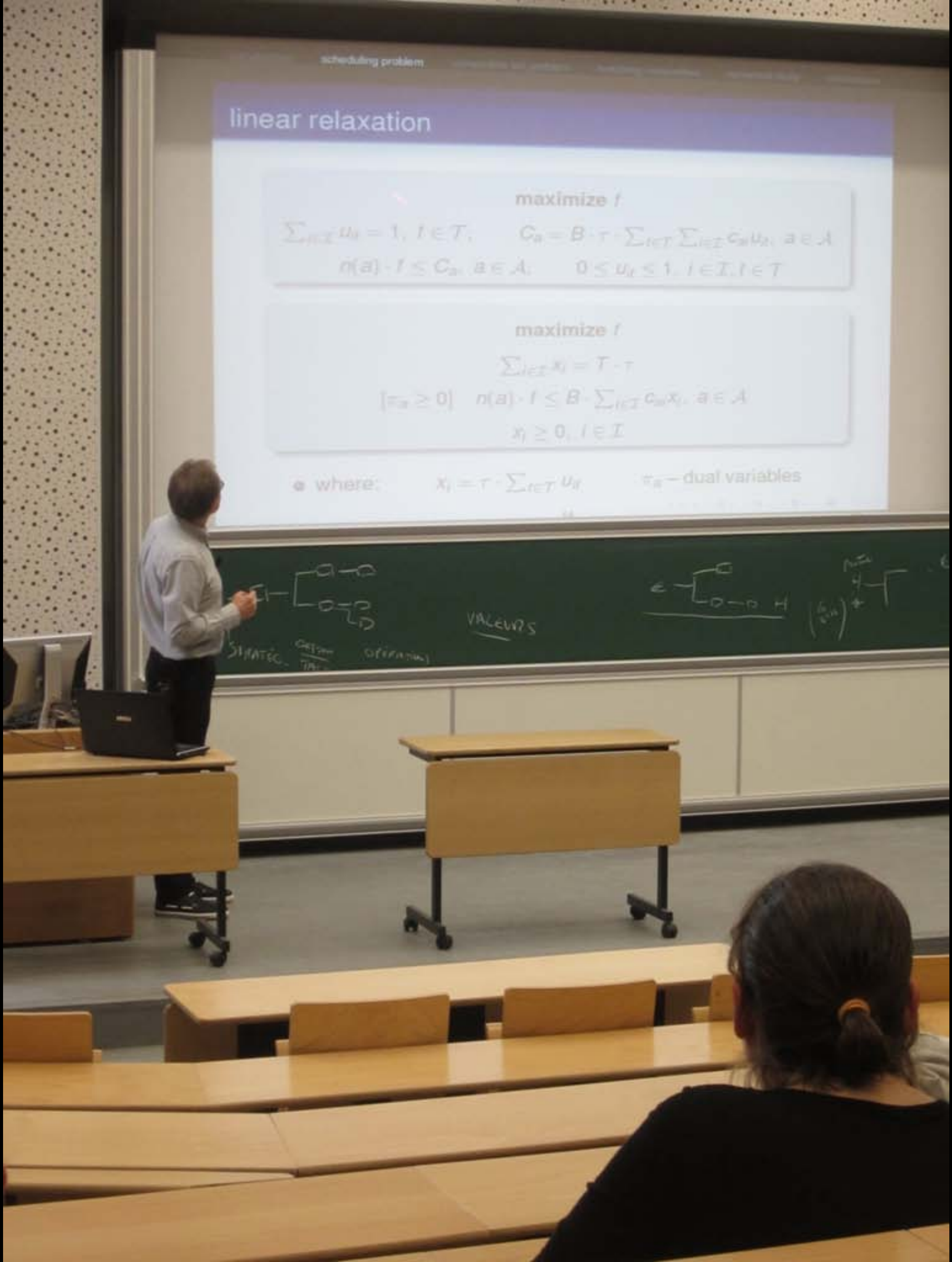

outline
1 introduction
2 scheduling problem
3 compatible set problem
4 matching inequalities
5 numerical study
6 conclusions
VALEURS


