

Editorial Board (EB) Report

Chiara la Tessa, Marie Vanstalle, Mauro Villa

FOOT annual meeting (unfortunately on ZOOM)

11/12/2020



Outline

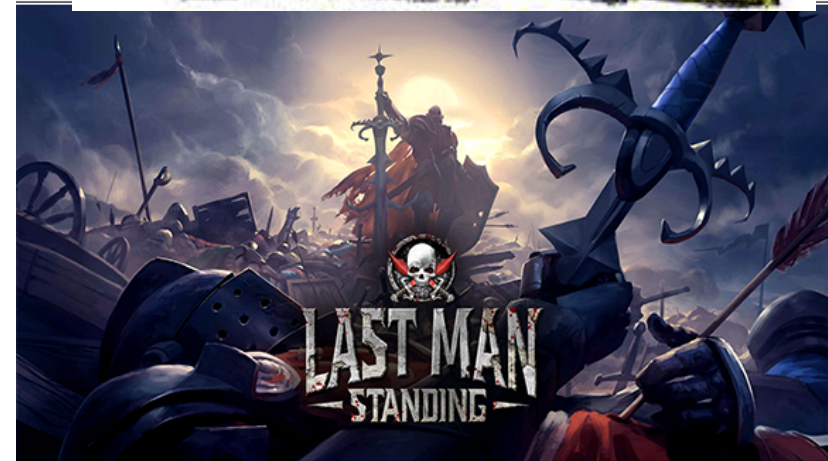
- EB Meetings and internal working
- Papers
- Conferences
- Future activities

Meetings and internal working

The current EB (Chiara, Marie, Mauro) took over from the previous EB and now has been working together for one year.



Even with COVID-19 (2 members down, one man standing) we managed to communicate and meet regularly.



We set up an online repository on google drive for an easy access of EB relevant information: conference lists, author lists, proceedings, paper writing etc...

EB meetings and internal working

Work sharing:

- Papers/proceedings are reviewed by all EB members. The comments are discussed with the authors. After the first revision process, the paper is sent to the whole community.
- Conference searches by all
- Conference advertisements is done by all EB members
- Every interesting conference is assigned to one EB member
 - She/he will follow the candidate speakers or poster presenters in all phases
 - Abstract submission/presentation rehearsal/proceeding writing and submission



Papers - published

5 papers have been published in 2020.

1. I. Mattei et al, *Measurements of ^{12}C fragmentation cross sections on C, O and H in the energy range of interest for particle therapy applications*, IEEE TRPMS. **4**
2. L. Galli et al, *Fragment charge identification technique with a plastic scintillator detector using clinical carbon beams*, NIM A **953**
3. Y. Dong et al, *The Drift Chamber detector of the FOOT experiment: Performance analysis and external calibration*, NIM A **986**
4. M. Morrocchi et al, *Performance Evaluation of the TOF-Wall Detector of the FOOT Experiment*, IEEE Trans. Nucl. Sci. (doi:10.1109/TNS.2020.3041433)
5. G. Battistoni et al, *Measuring the impact of Nuclear Interaction in Particle Therapy and in Radio Protection in Space: the FOOT experiment*, Front. Phys. **8** (accepted)

Nuclear Inst. and Methods in Physics Research, A 986 (2021) 164756

Nuclear Inst. and Methods in Physics Research, A 953 (2020) 163146



The Drift Chamber detector of the FOOT experiment: Performance analysis and external calibration

Dong Yunsheng^{8,23,*}, Silvestre Gianluigi^{11,24}, Colombi Sofia^{15,16}, Alexandrov Andrey^{10,19,33,34},



Fragment charge identification technique with a plastic scintillator detector using clinical carbon beams

L. Galli^{a,1}, A.C. Kraan^{a,1}, E. Ciarrocchi^{b,a,*}, G. Battistoni^c, N. Belcari^{b,a}, N. Camarlinghi^{b,a},



G. Battistoni et al.

The FOOT experiment

Measuring the impact of Nuclear Interaction in Particle Therapy and in Radio Protection in Space: the FOOT experiment.

