

SAMOFAR Publications / Dissemination activities

(updated 20.03.2017)

Scientific publications – directly related to SAMOFAR

1. Gabriela Durán-Klie, Davide Rodrigues, Sylvie Delpech, “Dynamic Reference Electrode development for redox potential measurements in fluoride molten salt at high temperature”, *Electrochimica Acta*, 2016, Vol 195, pp. 19-26, eISSN 0013-4668, DOI: <http://dx.doi.org/10.1016/j.electacta.2016.02.042>
2. Davide Rodrigues, Gabriela Durán-Klie, Sylvie Delpech, “Pyrochemical reprocessing of Molten Salt Fast Reactor fuel: focus on the reductive extraction step”, *Nukleonika*, 2015, Vol 60 (4), pp 907-914 – **Open Access Journal**
DOI: <https://doi.org/10.1515/nuka-2015-0153>
3. Mauricio Tano Retamales, Pablo Rubiolo, Olivier Doche, Development and Implementation of a new high order turbulence model In Openfoam for liquid fuel nuclear reactors, book of abstracts of OFW11, page 168 – 169, https://dl.dropboxusercontent.com/u/106523715/BOA/book_v3.pdf
– **not to include in Periodic Report – waiting for paper to be accepted in Proceedings.**
4. P.R. Rubiolo, M. Tano Retamales, J. Giraud, V. Ghetta, “Overview of the Salt at Wall Thermal ExCHanges (SWATH) Experiment”, *Transactions of the American Nuclear Society*, Vol. 115, Las Vegas, NV, November 6–10, 2016, pp 1705-1708, American Nuclear Society, Illinois, 2016.
5. Wang, Shisheng, Mattia Massone, Andrei Rineiski and E. Merle-Lucotte, Analytical Investigation of the Draining System for a Molten Salt Fast Reactor, paper no. N11A0341 presented at The 11th International Topical Meeting on Nuclear Reactor Thermal Hydraulics, Operation and Safety (NUTHOS-11), Gyeongju, Korea, October 9-13, 2016, 11 p. ([PDF](#))

SUBMITTED

6. Anna Chiara Uggenti , Andrea Carpignano, Sandra Dulla, Delphine Gérardin , Elsa Merle, Daniel Heuer, Axel Laureau, Michel Allibert, “Preliminary functional safety assessment for molten salt fast reactors in the framework of the SAMOFAR project”, abstract submitted to the International Topical Meeting on Probabilistic Safety Assessment and Analysis (PSA2017), Pittsburgh PA, USA, September 24-28, 2017
7. P.R. Rubiolo, M. Tano Retamales, J. Giraud and V. Ghetta, “Overview of the Salt at Wall Thermal ExCHanges (SWATH) Experiment”, abstract submitted to the ANS Winter Meeting (USA) to be held in Oct 29 – 2 Nov 2017.
8. P.R. Rubiolo, M. Tano Retamales, V. Ghetta and J. Giraud, “High temperature thermal hydraulics modeling of a molten salt: application to a molten salt fast reactor (MSFR)” submitted to ESAIM: Proceedings and Surveys, Publisher: EDP Sciences, eISSN: 2267-3059 – **Open Access Journal**
9. M. Tano-Retamales, P.Rubiolo, O.Doche, “Development of Data-Driven Turbulence Models in OpenFOAM Application to liquid fuel nuclear reactors”, submitted to proceedings of the 11th OpenFOAM Workshop, Guimarães, Portugal, June 26th-30th, 2016.

Scientific publications – indirectly related to SAMOFAR

10. A. Cammi, M.T. Cauzzi, L. Luzzi, A. Pini, “DYNASTY: An Experimental Loop for the Study of Natural Circulation with Internally Heated Fluids”, *Proceedings of the 12th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics (HEFAT 2016)*, Malaga, Spain, July 11-13, 2016, 12, pp 1159-1164, ISBN 978-1-77592-124-0, DOI: <http://dx.doi.org/10.1016/j.ces.2016.01.014>

