



Data Storage Frontier focusing on HAMR

IDEMA Japan will host a symposium focusing on HAMR, the key technology to realize high-capacity HDDs. This symposium will be held at the Western Digital Fujisawa campus, featuring speakers from leading HDD suppliers, HAMR component manufacturers, and research institutions, who will present on the latest trends in HAMR technology as well as future outlooks for HDD products and technologies. Additionally, there will be presentations by IT vendors on the role of storage in the age of AI. We will also share cutting-edge information on HAMR technology introduced at TMRC 2024, held in the U.S. in August.

The HDD industry has recently emerged from the recession, and the practical application of HAMR technology is accelerating. With the rapid increase in data generation driven by AI advancements, the importance of high-capacity HDDs for data centers and cold storage continues to grow. This symposium will provide the latest updates on HAMR technology that supports the expansion of HDD capacities, offering insights that will be useful to your work. Take advantage of this opportunity to gather with key players in HDD industry, and engage in networking and discussions with experts.

■ Date ■

October 10 (Thu) , 2024

10 : 30~17 : 10 (After the event, there will be a social gathering.)

■ Location ■

Fujisawa Campus, Western Digital Technologies, GK

1 Kirihara-cho, Fujisawa, Kanagawa 252-0888, Japan

※Free shuttle busses will be running from the east exit of Shonandai Station to the venue.

* 25 minutes walk from the west exit of Shonandai Station on the Odakyu Electric Railway

* 25 minutes walk from the west exit of Shonandai Station on the Yokohama Municipal Subway

* 25 minutes walk from the west exit of Shonandai Station on the Sagami Railway (Sotetsu)

* Kanachu Bus

From Shonandai Station West Exit No. 3 bus stop, get off at Ishikawa Yamada 220 yen

Travel time: 10 to 15 minutes, departures every 10 minutes

■ Participation Fee ■

• Member : JPY20,000 yen • Non-Member : JPY40,000yen

Presentation materials : Download available

※We will send you an invoice in PDF format.

If you need to cancel, please contact us at least one week before the event.

✘As of 2012, we have not distributed printed materials.

After the Symposium, only the materials that can be made public will be made public.
(Passwords will be provided separately.)

Please download if you need it.

Please refrain from forwarding or copying materials to those who are not attending.

✘**The deadline for applications is Tuesday, October 1st.**

✘There is no simultaneous interpretation.

10:30am-10:40am	Opening Hisashi Takano Chairman, IDEMA Japan
10:40am-11:20am <English>	Heat Assisted Magnetic Recording: 6 TB/disk demonstration and opportunities for 10 TB/disk and beyond Stephanie Hernandez Sr Director, Seagate Research Edward Charles Gage Vice President Research Seagate Technology <<Abstract>> High areal density Heat Assisted Magnetic Recording (HAMR) demonstrations will be presented. Over 3.5 Tfcpsi, equating to over 6.2 TB/disk, has been achieved at spin-stand, serving as proof of concept of what may be achievable in a recording system through intelligent component and system design. Data on 4 TB/disk fully-formatted, factory-processed, HAMR drives will also be presented. HAMR sub-system modeling shows 8 TB/disk and beyond are possible with novel designs and aggressive component scaling. Finally, promising technological candidates for extending HAMR capacity beyond 10 TB/disk will be discussed.
11:20am-12:00am <English>	Road to Huge Capacity NL-HDD - HAMR and related technologies Akihiko Takeo Storage Products Division Technology Executive Toshiba Electronic Devices & Storage Corporation <<Abstract>> Expectations for securing large-capacity storage in the market are increasingly focused on the AI society. In the previous symposium, we showcased demonstrations of devices with capacities exceeding 30TB using both MAMR and HAMR technologies. This time, we will introduce the foundational technologies that support these advancements, the related technologies required for further capacity increases, and the technological developments that need to be addressed for HAMR technology as products.