G. Battistoni⁸ M. Toppi^{7,22,*} A. Alexandrov^{10,19,33,34} B. Alpat¹¹ G. Ambrosi¹¹

Journals & Magazines > IEEE Transactions on Radiatio... > Volume: 4 Issue: 2

Measurement of ^{12}C Fragmentation Cross Sections on C, O, and H in the Energy Range of Interest for Particle Therapy Applications

Publisher: IEEE

Cite This

PDF

96 Author(s)

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Papers - submitted

2 papers are currently being reviewed

1. A.C. Kraan et al, *Charge identification of nuclear fragments with the FOOT Time-Of-Flight system*, submitted to NIM A (23/11/2020)
2. G. Galati et al, *Charge identification of fragments with the emulsion spectrometer of the FOOT experiment*, submitted to Open Phys. (3/12/2020)

Papers – in preparation at different stages

1. Torino: Development of the Calorimeter for the FOOT experiment (status: in preparation)
2. Trento: Production of secondary neutrons in shielding materials of interest for space exploration (status: data analysis completed)
3. Perugia: Test results of the first Silicon Microstrip prototype of FOOT experiment (in progress)
4. Milano: Further measurements on ^{12}C fragmentation cross section (status: in progress)
5. Roma: 2019 experimental campaign at GSI (status: ancora a caro amico)
6. Napoli: Additional paper on emulsion (status: in progress)

Papers - ideas

Technical papers on:

- 2017/18 experimental campaign in Trento
- VTX & ITR performance
- DAQ performance

Physics papers on:

- GSI 2019 / CNAO data
 - Nuclear fragments production in ^{16}O @200 MeV/n on C, H targets, $2 < Z < 8$
 - Z identification on ΔE and TOF measurements



Example 1 of Authorship

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V. Patera^{12,22}

Persons relevant in the production of the paper/analysis

Corresponding author is usually the person who contributed most to the writings

All other authors in alphabetical order

«group» leader(s)

Example 2 of Authorship



Dong Yunsheng^{8,23,4}, Silvestre Gianluigi^{11,24}, Colombi Sofia^{15,16}, Alexandrov Andrey^{10,19,33,34}, Alpat Behcet¹¹, Ambrosi Giovanni¹¹, Argirò Stefano^{28,17}, Arteché Diaz Raul³⁰, Barbanera Mattia^{2,35}, Bartosik Nazar¹⁷, Belcari Nicola^{3,2}, Bellinzona Elettra¹⁵, Biondi Silvia^{5,20}, Bisogni Maria Giuseppina^{3,2}, Bruni Graziano⁵, Carra Pietro^{3,2}, Cerello Piergiorgio¹⁷, Ciarrocchi Esther^{3,2}, Clozza Alberto⁷, De Lellis Giovanni^{10,19}, Del Guerra Alberto^{3,2}, De Simoni Micol^{12,26}, Di Crescenzo Antonia^{10,19}, Di Ruzza Benedetto¹⁵, Donetti Marco^{17,1}, Durante Marco^{6,32}, Ferrero Veronica¹⁷, Fiandrini Emanuele^{11,24}, Finck Christian¹⁴, Fiorina Elisa¹⁷, Fischetti Marta^{12,22}, Francesconi Marco^{3,2}, Franchini Matteo^{5,20}, Franciosini Gaia^{12,26}, Galati Giuliana¹⁰, Galli Luca², Gentile Valerio³¹, Girauda Giuseppe¹⁷, Hetzel Ronja⁴, Iarocci Enzo⁷, Ionica Maria¹¹, Kanxheri Keida¹¹, Kraan Aafke Christine², Lante Valeria¹, La Tessa Chiara^{15,16}, Laurenza Martina⁷, Lauria Adele^{10,19}, Lopez Torres Ernesto^{30,17}, Marafini Michela^{12,21}, Massimi Cristian²⁰, Mattei Ilaria⁸, Mengarelli Alberto⁵, Moggi Andrea², Montesi Maria Cristina^{10,19}, Morone Maria Cristina^{13,27}, Morrocchi Matteo^{2,3}, Muraro Silvia⁸, Narici Livio^{13,27}, Pastore Alessandra²⁹, Pastrone Nadia¹⁷, Patera Vincenzo^{12,22}, Pennazio Francesco¹⁷, Placidi Pisana^{11,25}, Pullia Marco¹, Raffaelli Fabrizio², Ramello Luciano^{18,17}, Ridolfi Riccardo^{20,5}, Rosso Valeria^{3,2}, Sanelli Claudio⁷, Sarti Alessio^{12,22}, Sartorelli Gabriella^{5,20}, Sato Osamu⁹, Savazzi Simone¹, Scavarda Lorenzo^{28,17}, Schiavi Angelo^{12,22}, Schuy Christoph⁶, Scifoni Emanuele¹⁵, Sciubba Adalberto^{7,22}, Sécher Alexandre¹⁴, Selvi Marco⁵, Sitta Mario^{18,17}, Spighi Roberto⁵, Spiriti Eleuterio⁷, Sportelli Giancarlo^{3,2}, Stahl Achim⁴, Tomassini Sandro⁷, Toppi Marco^{7,22}, Traini Giacomo^{12,26}, Valeri Tioukov¹⁰, Valle Serena Marta⁸, Marie Vanstalle¹⁴, Mauro Villa^{5,20}, Weber Ulrich⁶, Zoccoli Antonio^{5,20}, Battistoni Giuseppe⁸, Servoli Leonello¹¹, Tommasino Francesco^{15,16}

