NuPECC
2024 Long Range Plan in Nuclear Physics

TWG 3 Kick-off meeting
13-14/04/2023

Marek Lewitowicz

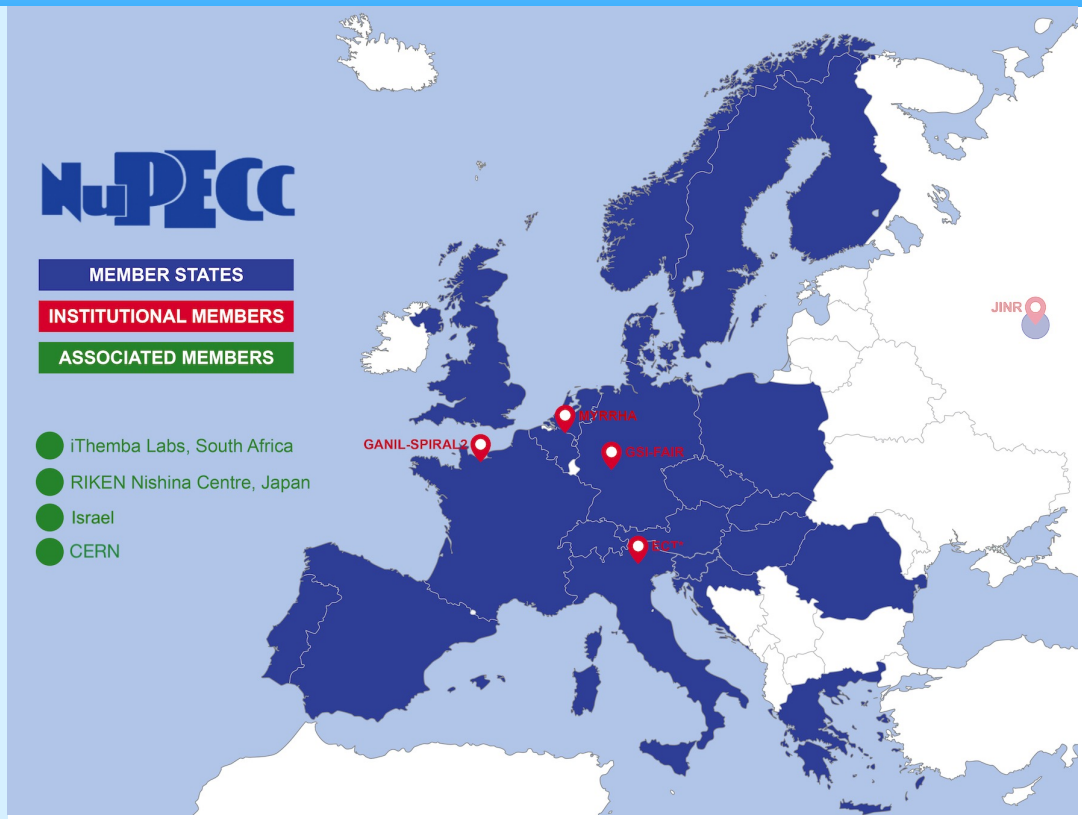
What is NuPECC ?

Nuclear Physics European Collaboration Committee (NuPECC) is the European Expert Board for Nuclear Physics hosted by European Science Foundation

Representing
about 6000 scientists

Composition:

- 34 representatives from 22 countries (new members Slovakia, Slovenia), 3 ESFRI NP Infrastructures & ECT*
  JINR Dubna – suspended in March 2022
- 4 associated members
  - CERN
  - Israel
  - iThemba Labs
  - Nishina Center
- 9 observers (ESF, NPD/EPS, ECFA, NSAC, ANPhA, ALAFNA, CINP, IAEA, APPEC)



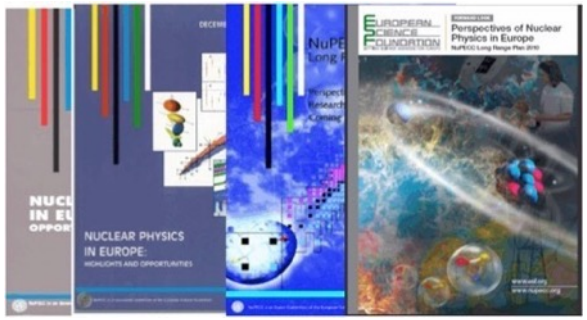
3 regular Committee meetings/y

34 Years of NuPECC activities

https://nupecc.org

Towards NuPECC Long Range Plan 2024

1991 1997 2004 2010



- **The LRP identifies opportunities and priorities for the nuclear science in Europe**
- **The LRP provides national funding agencies, ESFRI and European Commission with a framework for coordinated advances in nuclear science in Europe**

