

# NCGT Conference Proceeding & Program Guide



NCGT Journal  
New Concepts in Global Tectonics

## Earth & Space Weather NCGT 2026 International Conference

ABSTRACTS



Parma, Italy



September 21–24, 2026

## Parma, Italy NCGT Conference Proceedings and Program Guide

| Day                     | Symposium                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Event                                                                                                                                                                                                     |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 21<br>September<br>2026 | <b><u>8:00 Morning Coffee</u></b><br>Registration - Meet & Greet<br>Setup Panels/Speakers/Posters                                                                                                                                                                                                                                                                                                                                                              | <b>Continental Breakfast</b>                                                                                                                                                                              |
|                         | <b><u>10:00 Opening Ceremony: Editors/Guests</u></b><br>Introduce the NCGT- Editors<br>Introduce NCGT Guests<br><br><b><u>10:15 NCGT Panel Makeup</u></b><br>Panel Commtte Members Guests and Editors                                                                                                                                                                                                                                                          | <b><u>Panel Reviewers</u></b><br>Bruce Leybourne - <i>Chief Editor</i> ,<br>Valentino Straser - <i>Chief Co-Editor</i> ,<br>Stergios Pellis<br>Mick Davis<br>Stefano Calandra<br>Claudio Garone           |
|                         | <b><u>Keynote: New Concepts in Global Tectonics</u></b><br><br><b>10:30 Keynote Presentations</b><br>10:30 NCGT - Stellar Transformers<br>11:00 Earthquakes and Neutrinos<br>11:30 Multiscale Spectral–Fractal Invariants in Complex Earth<br>Systems: From Seismic Criticality to Planetary and Space<br>Dynamics<br>12:00 Challenges to Grid Operations from Space Weather<br><br>12:30 Sentinel Monitoring Project<br><br><b><u>13:00 – 14:00 Lunch</u></b> | <b><u>Speakers</u></b><br>Bruce Leybourne<br>Valentino Straser<br><br>Stergios Pellis<br><br>Glenn Rhoades 📧 (EMP Task Force)<br><br>Claudio Garone<br><br><p style="text-align: right;"><b>Lunch</b></p> |
|                         | <b><u>Special Sessions</u></b> Chairs - Leybourne/Straser/Davis/Ahmala<br><br><b>14:00 Earthquakes Weather Monsoons</b><br><br>14:00 Jishmarj Lakshmi 📧                                                                                                                                                                                                                                                                                                        | <b><u>Presentations</u></b><br><br>Exploring Indian Monsoon Earthquake Relationships within a Space Weather Electromagnetic<br>Conceptual Framework                                                       |

## Parma, Italy NCGT Conference Proceedings and Program Guide

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|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | <p>14:20 Biju Longhinos 📅</p> <p><b>14:45 Earthquake Forecasting</b><br/>Chairs - Leybourne/Straser</p> <p>14:45 Stefano Calandra</p> <p><b>15:45 Coffee Break</b></p> <p>16:00 Serge Shcherbyna 📅</p> <p>16:45 Bruce Leybourne</p> <p>17:30 Cocktail Hour - Dinner Break</p> <p>18:30 End of session</p> | <p><b>Plausible Geophysical Research Scenario for Indian Sub-Continent</b></p> <p><b>EqForecast: an operational probabilistic Earth–Space framework for seismic susceptibility assessment in Italy</b><br/><a href="https://www.earthquakesforecast.com/research.html#when-where-how-strong">https://www.earthquakesforecast.com/research.html#when-where-how-strong</a></p> <p><b>Break</b></p> <p><b>Tectonic Deformation Vectors and Earth Strain Dynamics Preceding the M4.4 Vrancea Earthquake Recorded by Two Three-Axis Laser Tiltmeters</b></p> <p><b>Solar Activity and Space Weather - Stellar Transformer and Harmonic Order Relationships to Global Seismicity and Schumann Resonance</b></p> <p><b>Dinner</b></p> |
| 22<br>September<br>2026 | <p><b>8:00 Morning Coffee</b></p> <p><b>8:30 NCGT - Begin Panel Discussion</b><br/>Panel Commtte Members Guests and Editors</p>                                                                                                                                                                           | <p><b>Continental Breakfast</b></p> <p><b>Panel Discussion</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | <p><b>9:00 Space Weather - Natural Hazards</b><br/>Chairs - Leybourne/Davis</p> <p>09:00 Mick Davis</p> <p>09:45 Bruce Leybourne</p> <p><b>10:30 Coffee Break</b></p> <p>11:00 To Be Determined</p> <p>11:30 Mick Davis</p>                                                                               | <p><b>Schumann Field Intelligence Network Events</b></p> <p><b>Space Weather - New Madrid Seismic-Weather Teleconnections along the Blake Spur Fracture Zone - Ashville, North Carolina Flooding Disaster</b></p> <p><b>Break</b></p> <p><b>To Be Determined</b></p> <p><b>Global Power Grid Monitoring Determining Harmonic Order of the Earth-Sun System</b></p>                                                                                                                                                                                                                                                                                                                                                             |

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|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  | <p><b>12:00 – 14:00 Lunch</b></p> <p><b>14:00 Regional to Global Tetonics</b><br/>Chair - Ahmala</p> <p>14:00 Stefan Ahmala</p> <p>14:30 Vlad Anokhin 📅</p> <p>15:00 Vlad Anokhin 📅</p> <p>15:30 Mojtaba Maleki 📅</p> <p><b>16:00 Coffee Break</b></p> <p><b>16:30 Theoretical Physics - Phenomena</b><br/>Chair - Straser</p> <p>16:30 Volodymyr Krasnoholovets 📅</p> <p>17:00 Valentino Straser</p> <p>17:30 Cocktail Hour - Dinner Break</p> <p>18:30 End of session</p>                        | <p><b>Lunch</b></p> <p><b>The Fennoscandian Surface Conductivity Anomaly, a new view on its Genesis and role in an Electromagnetic Environment and a possible Ionospheric Earthquake Pre-Cursor Phenomena observation over Iceland</b></p> <p><b>Features of the lineament network and tectonics of the Lake Ladoga region</b></p> <p><b>Configuration of Linear Relief Forms and Lakeshores of the Northwestern Part of the Putorana Plateau (East Siberia)</b></p> <p><b>Quantitative Evaluation of Radial Earth Expansion Geometric Constraints, Continental Arrangement, and Geoid Stability</b></p> <p><b>Break</b></p> <p><b>On the possible shock action of the Earth's core</b></p> <p><b>A potential relationship between luminous globes, tectonics and chemistry in the Taro Valley and the Po Plain Valley</b></p> <p><b>Dinner</b></p> |
| <p>23<br/>September<br/>2026</p> | <p>Field Trip: 23 Sept. 2026 with focus on Late Cretaceous flysch and ophiolite formations related to the closure phases of the Ligurian-Piedmont Basin. Among the enigmatic formations attracting the attention of many geologists around the world is the "Devil's Leaps." Furthermore, this area, affected by a strike-slip fault, is home to anomalous atmospheric phenomena and unique ionization patterns that precede earthquakes in this geological context of the Northern Apennines.</p> | <p><b>9:00 – 10:30 Conference for high school students</b><br/><b>10:30 – 12:30 Visit to the city of Parma</b></p> <p>"North -Eastern Apennines, research has been underway for over 35 years to identify candidates for seismic precursors. First observations collected date back to 1983 along the Taro River Seismic Line, considered by the author to be an 'open -air laboratory '."</p> <p>See : Straser, 2020 -<br/><a href="https://www.iiisci.org/journal/sci/FullText.asp?var=&amp;id=ZA981US209:00">https://www.iiisci.org/journal/sci/FullText.asp?var=&amp;id=ZA981US209:00</a></p>                                                                                                                                                                                                                                                   |

