



*Global Coordination of Research and Health Policy
on RF Electromagnetic Fields*

1997

Celebrating 20 Years

2017

Overview of GLORE 2017

November 30-December 1, 2017

FCC Headquarters, Washington, DC, USA

Martin Doczkat

Technical Analysis Branch Chief

Office of Engineering & Technology

Federal Communications Commission

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The opinions expressed are my own, and do not necessarily reflect the views of GLORE, or the FCC, or any of its Commissioners.

History of GLORE

- 1997 The 1st bilateral meeting on RF safety between Japan and Korea authorities of RF regulation and scientific experts was held in Tokyo.
- 1998 The 2nd meeting was held in Seoul.
- 1999 The 3rd meeting with newly participation from EU was held in Tokyo.
- 2000 The 4th meeting with newly participation from USA was held in Seoul.
- Since 2000, the meetings were held every year with organization by core countries; Japan, Korea, EU, USA and Australia.

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Source: GLORE 2016 Welcome Address, Watanabe, Katsuya (MIC, Japan), Yokohama, Japan (2016).

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Attendees of GLORE

- Governmental authorities on RF safety.
- Scientific experts registered by the governmental authorities.
- Invited attendees from international bodies:
e.g., WHO, IARC, ICNIRP
- Participant countries over the last 20 years:
Japan, Korea, EU, USA, Australia, New Zealand,
Canada, South Africa, China, Taiwan, Peru,...

Source: GLORE 2016 Welcome Address, Watanabe, Katsuya (MIC, Japan), Yokohama, Japan (2016).

Characteristics of GLORE

- GLORE has been organized by governmental authorities of RF regulation, e.g., MIC in Japan, KCC in Korea, DG-Sante in EU, FCC in USA and ARPANSA in Australia, and researchers from GLORE member states.
 - IAC of WHO/EMF Project consists of governmental authorities of health, i.e., different officials from GLORE attendees.
- The 1st day of the meeting is usually opened for interested peoples. On the other hand, the 2nd day of the meeting is closed in order to discuss more political/critical issues.

Source: GLORE 2016 Welcome Address, Watanabe, Katsuya (MIC, Japan), Yokohama, Japan (2016).

GLORE 2017 Statistics

- Approximately 50 registered participants
 - USA: 20
 - Japan: 14
 - Korea: 10
 - Thailand: 2
 - Canada: 2
 - Europe: 2
 - Australia: 2
- About evenly split between government/policy & academia/research

GLORE 2017: Day 1 (Open) Morning

THURSDAY, NOVEMBER 30 – FCC Commission Meeting Room – Open Meeting		
09:00	Registration	
09:15	Welcome Introduction of Delegates and Invitees Approval of Agenda	M Doczkat, FCC, USA
09:45 – SESSION 1A – Standards Activity		Moderator: J Lin
	IEEE-ICES Standards Update ICNIRP Standards Update WHO Standards Update	C-K Chou, IEEE-ICES, USA R Croft, ICNIRP, Australia E Van Deventer, WHO, Switzerland
11:15 – Break		
11:30 – SESSION 1B – Exposure Regulations and Policies		Moderator: M Wyde
	Recent Policies in USA Recent Policies in Japan Recent Policies in Korea ELF Risk Communications Policies in Korea	E Mantiply, FCC, USA Y Sekiguchi, MIC, Japan DG Choi, RRA, Korea S Lee, KEPKO, Korea

GLORE 2017: Day 1 (Open) Afternoon

14:00 – SESSION 2A – Wireless Power Transfer		Moderator: D Kassiday	
Equipment Authorization		K Chan, FCC, USA	
Exposure assessment of WPT systems		K Wake, NICT, Japan	
EMF in Vehicular Wireless Charging		S Ahn, KAIST, Korea	
15:00 – Break			
15:15 – SESSION 2B – Regulatory Activities		Moderator: K Chan	
Update of EU Standard & RED Directive		J Wiart, Telecom ParisTech, France	
Safety Code 6 Rationale		J McNamee, Health Canada	
Recent Policies in Canada		J Gallant, ISED, Canada	
16:15 – Break			
16:30 – SESSION 2C – Recent Research Projects		Moderator: JK Pack	
Research in Japan		C Ohkubo, Japan EMF Information Center	
Research in Korea		N Kim, Chungbuk National University, Korea	
J-K Mobi-Kids Assessment of Mobile Phone		A Lee, ETRI, Korea	
Research in Europe		J Wiart, Telecom ParisTech, France ⁸	

GLORE 2017: Day 2 (Closed) Morning

FRIDAY, DECEMBER 1 – FCC Commission Meeting Room – Closed Meeting

09:00 – SESSION 3A – Progress in 4G & Millimeter-Wave Assessment		Moderator: A Hirata
Equipment Authorization	M Doczkat, FCC, USA	
EMF Measurements on LTE Base Station	W Kang, KCA, Korea	
5G in Japan	A Hirata, Nagoya Institute of Technology	
Fundamental Heat Transfer Considerations and RF Safety Standards	K Foster, University of Pennsylvania, USA	
11:00 – Break		
11:15 – SESSION 3B – Progress in 4G & Millimeter-Wave Assessment		Moderator: A Hirata
Panel Discussion: Biological Effects (Eye/Skin), Exposure Metrics, Standards and Policy	Exchange of Opinions with Floor	
Open Discussion		
12:15 – Break		
12:30 – SESSION 4A – DARPA RadioBio Program		Moderator: E Mantiply
Overview of DARPA’s RadioBio Program	M Fiddy, DARPA, USA	

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GLORE 2017: Day 2 (Closed) Afternoon

14:00 – SESSION 4B – Recent Research Projects		Moderator: N Kim
NTP Rodent Study Update Research in Japan Potential Weak Magnetic Field Effects on ROS EMF from 915 MHz RFID on Rat Brain		M Wyde, NIEHS, USA K Imaida, Kagawa University, Japan F Barnes, University of Colorado, USA Y Ahn, Ajou University School of Medicine, Korea
16:00 – Break		
16:15 – Salutory Remarks		J Knapp, Chief OET, FCC, USA
16:30 – SESSION 4C – Exposure Systems		Moderator: C Ohkubo
NTP Study Japan Study		N Kuster, IT'IS Foundation, Switzerland A Ushiyama, National Institute of Public Health & J Chakarothai, NICT, Japan
17:10 – SESSION 4D – Open Session		Moderator: M Doczkat
Open Discussion		Exchange of Opinions with Floor
17:30	Next Meeting Other Business	

Summary of GLORE 2017

- Format and substance of each GLORE meeting changes
 - Sometimes more open discussion, sometimes focus on individual projects
- Latest research was presented and discussed
 - Lots of new insight on dosimetry and heating
 - Focus on new technologies, millimeter waves, and wireless power
- Overall impressions were that EMF research is a global endeavor
 - Most interest in US projects – i.e., NTP and DARPA
- Next meeting GLORE 2018 will be in Paris
 - GLORE 2019 will probably be in Australia
 - Typically November/December timeframe