Assessment of Implementation of the
NuPECC Long Range Plan 2017

February 2022

LIAISONS: G. AARTS, D. BETTONI, S. COURTIN, P. GIUBELLINO, J. GÓMEZ CAMACHO, A. GÖRGEN, R.-D. HERZBERG, D. IRELAND, B. KRUSCHE, M. LEWITOWICZ, A. MAJ, U. MEISSNER, E. NAPPI, G. NEYENS, L. POPESCU, B. SHARKOV, E. WIDMANN,

Contributors: H. Abele, N. Alahari, W. Barth, D. Bemmerer, K. Blaum, F. Bossi A. Bracco, M. Chiossi, A. Denig, M. Doser, S. Freeman, M. Gazdzicki, F. Gélis, H. Goutte, M. Grecco, M. Harakeh, M. Hori, G. Imbriani, E. Khan, K. Kirch, W. Korten, A. Laird, J. P. Lansberg, D. Lunney, F. Maas, G. Martinez-Pinedo, S. Masciocchi, A. Mengoni, O. Navillat-Cuncic, D. Rifuggiato, P. Rossi, E. Scomparin, J. Simpson, H. Schmieden, O. Schneider, N. Severijns, Th. Stöhlker, J. Stroth, H. Ströher, U. Thoma, S. Ulmer, C. A. Ur, Ch. Weinheimer, U. Wiedner, H. Wittig

NuPECC LRP 2017

http://www.nupecc.org/lrp2016/Documents/lrp2017.pdf

February 2022

http://nupecc.org/2017_LRP_Assessment_of_Implementation_final.pdf

NuPECC LRP 2024

Launched in May 2022 in Madrid

NuPECC LRP 2024 – Steering Committee

Steering Committee of NuPECC LRP 2024

27 members

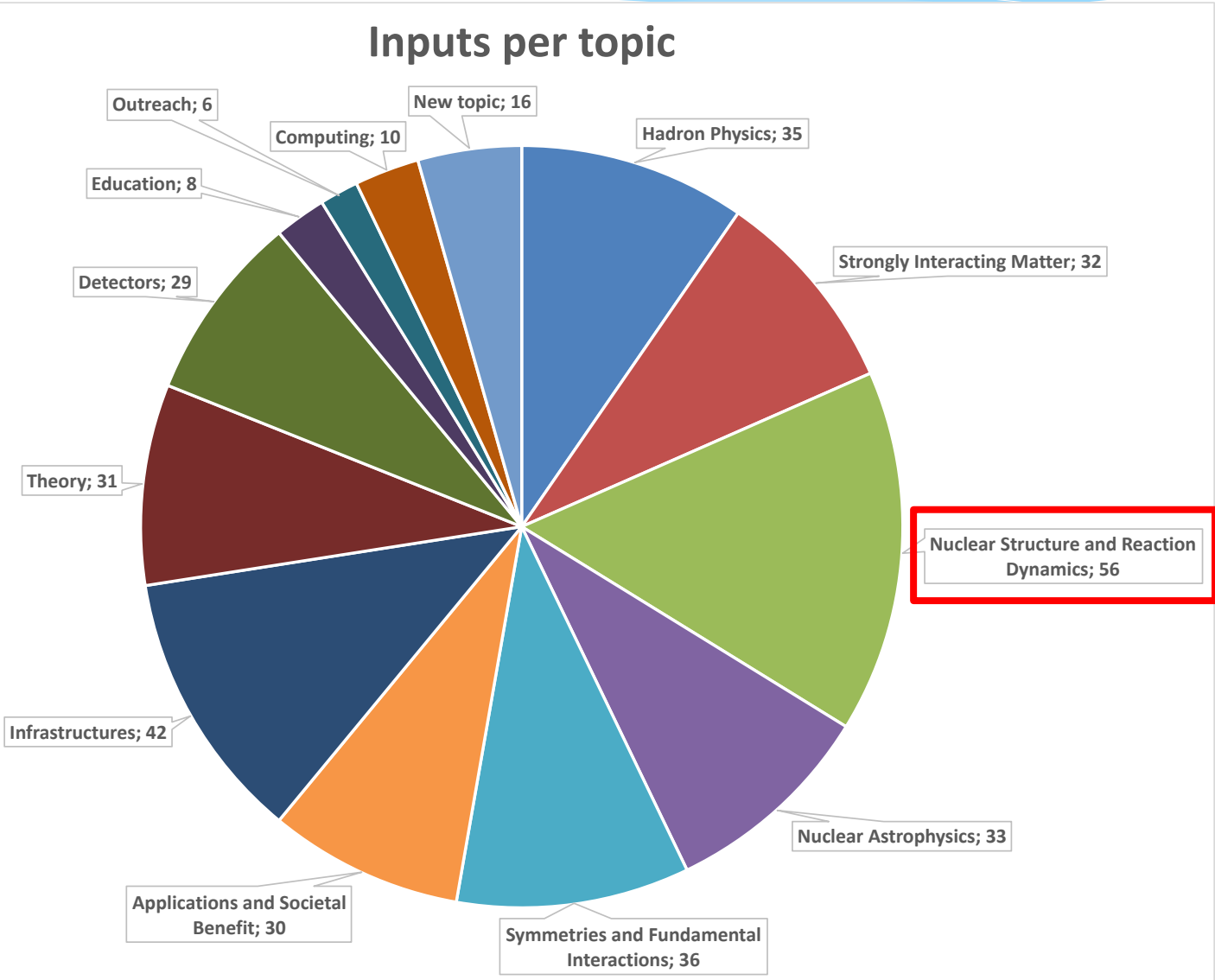
NuPECC Members
Associated Members
and Observers