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| <p>24<br/>September<br/>2026</p> | <p><b><u>8:00 Morning Coffee</u></b></p> <p><b>8:30 NCGT - Begin Panel Discussion</b><br/>Panel Commtte Members Guests and Editors</p> <p><b>9:00 Space Weather Geophysical Events Climate Change</b><br/>Chairs - Leybourne/Straser<br/>9:00 Valentino Straser</p> <p>9:45 Giovanni Gregori</p> <p>10:30 <b>Coffee break</b></p> <p>11:00 Bill Orr</p> <p><b>11:45 Core - Electro-Magnetic Pulse</b><br/>Chair - Leybourne</p> <p>11:45 Giovanni Gregori</p> | <p><b>Continental Breakfast</b></p> <p><b>Panel Discussion</b><br/><b>Open to Floor for Questions</b></p> <p><b>Precipitation and Earthquakes: A Possible Connection?</b></p> <p><b>Pole-position-analysis (<i>ppa</i>) of seismic catalogues</b></p> <p><b>Break</b></p> <p><b>Mega El Nino, Episodic Hydrothermal Venting, Global Marine Animal Beachings - What Does It Mean?</b></p> <p><b>The <i>superrotation</i> of the inner core (<i>IC</i>) and changes of its mean radius and shape</b></p>                 |
|                                  | <p><b>12:30 – 14:00 Lunch</b></p> <p>14:00 Bruce Leybourne</p> <p><b>14:30 NCGT Summary Panel Discussion</b></p> <p>Bruce Leybourne -<i>Chief Editor,</i><br/>Valentino Straser -<i>Chief Co-Editor,</i><br/>Biju Longhinos -<i>Co-Editor</i><br/>Sergios Pellis<br/>Mick Davis<br/>Stefano Calandra<br/>Claudio Garone</p>                                                                                                                                   | <p><b>Lunch</b></p> <p><b>Magnetotail Collapse after Coronal Mass Ejections Generate Electro-Magnetic Pulse/Geomagnetic Induction Currents from Earth's Core</b></p> <p><b>Questions – Discussion Topics</b></p> <p><b>Tectonic Models</b></p> <p><b>Earthquake - Space Weather Forecasting</b></p> <p><b>Earthquake-Weather Relationships</b></p> <p><b>Golden Ratio Perspectives</b></p> <p><b>Seismic Power Grid Monitoring</b></p> <p><b>Forecasting Software Development</b></p> <p><b>Seismic Monitoring</b></p> |

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|  | <p>15:00 <b>Coffee break</b></p> <p><b>15:30 Final Remarks</b> - Valentino Straser</p> <p><b>17:00 Gregori - Lectio Magistralis</b></p> <p>18:30 Cocktail Hour - Dinner Break<br/>End of Conference</p> | <p><b>Break</b></p> <p><b>Remarks – Conclusions - In Summary</b></p> <p>lectio magistralis by<br/>Giovanni Gregori</p> <p><b>Dinner</b><br/><b>End of Conference</b></p> |
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## Parma, Italy NCGT Conference Proceedings and Program Guide

21 September 2026

### Keynote Presentations

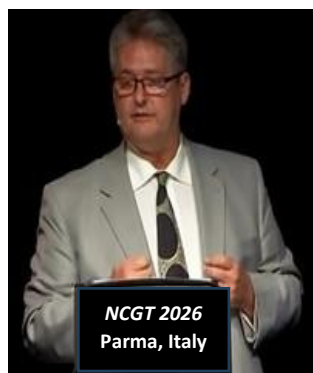
10:30 NCGT - Keynote

## Stellar Transformers and Earth Endogenous Energy

Bruce A. Leybourne

GeoPlasma Research Institute ([GeoPlasmaResearchInstitute.org](http://GeoPlasmaResearchInstitute.org)), Aurora, CO 80014, USA

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**Abstract:** To account for space weather effects to Earth, indeed all the planets... a theoretical framework for understanding that solar step-down energy transfer occurs much like the power company transfers energy to your house with a transformer. Calculating the electro-magnetic (e.m.) magnetic moment vector components during these instantaneous induction effects are modeled with *Stellar Transformer* concepts. Evolved from *Earth Endogenous Energy* theory proposed by Gregori in 2002, where self-organizing positive anode tufts, (biological analogy to “sea-urchin spikes”) project from the Earth’s core. Anode tuft repulsion controls the space configurations of like charge enabling application of golden ratio principles. Gregori’s Tide-Driven (TD) dynamo, incorporates the vertical vector Z-component (sea-urchin spike) as a positive anode tuft protruding into the Earth’s mantle from the core. Where daily tides aligned closely with solar and lunar magnetic moment field variations drive electrical energy production converted mostly to heat, providing Earth with approximately 70% of its internal energy budget. The remaining 30% of the energy budget is due to episodic inputs from magnetic variations driven by solar activity, such as CMEs, solar flares, eruptive filaments, coronal holes... i.e., activity related to sunspot cycles. During these short episodic magnetic field changes... e.g., collapse of the magnetotail from passing electric fields of CMEs the Earth’s core may generate and release vast amounts of overwhelming power very quickly as a positively charged EMP towards Earth’s surface back towards the sun during a noon Stellar Transformer magnetic moment alignment much like a reflection. We correlate “sea-urchin spikes” in some cases at certain geographic locations with 12 o’clock local noon wildfire outbreaks just after passing CMEs. In addition, severe weather outbreaks may also occur depending on the geographic location and orientation of solar magnetic moment effects. Plasma convection is generated due to Earth-Sun e.m. interactions and largely tidally driven (TD dynamo) on Earth. Joule heating largely occurs at the tips of the “spikes”. Thus, anode tufts coalesce into Joule spikes and are considered electrical conduits of energy projecting from the inner/outer core connecting to deep mantle in some tetrahedral duality formation. Due to the self-organizing nature of the anodes, golden ratio applications ideally may be used. To understand the 3-dimensional aspects of these solar induction and EMP effects, we use the concept of Stellar Transformers to explore these phenomena.

**Keywords:** space weather, stellar transformer, Earth endogenous energy, plasma convection, magnetic moment alignment, anode tufts = sea-urchin spikes, tetrahedral duality, golden ratio applications

21 September 2026

11:00 Keynote

## Could high- energy neutrinos trigger earthquakes? The case of deep and simultaneous earthquakes

**Kazunori Miura<sup>1</sup>, Valentino Straser<sup>2</sup>**<sup>1</sup>*Independent Researcher, Sakata, Japan*<sup>2</sup>*GeoPlasma Research Institute, Parma, Italy*[valentino.straser@gmail.com](mailto:valentino.straser@gmail.com)

**Abstract:** There are earthquakes that occur almost simultaneously, almost always with the same magnitude, despite being several thousand kilometers apart in different geological settings. These earthquakes occur with time lags ranging from a few seconds to less than a minute apart. If we rule out coincidence or chance, it is necessary to investigate the possible triggering mechanisms, which are proposed in this study and are useful for formulating hypotheses. Candidates for this research are neutrinos, which are hypothesized to play a role in the energy balance of the lithosphere by interacting with electrons accumulated in areas subjected to tectonic stress. As is known, the interaction of neutrinos with electrons is a fundamental process in subnuclear physics mediated exclusively by the weak nuclear forces. Since neutrinos are particles with no electrical charge, they do not interact through the electromagnetic force and are not subject to strong interactions. This study suggests a correlation between cosmic rays and earthquakes, as there is a clear relationship between the intensity of cosmic rays and the magnitude of earthquakes. Neutrinos and muons, created when cosmic rays enter the atmosphere, are believed to trigger earthquakes. The mechanism is as follows: electrons rise from the Earth's interior and accumulate in rocks. Rocks are dielectric and store large numbers of electrons. Cosmic rays scatter neutrinos and muons across the Earth's surface, and when these penetrate underground, they trigger electrical discharges. The intensity of cosmic rays expands the area irradiated by neutrinos and muons, and a larger discharge area translates into greater earthquake intensity.

**Keywords:** Olivine, neutrinos, electrons, cosmic rays, earthquakes

**21 September 2026****11:30 Keynote**

## **A Multiscale Spectral–Fractal Framework for Electromagnetic Anomalies Before Major Earthquakes**

**Stergios Pellis**[sterpellis@gmail.com](mailto:sterpellis@gmail.com)

**Abstract:** A multiscale spectral–fractal framework is introduced to investigate whether precursor information, if present, is encoded not primarily in a single carrier frequency but in the temporal reorganization of spectral energy, mode coupling, spectral gaps, cross-scale coherence, intermittency, and scaling properties. A time-dependent spectral operator is formulated together with a Pellis-type spectral instability functional intended as a quantitative candidate indicator of structural transition toward a critical regime. The framework is explicitly formulated as a falsifiable hypothesis rather than as an established earthquake- prediction method. Several competing mechanisms are considered, including lithospheric electromagnetic processes, aseismic deformation, solar–magnetospheric forcing, ionospheric filtering, Pc1/EMIC waves, Alfvén-wave coupling, nonlinear power-grid heterodyning, and instrumental effects. Persistent electromagnetic spectral anomalies in the 0.001–30 Hz range have occasionally appeared in two-dimensional Fourier-transform spectrometer data as repeated quasi-rectangular bursts associated with a carrier feature near 2 Hz and a slow modulation near 0.002 Hz. Spectral energy transfer as a vibrational (resonance) transfer proceeds, like a stellar transformer has been proposed, but until investigations into transform processes are resolved, these observations are treated as a candidate nonstationary spectral phenomenon whose physical origin remains unresolved. Thus, understanding these phenomena are established as a line of research in the pursuit of earthquake forecasting. Concluding that independent calibrated ELF and ULF measurements, magnetometer observations, GNSS total- electron-content data, solar-wind and geomagnetic measurements, and synchronized seismic observations are required to distinguish genuine geophysical signals from electromagnetic, ionospheric, power-grid, and instrumental artifacts.