Persons relevant in the production of the paper/analysis and writing is the first and corresponding author

All other authors in alphabetical order

Authorship

FOOT collaboration: 96
authors

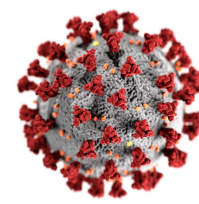
34 Affiliations
(9 founding agencies)

6 Countries
(France, Germany, Italy,
Russia, Cuba, Japan)

3 Continents
(Europe, Asia, America)

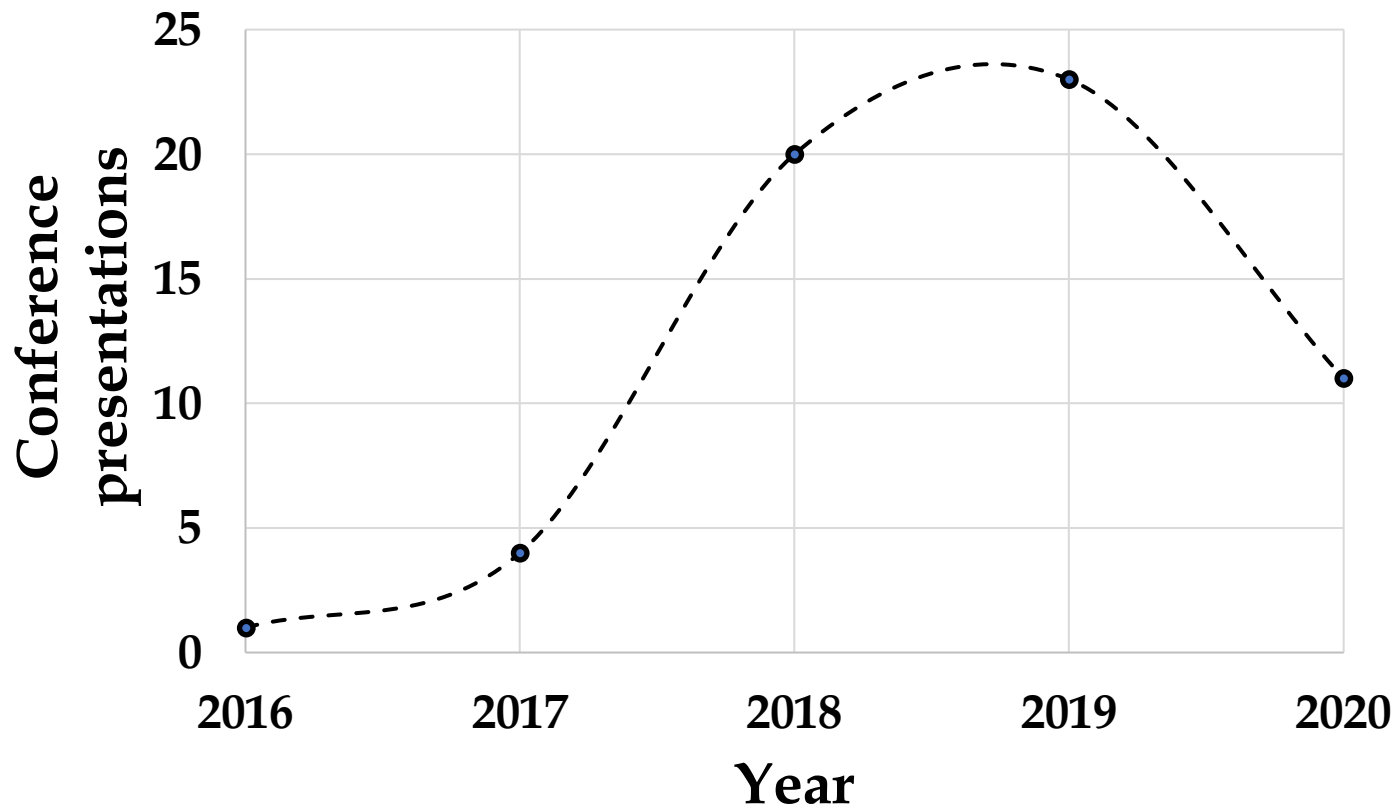
# Person	Istitution/City
2	Aachen
11	Bologna
4	CNAO
8	Frascati
3	GSI
1	GSSI
1	Havana
5	Milano
1	Nagoya
7	Napoli
8	Perugia
13	Pisa
9	Roma 1
3	Strasbourg
2	Tor Vergata
12	Torino
6	Trento

