



# TECHNICAL PROGRAM

September 6, 2000 (Wednesday)

**Opening and Keynote Session (8:40-9:55)**

**Presider : T. Ohta (Matsushita, Japan)**

**M. Takeda (Sony, Japan)**

**F. Yokogawa (Pioneer, Japan)**

**Program Committee, Vice-Chairperson**

**We-A-01 (8:40)**

**Welcome and Opening Remarks**

**Y. Okino (Kansai Univ., Japan)**

**Steering Committee, Chairperson**

**We-A-02 (8:50)**

**ISOM 10th Anniversary**

**Y. Mitsuhashi (JST, Japan)**

**Organizing Committee, Chairperson**

**We-A-03 ( Keynote )**

**(9:10) Extending the Capabilities of Storage System**

**T. Maruyama (Fujitsu, Japan) ..... 2**

**We-A-04 ( Invited )**

**(9:40) Introduction of CIST**

**N. Ogata (CIST, Japan)**

**Coffee Break (9:55-10:10)**

**High NA (10:10-12:00)**

**Presiders : H. Sueda (Hitachi, Japan)**

**I. Ichimura (Sony, Japan)**

**We-B-01 (Invited)**

**(10:10) Phase Change Media for High NA and Blue Wavelength Recording**

**H.J. Borg, M.van Schijndel, M.H.R. Lankhorst, G.F.Zhou, B.A.J. Jacobs,**

**M.J. Dekker (Philips, Netherlands) ..... 6**

**We-B-02 (Invited)**

**(10:40) Multi-Level Tracking for High Density Optical Recording**

D.-R. Huang, Z. W. Chao, G. Z. Wu (ITRI, R.O.C.) ..... 8

**We-B-03 (Invited)**

**(11:10) Hybrid Recording with a Sub-Micron Sized Laser Spot**

H. Saga, H. Nemoto, Y. Itou\*, C. Haginoya, H. Sukeda  
(Hitachi, Japan, \*Hitachi Metals, Japan) ..... 10

**We-B-04**

**(11:40) An Integrated Magneto-Optical Sliding Head for First Surface**

**LP-MFM MO-Recording**

F.C. Penning, H.W. v. Kesteren, M.A.H. van der Aa, Yu. V. Martynov,  
R. J. M. Vullers (Philips, Netherlands) ..... 12

**Lunch (12:00-13:20)**

**High Density Media(13:20-15:20)**

**Presiders : T. Ohta (Matsushita, Japan)**

**M. Takeda (Sony, Japan)**

**We-C-01**

**(13:20) Rewritable Dual-Layer Phase-Change Optical Disk utilizing Blue-Violet Laser**

T. Akiyama, M. Uno, H. Kitaura, K. Narumi, K. Nishiuchi,  
N. Yamada (Matsushita, Japan) ..... 16

**We-C-02**

**(13:40) High Density Recording using an Electron Beam Recorder**

M. Katsumura, H. Kitahara, M. Ogasawara, Y. Kojima, Y. Wada,  
T. Iida, F. Yokogawa (Pioneer, Japan) ..... 18

**We-C-03**

**(14:00) 25Gbyte ROM Disk by Injection Molding**

T. Imai, N. Shida, K. Suga, T. Higuchi, T. Iida, F. Yokogawa  
(Pioneer, Japan) ..... 20

**We-C-04**

**(14:20) Photoaddressable Polymers for Rewritable Optical Disc Systems**

Y. Sabi, M. Yamamoto, H. Watanabe, T. Bieringer\*, D. Haarer\*,  
R. Hagen\*, S.G. Kostromine\*, H. Berneth\*  
(Sony, Japan, \*Bayer AG, Germany) ..... 22

**We-C-05**

**(14:40) High-Density Rewritable Optical Disk using a Groove Recording**

K. Iwata, E. Nakano, A. Hosoda, K. Oishi, K. Ohshima, F. Ito, T. Kondo,  
T. Ohgo, E. Nakagawa, A. Hayami, M. Itonaga  
(Victor Company of Japan, Japan) ..... 24

**We-C-06**

**(15:00) Acceleration of Crystallization Speed by Sn Addition into Ge-Sb-Te  
Phase-Change Recording Material**

R. Kojima, N. Yamada (Matsushita, Japan) ..... 26

**Coffee Break (15:20-15:35)**

**Basic Theory(15:35-17:35)**

**Presiders : J. Tominaga (NAIR, Japan)**

**T.C. Chong (DSI, Singapore)**

**We-D-01 (Invited)**

**(15:35) Near-Field Optical Simulation of Super-RENS Disks**

T. Nakano, Y. Yamakawa\*, J. Tominaga, and N. Atoda  
(NAIR, Japan, \*Pioneer, Japan) ..... 30

**We-D-02(Invited)**

**(16:05) The Mechanism of Near-Field Readout and the Role of Surface Plasmon  
in Super-RENS**

D.P. Tsai, S.Y. Lin, S.C. Yang, H.L. Huang, C.R. Chang, W.C. Lin\*, F.H. Ho\*,  
H.J. Huang\*, W.Y. Lin\*, W.-C. Liu\*\*, T.F. Tseng\*\*\*, C.H. Li\*\*\*  
(National Taiwan University, R.O.C., \*National Chung Cheng University,  
\*\*National Taiwan Normal University, R.O.C.,  
\*\*\*Ritek Corporation, R.O.C.) ..... 32

**We-D-03**

**(16:35) Fly Height Margin of Hybrid MO and Near Field Recording**

J. Liu, H. Song, B.V.K. V. Kumar, H.-P.D. Shieh\* (Carnegie Mellon University,  
U.S.A., \*National Chiao Tung University, R.O.C.) ..... 34

**We-D-04**

**(16:55) Phase Change Mark Simulator for Ag-InSbTe Recording Material**

Y. Nishi, J. Ushiyama, H. Kando, M. Terao (Hitachi, Japan) ..... 36

**We-D-05**

**(17:15) Signal Simulation of 25GB Read Only Optical Disc System  
using a High-NA Objective Lens**

T. Yanagisawa, T. Nomoto, S. Ohsawa (Pioneer, Japan) ..... 38

**Basic Experiment(17:35-18:15)**

**Presiders : J. Tominaga (NAIR, Japan)**

**T.C. Chong (DSI, Singapore)**

**We-X-01**

**(17:35) Thermal Cross-Erase in High Data-Density Phase Change Disks**

E.R. Meinders, H.J. Borg, M.J. Dekker (Philips, Netherlands) ..... 42

**We-X-02**

**(17:55) An Implementation of Limited Multi-Level(LML) Optical Recording**

G.R. Langereis, W.M.J. Coene, A.M.J. Spruijt (Philips, Netherlands) ..... 44

**Banquet (19:00-21:00)**