**Keywords:** earthquake precursors; ELF; ULF; electromagnetic anomalies; Pc1/EMIC waves; Schumann resonances; Alfvén waves; heterodyning; spectral dynamics; fractal scaling; critical transitions; multiscale coherence; Pellis spectral framework

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**21 September 2026**

**12:00 Keynote**

### **Challenges to Grid Operations from Space Weather Events**

**Glenn Rhoades**

*U.S. National Power Grid - EMP Task Force Director*

[glennrhoades@gmail.com](mailto:glennrhoades@gmail.com)



**ABSTRACT:** Modern human civilization rests on an intricate, hyper-dependent web of life-sustaining critical infrastructure—nearly all of which relies on a continuous supply of high-voltage electric power. While global catastrophic risk models frequently focus on terrestrial, anthropogenic, or biological threats, the single greatest existential threat to humanity may originate from the Sun. A severe space weather event, specifically a Carrington-class Coronal Mass Ejection (CME) directed at Earth, possesses the capacity to induce severe geomagnetically induced currents (GICs). These currents can permanently destroy high-voltage step-up transformers, collapsing global power grids simultaneously.

Unlike localized natural disasters, a global loss of electrical infrastructure instantly terminates clean water sanitation, industrial food refrigeration, urban supply chains, automated healthcare, fuel distribution, and digital communications. Projections evaluating a prolonged, multi-year, multi-continental grid failure estimate that within one year, 66% to 90% of affected populations could perish due to starvation, waterborne disease, societal collapse, and the complete breakdown of modern medicine. Applied globally across Earth's current population of roughly 8.2 billion people, a total and unmitigated baseline grid collapse could result in 5.4 billion to over 7.3 billion deaths.

This presentation outlines the physical mechanisms through which extreme space weather interacts with long-conductor grid architecture, maps the cascading systemic failures across secondary critical infrastructure, and challenges the international community to reframe space weather preparedness. Hardening grid systems, developing strategic transformer reserves, and implementing real-time global defense policies are not merely options for technological resilience; they are the baseline prerequisites for the survival of the human species.

**Keywords:** Space Weather; Coronal Mass Ejections; Geomagnetic Storms; Geomagnetically Induced Currents; Critical Infrastructure; Power-Grid Resilience; High-Voltage Transformers; Cascading Infrastructure Failure; Global Catastrophic Risk; Grid Hardening; Space Weather Preparedness.

21 September 2026

12:30 Keynote

## SENTINEL SELF-ELF: Design and Experimental Testing of a Low-Cost Electromagnetic Monitoring Station in the SELF-ELF Band for Research on Electromagnetic Seismic Precursors

C. V. Garone<sup>1</sup> · D. Cataldi<sup>1</sup> · G. Cataldi<sup>1</sup> · V. Straser<sup>2</sup><sup>1</sup> Radio Emissions Project<sup>2</sup> GeoPlasma Research Institute, Parma, Italy[claudiogarone@gmail.com](mailto:claudiogarone@gmail.com)

**Abstract:** In this study, we present a new integrated system, called "SENTINEL SELF-ELF," developed using dedicated technology designed to detect weak electromagnetic emissions of presumed pre-seismic origin in seismically active areas. In addition to performing real-time crustal diagnoses, the new device is designed to provide predictive information associated with seismogenesis, both locally and globally. Although the system is still in the experimental phase, it incorporates advanced technologies and represents the evolution of an experimental approach active since 2017. This approach is based on the detection of natural electromagnetic anomalies through the acquisition of directional signals in the ELF band, associated with pre-seismic emissions. By applying a triangulation method, these signals can allow the identification of the future epicentral area within a time window of a few days. Preliminary observations made during the initial operational period are consistent with the detection of ELF (Extremely Low Frequency) directional anomalies preceding seismic events of magnitude  $M \geq 4.5$  in the central Mediterranean region, with lead times of up to 48 hours.

**Keywords:** SENTINEL SELF-ELF; Electromagnetic Seismic Precursors; Extremely Low Frequency (ELF); Seismogenesis; Electromagnetic Anomalies; Triangulation; Detection; Monitoring

**21 September 2026****Chairs - Leybourne/Straser****Special Sessions****Earthquakes Weather Monsoons****14:00****Exploring Indian Monsoon Earthquake Relationships within a Space Weather Electromagnetic Conceptual Framework****Jishma R. Jayan<sup>1</sup>, Biju Longhinos<sup>2</sup>, Bruce Leybourne<sup>3</sup>**<sup>1</sup>*GeoTransect LLP, Trivandrum, India*<sup>2</sup>*College of Engineering Trivandrum, India*<sup>3</sup>*GeoPlasma Research Institute (GeoPlasmaResearchInstitute.org), Aurora, CO 80014, USA*[jishmarilakshmi@gmail.com](mailto:jishmarilakshmi@gmail.com)

**Abstract:** Strong observational evidence supports relationships between Monsoon rainfall and lightning timing to Schumann resonance excitation. Additional evidence of rainfall driving crustal loading and unloading cycles related to earthquakes as well as conductivity changes is well documented. Relationships to explore using the Stellar Transformer electromagnetic space weather conceptual framework include possibilities of lightning and telluric current phase locking at continental scales triggering seismicity, as well as Equatorial Electro-Jet (EEJ) and monsoon lightning synchronization with capacitor charge transfer driving seismicity. The space weather electromagnetic conceptual framework of the Stellar Transformer synthesizes research spanning atmospheric electricity, lightning climatology, ionospheric electrodynamics, hydrologic loading, lithospheric stress modulation, and geo-space coupling. Exploring an innovative new theoretical basis for examining coupled monsoon–lightning–ionosphere–lithosphere interactions.

**Keywords:** Monsoon, lightning, Schumann resonance, earthquakes, Stellar Transformer, space weather, telluric current, Equatorial Electro-Jet, coupled monsoon–lightning–ionosphere–lithosphere interactions

**21 September 2026****14:20****Plausible Geophysical Research Scenario for Indian Sub-Continent****Biju Longhinos<sup>1</sup>, Jishma R. Jayan<sup>2</sup>, Bruce Leybourne<sup>3</sup>**<sup>1</sup>*College of Engineering Trivandrum, India*<sup>2</sup>*GeoTransect LLP, Trivandrum, India*<sup>3</sup>*GeoPlasma Research Institute (GeoPlasmaResearchInstitute.org), Aurora, CO 80014, USA*[biyu.longhinos@gmail.com](mailto:biyu.longhinos@gmail.com)

**Abstract:** Research suggests solar activity influences earthquakes and storm systems throughout Earth's natural circuits. The proposed hypothesis suggests that energy from the Sun is stored in as charge in electrically conductive rock layers deep beneath Earth's surface, creating an electrical charge imbalance with the ionosphere from passing solar winds. As charge balance is restored, Air–Earth electrical currents may increase atmospheric instability and the rotating motion (vorticity) that helps form severe storms. Large space-weather events, such as solar flares and coronal holes and mass ejections, seem to strengthen this process. Severe weather, tornadoes, and hurricanes are becoming more frequent, and in many cases more intense. The location and timing of these effects depends on the Sun's magnetic field, Earth's position in space, and local geophysical conditions. Research of lightning phenomena on the India subcontinent to understanding lightning patterns and identify vulnerable regions, may provide the observational and theoretical basis for examining coupled monsoon–lightning–ionosphere–lithosphere interactions. Focus is on developing forecasting models to mitigate associated risks based on innovations related to Stellar Transformer circuit magnetic moment alignments, variations of solar activity and the ongoing solar minimum. We consider a geophysical tectonic circuit model may be necessary to explain how solar activity may influence the strength and duration of earthquakes, tornadoes, hurricanes, and other extreme weather events.

**Keywords:** earthquakes, storm systems, conductive layers, charge imbalance, ionosphere, Air–Earth currents, space-weather events, local geophysical conditions, lightning patterns, coupled monsoon–lightning–ionosphere–lithosphere interactions, forecasting models, Stellar Transformer circuits, magnetic moment alignment, geophysical, tectonic

21 September 2026

Earthquake Forecasting

14:45

## **EqForecast: an operational probabilistic Earth–Space framework for seismic susceptibility assessment in Italy**

**Stefano Calandra**<sup>1</sup>*EqForecast srl, Venezia, Italy*[s.calandra@earthquakesforecast.com](mailto:s.calandra@earthquakesforecast.com)

**Abstract:** This contribution presents EqForecast as an operational probabilistic framework for seismic susceptibility assessment through the integration of Earth–Space observational signals. The model assumes that weak but periodic external forcings, including lunar cycles at synodic, declinational, and nodal scales and specific configurations of planetary gravitational fields over short windows of a few hours, may modulate over time the predisposition to seismic release of faults close to critical rupture, without constituting the primary energy source of the event, which remains of tectonic origin. On this basis, EqForecast combines astronomical-gravitational configurations, crustal tidal effects, and real-time micro-seismic observations within a multilevel architecture structured into the components WHEN, WHERE, and HOW STRONG. The system, already operating in a real-world environment, enables the identification of selective temporal risk windows together with probabilistic estimates of location and maximum expected magnitude. The aim is not deterministic prediction of the individual event, but the construction of an operational interface between multiscale geophysical modulation, seismic risk, and human decision-making under uncertainty.

