Programme

Tuesday, October 3
18:00-19:00 Welcome and registration, Hof, Akureyri

Wednesday, October 4
08:00 Registration

Opening Session - Chair: Jan Hopman, IMAGE coordinator, TNO

09:05 Welcome - Ólafur G. Flóvenz, ÍSOR-Iceland GeoSurvey
09:15 Welcome - Helgi Jóhannesson, CEO Norðurorka Ltd. - Utility Company
09:30 EC geothermal policy & funding - Filippo Gagliardi, European Commission officer
09:50 Introduction to IMAGE Final Conference - Jan Hopman, IMAGE coordinator, TNO
10:00 IMAGE in magmatic settings - Gylfi Páll Hersir, ÍSOR-Iceland GeoSurvey
10:20 IMAGE in sedimentary/basement settings - Chrystel Dezayes, BRGM
10:40 COFFEE BREAK

Session I - Structures an Fluid Flow - Chair David Bruhn, GFZ Potsdam

11:00 Multi-Faceted Approach for Harnessing the Vast Geothermal Potential of Nevada - James Faulds, University of Nevada
11:20 Permeability and hydraulic conductivity - Domenico Liotta, University of Bari
11:35 A Fracturing Point of View in Geothermal Fields. Case Study: The Trans-Mexican Volcanic Belt - Victor Hugo Garduño Monroy, Universidad Mochoacana de San Nicolas de Hidalgo
11:55 The 3D in-situ stress field and its induced changes in a geothermal reservoir - Moritz Ziegler, GFZ Potsdam
12:10 Geomechanical Play-Fairway Analysis - Nicholas Davatzes, Temple University
12:30 LUNCH

Session II - Geophysical methods 1 - Chair Adele Manzella, CNR

13:30 Innovative Geophysical Tools for Monitoring Geothermal Production and Reinjection Adapted to Exploration Objectives - Chris Bromley, GNS Science
13:50 Ambient seismic noise monitoring during the injection phases at the deep geothermal projects in Basel and St. Gallen, Switzerland - Anne Obermann, ETH Zurich
14:05 Seismic imaging in the Krafia high-temperature, volcanic geothermal field, NE-Iceland: Results from the VSP experiment in well K-18 - Felix Kästner
14:20 Surface-Wave Tomography by Ambient Noise Seismic Interferometry to image volcanic and geothermal systems in South Iceland - Joana Martins, TNO
14:35 Analysis of seismological data on Reykjanes peninsula, Iceland - Hanna Blanck, ÍSOR-Iceland GeoSurvey
14:50 Exploring the potential of imaging a peri-urban geothermal site by using teleseismic receiver functions - Afifa Imtiaz, BRGM
15:10 COFFEE BREAK
Session III - Geophysical methods 2 - Chair Gylfi Páll Hersir, ÍSOR-Iceland GeoSurvey

15:40 Enhanced Characterization of Induced Seismicity - Gregory A. Newmann, Lawrence Berkeley National Laboratory
16:00 High resolution gravity models for sedimentary basins and underlying basement - Jan-Diederik van Wees, TNO
16:15 Hybrid gravity monitoring of Soultz-sous-Forêts and Rittershoffen - Nolwenn Portier, IPGS EOST
16:30 Active and passive electromagnetic measurements in a deep fractured sedimentary basin in peri-urban context in NE Belgium - Virginie Harcouet-Menou, VITO
16:45 MT-inversion techniques with external constraints - Ásdís Benediktsdóttir, ÍSOR-Iceland GeoSurvey
17:00 A surface-hole deep electrical resistivity acquisition in the Larderello geothermal field (Italy) - Enzo Rizzo, CNR-IMAA
17:15 Keynote: Drilling toward Supercritical Fluid: The DESCRAMBLE experience at Larderello - Ruggero Bertani, Enel Green Power

Thursday, October 5

Session IV - Processes and Properties - Chair Chrystel Dezayes, BRGM

09:00 Heat flow measurements in the Acoculco Caldera, Mexico - Rosa Maria Prol-Ledesma, Universidad Nacional Autonoma de Mexico
09:20 Use and development of auxiliary chemical geothermometers for geothermal fluids from crystalline and sedimentary reservoirs - Bernard Sanjuan, BRGM
09:35 The electrical structure of Icelandic deep geothermal - Franck Laurel Nono Nguendjio, Pau University - DMEX
09:50 Physical rock properties and their relation to fluid-rock interactions at supercritical conditions - Juliane Kummerow, German Research Centre for Geosciences
10:05 New (Zealand) perspectives on continental arc geothermal systems - Greg Bignall, GNS Science
10:20 COFFEE BREAK