Name	Country/Institution
Gert Aarts	UK/ECT*
Daniel Bemmerer	Germany
Diego Bettoni	Italy
Sandrine Courtin	France
Paolo Giubellino/Yvonne Leifels	Germany
Joaquin Gomez-Camacho	Spain
Paul Greenlees	Finland
Andreas Haungs	APPEC
Rolf-Dietmar Herzberg	UK
Dave Ireland	UK
Karl Jakobs	ECFA
Sissy Koerner	NuPECC
Marek Lewitowicz Chair	NuPECC
Adam Maj	Poland
Ulf Meißner	Germany
Joachim Mnich	CERN
Eugenio Nappi	Italy
Lucia Popescu	Belgium
Patricia Roussel-Chomaz	France
Hervé Moutarde	France
Hiroyoshi Sakurai	Japan
Raimond Snellings	The Netherlands
Martin Venhart	Slovakia
Jelena Vesic	Slovenia
Vladimir Wagner	Czech Republic
Eberhard Widmann	Austria
Gail Dodge	NSAC/US

NuPECC LRP 2024 – Contributions of the community

LRP Contributions:

- 159 contributions submitted
- by > 400 individual scientists, collaborations, infrastructures, and research institutions in Europe



NuPECC LRP 2024 – organisation & timeline

- **Dec. 2022** Request sent to the Conveners to propose members of the TWG
- Candidates for the TWG members approved + recommendations on the composition issued at the LRP2024 SC meeting on **19 January 2023**
- **February – beginning of March 2023**
  - **Candidates contacted by Conveners of the TWG**
- **Planning of the Kick-off meetings by the TWG Conveners**
- **Dedicated NuPECC Web page and Indico created for the LRP2024 & TWG meetings, compositions, documents, timeline etc.:**

  - **https://nupecc.org/?display=lrp2024/main**
  - **https://indico.ph.tum.de/category/61/**

TWG coordinators and SC liaisons

Theory/Exp.