**Keywords:** seismic susceptibility, earthquake forecasting, Earth–Space signals, lunar cycles, crustal tides, seismic triggering, probabilistic framework.

21 September 2026

15:45

Coffee Break

**16:00 Tectonic Deformation Vectors and Earth Strain Dynamics Preceding the M4.4 Vrancea Earthquake Recorded by Two Three-Axis Laser Tiltmeters****Serhii Shcherbina<sup>1</sup>, Petro Pigulevskiy<sup>1</sup>, Anatoly Feshchenko<sup>1</sup>, Vadym Shchokin<sup>2</sup>, Oleksandr Aniskov<sup>2</sup>**<sup>1</sup>*S.I. Subbotin Institute of Geophysics of the National Academy of Sciences of Ukraine, Kyiv, Ukraine*<sup>2</sup>*Research Mining Institute of Kryvyi Rih National University (NDGRI), Kryvyi Rih, Ukraine*[nohupforecaster@gmail.com](mailto:nohupforecaster@gmail.com)

**Abstract:** Continuous high-precision monitoring of crustal tilt and tectonic strain was conducted across a regional baseline using custom-designed digital three-axis laser tiltmeters installed at monitoring stations in Kryvyi Rih and Kyiv. Analysis of the polar drift trajectories recorded prior to the August 25, 2026, Mw 4.4 Vrancea seismic event ( $h = 145$  km) reveals a distinct pre-seismic deformation vector. The recorded horizontal azimuth (245-250) aligns precisely with the hypocentral direction toward the Vrancea zone across a baseline distance of approximately 580 km. The time-series data demonstrates a sustained directional shift in tectonic strain propagating outward from the inflating Vrancea source zone over a five-month observation period. Integrating high-sensitivity laser inclinometer with multi-station spatial vectors provides a robust quantitative framework for identifying regional pre-earthquake strain accumulation and assessing long-distance geodynamic coupling across the Ukrainian Shield and Carpathian foreland.

**Keywords:** laser tiltmeter, tectonic deformation, Vrancea zone, pre-seismic strain, crustal tilt, geodynamic monitoring

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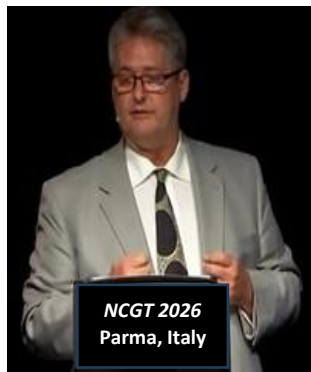
**16:45**

### **Solar Activity and Space Weather - Stellar Transformer Harmonic Order Relationships to Global Seismicity and Schumann Resonance**

**Bruce Leybourne**

*GeoPlasma Research Institute (GeoPlasmaResearchInstitute.org), Aurora, CO 80014, USA*

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**ABSTRACT:** Extremely Low Frequency carrier signals from the Sun and galaxy are hypothesized to transfer energy to Earth through the Stellar Transformer processes. A low-frequency carrier signal to our solar system from the dark central galactic rift may reside within the spiral arm we rotate within carrying frequencies below or near 1 Hz is proposed to resonate as the first harmonic order within the Earth's inner/outer core capacitor-battery. This is considered a base frequency the sun and planets experience together. Power in this spectrum is possibly related to energetic planetary configurations and/or power tied directly to unknown galactic sources. A second order harmonic resonance may reside above upper mantle boundary in the water layer, i.e., between the deep serpentine layer in the asthenosphere and surface waters acting as Earth's second-order capacitor, resonating in the  $\sim 2 - 4$  Hz range. Power grid monitoring found a  $\sim 0.002$  Hz boost as a rectangular wave on top of a  $\sim 2$  Hz carrier on the power grid second harmonic. This second order capacitance layer resonance appears related to vibrations or e.m. resonances coming from the sun within the solar wind. The Pc1 ionospheric and EMCI plasma waves seem to synchronize with the field aligned current in core capacitor when propagating along the magnetosphere in the north and south direction from the magnetic equatorial noon region. Aligning and harmonizing with inner order core field aligned currents is a likely mechanism. Earth's 3rd order harmonic is the Schumann Resonance driven by lightning discharges in capacitance ionospheric layers between space and the surface water layer. Charge from above is equalized by charge from below stored within Earth's deep capacitor-battery layers. The exchange of charge between these 3 orders of harmonic capacitance layers can be modeled as Birkeland current with diocotron instabilities as charge transfer regions between the capacitance layers. The interplay of charge between these layers appears to create the environmental effects we experience such as weather and earthquakes.

**Keywords:** ELF carrier signals, Stellar Transformer, harmonic order, capacitor-battery, upper mantle boundary, deep serpentine, Pc1 ionospheric, EMCI plasma waves, Schumann resonance, core field aligned currents, Birkeland current, diocotron instabilities

**17:30 Cocktail Hour - Dinner Break**

**18:30 End of session**

## Parma, Italy NCGT Conference Proceedings and Program Guide

**22 September 2026**

**Chairs - Leybourne/Davis**

**Space Weather - Natural Hazards**

### **9:00 Schumann Field Intelligence Network**

**Mick Davis**

*Stellar Transformer Technologies*

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**Abstract:** The Solar-Terrestrial Event Localization, Learning and Risk (STELLAR) test bench is the initial concept node in planned expanding series of fielded sensors to create a public/private platform called the Schumann Field Intelligence Network (SFIN). The intention is to create a distributed observatory-as-a-platform: fielding enthusiast grade “off-the-shelf” electromagnetic sensors plus shared data infrastructure, guided model validation workflows, and hypothesis supported API and third-party applications for weather, space-weather, grid, wildfire, aerospace, and geophysical research.

**Keywords:** Solar-Terrestrial Event Localization, Learning and Risk (STELLAR), Schumann Field Intelligence Network (SFIN), distributed observatory-as-a-platform, electromagnetic sensors, space-weather, grid, wildfire, aerospace, geophysical research

## Parma, Italy NCGT Conference Proceedings and Program Guide

22 September 2026

### 9:45      **Space Weather - New Madrid Seismic-Weather Teleconnections along the Blake Spur Fracture Zone - Ashville, North Carolina Flooding Disaster**

**Bruce Leybourne**

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**ABSTRACT:** Unusual patterns of tropical storm systems with a seismic teleconnections may indicate electrical activation of the New Madrid Seismic Zone (NMSZ). Adding an extra concern for recurring earthquakes in New Madrid. The 2024 hurricane season in the United States had 2 hurricanes and one tropical storm low pressure systems that tracked directly over the New Madrid in a recurve pattern tracking back to the west. Considered an unusual pattern, before resuming the more “normal” paths that generally carry them out into the Atlantic. The Blake Spur Fracture Zone (BSFZ) runs from Ashville, NC along the river system running through Charleston, SC and further offshore into hurricane spawning grounds was activated by a series of small earthquakes just west of Ashville, NC according to reports from USGS. In early June 7, 2024 earthquakes were reported to hit this same area within 2 weeks. This is a seismically active area and is known to have earthquakes from time to time, but the hurricanes patterns seemed unusual, and the devastation that occurred in the NC mountain area 2024 from Hurricane Helene surely indicated an extreme unusual event. Electrical seismic energy, like a trickle charge from deep underlying structures, may similarly, like lightning also signal incoming hurricanes. This was indicated by the 3 reoccurring major tropical systems that recurved westward and tracked along the river system running through Charleston, SC along the Blake Spur Fracture Zone (BSFZ) bringing repeated flooding events toward Ashville, NC along this tectonic structure. Other related activity includes: 1.) 08 September 2022 - On the same day Hurricane Kay in the Pacific over the Gulf of California, Mexican Baja, with a simultaneous Hurricane Earl in the Atlantic over Bermuda with Earthquakes in New Madrid intensifying during the buildup of these 2 storm systems and then earthquakes began to dissipate directly as these storms dissipated having with no earthquakes in the region for 4 days after storms weakened leaving the region. 2.) “On Dec. 5th, 2021, a magnetic filament in the sun’s southern hemisphere exploded. The swirling debris of the CME sailed just south of our planet on Dec. 10-11. From the evening of December 10 to the early morning of December 11, 2021, a deadly late-season tornado outbreak produced catastrophic damage and numerous fatalities across portions of the Southern United States and Ohio Valley. Some tornadoes travel over 100 miles due to the intense induction effect spurred by the south bound CME.” 3.) Between 26 - 29 August 2020, the evolution of Hurricane Laura’s impact on the NMSZ was studied with Radio Direction Finder (RDF) arrayed network devoted to earthquake prediction of the Radio Emissions Project in Rome (Italy) with the data from a multivariable electro-seismometer at Cotter Arkansas Observatory, 250 km SE of the NMSZ. This sensor is connected to the national power grid receiving and monitoring radio anomalies in the bands associated with earthquakes and lightning. This Electromagnetic Observatory Monitoring Station (EOMS) uses the U.S. power grid effectively as the input circuitry of an omnidirectional, superheterodyne ELF receiver detected electromagnetic variations correlated with adverse meteorological events characterized by Hurricane Laura.

