International Workshop on Ternary and Multinary Compounds (IWTMC2019)

November 16, 2019
The large-room, 3rd floor, 2nd building, Tsudanuma Campus,
Chiba Institute of Technology
https://www.it-chiba.ac.jp/english/about/campuses/accessmap/

Organized by Professional Group of Multinary Compounds and Solar Cells,
Japan Society of Applied Physics http://annex.jsap.or.jp/tmc/

The purposes of the workshop are to contribute the improvement and development of technology and knowledge for the multinary compounds and compound semiconductor solar cells.

Invited speakers

1. Nazim Mamedov (Institute of Physics, Azerbaijan)
2. Su-Huai Wei (Beijing Computational Science Research Center, Chaina)
3. Shogo Ishizuka (AIST, Japan)
4. Shiro Uchida (Chiba Institute of Technology, Japan)
5. Yoshiaki Hirai (Solar Frontier, Japan)

Registration fees (JPY)
Member of the professional group: JPY 1,000, Non-member: JPY 4,000, Student: free
Discussion meeting: JPY 4,000

Local Organizing Committee:
Hideaki Araki (Nagaoka National College of Tech.)
Yong-Gu Shim (Osaka Prefecture Univ.)
Takahiro Wada (Ryukoku Univ.)
Kazuki Wakita (Chiba Institute of Tech.)
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International Workshop on Ternary and Multinary Compounds

令和元年多元系化合物・太陽電池研究会 年末講演会

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Program

10:00 - 10:15	Opening
10:15 - 10:45	Nazim Mamedov (Inst. Physics, Azerbaijan) Plasmons and Interband Optical Transitions in Narrow Gap Semiconductors with Fermi Level Outside Band-Gap
10:45 - 11:00	Makoto Ishikawa (Chiba Univ. Japan) First-principles study of defect properties in TlBr
11:00 - 11:30	Su-Huai Wei (CSRC China) Theoretical Study of Halide Perovskites for Solar Cell and Optoelectronic Applications
	(11:30 – 13:00 Lunch Break)
13:00 - 13:30	Shogo Ishizuka (AIST, Japan) Effects of alkali-metals in CIGS and related multinary compounds
13:30 - 14:00	Yoshiaki Hirai (Idemitsu Kosan Co.,Ltd. ,Japan) Recent Progress and Future Prospects of CIS-based Thin-film Solar Cell Technology – High Efficiency and New Applications
14:00 - 14:15	Ishwor Khatri (Tokyo Univ. Science, Japan) Metastable effect on heavy alkali-metal treated CIGS solar cell
14:15 - 14:45	Shiro Uchida (Chiba Inst. Tech., Japan) III-V high efficiency solar cells and their applications
	(14:45-15:00 Coffee Break)
15:00 - 17:00	Poster Presentation
17:30 - 19:30	Discussion Meeting (Salon room, 20th floor, 2nd building)

Poster Program（15:00 – 17:00）

P1　Ayaz Bayramov　(Inst. Physics, Azerbaijan)
Optical properties of surface modified Si-based multilayer structures

P2　金井 綾香　（東京理科大学）
同時蒸着法により堆積した $Cu_2(Sn,Ge)S_3$ 薄膜の異相と欠陥
Defect and secondary phase of $Cu_2(Sn,Ge)S_3$ thin films deposited by co-evaporation

P3　金 胄男　（東京理科大学）
インテリジェントグリーンハウス応用に向けた VO_2 薄膜堆積及び温度変化特性評価
Investigation of RF sputter VO_2 on the glass substrate for the intelligent green house

P4　佐々木 亮一　（東京工業大学大学院）
犠牲層を用いた CIGS 太陽電池のリフトオフ技術の開発
Development of lift-off method for CIGS solar cell using sacrificial layers

P5　雷 宇晨　（東京工業大学大学院）
$CIGS_2$/$CIGSe_2$ タンデム太陽電池のデバイス解析
Device analysis of $CIGS_2$ / $CIGSe_2$ tandem solar cell

P6　乙川 大樹　（長岡技術科学大学）
ゾルゲル硫化法を用いた Mo 基板上における $Cu_2Sn_{1-x}Ge_xS_3$ 薄膜の作製
Preparation of $Cu_2Sn_{1-x}Ge_xS_3$ thin films on Mo substrates by sol-gel sulfurization method

P7　塚目 達也　（長岡技術科学大学）
発光観測による $Cu_2Sn_{1-x}Si_xS_3$ の Cu/IV 族比依存の検討
Study on Cu/IV ratio dependence of $Cu_2Sn_{1-x}Si_xS_3$ by luminescence observation

P8　大橋 亮太　（長岡高専）
同時蒸着法を用いた Cu_2GeS_3 薄膜太陽電池の作製
Fabrication of Cu_2GeS_3 thin-film solar cells from co-evaporated films

P9　渡邉 奏汰　（長岡高専）
高温硫化を用いた Cu_2SnS_3 薄膜太陽電池の作製
Fabrication of Cu_2SnS_3 thin-films solar cells via sulfurization at high temperatures

P10　初鹿純奈　（千葉大学）
ペロブスカイト半導体の光吸収スペクトルの第一原理計算：GaAs との比較
First-principles Calculation of Photo-absorption Spectra of Perovskite Semiconductors: Comparison to GaAS

P11　椚 俊智　（山梨大学大学院）
HGF 法による臭素添加 n 型 SnS 単結晶の育成と評価
Growth and evaluation of bromine-doped n-type SnS

P12　木野 大地　（大阪府立大学大学院）

Zn 系半導体ナノ粒子の交互積層膜を用いた光学薄膜の作製と評価

Fabrication and evaluation of optical thin films prepared via layer-by-layer deposition of zinc-based semiconductor nanoparticles

P13　北野 稜汰　（大阪府立大学大学院）

サニャック干渉計を用いた層状 $TlGaSe_2$ における光誘起変形の過渡応答特性評価

Transient response characteristics of light-induced deformation in layered $TlGaSe_2$ using Sagnac interferomater

P14　パウカル ラウール　（千葉工業大学）

$TlInS_2$ における偏光フォノンスペクトルの温度依存性

Temperature dependence of polarized phonon spectra in $TlInS_2$

P15　高橋 直　（千葉工業大学）

マイクロ領域における CZTS 薄膜のラマンマッピング評価

Raman mapping evaluation of CZTS thin film in micro-meter region