IEEE Workshop on Japanese Industry Promotion

日本企業の支援促進のためのワークショップ

November 8-9, 2014

Nishi-Waseda Campus, 55 bldg. Waseda Univ.

早稲田大学 西早稲田キャンパス 55号館

organized by IEEE Japan Council and Tokyo Section supported by Waseda University IEEE 日本カウンシルおよび東京セクション 主催, 早稲田大学 協賛

November 8 11月8日(土)

10:30-17:00 Workshop 18:00-19:30 Reception

The Workshop on Japanese Industry Promotion -coordinator M. Koyama

10:30 IEEE Region 10 as Career Development for Global Leaders ~グローバルリーダー育成のための IEEE Region10
keynote speaker T.Fukuda
11:00 IEEE Japan Strategy - Enhancing Member Value and Membership Growth ~ IEEE の日本戦略の紹介 invited speaker L. Wong
guest speaker T.Aoyama
14:40 The Result of the Survey for Young Professionals and Practitioners ~日本の若手専門家と技術者へのアンケート結果報告 F.Su, J. Moesch, and M.Koyama
15:30 Panel Discussion on How IEEE Supports Young Professionals and Practitioners in Japanese Industry ~パネル討論:日本企業における若手専門家と技術者をいかに サポートするか Panelist: L.Wong, T.Tsuda, F.Su, J.Moesch, Y.Mochida, K.Ishikawa, H.Sugiura, Y.Maeda <u>Moderator: A.Nishihara</u> 18:00 Networking Reception ~ネットワーキングレセプション
. Bari





November 9 11月9日(日)

13:00-17:00 Workshop 17:30-19:00 Reception

Engineers in Industry

13:00	Message from IEEE ~ IEEE からのメッセージ Invited speaker L. Wong
13:10	Technology, Colleagues, and Wishes ~技術と仲間と志K. Nishimiya (YPs)
13:50	Privacy Friendly Technology from a Woman Engineer's View Point
_	~女性エンジニア観点のプライバシーフレンドリー技術 K. Sako (WIE)
14:30	Experiences as an Industry Engineer and my IEEE (Tentative) ~産業界での技術者生活と IEEE(仮題) H. Kuwahara (LMAG)
15:10	Reality of Standardization Activities (Tentative ~標準化世界の実像(仮題)F. Ono (Tokyo section)
16:00	Panel Discussion on How Japanese Industry and IEEE cooperate together ~パネル討論:IEEE と企業の連携強化のための提案 Panelist: L.Wong, K.Nishimiya, K.Sako, H.Kuwahara, F.Ono, F.Su Moderator: N.Noda
17:30	

region

oordinator K. Ohr



IEEE Workshop on Japanese Industry Promotion

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Message from IEEE Japan Council

Welcome to the 2014 IEEE's Industry Promotion Workshop. First of all, let us briefly describe the IEEE. IEEE is one of the largest societies in the world for engineers in the electrical, electronics, and related technology fields. It has more than 430,000 members. Two of the larger sections of the IEEE are the TA (Technical Activities) and the MGA (Member and Geographic Activities). The former is based upon the IEEE professional groups such as the computer society, the communication society, etc. The latter oversees the IEEE's global activities and organization. A region is considered the global organizational unit of the IEEE. Asian and Oceania countries including Japan belong to Region 10. The current Region 10 Director is Professor T. Fukuda who will give his talk at the beginning of this workshop. Under the regions, there are sections and councils. In Japan, we presently have 9 sections and one council. The Tokyo section is one of the largest sections in Region10. It is chaired by Professor T. Tsuda, who is one of the panelists of today's afternoon session. In the MGA, we have about 20 committees such as SAC - the Student Activities Committee, WIEC - the Women in Engineering Committee, and LMC - the Life Members Committee. SDEA - the Strategic Direction and Environmental Assessment Committee - is also one of the committees. SDEA is currently chaired by Professor L. Wong who will also give his talk this morning. Today's workshop is co-sponsored by MGA/SDEA.

