On Invertible Sampling and Adaptive Security

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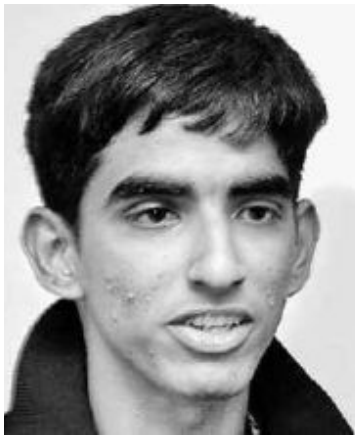
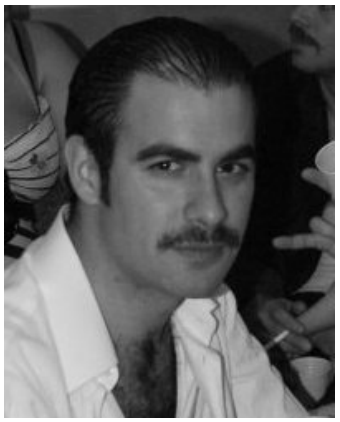
To appear at Asiacrypt 2010

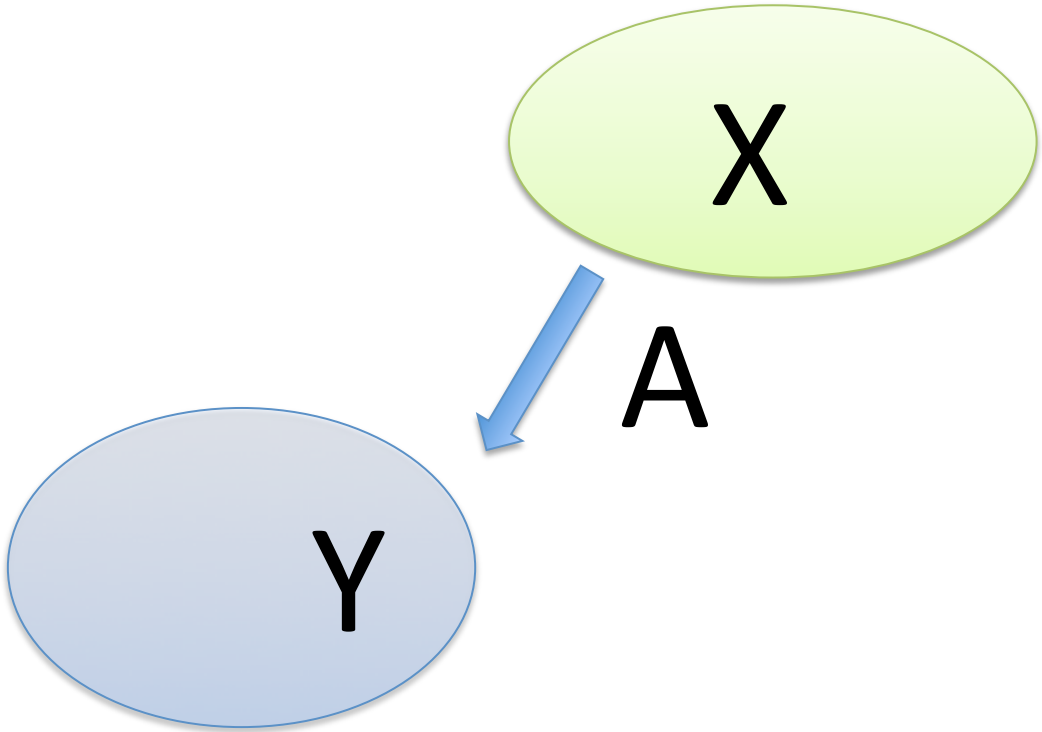
IKOS ‘04, ‘06, ‘07, ’08, ‘09