11. A. Cammi, L. Luzzi, A. Pini, "The influence of the wall thermal inertia over a single-phase natural convection loop with internally heated fluids", *Chemical Engineering Science*, 2016, 153, pp.411-433, eISSN 0009-2509, DOI 10.1016/j.ces.2016.06.060, DOI: <http://dx.doi.org/10.1016/j.ces.2016.06.060>
12. Andrea Carpignano, Tonio Pinna, Laura Savoldi, Giulia Sobrero, Anna Chiara Uggenti, Roberto Zanino, "Safety Issues related to the Intermediate Heat Storage for the EU DEMO", *Fusion Engineering and Design*, 2016, vol. 109-111, part A, pp. 135-140, eISSN 0920-3796, Elsevier, DOI: <http://dx.doi.org/10.1016/j.fusengdes.2016.01.078>
13. A. Pini, A. Cammi, L. Luzzi, "Analytical and numerical investigation of the heat exchange effect on the dynamic behaviour of natural circulation with internally heated fluids", *Chemical Engineering Science*, 2016, 145, pp. 108-125, eISSN 0009-2509, DOI: <http://dx.doi.org/10.1016/j.ces.2016.01.014>
14. A. Pini, A. Cammi, M. Cauzzi, F. Fanale, L. Luzzi, "An Experimental Facility to Investigate the Natural Circulation Dynamics in Presence of Distributed Heat Sources", *Energy Procedia*, (2016) 101, pp 10-17, eISSN 1876-6102, DOI: 10.1016/j.egypro.2016.11.002, DOI: <http://dx.doi.org/10.1016/j.egypro.2016.11.002> – **Open Access Journal**
15. Tonio Pinna; Dario Carloni; Andrea Carpignano; Sergio Ciattaglia; Jane Johnston; Maria Teresa Porfiri; Laura Savoldi; Giulia Sobrero; Neill Taylor; Anna Chiara Uggenti; Mindaugas Vaisnoras; Roberto Zanino, "Identification of accident sequences for the DEMO plant", *Fusion Engineering and Design*, In press, eISSN 0920-3796, Elsevier, DOI: <http://dx.doi.org/10.1016/j.fusengdes.2017.02.026>

MSc theses

16. Koks, Iris, Melting behaviour of the freeze plug in a molten salt fast reactor, BSc thesis, July 2016 ([PDF](#))
17. Van den Bergh, Olivier, Melting behaviour of the freeze plug in a molten salt fast reactor, BSc thesis, July 2016 ([PDF](#))
18. Lantzios, Ioannis Molten Salt Fast Reactor: Shift from Burner to Breeder, MSc thesis, February 2016 ([PDF](#))
19. Pettersen, Eirik Eide, Coupled multi-physics simulations of the Molten Salt Fast Reactor using coarse-mesh thermal-hydraulics and spatial neutronics, MSc thesis, September 2016 ([PDF](#))
20. Swaroop, Parth, Design of a Freeze Plug for the Molten Salt Fast Reactor (MSFR), MSc thesis, August 2016 ([PDF](#))

Dissemination activities

21. Eradus, Wim (author), Jan Leen Kloosterman (interview), *Veilige energie met thoriumreactor*, *Reformatorisch Dagblad*, Apr 29, 2015.
22. Kloosterman, Jan Leen and other nuclear society chairmen, CLIMATE: 39 Nuclear Associations Collaborate, *Nuclear4Climate*, ICAPP, Nice, 3-6 May (2015). [Photos](#), [Video](#).
http://www.sfen.org/sites/default/files/public/atoms/files/press_release_icapp_2015_1.pdf
<https://www.flickr.com/photos/120990791@N02/sets/72157648631228479/with/16917986615/>
<https://www.youtube.com/watch?v=-arGtYlrbwY&feature=youtu.be>
23. Kloosterman, Jan Leen, [Pleidooi voor onderzoek naar geheel nieuwe vorm van kernenergie](#), FluxEnergie.nl, 1 juli (2015).