Conferences - (the sad story continues)



All conferences of 2020 were either postponed to next year or held online.

However, the FOOT-print was strong.



2016

☐ Talk 1

2017

☐ Talks: 4

2018

☐ Talks: 12

☐ Posters: 7

☐ Seminar: 1

2019

☐ Talks: 20

☐ Posters: 3

2020

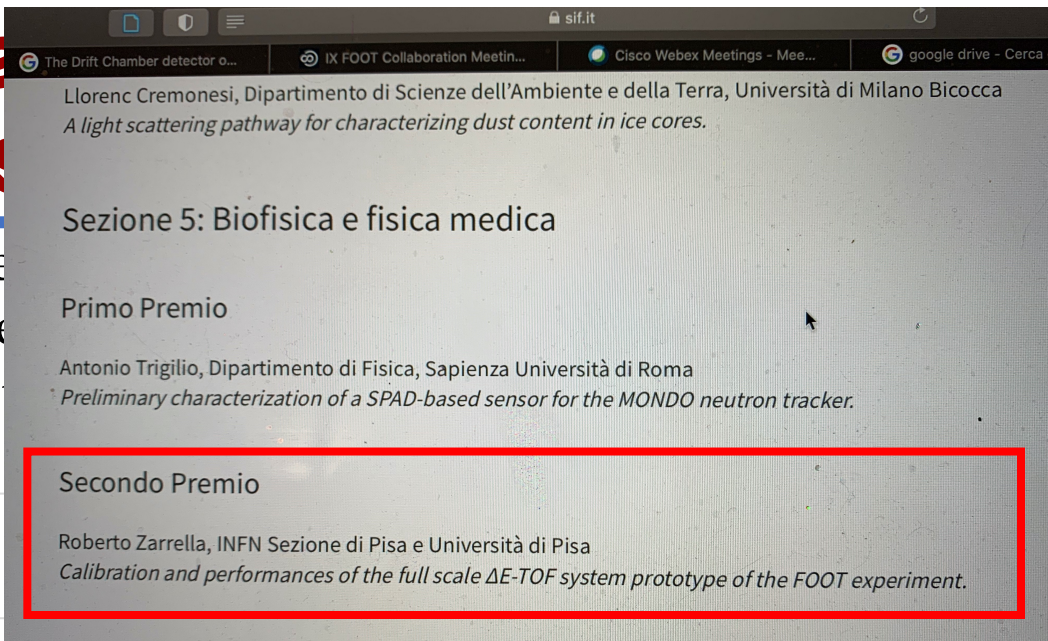
☐ Talks: 8

☐ Posters: 3

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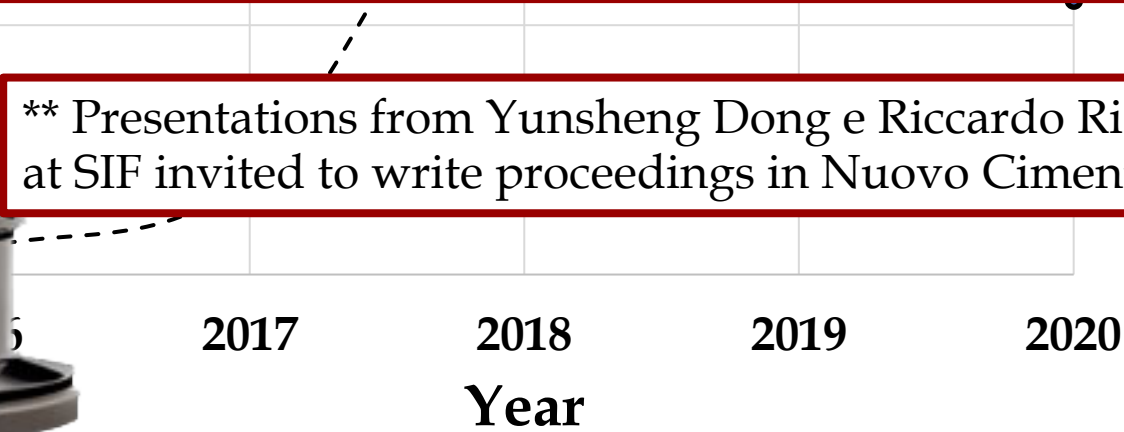
Conference
presented



ear or

* The oral communication by Roberto Zarrella at the SIF was awarded as the second best in Sezione 5 - Biofisica e fisica medica.

** Presentations from Yunsheng Dong e Riccardo Ridolfi at SIF invited to write proceedings in Nuovo Cimento C.



2016	<input type="checkbox"/> Talk 1
2017	<input type="checkbox"/> Talks: 4
2018	<input type="checkbox"/> Talks: 12 <input type="checkbox"/> Posters: 7 <input type="checkbox"/> Seminar: 1
2019	<input type="checkbox"/> Talks: 20 <input type="checkbox"/> Posters: 3
2020	<input type="checkbox"/> Talks: 8* <input type="checkbox"/> Posters: 3



Conferences - 2021

We are constantly updating the list of conferences and advertising them within the community.

We are always looking for volunteers to present FOOT.

And...if you see something, say something!

Next deadline is Zakopane (3/1/2021), an email has been sent.
Contact the EB if you wish to give a contribution.

...and we even had some dissemination

Lecture:

A.K. Kraan, "The FOOT Experiment", INFN Pisa