TWG Number	TWG	Coordinators	Coord. e-mails	Liaisons	Liaisons e-mails
1	Hadron Physics	Karin Schönning (Uppsala)	karin.schonning@physics.uu.se	Diego Bettoni	bettoni@fe.infn.it
		Constantia Alexandrou (CY)	c.alexandrou@cyi.ac.cy alexand@ucy.ac.cy	Dave Ireland	david.ireland@glasgow.ac.uk
2	Strongly Interacting Matter at Extreme Conditions	Laura Fabbietti (TUM)	laura.fabbietti@ph.tum.de	Gert Aarts	g.aarts@swansea.ac.uk
		Urs Wiedemann (CERN)	Urs.Wiedemann@cern.ch	Raimond Snellings	R.Snellings@uu.nl
3	Nuclear Structure and Reaction Dynamics	Silvia Leoni (Univ. Milano)	silvia.leoni@mi.infn.it	Adam Maj	adam.maj@ifj.edu.pl
		Tomas Rodriguez(UCM)	tomasrro@ucm.es	Jelena Vesic	jelena.vesic@ijs.si
4	Nuclear Astrophysics	Anu Kankainen (JYFL)	anu.kankainen@jyu.fi	Daniel Bemmerer	d.bemmerer@hzdr.de
		Jordi Jose (Barcelona)	jordi.jose@upc.edu	Sandrine Courtin	sandrine.courtin@iphc.cnrs.fr
5	Symmetries and Fundamental Interactions	Pierre Delahaye (GANIL)	pierre.delahaye@ganil.fr	Eberhard Widmann	Eberhard.Widmann@oeaw.ac.at
		Paolo Crivelli (ETH)	Paolo.Crivelli@cern.ch	Klaus Kirch	klaus.kirch@psi.ch
6	Infrastructures	Wolfram Korten (CEA, Saclay)	w.korten@cea.fr	Joaquin Gomez-Camacho	gomez@us.es
				Patricia Roussel-Chomaz	patricia.chomaz@ganil.fr
7	Applications and Societal Benefit	Thomas Cocolios (KU Leuven)	thomas.cocolios@kuleuven.be	Lucia Popescu	lucia.popescu@sckcen.be
		Charlot Vandevoorde (GSI)	C.Vandevoorde@gsi.de	Vladimir Wagner	wagner@ujf.cas.cz
8	Nuclear Physics Tools Detectors and experimental techniques Computing, Machine Learning and Artificial Intelligence	Silvia Dalla Torre (INFN)	Silvia.DallaTorre@cern.ch	Eugenio Nappi	Eugenio.Nappi@ba.infn.it
		Thorsten Kollegger (GSI/FAIR)	T.Kollegger@gsi.de	Hervé Moutarde	herve.moutarde@cea.fr
		Jana Guenther (U. Wuppertal)	jguenther@uni-wuppertal.de		
9	Open Science and Data	Antoine Lemasson (GANIL)	antoine.lemasson@ganil.fr	Marek Lewitowicz	marek.lewitowicz@ganil.fr
10	Nuclear Science - People and Society Training, Careers & Diversity Education and Outreach	María García Borge (Madrid)	mj.borge@csic.es	Rolf-Dietmar Herzberg	rdh@liverpool.ac.uk
		Christian Diget (York)	christian.diget@york.ac.uk	Yvonne Leifels	Y.Leifels@gsi.de

TWG First meetings

Number	TWG	Coordinators	Liaisons	First meetings
1	Hadron Physics	Karin Schönning (Uppsala)	Diego Bettoni	March 17, 2023
		Constantia Alexandrou (CY)	Dave Ireland	April ?
2	Strongly Interacting Matter at Extreme Conditions	Laura Fabbietti (TUM)	Gert Aarts	March 17, 2023
		Urs Wiedemann (CERN)	Raimond Snellings	
3	Nuclear Structure and Reaction Dynamics	Silvia Leoni (Univ. Milano)	Adam Maj	Feb. 7, 2023 (informal)
		Tomas Rodriguez(UCM)	Jelena Vesic	April 13-14, 2023 IJCLab Orsay
4	Nuclear Astrophysics	Anu Kankainen (JYFL)	Daniel Bemmerer	March 17, 2023 (Open on-line)
		Jordi Jose (Barcelona)	Sandrine Courtin	
5	Symmetries and Fundamental Interactions	Pierre Delahaye (GANIL)	Eberhard Widmann	March 8, 2023 (TWG closed)
		Paolo Crivelli (ETH)	Klaus Kirch	March 24, 2023 CERN
6	Infrastructures	Wolfram Korten (CEA, Saclay)	Joaquin Gomez-Camacho	March 17, 2023
			Patricia Roussel-Chomaz	March 28, 2023 GSI, April 13
7	Applications and Societal Benefit	Thomas Cocolios (KU Leuven)	Lucia Popescu	Feb. 7, 2023
		Charlot Vandevoorde (GSI)	Vladimir Wagner	April 12, 2023
8	Nuclear Physics Tools Detectors and experimental techniques Computing, Machine Learning and Artificial Intelligence	Silvia Dalla Torre (INFN)	Eugenio Nappi	April 17-18, 2023 LNF Frascati (Detectors)
		Thorsten Kollegger (GSI/FAIR)	Hervé Moutarde	
		Jana Guenther (U. Wuppertal)		? (Computing,...)
9	Open Science and Data	Antoine Lemasson (GANIL)	Marek Lewitowicz	March 23rd, 2023 May 17, 2023
10	Nuclear Science - People and Society Training, Careers & Diversity Education and Outreach	María García Borge (Madrid)	Rolf-Dietmar Herzberg	March 23rd, 2023
		Christian Diget (York)	Yvonne Leifels	