Smart-phones, robots and bio-technologies are currently some of the three biggest elements in our society. These technologies are the targets of not only Japanese industries but also global enterprises worldwide, where serious competition is now under way. It is said that in order to become major players in these fields, the business model is the most important. But this model should be accompanied and endorsed by new technology. In other words, it is the new technology that enables a company to play a major role in these businesses worldwide. In this context, IEEE can contribute value and benefit its members, in particular young professionals and the members working as industry practitioners. Japanese sections together with IEEE/MGA are going to plan workshops, seminars, and various events that help Japanese young professionals and practitioners starting next year. This workshop is thus understood as the first step of IEEE Japanese Sections to help these contributions.

We welcome any comments to further stimulate and help this process.

Thank you again.

Masaki Koyama, ChairYukou Mochida, ChairIEEE Japan CouncilIndustry Promotion Committee/ IEEE Japan Council

IEEE 日本カウンシルからのメッセージ

みなさん、ようこそ日本企業の支援促進のためのワークショップへご参加頂きました。

はじめに IEEE について簡単にご説明させて頂きます。IEEE は電気、電子とそれに関係する技術 分野に関する世界最大の学会の一つで、その会員は 43 万人以上です。IEEE は TA (技術に関す る分野)と MGA(会員サービスと世界各地の活動に関する分野)に大きく分けられます。

前者は例えばコンピュータソサイエティとか通信ソサイエティになります。後者は世界の活動ですが、世界を 10 のリージョン(地域)に分けています。

日本を含めて、アジア・オセアニアの国々はリージョン 10 に属します。現在のリージョン 10 のディ レクターは福田 敏男先生で今日のワークショップの講演者のトップバッターです。

リージョンの下にはセクション(支部)とカウンシルがあります。日本には現在9つのセクションと1 つのカウンシルがあります。東京セクションはリージョン10の中で最大の会員数を誇るセクション の一つです。現在の東京セクションのチェアは津田 俊隆先生で今日午後のパネル討論に参加さ れます。

MGA には約20のコミッティがあります。例えば、SAC(学生の活動)、WIEC(女性技術者の活動)や LMC(終身会員の活動)があります。SDEA(戦略と地域アセスメントに関する活動)もその一つで、 今日午前に講演するL. Wong 先生がそのチェアです。今日のワークショップは MGA/SDEA の支援 を受けています。

現代社会の3大項目と言えば、スマートフォンとロボットとバイオ技術でしょう。

これらの項目は日本企業の主要なターゲットであるとともに世界の企業のターゲットでもあります。 ここでは、生き残るための熾烈な競争が繰り広げられております。これらの分野で主要なプレー ヤーとなるためにはビジネスモデルが重要と言われています。

しかし、このビジネスモデルには最新の技術を伴っていなければなりません。

言い換えますと、新しい技術こそ企業を世界のプレーヤーにする原動力です。

こういう意味で、IEEE は特に企業で働く若手専門家と開発技術者に貢献したいと考えております。 日本のセクションは来年以降、これらの専門家・技術者を援助するためにワークショップ、セミナ ーさらにいろいろのイベントを企画したいと考えております。

今日のワークショップはそのための第一歩とご理解下さい。

これらの専門家・技術者をさらに援助するためのいかなるコメントも歓迎です。 ご自由にお寄せ下さい。ありがとうございました。

小山 正樹、チェア	持田 侑宏, チェア
日本カウンシル	企業支援促進コミッティ/日本カウンシル

IEEE Region 10 as Career Development for Global Leaders

Toshio Fukuda

Abstract:

IEEE Members can have great and many opportunities to meet and get acquainted with new people, new things and new ways different from the conventional. There are many things going on in IEEE, so that the members can widen the knowledge and experience through the IEEE Activities for their own Career forming and also propagate your ideas and views to the world through the IEEE highway of the human networks.