12:00am-1:20pm	Lunch Time
1:20pm-2:00pm <English>	<p>Maximizing Areal Density: Leveraging HAMR and SMR Technology for the Future of HDD Data Storage</p> <p>Kris Schouterden VP for Recording Sub-System Integration Western Digital Company</p> <p><<Abstract>></p> <p>As the industry continues to push the boundaries of areal density, Heat-Assisted Magnetic Recording (HAMR) has emerged as the next pivotal advancement in data storage. This presentation will focus on maximizing capacity gains through the integration of HAMR technology, particularly highlighting the significant leap in capacity offered by the introduction of UltraSMR. The SMR uplift is achieved through a combination of intrinsic and extrinsic improvements. While substantial SMR gains have already been productized through ePMR technology, we will demonstrate that combining HAMR with SMR technology will propel the growth trajectory of HDD recording technology, ensuring that HDDs remain a cornerstone of data infrastructure.</p>
2:00pm-2:40pm <Japanese>	<p>How to realize the data utilization platform required for the next generation AI infrastructure</p> <p>Takafumi Sasaki Principal Storage Technical Specialist Manager IBM Technology IBM Japan, Ltd.</p> <p><<Abstract>></p> <p>If data is left to accumulate, it will remain unorganized, with more copies and generations scattered across distant locations, and operation and maintenance costs will rise. When you try to use data for AI learning, it may not be available immediately, or even if it is available, it may take a huge amount of time to process. What kind of functions are needed to solve these issues? Using actual customer case, I will explain in detail a smart method to realize an optimal data utilization platform for AI without making major changes to the existing environment.</p>
2:40pm-3:00pm	Break
3:00pm-3:40pm <English>	<p>Fast magnetization dynamics and lattice distortion for L10-FePt nano-granular thin films at elevated temperatures</p> <p>Yuta Sasaki NIMS - National Institute for Materials Science</p> <p><<Abstract>></p> <p>Understanding the material parameters at high temperature is essential for HAMR media design. Interlayer diffusion, oxidization, thermal expansion and lattice distortion are possible factors that may affect the material</p>

	<p>parameters and magnetization dynamics at high temperatures in thin film samples. In order to discuss these temperature dependence of the material parameters, systematic measurements are necessary. In this study, we have performed XRD and FMR measurements at elevated temperatures for L10-FePt continuous and nano-granular thin films. Temperature dependence of lattice distortion, magnetic anisotropy and damping constant will be discussed.</p>
<p>3:40pm-4:20pm <English></p>	<p>Laser Diode for HAMR HDD Takehiro Taniguchi Deputy Senior General Manager, Analog LSI Business Division Responsible for Laser Business and R&D Sony Semiconductor Solutions Corporation</p> <p><<Abstract>></p> <p>I have heard that many of you involved in the HDD industry may not be very familiar with lasers. Therefore, I would like to begin by briefly introducing the history of Sony's laser diode business, along with its current business activities and organizational structure, as well as the basic principles of laser operation and the key features of the laser diode for HAMR HDDs.</p>
<p>4:20pm-5:00pm <Japanese></p>	<p>Suspension for HAMR HDD Kenichi Takikawa Director, Development Dept. Disk Drive Suspension Div. NHK SPRING CO.LTD.</p> <p><<Abstract>></p> <p>HDD suspensions are springs with low rigidity, which can cause deterioration in magnetic head positioning characteristics. At the same time, the latest suspensions incorporate two actuators and, together with the VCM, act as a triple stage actuator (TSA) to position the magnetic head. HAMR is one of the most important technologies for increasing the capacity of hard disk drives in the future, and since improvements in recording density will progress mainly through improvements in TPI, it is thought that magnetic head positioning will become even more important. Here we introduce suspensions for HAMR and the characteristics and improvements required for future high TPI.</p>
<p>5:00pm-5:10pm</p>	<p>Closing Masayoshi Shimokoshi Chairperson, Inclusion Committee</p>
<p>5:20pm</p>	<p>Reception Party</p>