

# Agenda

## 5<sup>th</sup> IFMIF/EVEDA Workshop November 26<sup>th</sup> – 30<sup>th</sup> 2012

### ENEA/INFN ( Bologna/Legnaro/Brasimone) Italy

1 <sup>st</sup> Monday Bologna Municipality Building	<b>Public Session</b>	<b>Plenary Session</b>		<b>Plenary Session</b>	
	9:00 11:00	11:30 13:00	13:00 14:00	14:00 – 15:30	15:30 18:00
	Official Presentations	<b>IIEDR*</b>	Lunch	<b>IIEDR*</b>	<b>Conventional and PIE Facility</b>
2 <sup>nd</sup> Tuesday Legnaro	<b>Plenary Session</b>			<b>Parallel Sessions</b>	
	9:00 12:30		12:30 14:00	15:30 18:40	
	<b>LIPAc</b>		Lunch 14:00 15:30 Visit of Facilities	<b>AF</b>	<b>Test Facility</b>
3 <sup>rd</sup> Wednesday Bologna	<b>Plenary Session</b>			<b>Parallel Sessions</b>	
	9:00 12:30		12:30 14:00	14:00	14:00 -17:40
	<b>Test Facility</b>		<b>Lunch</b>	<b>LIPAc</b>	<b>Interfaces around Test Facility</b>
4 <sup>th</sup> Thursday ENEA Brasimone	<b>Plenary Session</b>			<b>Parallel Sessions</b>	
	9:00 12:30		12:30 14:00	15:30 18:30	
	<b>Lithium Facility</b>		Lunch 14:00 15:30 Visit of Facilities	<b>LIPAc</b>	<b>Test Facility</b>
5 <sup>th</sup> Friday Bologna	<b>Plenary session</b>			<b>TCM</b>	
	9:00 12:30		12:30 14:00	14:00	14:00 16:00
	<b>Summary of the workshop</b>		<b>Lunch</b>	<b>Adjourn</b>	<b>Closed Session</b>

\* IFMIF Intermediate Engineering Design Report

**Monday 26th November 2012**

**Location: Municipality Building of Bologna**

<b>Official Presentation 09:00 – 11:00 (Room: Sala Farnese)</b>			
<b>(Chair A. Aiello)</b>			
<b>09:00-09:05</b>	Welcome	<b>V. Merola</b>	Mayor of Bologna (TBC)
<b>09:05-09:15</b>		<b>A. Zoccoli</b>	Member of the INFN Executive Board
<b>09:15-09:25</b>		<b>P. Agostini</b>	UTIS ENEA
<b>09:25-09:45</b>	Commitments in Fusion by ENEA-Brasimone	<b>P. Agostini</b>	UTIS ENEA
<b>09:45-10:05</b>	Italian Fusion Program	<b>A. Pizzuto</b>	UTFUS ENEA
<b>10:05-10:25</b>	INFN experience and commitments in ion linear accelerators	<b>A. Facco</b>	INFN Legnaro
<b>10:25-10:45</b>	The Importance of IFMIF for Fusion Power Plants	<b>A. Moeslang</b>	IFMIF PC Member KIT
<b>10:45-11:00</b>	Introduction to the Workshop	<b>J. Knaster</b>	IFMIF Project Leader
<b>11:00-11:30</b>	<i>Coffee break</i>		

<b>Plenary Session IIEDR, 11:30 – 13:00 ( Room: Sala Farnese )</b>			
<b>Topic: PDR of the IFMIF Intermediate Engineering Design Report</b>			
<b>( Chair: R. Heidinger)</b>			
<b>11:30 - 11:50</b>	Overview of IIEDR Report Phase II and Phase III	<b>A. Ibarra / H. Matsumoto</b>	
<b>11:50-12:10</b>	Summary of IFMIF Requirements and Specifications (Chapter I of IIEDR)	<b>H. Matsumoto</b>	
<b>12:10-12:35</b>	Plant Configuration	<b>H. Takeuchi/M. Mittwollen</b>	
<b>12:35-13:00</b>	Plant Layout	<b>M. Shingala</b>	
<b>13:00-14:00</b>	<i>Lunch</i>		