Biography – Toshio Fukuda

Toshio Fukuda graduated from Waseda University, Tokyo, Japan in 1971 and received the Master of Engineering degree and the Doctor of Engineering degree both from the University of Tokyo, in 1973 and 1977, respectively. He joined the National Mechanical Engineering Laboratory in Japan in 1977, the Science University of Tokyo in 1981, and then joined Department of Mechanical Engineering, Nagoya University, Japan in 1989.



At present, he is Professor Emeritus of Nagoya University, and Professor

of Meijo University and Beijing Institute of Technology. He is mainly engaging in the research fields of intelligent robotic system, micro and nano robotics, bio-robotic system, and technical diagnosis and error recovery system.

He was the President of IEEE Robotics and Automation Society (1998-1999), Director of the IEEE Division X, Systems and Control (2001-2002), the Founding President of IEEE Nanotechnology Council (2002-2005), and is the Region 10 Director(2013-2014). He was Editor-in-Chief of IEEE/ASME Trans. Mechatronics (2000-2002) and Journal of ROBOMECH, Springer (2014-).

He was the Founding General Chairman of IEEE International Conference on Intelligent Robots and Systems (IROS) held in Tokyo (1988). He was Founding Chair of the IEEE Workshop on Advanced Robotics Technology and Social Impacts (ARSO, 2005), Founding Chair of the IEEE Workshop on System Integration Internatioal (SII, 2008), Founding Chair of the International Symposium on Micro-Nano Mechatronics and Human Science (MHS, 1990-2012).

He has received many awards such as IEEE Eugene Mittelmann Achievement Award (1997), IEEE Third Millennium Medal (2000), IEEE Robotics and Automation Pioneer Award (2004), IEEE Transaction Automation Science and Engineering Googol Best New Application Paper Award (2007), George Saridis Leadership Award in Robotics and Automation (2009), IEEE Robotics and Automation Technical Field Award (2010). He received the IROS Harashima Award for Innovative Technologies (2011), IEEE Fellow (1995), SICE Fellow (1995), JSME Fellow (2002), RSJ Fellow (2004), VRSJ Fellow (2011) and a member of Science Council of Japan (2008-2014). He is a member of the Japan Academy of Engineering (2013-).

IEEE Japan Strategy - Enhancing Member Value and Membership Growth

Lawrence Wai-Choong WONG

Synopsis:

This presentation will provide an overview of IEEE's strategy for Japan. It covers background information about IEEE, in general, and IEEE Japan specifically. The specific priorities and the initiatives that have been identified through a methodical process will be elaborated on. The discourse is intended to stimulate engaging interactions and sharing at this workshop, with the aim of stimulating and catalysing a host of programs and activities that will enhance IEEE member value and membership growth in Japan.

Biography – Lawrence Wai-Choong WONG

Lawrence W.C. Wong is Professor in the Department of Electrical and Computer Engineering, National University of Singapore (NUS). He is also Deputy Director at the Interactive and Digital Media Institute (IDMI) in NUS. He was previously Executive Director of the Institute for Infocomm Research (I²R) from Nov 2002 - Nov 2006. Since joining NUS in 1983, he served in various positions at the department, faculty and university levels, including Head of the Department of Electrical and Computer Engineering from Jan 2008 – Oct 2009, Director of the NUS Computer Centre from Jul 2000 - Nov 2002, and



Director of the Centre for Instructional Technology from Jan 1998 - Jun 2000. Prior to joining NUS in 1983, he was a Member of Technical Staff at AT&T Bell Laboratories, Crawford Hill Lab, NJ, USA, from 1980 to 1983.

He received the B.Sc. and Ph.D. degrees in Electronic and Electrical Engineering from Loughborough University, UK. His research interests include wireless and sensor networks and systems, ambient intelligent platforms, multimedia networks, localization and source matched transmission techniques with over 270 publications and 5 patents in these areas. He is an active IEEE volunteer and has held several volunteer leadership positions including IEEE Singapore Computer Society Chapter Chair (1987-1989), IEEE Singapore Section Chair (1993-1996), IEEE Region 10 Director (2011-2012), and IEEE Member & Geographic Activities Vice-Chair for Strategic Management and Analysis.