green – past meetings
blue – planned meetings

See https://indico.ph.tum.de/category/61/

Guidelines for the LRP2024 Report

Sent to TWG on 11 April 2023 with a template

General Guidelines for TWG reports:

- Each chapter should begin with a short introduction: Key questions; why does this topic matter?
- The reports should strongly focus on the emerging scientific opportunities and new directions in the coming decade; not everything has to be mentioned
- Refer to relevant facilities and other chapters as appropriate
- Keep in mind the audience of the report (scientific community and funding agencies) – it is important to promote our field, also in a general manner and with respect to competing fields

- ❖ TWG should also contribute to the Executive Summary with one page, each containing a summary of the chapter and main recommendations
- ❖ Keep in mind that the audience of the Executive Summary are ministries, EC, ESFRI, and upper-level officials of funding agencies

Summary & next steps

TWG

- 9,5/10 TWG composition well defined
- 9,5/10 TWG planned/run first meetings

- Dead-line for drafts of TWG reports and recommendations: **15 October 2023**

Next SC & TWG Conveners meetings

a) Status report from the TWG Coordinators –
   - **9 May 2023** 9:00-11:00 **TWG 1,2,5,8 (Detectors) & 9**
   - **12 May 2023** 14:00-17:00 **TWG 3,4,6,7,8 (Computing) & 10**

b) Recommendations Drafting Session (2 full days in person): **30-31 October, 2023 at GSI**

Guidelines for the LRP2024 Report

Sent to TWG on 11 April 2023 with a template

Format:

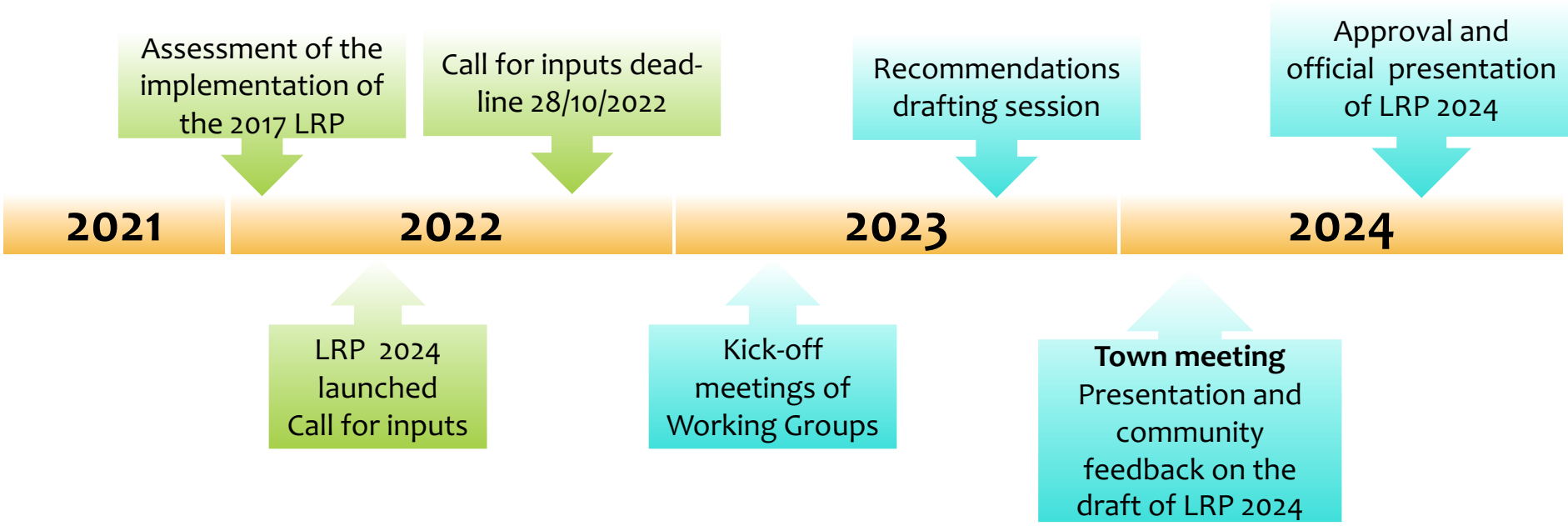
- One page should contain on average 500 words and 1 figure.
- The text should be submitted in MS Word in Font Arial 11pt, single space and 1 column following the template provided by ESF/NuPECC
- Figures
  - should be inserted in the Word document along with a caption and attached as separate files. These files should be named with the chapter, ie. "*Chapter1-Figure1.jpg*" and have standard jpeg or png formats.
  - Resolution of at least 600dpi
  - Figures could be redesigned by graphic designer.
  - Contributors must ensure they have the copyright for each figure or picture and include the copyright in the figure caption.
- Boxes may be used to highlight a self-contained topic which the TWG wishes to highlight, such as related to the recommendations given by the TWG
- Extra text formatting (ie: adding columns, wrapping text around image…) is not necessary and could be counter productive. A graphic designer will take care of the overall graphical layout, including the text formatting and insertion of the figures.

Guidelines for the LRP2024 Report

Sent to TWG on 11 April 2023 with a template

CONTENT of the NuPECC LRP2024 Report	Number of pages	Person/group In charge
COVER PAGE	1	Graphic designer
FOREWORD	1	NuPECC MG/LRP2024 SC
EXECUTIVE SUMMARY AND RECOMMENDATIONS	15	NuPECC MG/LRP2024 SC based on contributions of TWG
CONTENT	6	Editor/ESF
RESEARCH INFRASTRUCTURES AND NETWORKING	30	TWG6
1. HADRON PHYSICS	20	TWG1
2. STRONGLY INTERACTING MATTER AT EXTREME CONDITIONS	20	TWG2
3. NUCLEAR STRUCTURE AND REACTION DYNAMICS	25	TWG3
4. NUCLEAR ASTROPHYSICS	25	TWG4
5. SYMMETRIES AND FUNDAMENTAL INTERACTIONS	20	TWG5
6. APPLICATIONS AND SOCIETAL BENEFITS	30	TWG7
7. NUCLEAR PHYSICS TOOLS - DETECTORS AND EXPERIMENTAL TECHNIQUES, COMPUTING, MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE	20	TWG8
8. OPEN SCIENCE AND DATA	15	TWG9
9. NUCLEAR SCIENCE - PEOPLE AND SOCIETY: TRAINING, CAREERS & DIVERSITY, EDUCATION AND OUTREACH	15	TWG10
List of Acronyms and Abbreviations	4	Editor/ESF
TWG Members/Contributors	2	NuPECC MG
BACK COVER PAGE	1	Graphic designer
Total	250	

LRP2024 Timeline



About one month delay with respect to the initial timeline

Timeline for the LRP 2024 activities

- February 2023 – April 2023
  - TWG Kick-off meetings
- March 2023 – June 2023:
  - Analysis of community inputs by the WG, request of additional inputs if needed and interaction with the community
  - 9 &12 May 2023: Progress report by Conveners at the Steering Committee meeting
  - Writing of a draft of each chapter (dead-line 15 October 2023)
- June 2023
  - Status report at the NuPECC meeting by NuPECC Chair and Liaisons (Debrecen) 31 May – 1 June 2023
- October 2023
  - 30-31 October 2023 : Drafting session of NuPECC liaisons and conveners to elaborate general LRP recommendations (at GSI, in-person meeting)
- November 2023
  - Presentation and approval of Final Draft + Draft Recommendations at the NuPECC meeting (Bratislava)