IKOS ‘10

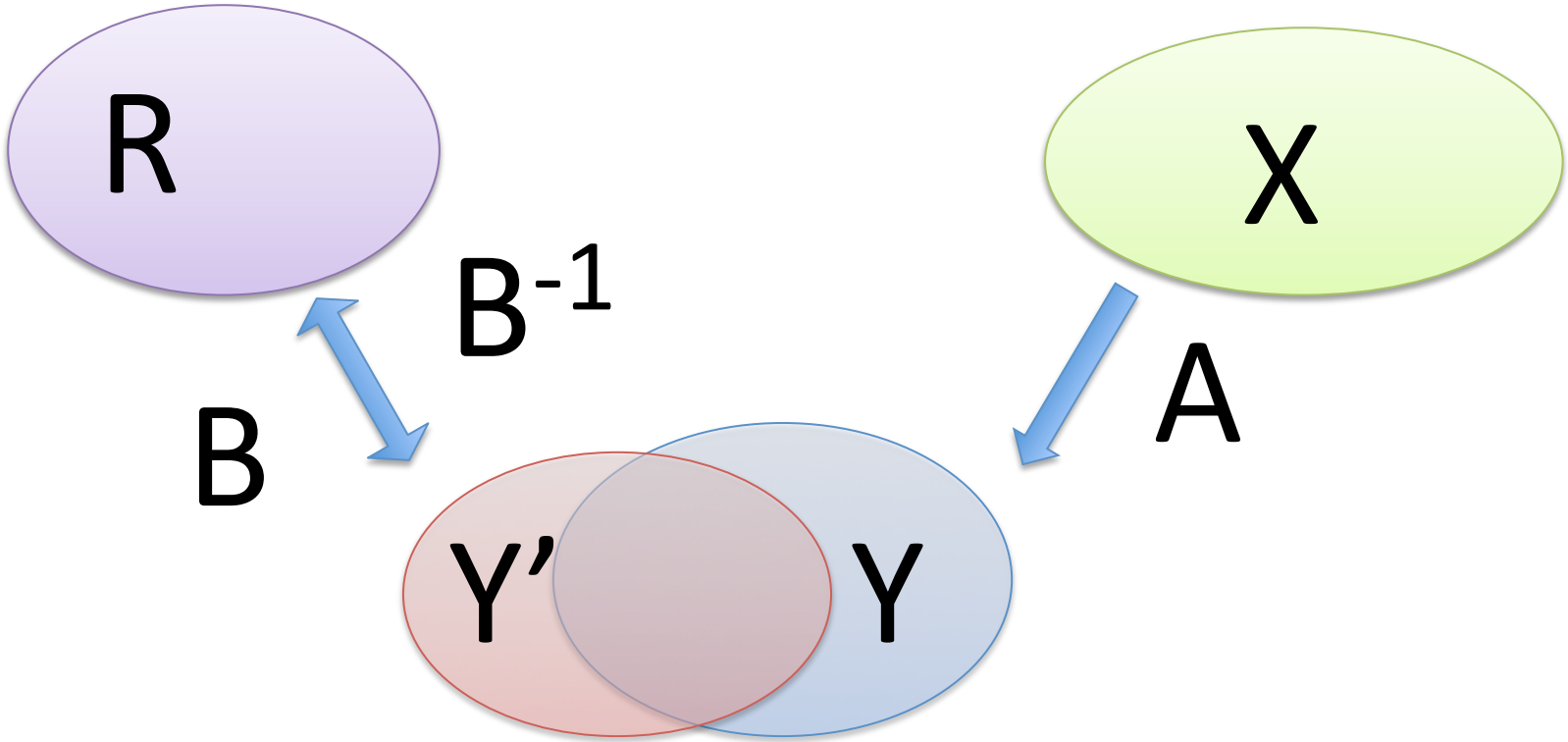




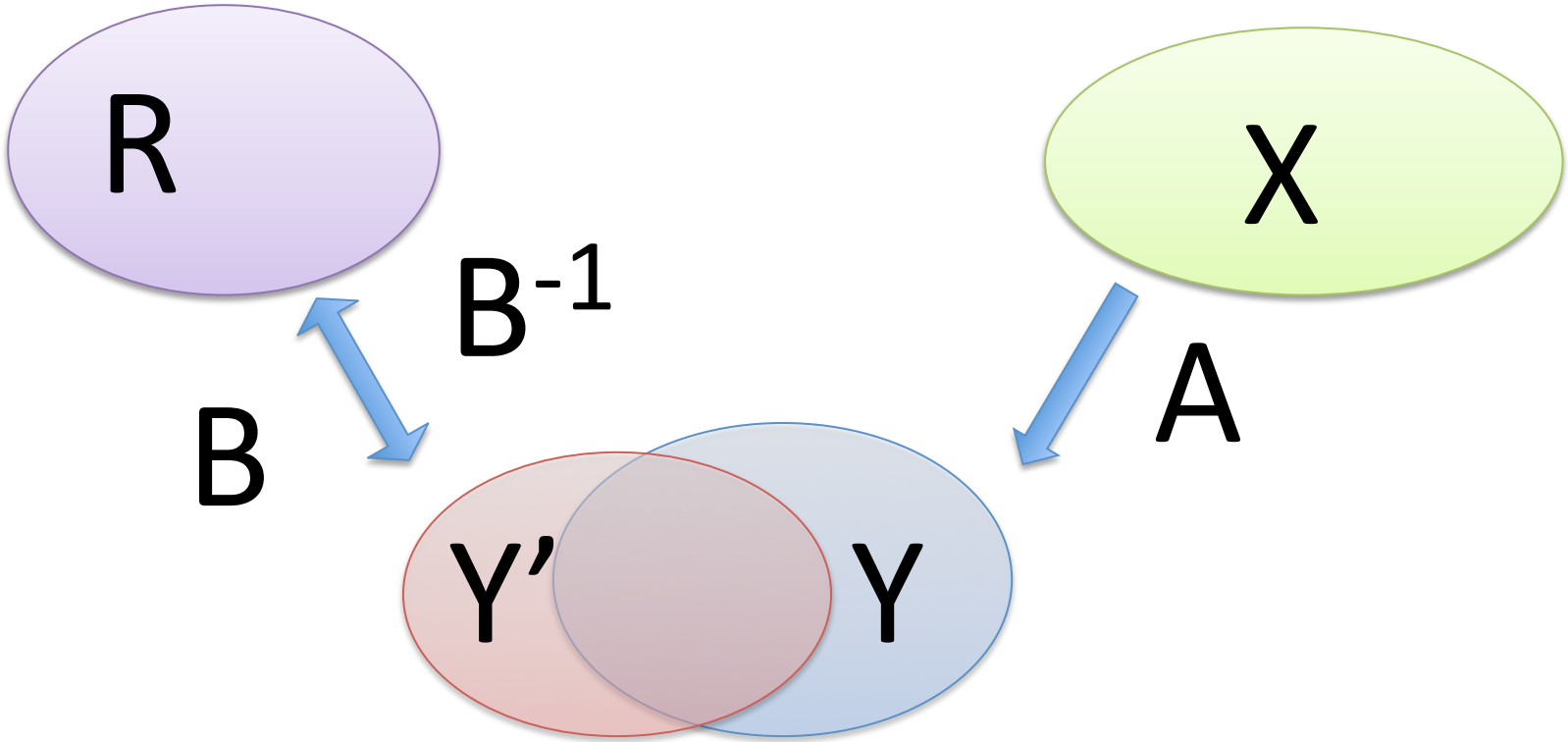
Invertible Sampling



Invertible Sampling