Looking back on my IEEE Activities — For encouraging young Japanese engineers to be active in IEEE —

Tomonori Aoyama

Abstract:

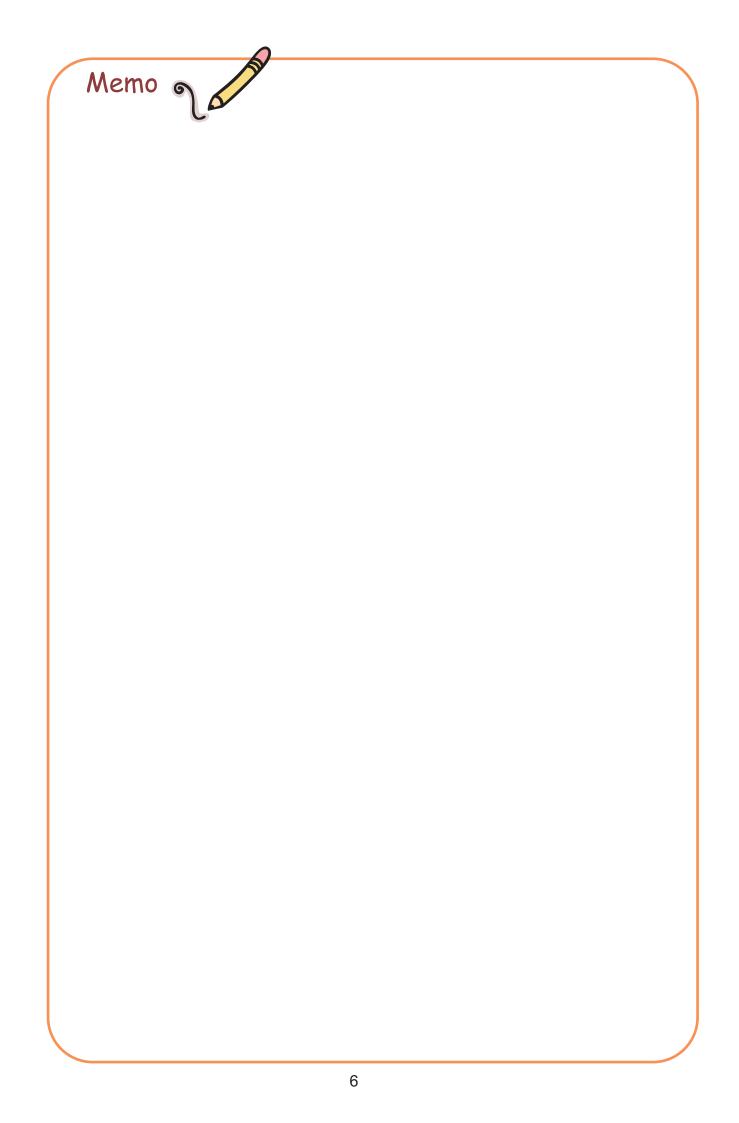
The number of IEEE members in the world is increasing beyond 400 thousands, and the number of Japanese members has not been decreasing different from Japanese domestic institutes. It is noted, however that the population of young generation is decreasing rapidly in Japan so that IEEE member in Japan will be decreasing from now on. In addition, engineers in industry are leaving from IEEE, and non-members of IEEE won't join IEEE. In this presentation, one example of the IEEE activity by the speaker is shown in order to encourage young engineers to be active worldwide in IEEE.

Biography – Tomonori Aoyama

Tomonori Aoyama received the B.E., M.E. and Dr. Eng. from the University of Tokyo, Japan_o Since he joined NTT in 1969, he has been engaged in research and development on communication networks and systems in the Electrical Communication Laboratories. From 1973 to 1974, he stayed in MIT as a visiting scientist. In 1995 he was appointed to be Director of the NTT Optical Network Systems Laboratories. In 1997, he left NTT, and joined the University of Tokyo as a professor and in April 2006, he moved to Keio University as a processor. He is now Visiting Professor of Faculty of Science and Technology, Keio University.



