1. $RSPACE(S) \in DSPACE(S^{3/2})$ (Saks, Zhou)

2. Derandomizing PIT implies proving circuit lower bounds (Kabanets, Impagliazzo)

3. Hardness amplification, one-way functions, and pseudorandomness: Goldreich-Levin theorem and Yao's XOR lemma (Arora-Barak)

4. Hardness and derandomization: Nisan-Wigderson construction (Arora-Barak)

5. Communication complexity and lower bounds: Karchmer-Wigderson

6. Improving exhaustive search implies superpolynomial lower bounds (Ryan Williams)