Students in FOOT

Bachelor:

1. Roberto Patera "Caratterizzazione di sensori di temperatura NTC per l'esperimento FOOT con partitore di tensione e microcontrollore"
2. Antonio Scalogna, "Caratterizzazione di sensori di temperatura NTC per l'esperimento FOOT con sorgente di corrente e microcontrollore"
3. Lorenzo Bastia, Aggiornamento del firmware di un sistema di acquisizione per lo studio di fasci di particelle usati in adroterapia (Bologna)

Master:

1. Enrico D'Urso, Disegno e sviluppo del calorimetro dell'esperimento FOOT (Torino)
2. Federica Murtas, "Measurement with the FOOT apparatus of ^{16}O fragmentation cross sections relevant for Particle Therapy applications" (Roma)
3. Brenda Capone dal titolo "Studio di frammentazione di un fascio di ^{16}O su un bersaglio di C_2H_4 con un rivelatore ad emulsioni nucleari per applicazioni adroterapiche" (Napoli)
4. R. Zarrella, "Charge identification of nuclear fragments with the Time-Of-Flight detectors of the FOOT experiment" (Pisa)
5. Francesca Peverini " *title to be defined*" (Perugia)
6. Andrea Savarese, Development of an enhanced transfer data channel for a hybrid SoC FPGA used in a DAQ system aimed at improving hadrontherapy protocols (Bologna)

PhD:

1. Yunsheng Dong "" (Milano)
2. Sofia Colombi "Nuclear fragmentation in particle therapy and space radiation protection: from the standard approach to the FOOT experiment" (Trento).

**From the Editorial board, thank you
for your help and collaboration!**