Dr. Aoyama is Emeritus Professor of the University of Tokyo, and served as a member of the Science Council of Japan for 6 years. He is IEEE Life Fellow and served as IEEE Tokyo Section Chair. He also served as President of IEICE (Institute of Electronics, Information and Communication Engineers) previously and is now IEICE Fellow. He received several awards from Japanese Ministries, some Japanese organizations, IEICE and IEEE.



Technology, Colleagues, and Wishes

Kojiro Nishimiya

Biography – Kojiro Nishimiya

Kojiro Nishimiya received the Bachelor degree of "Physics" from Gakushuin University. After that he moved to the University of Tsukuba and received the Master and Doctoral degrees of "Engineering" from the University. He researched the wave propagation



visualization method for the ultrasound and also researched the acoustic characteristics of the elastic waves propagated in the layered structure. Also he was adopted as the Research Fellowship for Young Scientists (DC2) of "Japan Society for the Promotion of Science" from 2009 to 2011. After the graduation of the University of Tsukuba, he joined Schlumberger Kabushiki Kaisha as a physicist in 2011.

He joined IEEE Tokyo Young Researchers Workshop from 2008 and he served as the chair of the workshop in 2010. Also he joined IEEE Tokyo Young Professionals (Formerly GOLD) affinity group executive committee and now he is serving as the secretary from 2013.

Privacy Friendly Technology from a Woman Engineer's View Point

Kazue Sako

Biography – Kazue Sako

Kazue Sako is a Senior Engineer at NEC. She received B.S. degree in Science (Mathematics) and Ph. D degree in Technology from Kyoto University. Her interest lies in how cryptographic protocols serves to make real life better. Some examples are fair lottery systems, sealed-bid auction systems, on-line secret voting systems, and anonymous authentication schemes. She served as an editor of ISO/IEC standards related to anonymous authentication technology, namely ISO/IEC 29191 and 20008-2. She is currently interested in how privacy of individuals can be improved in this network-based society, and trying to promote the idea of personal clouds and personal data ecosystem for privacy friendly world as Respect Network Security Architect.

NECクラウドシステム研究所技術主幹。京都大学理学部(数学)卒業。工博。電子投票システム、 電子抽選システム、電子入札システムなどの暗号プロトコル研究や、ISO における匿名認証方式 の標準化経験を経て、現在は、プライバシー保護やパーソナルデータエコシステムの研究開発に 従事。Respect Network Security Architect。

Evention and an Inductory Engineer and my IEEE

Experiences as an Industry Engineer and my IEEE

Hideo Kuwahara

Biography – Hideo Kuwahara

- 現職: (株)富士通研究所 フェロー
- 学歴: 1972 年 4 月 東京大学 工学部 電子工学科卒業
 - 1974年3月 東京大学工学系研究科電子工学専攻修士課程修了
 - 1984 年 9 月 東京大学 工学博士
- 職歴: 1974 年 富士通株式会社入社。(株)富士通研究所において光通信の研究開発に従事し、半導体レ ーザ, コヒ−レント光通信, 光増幅, 10Gb/s システム, 波長多重伝送, 等の研究開発に従事。
 - 1991年(株)富士通研究所光システム研究部長
 - 1998年(株)富士通研究所ネットワークシステム研究所主席研究員
 - 2004 年 (株)富士通研究所取締役 兼ネットワークシステム研究所 副所長
 - 2005 年 (株)富士通研究所取締役 兼フォトニックネットワーク研究所 所長
 - 2006 年 (株)富士通研究所フェロー
- IEEE 関連: IEEE Fellow (2006), IEEE Life Fellow (2014),
 - •IEEE Honorary Membership Committee (2008-2010)
 - •IEEE Prize Papers/Scholarship Awards Committee (2009-2012)
 - •IEEE Photonic Society (旧 LEOS): Board of Governors (2006-8), President (2012-13),
 - Past-President (2014-5)
 - •IEEE Photonics Society Japan Chapter; Vice Chair (2010), Chair (2011)
 - •IEEE Future Directions Committee (2013-)
 - •IEEE Fellow Committee (2013-14)
 - •IEEE Industry Engagement Ad-Hoc Committee (2014)
- 受賞: 1990年(財)光産業技術振興協会 櫻井健二郎氏記念賞(コヒーレント光通信)
 - 1998 年 (社)電子情報通信学会 業績賞 (テラビット光伝送)

