

Seagate Research

MIST Proposers' Day

College Park Marriott Hotel & Conference Center

Hyattsville, MD

February 21, 2018

Unique Qualifications and Capabilities

Seagate is the leader in analog to digital signal processing for storage systems. We design our own recording channels which provide error correction power of a raw error rate of 1 bit in 64 bits to a corrected user bit error rate of 1 bit in 10^{16} bits

Seagate pioneered many of the data encryption techniques used in storage devices today. We are members of many security standards associations for data security and encryption

Seagate builds and ships 5 drives a second into a world wide distribution system. We are a leader in massive cost effective manufacturing of complex devices

Our automated drive factories operate in state of the art clean rooms building multiple products in a single factory

Our nanoimprint technology developed for bit-patterned media is capable of fabricating 8 nm wide lines and can be used to make nanometer wide nanofluidic channels for controlling material in a molecular storage system

Seagate has relationships with customers throughout the storage ecosystem and we participate in all tiers of data storage

Research Areas of Interest

Our expertise in channel design allows is to design coding schemes and channels to accommodate the physical characteristics of molecular storage channels

Data encryption for molecular storage will be key in protecting user data

Design and fabrication of molecular storage devices that are compatible with low cost, high volume manufacturing

Cost effective scheme for reading and writing in molecular storage systems

Role of molecular storage systems in the data storage ecosystem and storage tiers

Specific Capabilities Your Group Seeks

Molecular storage chemistry expertise to assist with identification of storage materials and help with the development of fast, low cost reading and writing systems

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