- <http://www.fluxenergie.nl/pleidooi-voor-onderzoek-naar-geheel-nieuwe-vorm-van-kernenergie/>
24. Press release sent to Dutch Physics and Chemical Societies, Publishers of popular magazines and Partners.
<http://samofar.eu/wp-content/uploads/2015/11/Press-release-SAMOFAR-kick-off.pdf>
 25. Martin. Richard (MIT), Jan Leen Kloosterman (interview), *Meltdown-Proof Nuclear Reactors Get a Safety Check in Europe*, MIT Technology Review, 4 Sep (2015).
<http://www.technologyreview.com/news/540991/meltdown-proof-nuclear-reactors-get-a-safety-check-in-europe/>
 26. David Dalton (NUCNET), Molten Salt Reactor Research Programme Begins In Europe, NUCNET **176**, 7 Sep (2015). Pdf.
<http://www.nucnet.org/all-the-news/More?skip=500> (upon Login)
 27. Anne Blair Gold, Jan Leen Kloosterman (interview), Are molten salt nuclear reactors safer and cleaner?, Delta, TU Delft, 22 Sep (2015).
<http://delta.tudelft.nl/article/are-molten-salt-nuclear-reactors-safer-and-cleaner/30442>
 28. Roel van der Heijden, Jan Leen Kloosterman (interview), Weg met de meltdown én het plutonium - Kernenergie opnieuw uitvinden, maar dan beter, Kennislink.nl, 2 Okt (2015).
<http://www.kennislink.nl/publicaties/weg-met-de-meltdown-en-het-plutonium>
 29. Interview by Jan Leen Kloosterman about Molten Salt Reactors by the Dutch news broadcast 'Een Vandaag', Nov 5, 2015
https://www.youtube.com/watch?v=OW8OZ8P6_1c
 30. Jiri Krepel, *SAMOFAR – A Paradigm Shift in Reactor Safety with the Molten Salt Fast Reactor*, oral presentation at Thorium Energy Conference 2015 (ThEC15), Bhabha Atomic Research Centre, Mumbai, India, Oct 12-15, 2015
Presentation (PDF):
https://thec15.hbni.ac.in/presentation/A%20paradigm%20shift%20in%20nuclear%20reactor%20safety%20with%20the%20Molten%20Salt%20Reactor_Krepel.pdf
Presentation (video):
<https://www.youtube.com/watch?v=W93xhNoWTVI&feature=youtu.be>
All speeches web page: <http://www.thec15.thoriumenergyconference.org/>
 31. 'Europe has a Thorium MSR Project – SAMOFAR', News item on IThEO.org, Apr 17 2015
<http://www.itheo.org/articles/europe-has-thorium-msr-project-samofar>
 32. Can Europe be the first to build an MSR reactor?, News item on IThEO.org, Nov 25, 2015
<http://www.itheo.org/articles/can-europe-be-first-build-msr-reactor>
 33. *Thorium seen as nuclear's new frontier*, Science Mag, Vol 350 No 6262, Nov 2015, p. 726-727.
<http://science.sciencemag.org/content/350/6262/726.full>
 34. *Safety Assessment of the Molten Salt Fast Reactor – SAMOFAR*, Chapter in Thorium Energy Report, 2015
 35. *Het vuur van Thor*, Bits&Chips 9, Nov/Dec 2015, p.3 (Opinion; in dutch)
 36. *De (bijna) vergeten nuclaire optie*, Bits&Chips 9, Nov/Dec 2015, p. 36-39 (Theme; in Dutch)
 37. Marga van Zundert (based on interview with Jan Leen Kloosterman), "Thoriumreactor krijgt nieuwe kans", Chemisch Magazine, 58, January 2016, p.24-27 (PDF)
 38. Thorium, een duurzame vorm van kernenergie, Jan Leen Kloosterman interviewed by Dutch NPO Radio 1 'De Morgen', Feb 5, 2016

<http://www.radio1.nl/item/342387-Thorium,%20een%20duurzame%20vorm%20van%20kernenergie.html#>