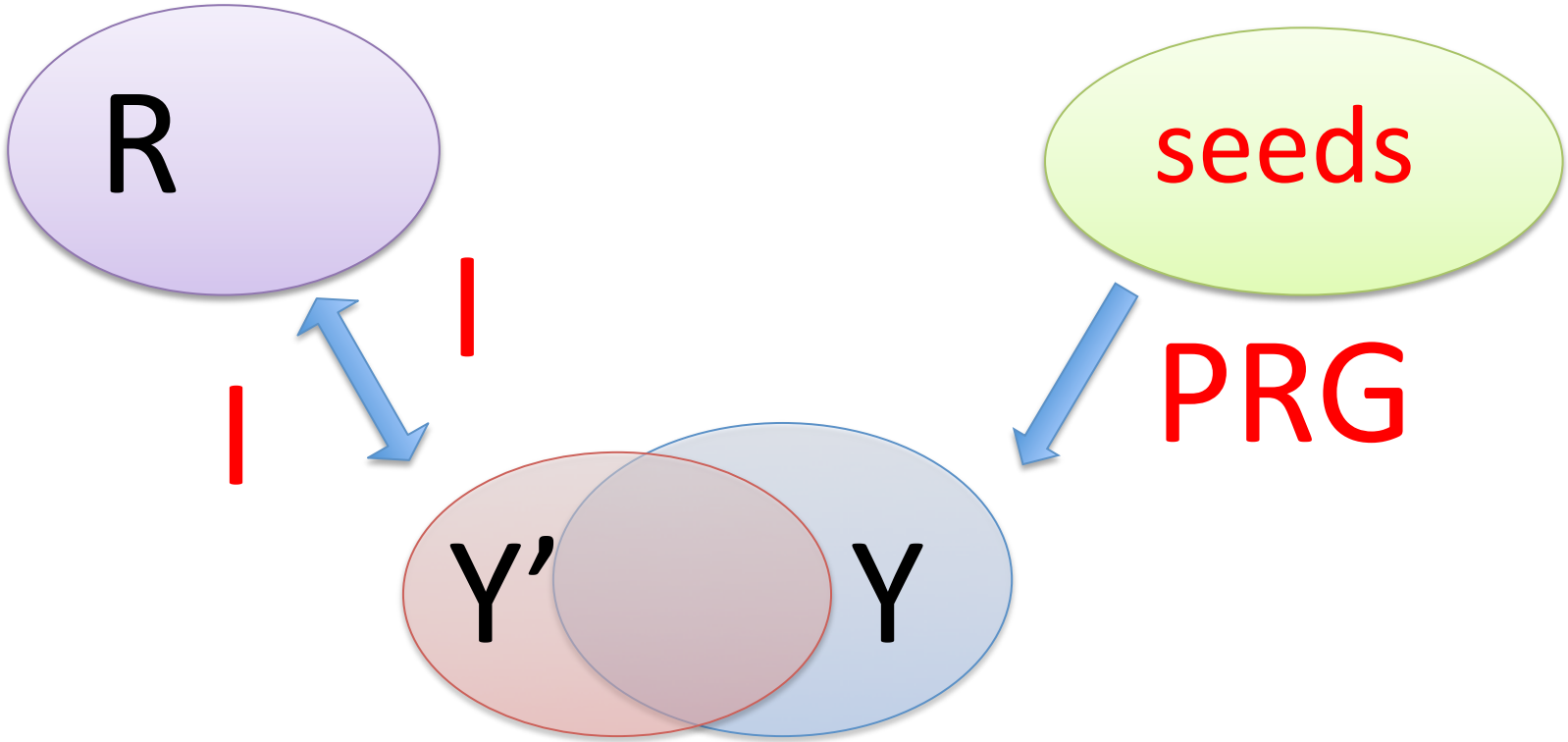


Invertible Sampling



- 1) Y' and Y comp. ind.
- 2) B can be inverted – (even if A cannot)