<b>Plenary section: IIEDR, 14:00 – 15:30 ( Room: Sala Farnese )</b> Topic: PDR of the IFMIF Intermediate Engineering Design Report ( Chair: F. S. Nitti )		
14:00-14:20	Operation Scenarios, Plant States and Maintenance Plan	J. Molla Lorente
14:20-14:35	RH Operations	G. Miccichè
14:35-14:55	Safety Studies – Overview	P. Diaz Arocas
14:55 - 15:15	RAMI Studies	J.M. Arroyo Macias
15:15-15:30	Costs – Overview	M. Perez Lopez

<b>Plenary Session: 15:30-18:00 ( Room Farnese)</b> Topics: Conventional Facility, PIE Facility ( Chair: M. Sugimoto)		
15:30-16:30	<b>HVAC, Electrical Power System,</b> Heat Rejection System, Service Water/Gas System	G. Pruneri
16:30 - 17:30	<b>Exhaust Gas Processing System, Liquid Waste Treatment System,</b> Solid Waste Treatment System, Fire Protection System	M. Soldaini
17:30-18:00	PIE Facility Systems	E. Wakai

**Tuesday 27<sup>th</sup> November 2012**  
**Location: INFN Legnaro**

<b>Plenary Session: 9:00 - 12:30 (Room : Sala Villi)</b> Topic: LIPAc ( Chair: A. Mosnier)		
<b>09:00-9:10</b>	Welcome to LNL	<b>G. Puglierin</b>
<b>09:10 -0 9:30</b>	Installation & Commissioning plan	<b>J. Knaster</b>
<b>09:30 -0 9:50</b>	Preparation of Radioprotection Licensing for LIPAc	<b>M.Sugimoto</b>
<b>09:50 - 10:10</b>	Status of LIPAc components	<b>A. Mosnier</b>
<b>10:10 - 10:30</b>	Injector commissioning	<b>N. Chauvin</b>
<i>10:30 10:50</i>	<i>Coffee break</i>	
<b>10:50 - 11:10</b>	RFQ Construction	<b>A. Pepato</b>
<b>11:10 - 11:30</b>	SRF Linac	<b>F. Orsini</b>
<b>11:30 - 11:50</b>	Solid state power amplifier for LIPAc and IFMIF	<b>M. Weber / E. Bargallo</b>
<b>11:50 - 12:30</b>	Discussion and Conclusions	<b>All</b>
<i>12:30-14:00</i>	<i>Lunch</i>	

<b>Parallel Sessions: Accelerator Facility, 15:30 - 18:40 ( Room:Sala Villi)</b> Topic: Accelerator Facility Engineering Design (Chair: A. Ibarra)		
<b>15:30 - 15:50</b>	IFMIF AF overview	<b>M. Weber</b>
<b>15:50 - 16:10</b>	IFMIF Beam dynamics	<b>P. Nigm</b>
<b>16:10 - 16:30</b>	IFMIF HEBT & Beam Dump	<b>P.Y. Beauvais</b>
<i>16:30 17:00</i>	<i>Coffee Break</i>	
<b>17:00 - 17:25</b>	IFMIF RF System	<b>M. Weber</b>
<b>17:25 - 17:50</b>	AF Safety	<b>P.Diaz Arocas/F. Ogando /JC. Mora</b>
<b>17:50 - 18:15</b>	AF RAMI	<b>E. Bargallo</b>
<b>18:15- 18:40</b>	Discussion and Conclusions	<b>All/A. Ibarra</b>
<b>18:40</b>	Adjour	