**Keywords:** New Madrid Seismic Zone; Blake Spur Fracture Zone; seismic teleconnections; hurricanes; tornados; earthquakes; electromagnetic induction; lithospheric conductivity; telluric currents; geomagnetic disturbances; solar activity; coronal mass ejections (CME); magnetotail; space weather; lightning; ELF/VLF radio emissions; Schumann resonance; Radio Direction Finder (RDF); electro-seismometer; power-grid monitoring

## Parma, Italy NCGT Conference Proceedings and Program Guide

**22 September 2026**

**10:30**

**Coffee Break**

**11:00**

**To Be Determined**

22 September 2026

11:30

## Global Power Grid Monitoring Determining Harmonic Order of the Earth-Sun System

**Mick Davis***Stellar Transformer Technologies*[mick.davis@stellartransformertechnologies.com](mailto:mick.davis@stellartransformertechnologies.com)

**ABSTRACT:** Hazardous geoelectric fields can be induced during geomagnetic storms driven by space weather. From Faraday's law, all time-varying magnetic fields induce currents along any natural or artificial conducting pathways. The geoelectric field imposed on the artificial current paths may result in a quasi-D.C. current (i.e. variable AC) from 10's of seconds to many minutes that excites current in power transformers which consequently operate out of the designed range. Thus, the U.S. *Electric Power Community Dashboard* geoelectric field combines information about the time-varying magnetic field together with Earth-conductivity information to estimate regional geoelectric fields. Assisting energy utilities acceleration in improving grid infrastructures resilience and reliability, i.e., to develop a sustainable "hardening of the grid". These induced currents in artificial or natural conductors can create unexpected operational problems of electrical grid, equipment i.e. power lines, pipelines, communication systems. Also natural current pathways on the ground e.g., such as conductive minerals below ground and nearby water bodies conduct these natural power surges or Ground Induction Currents (GICs). North American conductivity values from USGS combined with time series geomagnetic data from NOAA result in continental gridded mV/km values. Integrating the geoelectric field along the conducting pathway calculates the GIC observed at ground level as a time-varying magnetic field. Nesting continental values within a global 3-D Stellar Transformer framework supplies a coupled magneto-electrostatic global model for environmental detection/forecasting. The GIC manifest energy depends on the geographical relationships of the magnetic moments of the incoming energy between Earth circuits, other celestial bodies, although primarily the sun at the time of energy impacts. Important factors governing these magnetic moment relationships are charge magnitude, spin, and polarity of the incoming energy waves and the existing Interplanetary Magnetic Field, i.e. a magnetic field summation within the solar system. How the physical orientation and geographic location of the tectonic "magnetic moments" are coupled to underlying mostly volcanic rocks controlling active internal earth circuits. Common impedance or conducted coupling occurs anytime circuits share part of their respective current paths in this case Earth shares solar space weather circuits. This phenomenon is commonly understood as crosstalk between circuits, in this case driving charge transfer between Space-Earth-Water-Core capacitance layers. Installing a high fidelity network of Extremely Low Frequency (ELF) monitoring stations based on electro-seismometer grid monitoring will be an important supplement to the existing ELF network to determine the energy transfer of capacitance layers and harmonic order of ELF carrier waves from the sun.

**Keywords:** Hazardous geoelectric fields, geomagnetic storms, space weather, Faraday's law, quasi-D.C. current, Ground Induction Currents, Stellar Transformer, Interplanetary Magnetic Field, magnetic moment, internal earth circuits, Space-Earth-Water-Core capacitance layers, ELF carrier waves

## Parma, Italy NCGT Conference Proceedings and Program Guide

**12:00 – 14:00**

**Lunch**

**22 September 2026**

**Regional to Global Tectonics**

**Chair – Ahmala**

**14:00**

### **The Fennoscandian Surface Conductivity Anomaly, a new view on its Genesis and role in an Electromagnetic Environment and a possible Ionospheric Earthquake Pre-Cursor Phenomena observation over Iceland**

**Stefan Ahmala**

*Independent Researcher, Natural Philosopher - Joensuu, Finland*

*Creator of the Youtube Channel A3 Anomalies*

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**ABSTRACT:** We explore the Fennoscandian Surface Conductivity Anomaly (FSCA) and its meteorological role in the environment of Earth's weakening and changing magnetic field. This will lead us ultimately to the discussion about Earth's clouds, and gives us the possibility to bring forward a new way understanding clouds. A possible theory of the FSCA genesis will also be discussed. This paper also presents a possible Ionospheric precursor phenomena of a large earthquake/volcanic eruption in Iceland.

**Keywords:** Surface Conductivity Anomalies, Geology, Meteorology, Spaceweather, Earthquake/Volcanic eruption Pre-Cursor Phenomena, Plasma, Comparative Mythology

22 September 2026

**14:30 Features of the lineament network and tectonics of the Lake Ladoga region****Vlad M. Anokhin<sup>1,2,3</sup>, Naumenko M.A.<sup>1</sup>, Dudakova D.S.<sup>1</sup>**<sup>1</sup>*Institute of Limnology of the Russian Academy of Sciences of St. Petersburg Federal Research Center of the Russian Academy of Sciences (SPC RAS)*<sup>2</sup>*Herzen State pedagogical university,*<sup>3</sup>*Pushkin Leningrad State University, St. Petersburg, Russia*[vladanokhin@yandex.ru](mailto:vladanokhin@yandex.ru)

**ABSTRACT:** Lake Ladoga is the largest lake in Europe and is located on the Russian platform, on the southern boundary of the Baltic crystalline shield, an Archean-Proterozoic craton (Fig. 1C). Based on the digital model of the bottom relief of Lake Ladoga, the most complete of all existing models for this region (Naumenko, 2020), we conducted a lineament analysis of the bottom relief of Lake Ladoga, as well as the river network of the Ladoga area (Anokhin et al, 2016). As a result of the analysis, a general pattern of the lineament network at the bottom of Lake Ladoga and their total directionality, expressed in a rose diagram (Fig. 1A), as well as the total directionality of the river network of the Ladoga area (Fig. 1B) were revealed. The lineament scheme (Fig. 1A) shows the confinement of the main systems of direction of the lineaments of the bottom and the environs of Lake Ladoga to the directions of the 4 main systems of the planetary regmatic network. Fig. 1B shows the rose-chart of the direction of the river network of the Ladoga region, which is very similar to the roses in Fig. 1A, which indicates the commonality of the structural plans of the bottom of Ladoga and the entire region, as well as its correspondence to the systems of the planetary regmatic network (Anokhin, 2006; Anokhin, Odessky, 2001). Next, morphotectonic modeling was carried out, resulting in constructing a scheme of the block-fault tectonics of the bottom of Lake Ladoga (Fig. 2). Based on the results of the study, it can be concluded that the tectonic structures of this region are highly inherited – the depressions of the Proterozoic Pash graben and the Early Riphean Ladoga-Pash graben-syncline are inherited by the modern depression of Lake Ladoga. If we take into account that the fault network of the Archean-Proterozoic region in directions corresponds to the systems of the planetary regmatic network, then we can conclude that this block of the earth's crust has been immobile relative to the poles of the Earth's rotation since at least the Proterozoic.