Invertible Sampling



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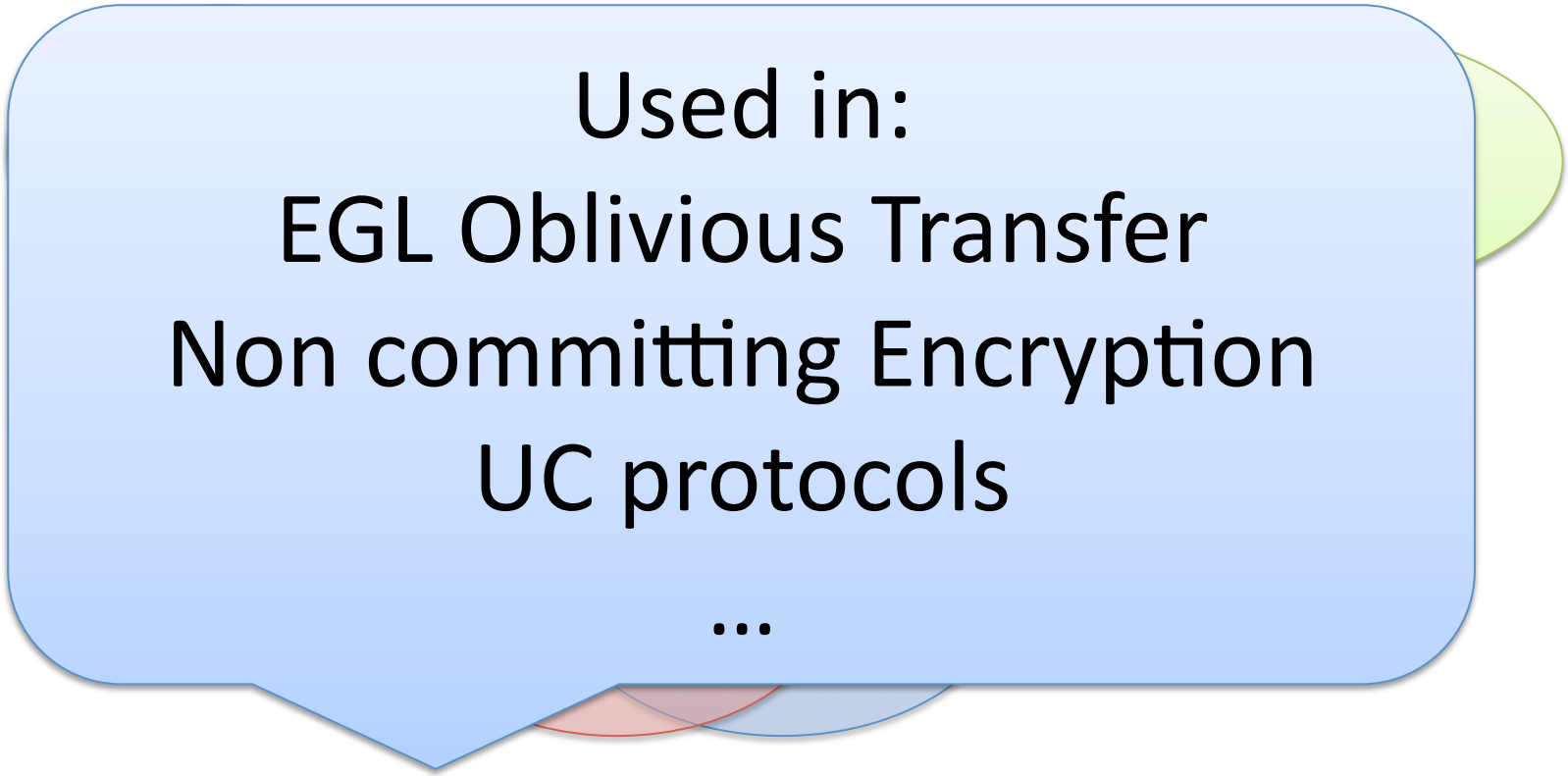

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Inverse Sampling Hypothesis

Does every algorithm A satisfy 1) and 2) ?