<b>Parallel session: Test Facility, 15:30 - 18:30 ( Room: Sala Nuova)</b> <i>Topic: Validation activities of the Test Facility</i> <b>( Chair: M. Yamamoto)</b>		
<b>15:30 - 15:40</b>	Overview of validation test of Test Modules	<b>M. Yamamoto</b>
<b>15:40 - 16:00</b>	Single compartment experiments results for HFTM-Vertical Double compartment test plan for HFTM-Vertical HFTM Prototype construction and test lan for HFTM-Vertical	<b>F. Arbeiter</b>
<b>16:00 - 16:20</b>	Experimental Validation test plan and results for HFTM-Horizontal Integrated Heater Module Validation test plan and results for HFTM-Horizontal	<b>T. Yokomine</b>
<b>16:20 - 16:40</b>	Advanced NaK Filling Process for HFTM-V capsule	<b>F. Arbeiter and P. Jacquet</b>
<b>16:40- 16:55</b>	BR2 Irradiation Test Status and Irradiation plan	<b>P. Jacquet</b>
<b>16:55 - 17:15</b>	Coffee Break	
<b>17:15 - 17:35</b>	Single test machine Validation Results of CFTM	<b>J. Theile</b>
<b>17:35 - 17:45</b>	Validation plan and Results of C-FOS for STUMM	<b>P. Gouat</b>
<b>17:45 – 17:55</b>	Validation plan and Results of Fission Chamber	<b>A .Garcia</b>
<b>17:55- 18:15</b>	Discussion	<b>All</b>
<b>18:15- 18:30</b>	Conclusions	<b>M. Yamamoto</b>
<b>18:30</b>	Adjourn	

<b>Parallel session: Lithium Target Facility, 15:30-18:40 (Room: Sala Rostagni)</b> Topic: Validation Activities of the LF ( LiFus 6 and Remote Handling) (Chair: <b>D. Bernardi</b> )		
<b>15:30 - 15:35</b>	Introduction to session	<b>D. Bernardi</b>
<b>15:35 -15:55</b>	Lifus 6 design and erosion/corrosion experimental program	<b>A. Aiello</b>
<b>15:55 - 16:15</b>	Purification system in LF04-JA	<b>K. Watanabe</b>
<b>16:15 – 16:35</b>	Purification system in LiFus6	<b>P. Favuzza</b>
<b>16:35- 16:50</b>	Coffee break	
<b>16:50-17:10</b>	Li safety handling and Li chemical analysis	<b>T. Furukawa</b>
<b>17:10-17:30</b>	RH validation plan for bayonet TA system and validation tests for the EU TA	<b>G. Miccichè</b>
<b>17:30-17:50</b>	Remote handling validation in LF05-JA	<b>H. Kimura</b>
<b>17:50-18:10</b>	Design support: Neutronic calculations for LF	<b>M. Frisoni</b>
<b>18:10-18:30</b>	Discussion	<b>All</b>
<b>18:30-18:40</b>	Conclusions	<b>D. Bernardi</b>

**Wednesday 28<sup>th</sup> November 2012**  
**Location: CNR Area of Bologna**

<b>Plenary Session: Test Facility, 9:00 - 12:30 (Room: 215)</b> Topic: Engineering Design of Test Facility (Chair: V. Massaut)		
<b>09:00 - 09:30</b>	Engineering design of the TC and integration, boundary , interaction, safety	<b>K. Tian</b>
<b>09:30 - 09:50</b>	Test Facility RH System	<b>A. Garcia</b>
<b>09:50 - 10:05</b>	RH equipment in AC and RH processes	<b>A. Garcia</b>
<i>10:05 - 10:25</i>	<i>Coffee Break</i>	
<b>10:25 - 10:45</b>	Engineering design of AC and TMHCs	<b>M. Mittwollen</b>
<b>10:45 - 11:00</b>	Neutronics in TC	<b>K. Kondo</b>
<b>11:00 - 11:15</b>	Neutronics in AC, TMHCs	<b>K. Kondo</b>
<b>11:15 - 11:25</b>	Neutronics in HEBT line	<b>K. Kondo</b>
<b>11:25 - 11:35</b>	Neutronics in HEBT line	<b>F. Ogando</b>
<b>11:35 - 11:55</b>	RAMI on TF	<b>J. Abal</b>
<b>11:55 - 12:05</b>	TF Utility Rooms	<b>F. Arbeiter</b>
<b>12:05 - 12:30</b>	Discussion	<b>All</b>
<i>12:30 - 14:00</i>	<i>Lunch</i>	