39. Benes, O. and J.L. Kloosterman, Molten Salt Reactor Workshop 2016 ‘Moving MSRs Forward - The Next Steps’, October 4-5, 2016
40. Jan Leen Kloosterman, “Overview of SAMOFAR project”, Technical Meeting on the Status of Molten Salt Reactor Technology, IAEA, Vienna, Austria, Oct 31 – Nov 3, 2016, https://www.iaea.org/NuclearPower/Downloadable/Meetings/2016/2016-10-31-11-03-NPTDS/07_Jan-Leen_Kloosterman.pdf
41. Elsa Merle, “Concept of the Molten Salt Fast Reactor (MSFR) developed at CNRS in France”, Technical Meeting on the Status of Molten Salt Reactor Technology, IAEA, Vienna, Austria, Oct 31 – Nov 3, 2016, https://www.iaea.org/NuclearPower/Downloadable/Meetings/2016/2016-10-31-11-03-NPTDS/04_MSFR-France_IAEA-TM-MSR2016_EML_v31oct2016.pdf
42. Jiří Křepel, “Molten Salt Reactor Research in Switzerland”, Technical Meeting on the Status of Molten Salt Reactor Technology, IAEA, Vienna, Austria, Oct 31 – Nov 3, 2016, https://www.iaea.org/NuclearPower/Downloadable/Meetings/2016/2016-10-31-11-03-NPTDS/09_Jiri_Krepel.pdf
43. Ondrej Benes, “European activities in the MSR project”, Technical Meeting on the Status of Molten Salt Reactor Technology, IAEA, Vienna, Austria, Oct 31 – Nov 3, 2016, https://www.iaea.org/NuclearPower/Downloadable/Meetings/2016/2016-10-31-11-03-NPTDS/12_Ondrej_Benes_EU_activities_Benes.pdf
44. Stefano Lorenzi, “Modelling and experimental activities on Molten Salt Reactors (MSRs) developed at Politecnico di Milano in Italy”, Technical Meeting on the Status of Molten Salt Reactor Technology, IAEA, Vienna, Austria, Oct 31 – Nov 3, 2016, https://www.iaea.org/NuclearPower/Downloadable/Meetings/2016/2016-10-31-11-03-NPTDS/33_Stefano_Lorenzi.pdf
45. Jiří Křepel and Boris Homburger, “Thorium: Atomkraft version 2.0? Hvad, hvordan, hvor meget / Nuclear version 2.0? What, how and how much”, Presentation at the Teknologiske Netværk Ingeniørforeningen, IDA, 4. Feb. 2016
46. Jiří Křepel and Boris Homburger, poster about MSR at the PSI Open Day, 18 October 2015
47. 10 October 2016, PSI web, Current topics from our research, Molten salt reactors – exploring an alternative, Text: Paul Scherrer Institute/Laura Hennemann (me and Andreas Pautz helping) <https://www.psi.ch/media/molten-salt-reactors-exploring-an-alternative>
48. Jiří Křepel, Thorium, Brennstoff der Zukunft, presentation for visitors group at PSI, PSI Forum, 27 Oct 2016
49. Boris Homburger, “Molten Salt Reactors as Waste Burners”, presentation for the Schweizerische Gesellschaft der Kernfachleute, SGK-Apéro, March 7, 2017, Grand Casino Baden
50. Grenoble MSFR team attended the preview version of “Thorium: the far side of nuclear power” by producer Myriam Tonelotto at Citizen Films made with Arte TV in Lyon the September 10, 2016, where the whole Grenoble MSFR team was invited (<http://www.petit-bulletin.fr/lyon/cinema-article-55256-+Teleactive+au+Com%C5%93dia+en+presence+de+Jerome+Jouvray.html>)
51. Beneficiaries CNRS, JRC, TU Delft contributed to “Thorium: the far side of nuclear power” a video by producer Myriam Tonelotto at Citizen Films made with Arte TV <http://samofar.eu/thorium-the-far-side-of-nuclear-power/>

