



BA/SA/MA/Group/Lab:

## Queueing without Waiting

Imagine that your flight is due to fly in twenty minutes. You are in a queue for security check. However, there is a guy ahead of you in the queue that is flying for the first time. So, he is being sent back repeatedly due to the endless list of forbidden things that keep appearing in his luggage. In other words, a single slow guy ends up choking the entire queue.

Computationally, a failure or slowing down of a single process can prevent the other processes from executing the enqueue or dequeue operations on the queue. This problem of designing a queue where the enqueue or dequeue operation by any process can make progress irrespective of the speeds of other processes is one of the most fundamental problems in designing fault-tolerant distributed algorithms. In this thesis, our goal will be to design and analyze efficient algorithms to solve this problem assuming that the processes share a memory and there is an adversary that controls the speed of the processes. We have some ideas to start with but your ideas are also welcome.



**Requirements:** Interest in designing and analyzing concurrent algorithms.

**Interested? Please contact us for more details!**

### Contacts

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