<b>Parallel Session 14:00- 18:00 (Room:215)</b> Topic: LIPAc ( Chair: J. Molla )		
<b>Injector</b>		
<b>14:00 - 14:25</b>	Injector delivery preparation and assembly procedure	<b>R. Gobin</b>
<b>14:25 - 14:50</b>	Safety related issues of Injector commissioning	<b>A. Mosnier</b>
<b>14:50 - 15:15</b>	Input beam requirements for the RFQ	<b>A. Pisent/M. Comunian</b>
<b>15:15 - 15:40</b>	Interfaces for integration on site	<b>G. Pruneri</b>
<b>15:40-16:00</b>	<i>Coffee Break</i>	
<b>RFQ power tests</b>		
<b>16:00 - 16:25</b>	RFQ powering preparation activities in Legnaro	<b>A. Pisent</b>
<b>16:25 - 16:50</b>	RFQ couplers project plan and power tests at JAEA/Tokai and INFN/Legnaro	<b>S. Maebara</b>
<b>16:50 - 17:15</b>	RFQ Power tests: Integration work and test plans	<b>E. Fagotti</b>
<b>RF structure development</b>		
<b>17:15 - 17:40</b>	Buncher cavities: design and construction	<b>F. Toral / J. Molla</b>
<b>Status of LIPAc mockup</b>		
<b>17:15 - 17:40</b>	Accelerator mockup status	<b>D. Gex</b>
<b>17:40 - 18:00</b>	Building mockup and synthesis	<b>G. Pruneri</b>



<b>Parallel session: Engineering Design of TF and LF, 14:00 - 17:40 (Room: 214)</b> Topic: Interfaces around the TF ( Chair: V. Heinzl)		
<b>14:00 - 14:05</b>	Introduction to session	<b>V. Heinzl</b>
<b>14:05-14:25</b>	TC design details and issues, information needed for the TC design	<b>K. Tian</b>
<b>14:25-14:40</b>	Interface design LF (pipe plugs, beam duct plugs, support structure,)	<b>M. Ida</b>
<b>14:40-14:55</b>	Interface design LF (support structure, ..)	<b>D. Bernardi</b>
<b>14:55-15:10</b>	Conclusions	<b>V. Heinzl</b>
<b>15:10-15:25</b>	TC, AC integration issues	<b>K. Tian</b>
<b>15:25-15:40</b>	Building Interface options	<b>M. Shigala</b>
<b>15:40-15:55</b>	Discussion and conclusions	<b>All/V. Heinzl</b>
<b>15:55-16:10</b>	<i>Coffee break</i>	
<b>16:10-16:25</b>	AC/TMHC design and maintenance issues (work flow and timing)	<b>M. Mittwollen)</b>
<b>16:25-16:45</b>	LF maintenance process & integration of the RHE for the TA with the RHE in the AC	<b>G. Micciché</b>
<b>16:45-17:00</b>	LF maintenance process	<b>M. Ida</b>
<b>17:00-17:20</b>	Discussion and Conclusions	<b>All/V. Heinzl</b>
<b>17:20-17:40</b>	General Discussion and Conclusions	<b>All/V. Heinzl</b>

**Thursday 29<sup>th</sup> November 2012**  
**Location: ENEA Brasimone**

<b>Plenary Session: Lithium Target Facility, 9:00 - 12:30 ( Room: Aula Magna Villa Ruggeri)</b> Topic: Engineering Design of Lithium Target Facility (Chair: F. Groeschel)		
<b>09:00 - 09:05</b>	Introduction to session	<b>F. Groeschel</b>
<b>09:05 - 09:25</b>	Overview of LF Design	<b>E. Wakai</b>
<b>09:25 - 09:50</b>	JAEA TA and RH	<b>K. Watanabe</b>
<b>09:50 - 10:10</b>	ENEA TA Design	<b>D. Bernardi</b>
<b>10:10 - 10:30</b>	RH handling of the EU TA	<b>G. Micciché</b>
<b>10:30 - 10:45</b>	<i>Coffee break</i>	
<b>10:45 - 11:10</b>	Li Loop, HRS design	<b>M. Ida</b>
<b>11:10 - 11:40</b>	Purification System and assessment	<b>M. Ida</b>
<b>11:40 - 12:00</b>	Safety assessment/RAMI	<b>M. Porfiri</b>
<b>12:00 - 12:20</b>	Discussion	<b>All</b>
<b>12:20 - 12:30</b>	Conclusions	<b>F. Groeschel</b>
<b>12:30 - 14:00</b>	<i>Lunch</i>	