52. Daniel Heuer, participation in the projection and discussion around the movie organized by the scientific journalist french association in Paris in January 19th
(<https://www.ajspi.com/fr/agenda/debat-sur-les-projets-de-reacteurs-nucleaires-a-sels-fondus-de-thorium>)
53. Daniel Heuer attended the official release in Strasbourg, Sept 2016,
https://www.facebook.com/clubpresse.strasbourg/videos/1775615569359143/?video_source=pages_finch_thumbnail_video)
54. Steve Gilmann (based on interview with Jan Leen Kloosterman), “Supercritical CO₂, Molten Salt could stop a nuclear meltdown before it begins”, HORIZON, The EU Research & Innovation Magazine, 24 February (2017), based on interview with Jan Leen Kloosterman, https://horizon-magazine.eu/article/supercritical-co2-could-stop-nuclear-meltdown-it-begins_en.html
55. Jan Leen Kloosterman, “Is thorium een goed alternatief voor kernenergie?” contribution to book "Hoe zwaar is licht; Meer dan 100 dringende vragen aan de wetenschap", Balans, 2017, ISBN 9789460034435, http://www.janleenkloosterman.nl/hoezwaarislicht_201702.php
56. Gijs Zwartsenberg (based on interview with Jan Leen Kloosterman), SAMOFAR – Why the slow coming of a fast reactor actually speeds up the development of ‘slow’ MSR’s, July 5, 2016,
<https://articles.thmsr.nl/samofar-why-the-slow-coming-of-a-fast-reactor-actually-speeds-up-the-development-of-slow-msr-s-e20b32ab3341#.19iycttb>
57. Resat Uzmen, Molten Salt Reactor (MSR) with thorium fuel cycle; new and innovative green nuclear technology for Turkey, ARGE Dergisi, 2017-1, p. 4-7, ISSN:2147-9550
58. Jan Leen Kloosterman, A description of the molten salt fast reactor and the EU SAMOFAR project, ARGE Dergisi, 2017-1, p. 8-11, ISSN:2147-9550

Social media

59. “SAMOFAR (A Paradigm Shift in Nuclear Reactor Safety with the Molten Salt Fast Reactor)” Weblog Eddie Honorato, Apr 2, 2015,
<https://eddiehonorato.wordpress.com/2015/04/02/samofar-a-paradigm-shift-in-nuclear-reactor-safety-with-the-molten-salt-fast-reactor/>
60. “SAMOFAR: The way forward to the ultimate safe nuclear reactor”, Weblog Eddie Honorato, Oct 5, 2015, <https://eddiehonorato.wordpress.com/2015/10/05/samofar-the-way-forward-to-the-ultimate-safe-nuclear-reactor/>
61. “SAMOFAR kick-off meeting”, Weblog Eddie Honorato, Sept 24, 2015,
<https://eddiehonorato.wordpress.com/2015/09/24/samofar-kick-off-meeting/>
62. Launch of SAMOFAR Youtube channel, 25 Feb 2017,
<https://www.youtube.com/channel/UCd2wCkwQwTaxKgibxWcAg0Q>
63. Etiene Gemehl, “Climate Change”, Youtube video, 25 Feb 2017,
<https://www.youtube.com/watch?v=m2JcZUW2wiU>
64. Etiene Gemehl, “Nuclear Fission”, Youtube video, 25 Feb 2017,
<https://www.youtube.com/watch?v=Pr11ijySlqk>
65. Etiene Gemehl, “Nuclear Fuel Cycle”, Youtube video, 25 Feb 2017,
<https://www.youtube.com/watch?v=9gHbtFGtOIA>
66. Etiene Gemehl, “MSFR and Generation IV”, Youtube video, 25 Feb 2017,
<https://www.youtube.com/watch?v=MUzVqbn3Png>

Presentations at GIF meetings

67. Jan Leen Kloosterman, "SAMOFAR project", Presentation at the GIF SSC-MSR meeting, June 2016, Grenoble, France
68. Elsa Merle, "Molten Salt Fast Reactor : demonstrator and SMR", Presentation at the GIF SSC-MSR meeting, June 2016, Grenoble, France
69. Ondrej Benes, "EC-JRC update on MSR activities", Presentation at the GIF SSC-MSR meeting, June 2016, Grenoble, France
70. Jiri Krepel, "Molten Salt Reactors research at PSI", Presentation at the GIF SSC-MSR meeting, June 2016, Grenoble, France
71. Ondrej Benes, "MSR contribution to GIF", Presentation at the 23rd GIF SSC-MSR meeting, Jan 2017, Villigen, Switzerland
72. Jan Leen Kloosterman, "The EU SAMOFAR project goals and contents", Presentation at the 23rd GIF SSC-MSR meeting, Jan 2017, Villigen, Switzerland
73. Jiri Krepel, "Molten Salt Reactor Research in Switzerland", Presentation at the 23rd GIF SSC-MSR meeting, Jan 2017, Villigen, Switzerland

Organisation of workshops/conferences

74. GIF MSR workshop, organized by PSI, Villigen, Switzerland, January 24, 2017