Reality of Standardization Activities

Fumitaka Ono

Biography – Fumitaka Ono

He has received BE, ME and Ph.D. from the University of Tokyo respectively. He was working with Mitsubishi Electric Corp. from 1973 to 2000 and was Professor of Tokyo Polytechnic University from 2000 to 2014. He is currently Professor Emeritus of TPU.

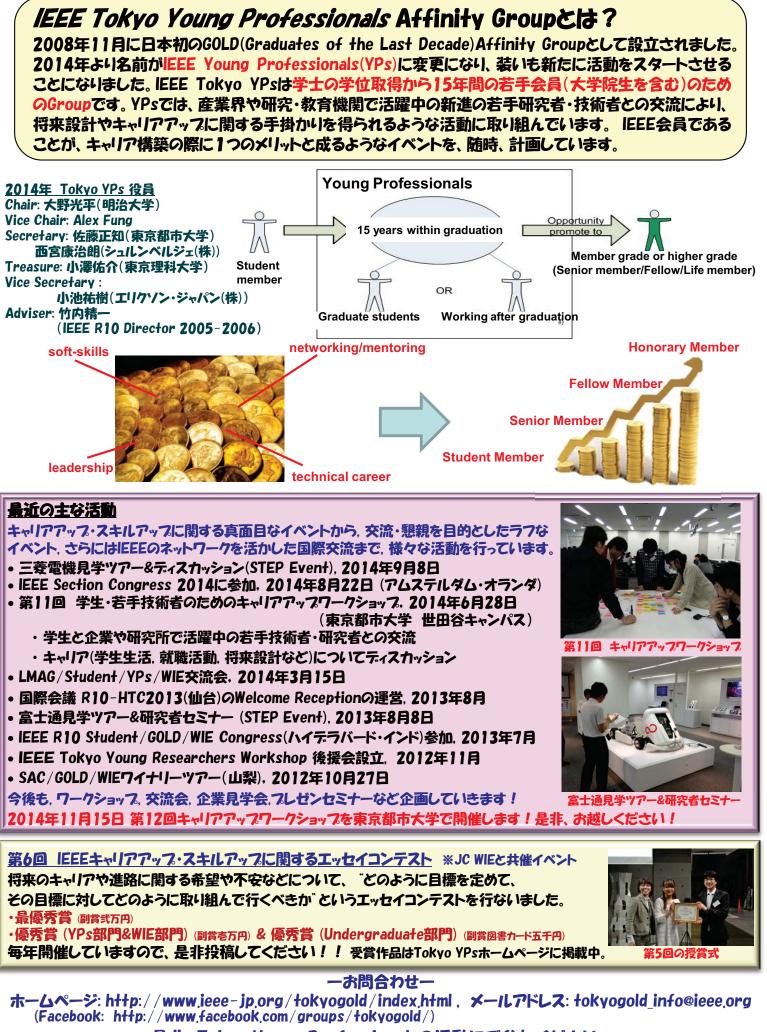
 \cdot His interested area covers image processing, image coding and entropy coding. He is Fellow of IEEE, Fellow of IEICE and Fellow of IIEEJ.

 \cdot He has been engaged in the international standardization work since 1985, and is currently ISO/IEC JTC 1/SC29/WG1 JBIG Rapporteur.

 \cdot He has received many awards including the Award from Ministry of Education and Science, and the Award from Ministry of Industry

and Trade, for distinguished achievements on image coding and the contribution for standardization activities, respectively.