scheduling problem
transmission scheduling problem
$C_i, i \in \mathcal{I}$ – a given list of compatible sets
binary constants $c_{ai}$ – arc a is in compatible set $i$
$n(a)$ -- number of routes through arc $a$
binary variables $u_{it}$; $u_{it} = 1$ iff set $i$ is used in time slot $t$
integer program
maximize $f$
$\sum_{i \in \mathcal{I}} u_{it} = 1,\ t \in T$
$C_a = B \cdot \tau \cdot \sum_{t \in T} \sum_{i \in \mathcal{I}} c_{ai} u_{it},\ a \in \mathcal{A}$
$n(a) \cdot f \leq C_a,\ a \in \mathcal{A}$


scheduling problem
linear relaxation
maximize f
maximize f
where:
dual variables
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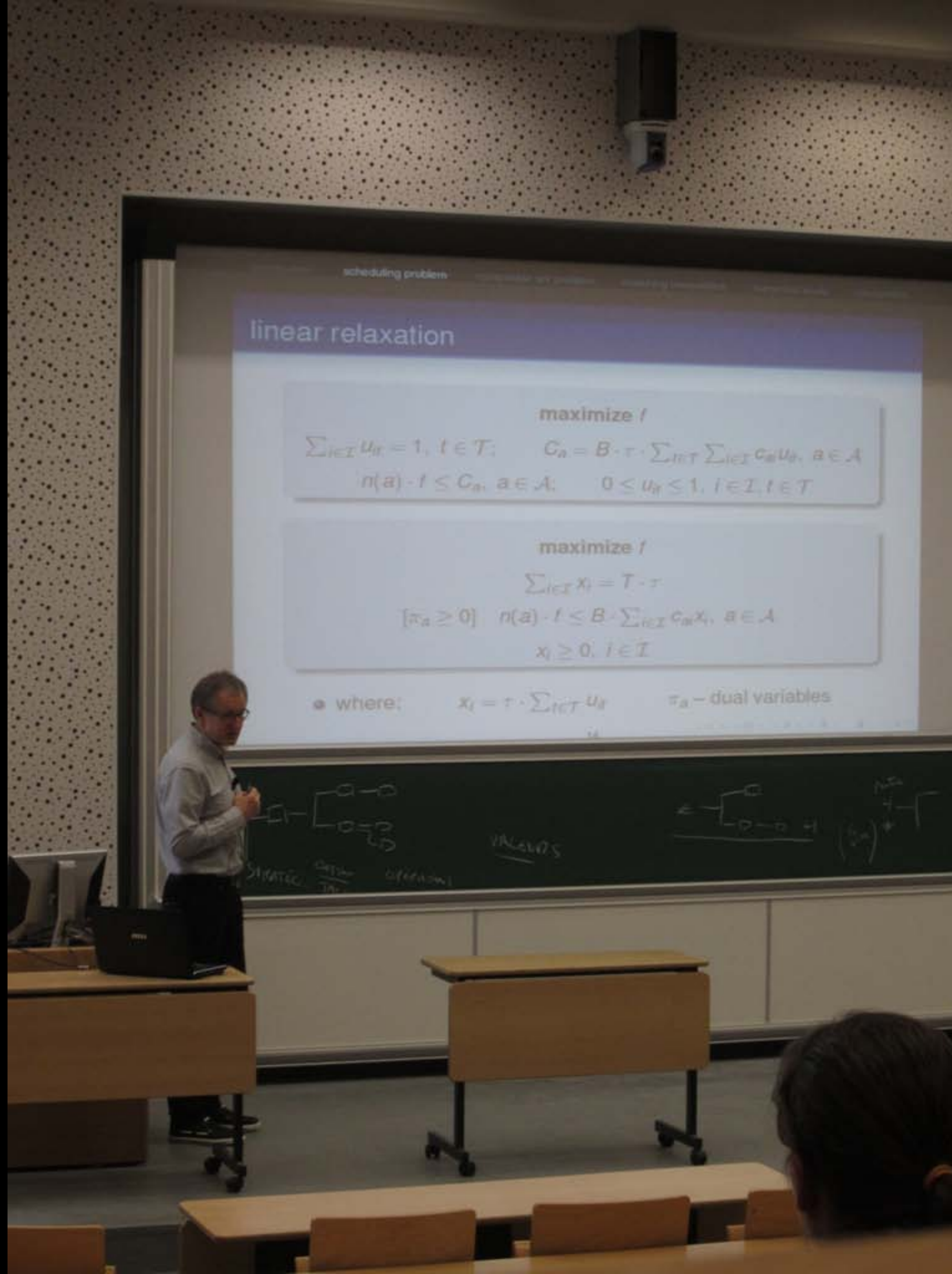
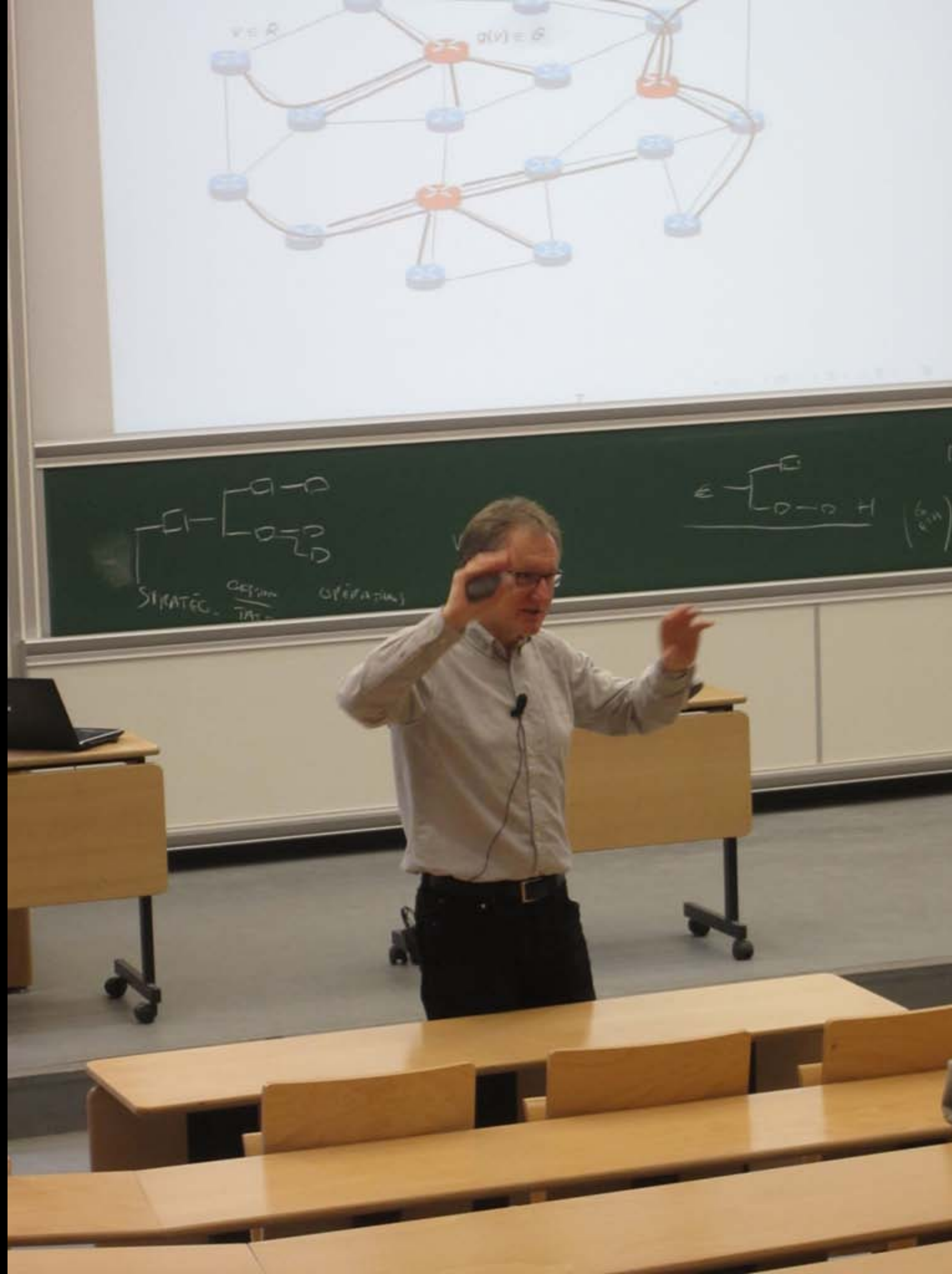
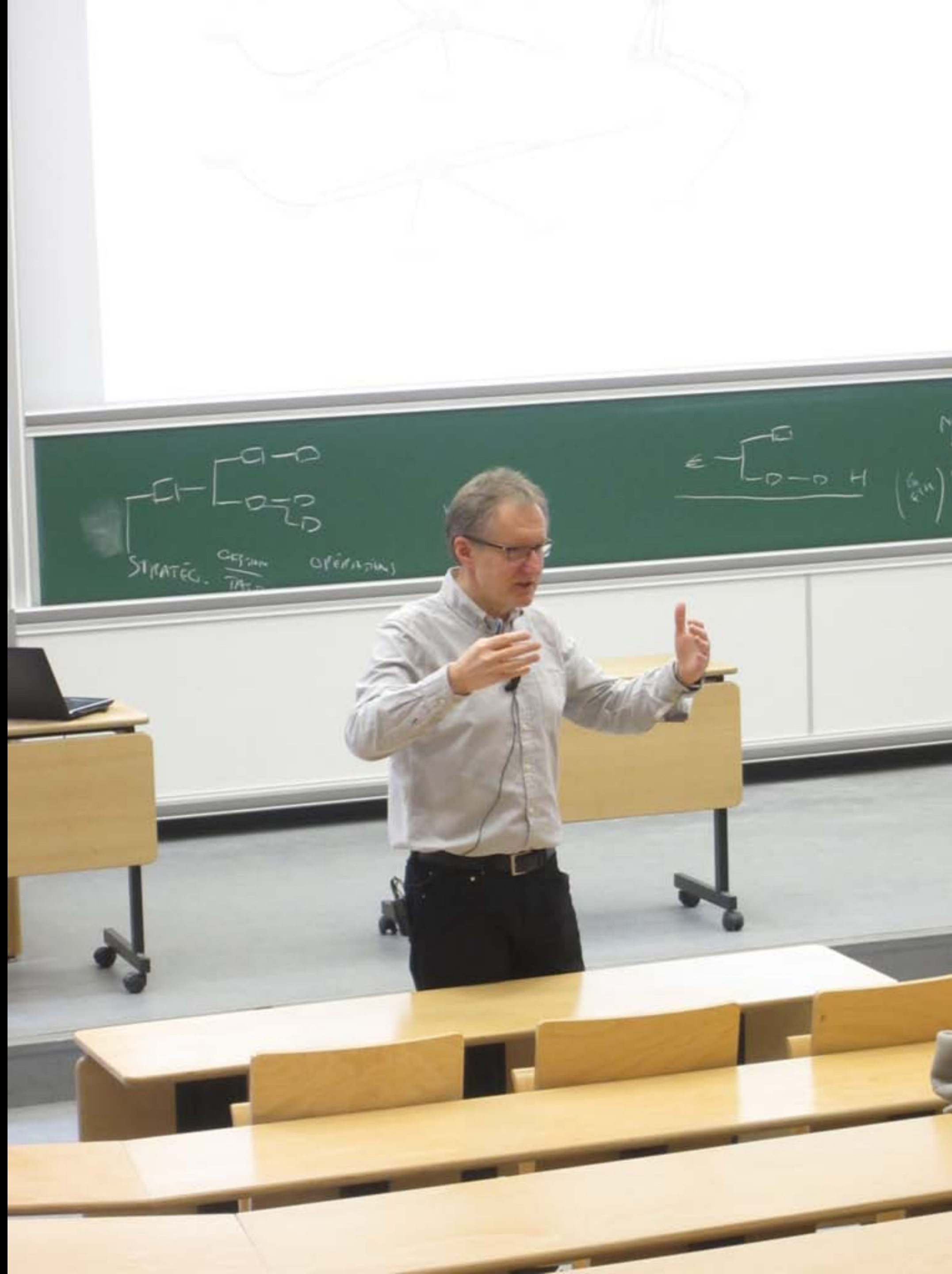