**Keywords:** Lake Ladoga; Russian Platform; Archean–Proterozoic Craton; Lineament Analysis; Morphotectonic Modeling; Block-Fault Tectonics; Planetary Regmatic Network

22 September 2026

15:00

## Configuration of Linear Relief Forms and Lakeshores of the Northwestern Part of the Putorana Plateau (East Siberia)

Vlad M. Anokhin<sup>1,2,3</sup><sup>1</sup>*Institute of Limnology of the Russian Academy of Sciences of St. Petersburg Federal Research Center of the Russian Academy of Sciences (SPC RAS)*<sup>2</sup>*Herzen State pedagogical university,*<sup>3</sup>*Pushkin Leningrad State University, St. Petersburg, Russia*[vladanokhin@yandex.ru](mailto:vladanokhin@yandex.ru)

**ABSTRACT:** The Putorana Plateau is located on the northwestern edge of the Central Siberian Plateau in Russia. It is a basaltic plateau formed by traps - a complex of stratified intrusions and effusives of Permian- Triassic age. Low- and mid-mountain landscapes predominate on the plateau. Deep sub latitudinal valleys with steep slopes, many of which are filled with lakes, are quite common on the western slopes of the Putorana Plateau. Lakes occupy about 10% of the plateau area, where there is a unique concentration of long (50-150 km) and deep (50-420 m) lakes, usually of tectonic origin. The authors conducted a lineament analysis of extended relief forms – axes of valleys, ridges, river networks and lake shores in the Putorana Plateau area. The analysis method was used by the earlier authors: Anokhin in 2006, 2011; and Anokhin – Maslov in 2009; for identifying primary lines along the axes of extended relief elements (in this case – along the axes of ridges and valleys) with their subsequent unification into extended lineaments at several stages of enlargement. Identification is performed in the MapInfo vector software environment with subsequent transfer to the ArcView environment, in which rose diagrams were built. The drawing of the primary lines and lake shores in the area is shown. The drawing shows that the large lakes in the area are mostly elongated, their shores are usually inscribed in the river network pattern and repeat the directions of the river valleys that they follow. In general, the lake-river network of the region most likely inherits the location of tectonic faults that divide the Putorana Plateau. By successively enlarging the lines of the axes of extended relief forms, a pattern of the largest lineaments of the NW part of the Putorana Plateau was obtained, presumably corresponding to the pattern of faults. Here, the main systems of direction of linear forms are already quite clearly visible - sub latitudinal, diagonal NE (2), diagonal SE (2) and a slightly less pronounced sub meridional. The rose diagram confirms the clear presence of these 4 systems with well-maintained directions of the meridional and NE systems and less pronounced - latitudinal and SE systems (however, they also have clear maxima). At the same time, the systems of lineaments show a tendency to alternate with a step of about 40 km. The identification of well-defined systems of large lineaments with consistent directions in the region and their connection with the linear relief and shores of large lakes indicates a direct dependence of the relief and shores of lakes on the fault tectonics of the region. It is noteworthy that the main systems of relief direction in the region correspond to the 4 main systems of the planetary regmatic network discussed in Anokhin, 2006. The alternation of unidirectional systems with a step constant for a given scale is also a characteristic feature of the regmatic network. The results of the lineament analysis of the relief of the northwestern part of the Putorana Plateau (including the shores of lakes) show that large lineaments in the region form clearly defined systems of direction: sub latitudinal, meridional, diagonal NE and diagonal SE, and also reveal a tendency to alternate unidirectional systems with a constant step of about 40 km, which corresponds to the characteristics of the planetary regmatic network.

**Keywords:** Putorana Plateau; Central Siberian Plateau; Permian–Triassic Basalts; Basaltic Plateau; Tectonic Lakes; Lineament Analysis; Planetary Regmatic Network

**22 September 2026****15:30**

## **Quantitative Evaluation of Radial Earth Expansion: Geometric Constraints, Continental Arrangement, and Geoid Stability**

**Mojtaba Maleki***Independent Researcher TEHRAN-IRAN*[payamanten@gmail.com](mailto:payamanten@gmail.com)

**ABSTRACT:** Despite the broad acceptance of classical plate tectonics, certain large-scale geometric constraints in continental reconstructions remain insufficiently examined. This study revisits the hypothesis of secular radial Earth expansion using a mathematically constrained spherical framework. An idealized three-continent configuration (“ABC problem”) demonstrates that simultaneous divergence on a fixed-radius sphere introduces intrinsic geometric coupling between geodesic distances. A time-dependent radius parameterization is evaluated as an alternative geometric formulation. Order-of-magnitude analysis of degree-2 inertia perturbations suggests that large continental mass redistribution may significantly influence low-degree geopotential harmonics while remaining constrained by observed geoid stability. The framework integrates geometric, gravitational, and spectral considerations and outlines testable geodetic bounds. Rather than replacing plate tectonics, this work proposes an extended geometric interpretation compatible with satellite gravity data and paleogeographic reconstruction.

**Keywords:** Radial Earth Expansion; Plate Tectonics; Geoid Stability; ABC Problem; Spherical Harmonics; Paleogeography; Geopotential

## Parma, Italy NCGT Conference Proceedings and Program Guide

16:00

Coffee Break

22 September 2026

16:30 Chair - Straser

Theoretical Physics - Phenomena

16:30

### On the possible shock action of the Earth's core

**Volodymyr Krasnoholovets**

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**Abstract:** The starting point for this paper is the presence of a large ferromagnetic domain in the center of the Earth's inner solid core, which was theoretically substantiated by C. Teodorescu (2021, 2022) who coined the name 're-entrant ferromagnetism' for this case. This article considers the creation of a powerful shock wave when magnetostriction is triggered in the Earth's ferromagnetic domain, which is a new mechanism for ejecting material from the Earth's surface, in addition to the known volcanic eruptions, the mechanisms of which are activated in the Earth's crust and mantle. The idea of a shock wave originating in the inner solid core is used to explain the tragedy of an ancient, advanced civilization that perished in the Middle East (i.e., a modern transcontinental geopolitical region centered on Western Asia and Egypt in North Africa.) about 12 thousand years ago. In addition, this shock wave, having colossal kinetic energy (maximum at the level of  $10^{23}$  Joules), causes not only enormous destruction on the earth's surface, but is also able to bring lethal doses of high-energy inerton radiation. Thus, the earth core shock action appears to have been a major geological driver affecting Quaternary/Prehistoric environmental baselines, which created a physical reality that directly affected hominid and/or prehistoric settings.

**Keywords:** ancient civilization, ejection of mass, ferromagnetic domain, inertons, magnetostriction, shock wave

## Parma, Italy NCGT Conference Proceedings and Program Guide

**22 September 2026**

**17:00**

### **A potential relationship between luminous globes, tectonics and chemistry in the Taro Valley and the Po Plain Valley**

**Valentino Straser**

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**Abstract:** Taro River Valley in the northwestern Italian Apennines and the Po Valley represent a natural laboratory for studying the interactions between atmospheric light phenomena, electromagnetic fields, and earthquakes. The recurrent appearance of luminous spheres and seismic events in these areas of Northern Italy correspond to specific geodynamic conditions, generated in response to tectonic stresses caused by the ongoing evolution of the Apennine chain, which is extensional in the Taro Valley and compressional beneath the Po Valley. The transmission of crustal stresses in the Taro Valley is profoundly influenced by outcrops of the ophiolite sequence and clayey sediments, the latter of which can act as a vehicle for the propagation of deformations in the subsurface. Laboratory and field analyses have revealed that the silicate mineral content of clayey outcrops, especially in the surface layers, can trigger piezoelectric phenomena and cause variations in the static electromagnetic field. Further analyses carried out in the Po Valley area, on the chemical composition of luminous globes in the atmosphere, have shown a chemical variability that includes alkaline and alkaline earth elements, oxygen and hydrogen and silicon, peculiar to the soil.

**Keywords:** clay outcrops, light phenomena in the atmosphere, electromagnetic fields, seismic recurrences, earthquakes

**17:30 Cocktail Hour - Dinner Break**

**18:30 End of session**

**23 September 2026**

**Field Trip**

## Parma, Italy NCGT Conference Proceedings and Program Guide

24 September 2026

Chair - Straser

Space Weather - Geophysical Events - Climate Change

9:00

**Precipitation and Earthquakes: A Possible Connection?****Valentino Straser***University of Makeni (Sierra Leone – SL)*[valentino.straser@gmail.com](mailto:valentino.straser@gmail.com)

**Abstract:** The study addresses, from an interdisciplinary perspective, the interactions between the lithosphere and the atmosphere, and vice versa, linked to geophysical events and their impact on climate. The study aims to add new data to climate change research. The research focuses on the potential relationship between precipitation and earthquakes as a result of a common mechanism. Numerous studies have linked solar activity to major geophysical events and cloud cover, mediated by cosmic rays. In several cases, intense precipitation, both rain and snow, has occurred near the epicenter after strong earthquakes or seismic swarms. In Italy, this connection can be recalled with the earthquakes in Messina in 1908 (magnitude 7.1), Belice in 1968 (magnitude 6.9), L'Aquila in 2009 (magnitude 6.3), Emilia in 2012 (magnitude 5.9), and central Italy in 2016 (magnitudes 6 and 6.5). Conversely, after prolonged seismic swarms such as the one in January 2023, which affected the area between the Emilia-Romagna and Marche regions in the northern Apennines, floods occurred, with peak rainfall of up to 300 millimeters in the hilly basins. These two distinct phenomena, one endogenous and the other exogenous, lend themselves to interdisciplinary studies for a further understanding of natural phenomena.