是非、Tokyo Young Professionalsの活動にご参加ください。



IEEE JC WIE



IEEE Japan Council Women in Engineering Affinity Group

WIE (Women in Engineering) とは?

IEEE(*)内のグループの1つで、テクノロジー分野で活躍する 女性技術者・研究者の自立と連携を支援しているグループです。 私たち(IEEE JC WIE)はその日本支部です。 ▶女性技術者・研究者の連携を支援 日本は諸外国に比べて、女性の技術職・研究職の数が 少ないのが現状です。 ▶技術職・研究職を推奨、キャリア形成・継続を支援 多様なライフイベントを持つ女性が、それぞれのライフス 女性が拓く未来のテクノロジ テージに応じて、柔軟に長く仕事を続けていける職種の1 ~Women In Engineering 2014~ つとして推奨し、支援しています。 2014/07/05 @東京女子大学 IEEE WIEの会員になるには? (*)IEEE(アイ・トリプルイー)とは? To join WIE, please visit: 160カ国 40万人余の会員から構成される世界最大規模のテク http://www.ieee.org/web/membership/women/ ノロジー分野の国際的学会です。IEEEの会員は、新たな技術 革新、国際的標準となる規格の制定、そして国を超えた技術 IEEE学生会員は、無料でWIEメンバーになることができます。 者・研究者のコミュニティ形成に携わっています。 ぜひ一緒に活動しましょう! WIEの活動(講演会、パネルディスカッション、懇親会など) >グローバルな観点での活動を展開し、日本の女性技術者・研究者の育成・支援に貢献 ✓国内外のロールモデルの紹介 ✓技術職・研究職の社会認知の推進 ✓女性技術者・研究者のネットワーク構築 ✓会員拡大、および会員間の情報共有支援 大学等との連携 ✓科学技術振興機構「女性研究者支援モデル育成プログラム」活動 ✓北海道大学、お茶の水女子大学、名古屋大学、津田塾大学、中央大学なる と協力してイベントを実施 > 各種学協会・関連団体との連携 ✓ IEEE Tokyo Young Professionals Affinity Groupとの共催イベント ✓情報処理学会との共催イベント