Session V - Posters - Chair Brynja Jónsdóttir, ÍSOR-Iceland GeoSurvey

10:30 Poster Session - (List of Abstracts on page 10-12)
12:30 LUNCH - Poster Session continues
14:10 COFFEE BREAK

Session VI - Integration and Advanced Modelling - Chair Jan-Diederik van Wees, TNO

14:30 Regional 3D structural and (hydro)thermal modelling of the Upper Rhine Graben - Jessica Freymark, GFZ Potsdam
14:45 Optimum geothermal doublet placement in fractured reservoirs - Jan ter Heege, TNO
15:00 Integrated coupled modelling and microseismic mapping: identifying and targeting volumes with higher potential for transmissivity enhancement in unconventional geothermal applications - Stefano Benato, Cranfield University
15:15 A 3D Geological Static Field Model of the Krafla Geothermal Area, NE-Iceland – constructing a workflow applied to the Pico Alto Geothermal Area, Azores - Unnur Porsteinsdóttir, ÍSOR-Iceland GeoSurvey
15:30 Conceptual model of the supercritical geothermal system in the Larderello area (Italy) using multidisciplinary exploration data - Adele Manzella, CNR
15:45 Thoughts on integrated application in magmatic settings geothermal field models - Simon Lopez, BRGM

16:00 Panel - What next for geothermal energy? - Chair Mike Sandiford, University of Melbourne

16:10 Egill Júlíusson, Landsvirkjun
16:15 Adele Manzella, CNR
16:20 Ömar Sigurðsson, HS-Orka
16:25 Ruggero Bertani, Enel Green Power

17:00 Closing remarks - Jan Hopman, IMAGE coordinator, TNO
List of Abstracts - Poster Session - Display no, alphabetical order of presenter

1. How to establish a very precise chrono-lithostratigraphic log based on cuttings, core samples, gamma ray logs and analogues: application on the Soultz-sous-Forêts and the Rittershoffen geothermal wells (Rhine Graben, France) - Aichholzer, Coralie. EOST

2. 3D Groundwater flow model at the Upper Rhine Graben scale to help locating the deep geothermal resource - Armandine les Landes, Antoine. BRGM

3. A methodology for delineating preferential target areas for geothermal projects based on 3D mechanical and 3D groundwater flow model - Armandine les Landes, Antoine. BRGM


5. Micro-seismicity in Námafjall high temperature area, NE-Iceland - Ágústsson, Kristján. ÍSOR

6. P³ - PetroPhysical Property Database – comprehensive dataset enhancing the determination of empirical correlations between thermal and other petrophysical properties - Bár, Kristian. TU Darmstadt

7. Geological and structural setting of the Eastern Elba Island exhumed geothermal system (Italy) - Bianco, Caterina. University of Bari

8. Vertical seismic profiling survey at the Thonex Well (Geneva) - Bitri, Adnand. BRGM

9. Seismotectonics of the Geysir area in South Iceland during the years 1995 to 2001, revealed with relative earthquake locations - Bjarnason, Ingi Þ. University of Iceland

10. Temperature in the subsurface of the Netherlands from new data and novel modelling methodology - Bonté, Damien. Utrecht University

11. Characterizing permeable structures in geothermal fields – A case study in Lahendong - Brehme, Maren. GFZ Potsdam

12. 3D reconstruction of the electric resistivity with land CSEM Numerical developments and application to geothermal prospection - Bretaudeau, François. BRGM

13. Stress field from fault data inversion in North-East Iceland, Brogi, Andrea. University of Bari

14. Kinematic data of the NE-trending shear zone affecting the Larderello geothermal area (southern Tuscany, Italy) and comparison with local focal mechanisms - Brogi, Andrea. University of Bari

15. Controlled-Source Electromagnetic surveying for geothermal exploration in deep sedimentary and basement areas - Darnet, Mathieu. BRGM

16. Imaging the resistivity structure of the Reykjanes high-enthalpy geothermal field with the Controlled-Source Electro-Magnetic method - Darnet, Mathieu. BRGM

17. Advances in geophysical methods for geothermal exploration in deep sedimentary and basement areas - Darnet, Mathieu. BRGM