scheduling problem
linear relaxation
maximize f
$\sum_{i \in \mathcal{I}} u_{it} = 1,\ t \in \mathcal{T};$ $C_a = B \cdot \tau \cdot \sum_{t \in \mathcal{T}} \sum_{i \in \mathcal{I}} c_{ai} u_{it},\ a \in \mathcal{A}$
$n(a) \cdot f \leq C_a,\ a \in \mathcal{A};$ $0 \leq u_{it} \leq 1,\ i \in \mathcal{I}, t \in \mathcal{T}$
maximize f
$\sum_{i \in \mathcal{I}} x_i = T \cdot \tau$
$[\pi_a \geq 0]$ $n(a) \cdot f \leq B \cdot \sum_{i \in \mathcal{I}} c_{ai} x_i,\ a \in \mathcal{A}$
$x_i \geq 0,\ i \in \mathcal{I}$
where: $x_i = \tau \cdot \sum_{t \in \mathcal{T}} u_{it}$ $\pi_a$ – dual variables

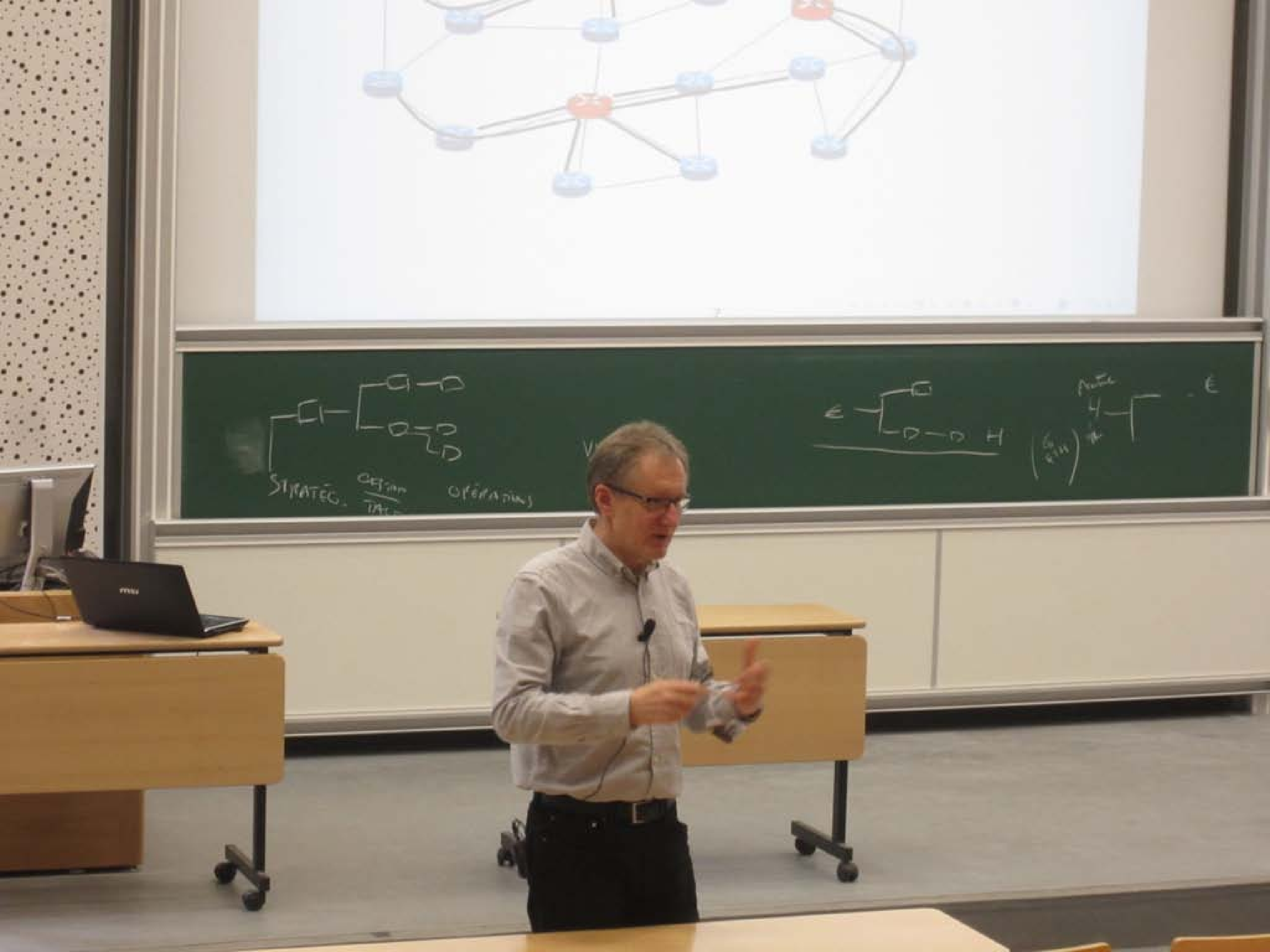

linear relaxation


generate test networks


scheduling and channel
Hoc Networks 8 (2010)
patible sets, MWCSP)
n Fair Flow Optimization in
Ad Hoc Networks 1 (2011)
patible sets)
mputational approach for
wireless networks under the
Wireless Commun. 10 (2011)
s for MWCSP)




STRATÉG.
OPÉRATIONS


STRATÉG.
OPÉRATIONS