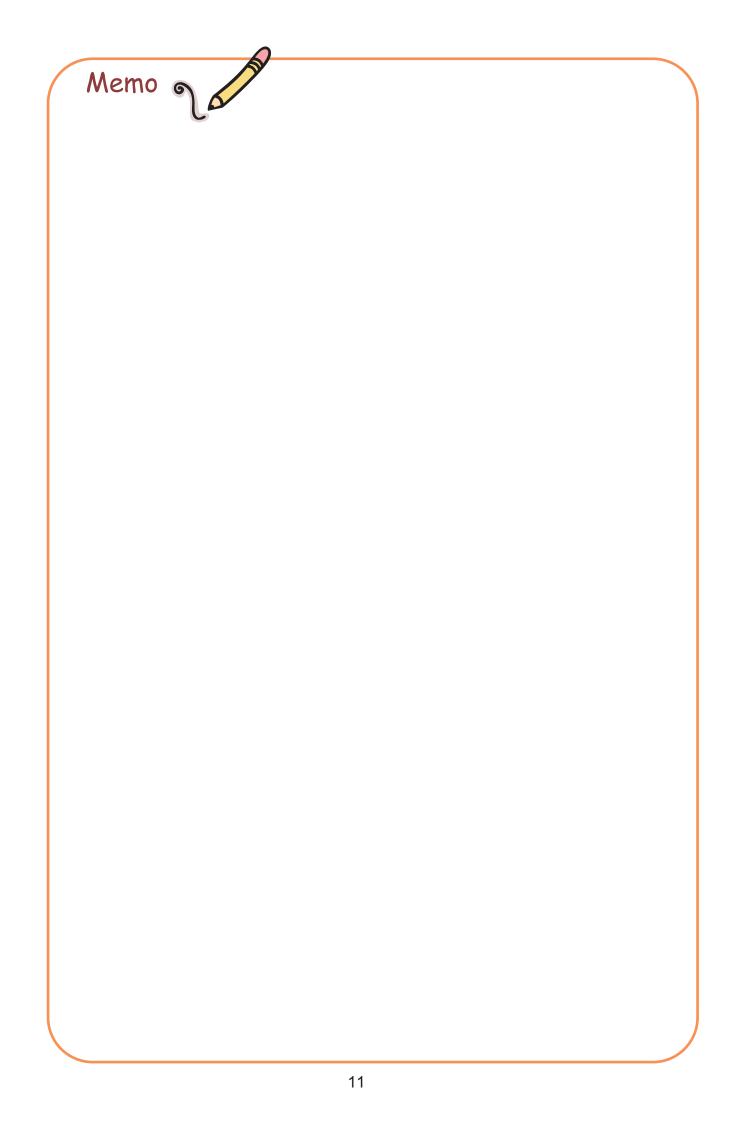
IEEE JC WIE 径	没員 2014			
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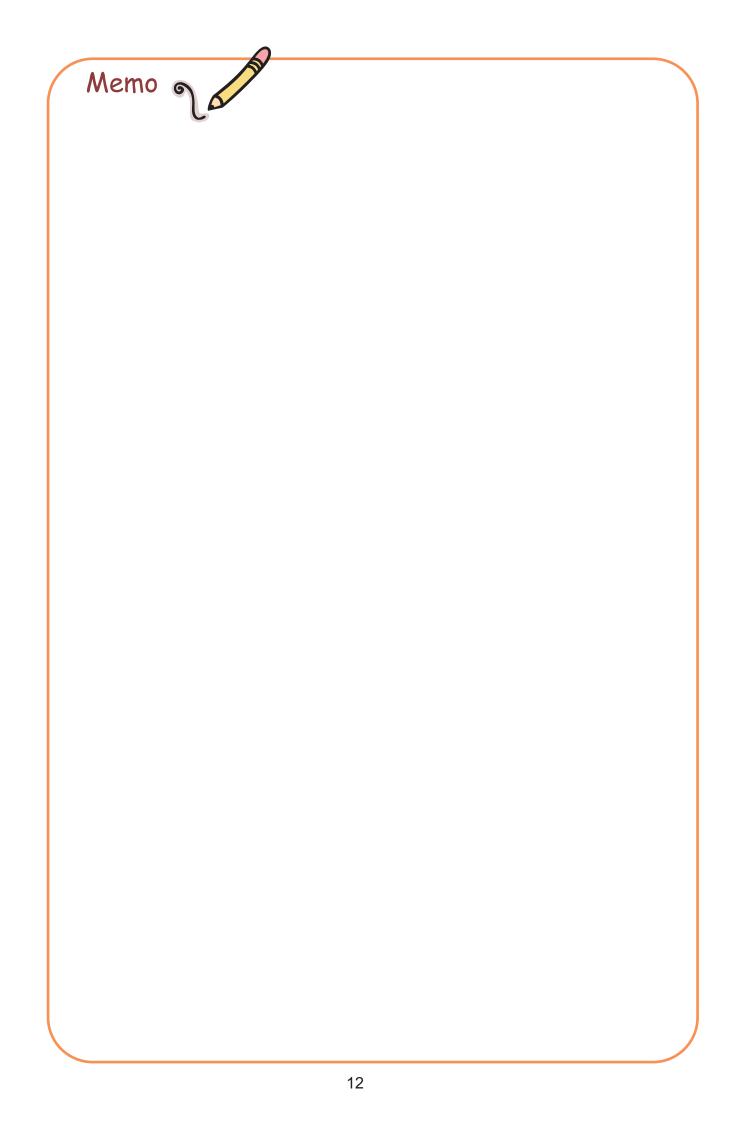
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11/9(日)の早稲田キャンパスMap(会場アクセス)