18. Improving the depth penetration of seismic surface wave based methods with H/V methods for sedimentary basins - Delatre, Mickael. BRGM

19. 3D Geological and temperature models in the Strasbourg area (Upper Rhine Graben, France) - Dezayes, Chrystel. BRGM

20. Impact of thermal stressing on the strength and permeability in reservoir rocks at Krafla volcano - Eggertsson, Guðjón Helgi. University of Liverpool

21. New tracers: Krafla field test - Gadalia, Alain. BRGM

22. A new research project on interaction of geothermal, tectonic, and magmatic processes in the Hengill area - Geirsson, Halldór. Institute of Earth Sciences

23. Petrophysical and mineralogical characterization of IDDP-2 mini-core samples from depths of 3650 to 4650 m - Escobedo, David. Laboratoire Géosciences Montpellier, presenter: Benoit, Gibert.
24. Electrical conductivity of basaltic and rhyolitic melts from Krafla central volcano, Iceland  
   - Benoit, Gibert. Géosciences Montpellier

25. Exploring the geothermal heat: Seismic properties as a function of reservoir conditions  
   - Grab, Melchior

26. Wave-length of the crustal stress pattern in Western Europe and the Mediterranean  
   - Heidbach, Oliver. VITO NV

27. Alteration Minerals and Fluid Inclusions in Garnet from Geitafell, SE-Iceland  
   - Helgadóttir, Helga Margrét. ÍSOR

28. Low-temperature geothermal exploration in Hoffell, southeastern Iceland. Hot water for the municipality of Hornafjörður  
   - Ingimarsson, Heimir. ÍSOR

29. Validation of the Influence of Cation-exchange Capacity on Resistivity Logs within Hydrothermal Systems  
   - Weisenberger, Tobias Björn. ÍSOR, presenter: Ingimarsson, Heimir

30. Structural-geological impact on soil gas composition at Los Humeros Volcanic Complex  
   - Jentsch, Anna. Helmholtz-Zentrum Potsdam Deutsches GeoForschungsZentrum GFZ

31. Integrated geophysical imaging of Reykjanes, SW Iceland  
   - Jousset, Philippe. GFZ

32. Injection-induced surface deformation and seismicity at the Hellisheidi geothermal field, Iceland  
   - Juncu, Daniel. Institute of Earth Sciences

33. The role of smectites in the electrical conductivity of active hydrothermal systems: electrical properties of core samples from Krafla volcano, Iceland  
   - Lévy, Léa. ÍSOR

34. Thermo-mechanical characterization of the European lithosphere for geothermal exploration  
   - Limberger, Jon. Utrecht University

35. Normal faults and transfer zones during Late Miocene mineralization in eastern Elba Island (Italy)  
   - Liotta, Domenico. University of Bari

36. Fractures analysis and hydrothermal mineralization in the Neogene Geitafell central volcano (Iceland): insights for fluid pathways in the fossil geothermal system  
   - Liotta, Domenico. University of Bari

37. NW-Trending tectonic structres in Krafla geothermal area  
   - Liotta, Domenico. University of Bari

38. Supercritical geothermal resources in Europe: how to IMAGE them?  
   - Manzella, Adele. CNR

39. Surface-Wave Tomography by Ambient Noise Seismic Interferometry to image volcanic and geothermal systems in South Iceland  
   - Martins, Joana. TNO

40. The importance of borehole imaging logs in revealing volcanic facies and structure: Examples from Hawai’i and Iceland  
   - Millett, John. VBPR

41. Supercritical fluid flow close to shallow magma intrusions: suggestions from analogue modelling  
   - Montanari, Domenico. Institute of Geosciences and Earth Resources, National Research Council of Italy (CNR)

42. Geochemical model of high temperature gas-water-rock interaction  
   - Montegrossi, Giordano. CNR-IGG

43. 3D Numerical Model of Larderello Area  
   - Montegrossi, Giordano. CNR-IGG

44. What can we learn from laboratory experiments on tracer behavior?  
   - Muller, Jiri. Institute for Energy Technology (IFE)

45. Ambient seismic noise monitoring during the injection phases at the deep geothermal projects in Basel and St. Gallen, Switzerland  
   - Obermann, Anne. ETH Zurich

46. 3D-ambient noise Rayleigh wave tomography of Snaefellsjökull volcano, Iceland  
   - Obermann, Anne. ETH Zurich