<b>Parallel Session: 15:30 - 18:30 ( Room: Aula magna Villa Ruggeri)</b> Topic: LIPAc (Chair: A. Pisent)		
<b>15:30 - 16:00</b>	Beam commissioning plan	<b>P. Nghiem</b>
<b>16:00 - 16:30</b>	RFQ commissioning with beam	<b>M. Comunian/ A. Pisent</b>
<b>16:30 - 17:00</b>	<i>Coffee break</i>	
<b>17:00 - 17:20</b>	Low Power Beam Dump	<b>J. Esposito</b>
<b>17:20 - 17:50</b>	Catalogue of Beam losses	<b>P. Nghiem</b>
<b>17:50 - 18:20</b>	PPS and MPS: Results of the interface signal test with Injector	<b>T. Kojima</b>
<b>18:20 - 18:30</b>	Conclusions	<b>A. Pisent</b>

<b>Parallel session: Test Facility – Test Modules, 15:30 - 18:30 ( Room-Villa Ruggeri)</b> Topic: Engineering Design of Test Facility – Test Modules (Chair: V. Heinzl / K. Tien)		
15:30 - 15:45	Installation of TMs inside the TC	K. Tian
15:45 - 16:00	Coherent design requirement for TMIH and DCB for Test Module	M. Yamamoto
16:00 - 16:20	Engineering Design of the HFTM-Vertical	F. Arbeiter
16:20 - 16:40	Current status of the CFTM	J. Theile
16:40 - 17:00	Current status of the IFMIF Tritium Release Test Module (TRTM)	A. Abou-Sena
17:00 - 17:20	Engineering design of the LBVM	A. Garcia
17:20 - 17:40	Status of the LFTM design	W. Leysen
17:40- 18:00	Status of the STUMM design	P. Gouat
18:00- 18:30	Discussion	All

<b>Parallel session: Lithium Target Facility, 15:30-18:30( Room: 1° floor Villa Ruggeri )</b> Topic :Validation activities of the LF ( Chair: F. Groeschel )		
15:30 - 15:35	Introduction to session (purpose, expected outcome)	F. Groeschel
15:35 – 15:55	Activities since last workshop, test operation, operational results	H. Kondo
15:55 – 16:15	Li flow diagnostics experiments and their application in ELTL	T. Kanemura
16:15 - 16:35	Work Plan 2013-mid 2014 and beyond	E. Wakai
16:35-16:50	<i>Coffee break</i>	
16:50 -17:10	Operational validation, including flow and cold trap validation program	H.Kondo
17:10 - 17:30	Resistivity meter and cavitation sensor qualification and validation	P. Favuzza
17:30 - 18:10	Proposal for an ELTL experiment program beyond 2014	JAEA/ENEA/PT/F4E
18:10 - 18:30	Conclusions	F. Groeschel

**Friday 30<sup>th</sup> November 2012**  
**Location: CNR area of Bologna**

<b>Plenary Session: 9:00-12:30 (Room : 215)</b> <b>Topic: Summary of the workshop</b> <b>(Chair: H. Matsumoto)</b>		
<b>09:00 - 09:15</b>	Summary of IIEDR	<b>R. Heidinger</b>
<b>09:15 – 09:30</b>	Summary of Accelerator Facility	<b>A.Ibarra</b>
<b>09:30 - 10:00</b>	Summary of Test Facility	<b>V. Massaut</b>
<b>10:00 – 10:30</b>	Summary of Lithium Facility	<b>F. Groeschel</b>
<b>10:30 – 10:50</b>	<i>Coffee Break</i>	
<b>10:50 - 11:20</b>	Summary of LIPAc	<b>A.Mosnier</b>
<b>11:20 - 12:00</b>	Summary of the Work Shop	<b>H. Matsumoto/ A. Ibarra</b>
<b>12:00 - 12:30</b>	Conclusions	<b>J. Knaster</b>
<i>12:30 14:00</i>	<i>Lunch</i>	

**14:00 - 16:00 Technical Coordination Meeting (TCM): ( Closed Session) –  
Room 214**