**Keywords:** interdisciplinary perspective, climate change, precipitation, earthquakes, solar activity, geophysical events, cloud cover, cosmic rays, seismic swarms, northern Apennines, floods, endogenous, exogenous

24 September 2026

9:45

**Pole-position-analysis (*ppa*) of seismic catalogues****Giovanni P. Gregori<sup>1,2</sup>, Bruce Leybourne<sup>2</sup>**<sup>1</sup>IDASC-Istituto di Acustica e Sensoristica O. M. Corbino (CNR), Roma

now merged into IMM-Istituto per la Microelettronica e Microsistemi (CNR) and ISSO-International Seismic Safety Organization, Italy

<sup>2</sup>GeoPlasma Research Institute ([GeoPlasmaResearchInstitute.org](http://GeoPlasmaResearchInstitute.org)), Aurora, CO 80014, USA[leybourneb@iascc.org](mailto:leybourneb@iascc.org)

**ABSTRACT:** We describe a statistical analysis of seismic catalogues suited to monitor crustal stress propagation either on the planetary scale, or – more generally - inside a given restricted area  $A$ . The procedure must apply a trial-and-check procedure. Relationships to explore include possibilities of lightning and telluric current phase locking at continental scales triggering seismicity, as well as Equatorial Electro-Jet (EEJ) and lightning synchronization with capacitor charge transfer driving seismicity. Data analysis of correlation factors such as; atmospheric electricity, lightning climatology, ionospheric electrodynamics, hydrologic loading, lithospheric stress modulation, and geospace coupling. The result is expected to be negative, according to the rationale of plate tectonics – i.e. of floating plates independent one other. Conversely, the result may be positive for solar forcing by electromagnetic torque as is the case of warm-mud-tectonics (*WMT*). Alignments of crustal stress propagation along these lines that, for plate tectonics, are called “plate boundaries” show that deep mantle or geostream flow and counter-flow structures are around the plate boundaries in the asthenosphere associated with upper lithospheric volcanics. In fact, these lines indicate the preferential propagation of the serpentinization process, associated to a comparatively larger crustal fracturing, hence to a larger availability of water penetrating downward and supplying serpentinization. In this respect, the *ppa* analysis of earthquake catalogues is an important test to support the many controversies with the fashionable plate tectonics model.

**Keywords:** Seismic Catalogues; Statistical analysis; Crustal Stress Propagation; Seismicity; Phase-Locking; Lightning–Seismicity Coupling; Equatorial Electrojet (EEJ); Ionospheric Electrodynamics; Capacitor Charge Transfer; Electromagnetic Seismic Triggering; Solar Forcing; Electromagnetic Torque; Hydrologic Loading; Lithospheric Stress Modulation; Mantle Flow; Asthenosphere; Geostreams; Volcanism; Serpentinization; Warm-Mud Tectonics (*WMT*); *PPA* Analysis

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**Coffee break**

**10:30**

**24 September 2026**

**11:00**

**Mega El Nino, Episodic Hydrothermal Venting,  
Global Marine Animal Beachings – What Does It Mean?**

**Bill Orr**

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**ABSTRACT:** Inner core jerks were hypothesized (2000) as likely responsible for subsequent episodic geothermal venting, explaining increased atmospheric and ocean warming temperature, and what is believed was much of the observed climate change phenomenon, including El Nino Southern Oscillation (ENSO). This hypothesis was advanced since earthquakes had been correlated as six month precursors to every modern ENSO event by researchers in Hawaii. In addition, monumental sea floor heating precedes ENSO events, which appear connected to core mantle boundary interruptions Core-Mantle Boundary Events (CMBE/inner core jerks) preceded by solar activity such as Coronal Mass Ejections (CME's). Subsequent seafloor hydrothermal venting occurs at Basalt Flow Magnetic Remnants and tectonic boundary locations. Research has connected CMBEs to massive inner core electric discharges. Seafloor bathymetry and Sea Surface Temperature (STT) data was visualized and correlated demonstrating the 6 month time lag between precursor earthquakes and episodic venting phenomenon. A valid natural explanation for the vast majority of today's observed climate change phenomena is available, including today's severe heat waves (record breaking temperature), extreme flooding, escalated volcanism, catastrophic wildfires and anomalous marine animal beachings.

**Keywords:** Inner core jerks, episodic geothermal venting, climate change, El Nino Southern Oscillation, sea floor heating, Core-Mantle Boundary Events, Coronal Mass Ejections, seafloor bathymetry, Basalt Flow Magnetic Remnants, Sea Surface Temperature, severe heat waves, extreme flooding, escalated volcanism, catastrophic wildfires, anomalous marine animal beachings

## Parma, Italy NCGT Conference Proceedings and Program Guide

24 September 2026

Chair - Leybourne

Core - Electro-Magnetic Pulse

### 11:45 The *superrotation* of the inner core (IC) and changes of its mean radius and shape

Giovanni Pietro Gregori<sup>1</sup>, Marco Marino<sup>2</sup>, Alberto Incoronato<sup>3</sup>, Bruce Allen Leybourne<sup>4</sup>, Gabriele Paparo<sup>†5</sup>, and Maurizio Poscolieri<sup>6</sup>

<sup>1</sup>Former Senior Researcher at IDASC-Institute of Acoustics and Sensors O. M. Corbino (CNR), Rome, now merged into IMM Istituto per la Microelettronica e Microsistemi (CNR) Italy; and ISSO-International Seismic Safety Organization, Italy

<sup>2</sup>Professor of Mathematics and Science at the Istituto Comprensivo 3 Rodari Annecchino (Pozzuoli); Coordinator Tutor C.I.F.I. at the University Federico II (Naples)

<sup>3</sup>Professor of Geophysics at the University Federico II (Naples) – retired

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<sup>5</sup> Former Senior Researcher at IDASC-Institute of Acoustics and Sensors O. M. Corbino (CNR), Rome, now merged into IMM Istituto per la Microelettronica e Microsistemi (CNR) Italy; Associate INVG <sup>†</sup>Deceased

<sup>6</sup>Former Director of IDASC-Istituto di Acustica e Sensoristica O. M. Corbino (CNR), Roma, at present retired



**ABSTRACT:** The inner core - IC superrotation reported in the literature is shown to be the result of a misunderstanding of observational data that must be interpreted as a change of the mean radius of the IC, consequent to the “battery” operation of the Earth. Two distinct problems are considered: the IC superrotation and the time variation of the radius  $R_{ICB}$  of the IC. The IC superrotation can be computed by considering a stroboscopic effect between the unknown rotation speed of the IC and the average geomagnetic field. This average is usually computed over 1 year (yearly values), but this time lag can be either shorter or longer than 1 year. The stroboscopic effect envisages an IC that spins faster than Earth’s surface (apparent period of  $\sim 369.75 \pm 0.5$  rotations during one solar year of 365.25 days). The IC spins faster than Earth’s surface by  $\sim 370/365.25 \cong 1.01$ , or by  $\sim 1\%$ . A reasonable final value is  $\sim 370 \pm 0.3$  rotations in 1 year, or one rotation period of  $\sim 0.9872 \pm 0.0008$  days  $\cong 23.69 \pm 0.02$  hours. The standard reported observed WD of  $\sim 0.2^\circ \text{ year}^{-1}$  is a beat due to the arbitrary reference to annual mean values over  $\sim 365.25$  days. Conversely the IC experiences a WD of  $\sim [4.5 \pm 0.5] \times 360^\circ/365.25 \text{ year}^{-1} \cong [4^\circ.4 \pm 0.5] \text{ year}^{-1}$ . That is, the stroboscopic evidence is  $\sim 22$  times larger than the expected  $\sim 0.2^\circ \text{ year}^{-1}$  (or,  $\sim 0.24^\circ \text{ year}^{-1}$ ). Upon a closer inspection on the data set by better algorithms than visual inspection, it is found a WD of  $0.287^\circ \text{ year}^{-1}$ , in closer agreement with  $\sim 0.24^\circ \text{ year}^{-1}$ . The IC superrotation reported in the literature relies, rather, on Richards (2000), who used seismic ray paths, from a source in the South Sandwich Islands to an observatory in Alaska. They considered records collected over 28 years. The time difference between arrivals of ray paths crossing, or not, through the IC increases over these decades by  $\sim 0.3 \text{ sec}$ . Richards (2000) explains this by a variation of the speed rate of the IC. Subsequent investigations disputed, sometimes confirmed, sometimes denied, this. The interpretation is, however, in terms of a time variation of  $R_{ICB}$  consequent to the battery behavior of the Earth, in close agreement with independent estimate of the variation of  $R_{ICB}$  based on models of the geomagnetic field from AD 1400 through present.