47. Probabilistic sensitivity kernels to image lapse time changes  
   - Obermann, Anne. ETH Zurich

48. What seismic studies reveal about LUSI, a clastic dominated geysering system in Java, Indonesia  
   - Obermann, Anne. ETH Zurich

49. Synthesis of tourmaline under upper crustal conditions: a clue to understand processes occurring in both fossil and active geothermal areas  
   - Orlando, Andrea. CNR - Istituto di Geoscienze e Georisorse, Firenze
50. Practical methods to transfer rock mass fracturing field data to quantifiable values for modelling
   - Peter-Borie, Mariane. BRGM

51. Key situations to lead an optimized and adapted exploration - Peter-Borie, Mariane. BRGM

52. 3-D geological-geophysical model and synthetic seismic reflection modelling along CROP-18A line in the Larderello area - R. de Franco, CNR-IDPA, presenter: Petracchini, Lorenzo

53. Seismic imaging and interpretation of basaltic complexes - Planke, Sverre. VBPR

54. General stratigraphy, volcanic evolution and geomechanical characterization of Pleistocene hydrothermal-altered rhyolitic lavas of the Acoculco Caldera Complex, central Mexico
   - Pola, Antonio. Escuela Nacional de Estudios Superiores - Unidad Morelia. UNAM

55. Geological expression on Flores Island in Indonesia: the transition from oceanic to continental plateau subduction
   - Purwandono, Ahmad Fauzi. Utrecht University

56. Testing vertical seismic profiling (VSP) as a subsurface mapping method at the Krafla volcanic geothermal field in Iceland - Reiser, Fabienne. ETH Zurich

57. Temperature measurement tests in geothermal wells by using synthetic fluid inclusions
   - Ruggieri, Giovanni. CNR-IGG

58. Deep exploration of the Larderello geothermal field (Italy) by means of electromagnetic methods: integrated models and inversion - Santilano, Alessandro. CNR-IGG

59. Surface and body waves ambient noise tomography near Soultz-sous-forêts (France) using the dense EstOF seismic array - Lehujeur, Maximilien. EOST-IPGS, Université de Strasbourg/CNRS, presenter: Schmittbuhl, Jean

60. Influence of the geothermal fluid rheology in the large scale hydro-thermal circulation in Soultz-sous-Forêts reservoir, France - B. Vallier, EOST, Université de Strasbourg, presenter: Schmittbuhl, Jean

61. Real-time seismic monitoring of operational changes at the Hellisheiði geothermal power plant
   - Sigfússon, Bergur. Reykjavik Energy

62. Geodetic imaging of changes in geothermal reservoirs and magma transfer: Towards improved modeling of volcanic and geothermal processes
   - Sigmundsson, Freysteinn. Nordvulk, Institute of Earth Sciences, University of Iceland

63. The Characteristic of Sumatran Geothermal Systems from Geological Perspective
   - Sutrisno, Lukman. Utrecht University

64. Topography, faults, and lithology control the non-magmatic hydrothermal system of the Têt Valley, Eastern Pyrénées (France) - Taillife, Audrey. Géosciences Montpellier

65. Seismic network survey design and performance - Toledo Zambrano, Tania. GFZ-Potsdam

66. Characterization of deep geothermal reservoir using fractal models and linking observed fractures, stress heterogenei-
   ties and micro-seismic observations - Moein, Mohammad. Geological Institute, presenter: Valley, Benoit

67. Novel noise based seismic acquisition and processing techniques, de-risking geothermal exploration and monitoring
   - Vandeweijer, Vincent. TNO

68. Low-cost geothermal exploration through reprocessing of vintage seismic data with a new edge-preserving de-noising algorithm - Carpentier, Stefan. TNO, presenter: Vandeweijer, Vincent

69. Passive seismic reflection interferometry at Reykjanes peninsula, SW Iceland - Verdel, Arie. TNO

70. Imaging and structural analysis of the Geyser field, Iceland, from underwater and drone based photogrammetry
   - Walter, Thomas R. GFZ

71. Continuous MT monitoring: Resistivity variations related to the large March 9, 1998 eruption at La Fournaise Volcano - Wawrzyniak, Pierre. BRGM

72. MT and CSEM data robust processing techniques. New developments - Wawrzyniak, Pierre. BRGM

73. Crustal Stress Pattern of Iceland - Ziegler, Moritz. GFZ Potsdam