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If KOWF + NIZK exist

➔ NO

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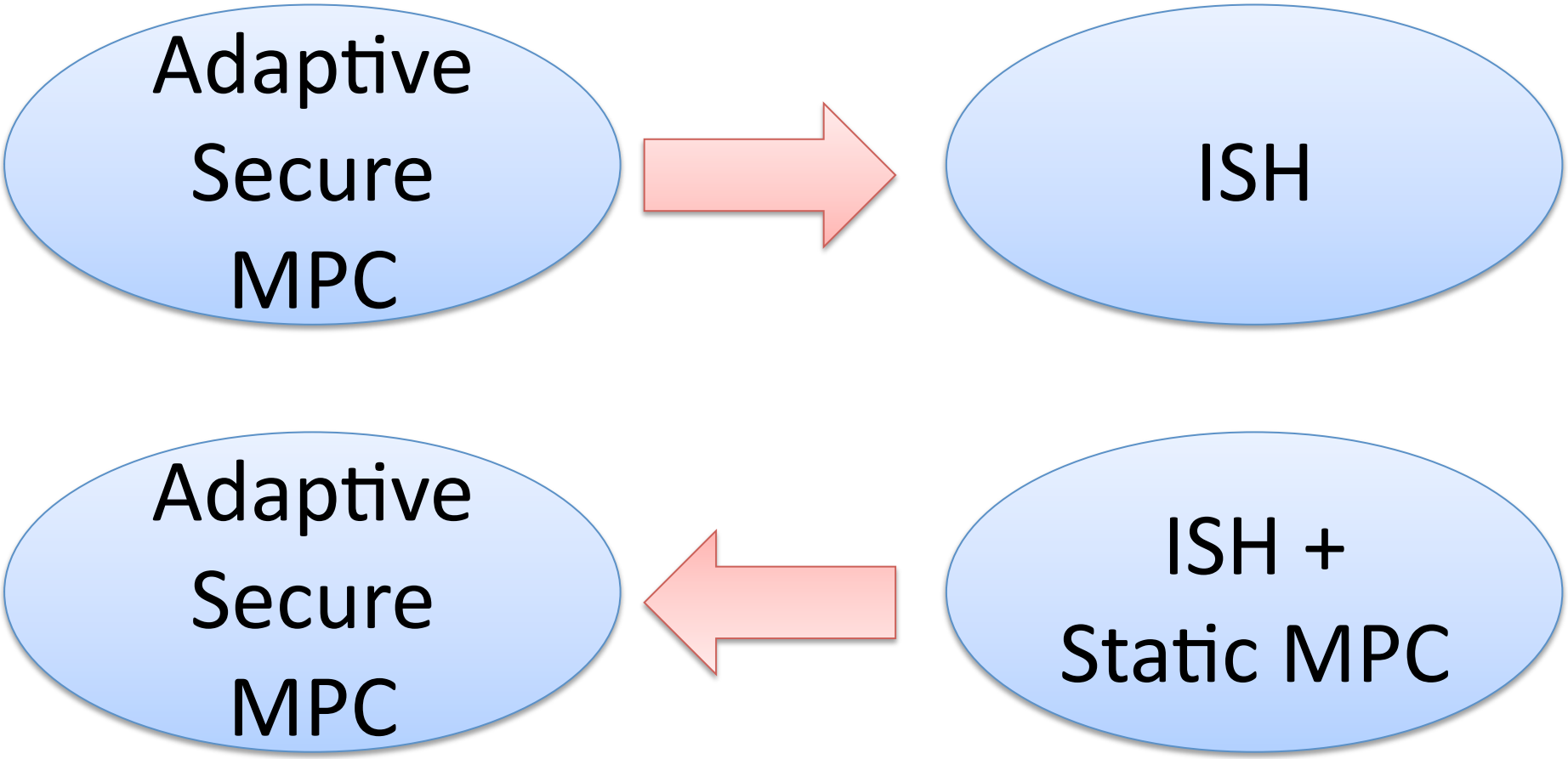
Canetti, Dakdouk '08 '09

If KOWF + NIZK exist

➔ NO

ISH and Adaptive MPC



ISH and Adaptive MPC