**Keywords:** Earth’s Inner Core; Super-rotation; Inner-Core Radius; Geomagnetic Field; Stroboscopic Effect; Geomagnetic Westward Drift (WD)

## Parma, Italy NCGT Conference Proceedings and Program Guide

**24 September 2026**

**12:30 – 14:00**

**Lunch**

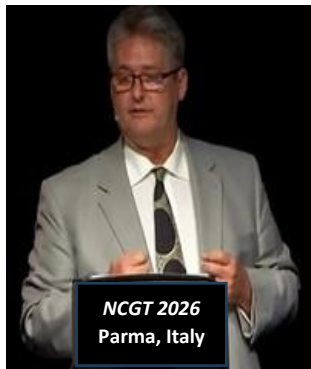
**14:00**

### **Magnetotail Collapse after Coronal Mass Ejections Generate Electro-Magnetic Pulse/Geomagnetic Induction Currents from Earth's Core**

**Bruce Leybourne**

*GeoPlasma Research Institute (GeoPlasmaResearchInstitute.org), Aurora, CO 80014, USA*

[leybournbeb@iascc.org](mailto:leybournbeb@iascc.org)



**ABSTRACT:** For magnetotails to collapse, first they expand due to the passing Coronal Mass Ejections (CMEs). During normal solar wind conditions the Earth's magnetic bubble shows a slight compression and extension of the magnetotail, but during CMEs the bubble is highly compressed on the Sun facing side. While the magnetotail expands and extends in a curved fashion away from the Sun due to the passing of Extremely Low Frequency (ELF) waves in the electric fields of the CME turbulence. Damage to the electrical power grid from solar storm driven Geomagnetic Induction Currents (GICs) not only applies to power black outs during equipment malfunction on the grid. There are also causal links from solar activity to severe weather outbreaks, such as tornadoes and increased seasonal hurricane production with increased intensities. Extreme "grid down" effects are quite common during hurricanes and tornadoes. In addition, certain types of wildfire outbreaks from internal core generated Electro-Magnetic Pulse (EMP) are associated with (CMEs) and may cause grid down scenarios. When core generated EMPs are under continents, they may drive extreme GICs in tectonic induction element structures underlying the grid and transfer induction energies by spreading charge through the deep and surface water layers to power grid infrastructure, such as dams or high-power transmission lines and substations. When this core generated EMP underlies an ocean basin, the deep serpentine layer where water and magmas mix become highly charged from solar CME. This in turn may drive severe weather and tornado outbreak on continents when the ionosphere equalizes this charge to ground. The instantaneous orientation of the CME magnetic moment with tectonic element alignments controls the geographic location and intensity of each specific EMP event. We use innovative Stellar Transformer concepts to model and understand these tectonic modulation controls and effects.

**Keywords:** magnetotail, Coronal Mass Ejections, solar wind, Earth's magnetic bubble, Extremely Low Frequency (ELF) waves, electric fields, electrical power grid, Geomagnetic Induction Currents (GICs), severe weather outbreaks, tornadoes, hurricanes, grid down, wildfire outbreaks, Electro-Magnetic Pulse (EMP), tectonic induction element, induction energies, dams, high-power transmission lines, substations, core generated EMP, deep serpentine layer, ionosphere, magnetic moment, Stellar Transformer

## Parma, Italy NCGT Conference Proceedings and Program Guide

**24 September 2026**

**14:30 NCGT Summary Panel Discussion**

**Bruce Leybourne** -*Chief Editor*

**Valentino Straser** -*Chief Co-Editor*

**Stergios Pellis**

**Mick Davis**

**Stefano Calandra**

**Claudio Garone**

**Questions – Discussion Topics**

**Tectonic Models**

**Earthquakes - Space Weather Forecasting**

**Golden Ratio Perspectives**

**Seismic Power Grid Monitoring**

**Earthquake Forecasting Software Development**

**Seismic Monitoring**

**15:00**

**Coffee break**

**15:30 Final Remarks - Valentino Straser**

**Remarks – Conclusions - In Summary**

**17:00 Gioanni Gregori**

**Lectio Magistralis**

**18:30 Cocktail Hour**

**Dinner Break**

**End of Conference**

## Parma, Italy NCGT Conference Proceedings and Program Guide

### Author List and Bio

#### *in Sequence of Appearance*



**Bruce Leybourne -NCGT Journal - Chief Editor** Publishes nonconventional viewpoints on tectonics and related subjects.  
[www.ncgtjournal.com](http://www.ncgtjournal.com)

**Current Work** Geoplasma Research Institute - **Research Director** – Since 2014, Aurora, CO 80014  
<https://www.geoplasma-research-institute.org/> **Non-Profit** 2014 to advance Stellar Transformer Concepts revealed during seafloor studies (1995) as Geophysicist at Naval Oceanographic Office at Stennis Space Center. Published 2020:  
<https://www.iiisci.org/journal/sci/Contents.asp?var=&Previous=ISS2004>

**Principal Investigator** of energy transfer between Sun – Earth and other planets through a simple induction process uncovered with lightning observations connected to mantle circuits, showing an induction switching mechanism occurs. Driving climate change, increased frequencies of earthquakes, volcanic eruptions, wildfire breakouts & hurricane spates. Coronal Hole and other solar-planetary configurations control many processes.

**Stellar Transformer Technologies** - Startup specializing in geophysical investigations and geospatial software development creating inputs for modeling and other pertinent earth science applications in Climate-Earthquake-Weather Teleconnection Research, Environment Hazard Earth Mapping, Gravity/Magnetic Circuit Models.

**Geophysicist GS-12.4 U. S. Naval Oceanographic Office** Stennis Space Center, MS: Sept. 1985 - Apr. 2003.

#### Education

**Univ. Southern Mississippi**; Hattiesburg, MS, USA; **Geology**; 1991; **Master Science**; 3.9 GPA; 63hrs.

**Univ. NC At Wilmington**; Wilmington, NC, USA; **Geology**; 1982; **Bachelor Science**; 3.4 GPA; 130hrs.

#### Publications/Presentations

- Leybourne, B.A. 2020, **Plenary Keynote Address: Solar Induction of Mid-Ocean Ridges Circuits: Lightning Tells the Story**, 11<sup>th</sup> *International Multi-Conference on Complexity, Informatics, Cybernetics, (IMCIC 2020) Conference Program*, Orlando, FL, March 2020, p. 36.
- Leybourne, B.A. and G.P. Gregori, 2020, **Introduction to Plasma Tectonics & Electric Geology: Solar Wind Coupling to Planetary Circuits Lightning Tells the Stellar Transformer Story**, *Proc. 11<sup>th</sup> International Multi-Conference on Complexity, Informatics, Cybernetics, (IMCIC 2020)*, Orlando, FL, March 2020, pp. 48-54.
- Leybourne, B.A. and Orr, D., 2020, **Global Disaster Forecasting with Space Weather and Geophysical Intelligence**, *Proc. 11<sup>th</sup> International Multi-Conference on Complexity, Informatics, Cybernetics, (IMCIC 2020)*, Orlando, FL, March 2020, pp. 55-60.

#### Electric Universe Presentations

[The Best Documentary Ever - Bruce Leybourne: Earth as a Stellar Transformer Climate Change Revealed](https://www.thunderbolts.info/wp/2015/12/11/bruce-leybourne-earth-as-a-stellar-transformer-climate-change-revealed-eu2015/)

<https://www.thunderbolts.info/wp/2015/12/11/bruce-leybourne-earth-as-a-stellar-transformer-climate-change-revealed-eu2015/>

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**Valentino Straser - NCGT Journal - Chief Co-Editor** was born in Parma, Italy. Conducted research at the International Earthquake and Volcano Prediction Center in Orlando, Florida, USA (2011–2020), the UPKL in Brussels (since 2021), and is currently an adjunct professor at the University of Makeni, Sierra Leone (since 2023), focusing on high-quality climate change research. As Co-Editor in Chief of the international scientific New Concepts in Global Tectonics Journal we collaborates with the GeoPlasma Research Institute. As peer reviewer for international scientific journals, served as Chair at the EGU in Vienna in 2013 in the session dedicated to seismic precursors and at the 4th Globali Summit on Advance in Earth Science and Climate Change in 2025. Author and co-author of over 200 scientific papers published in international scientific journals and speaker at numerous international scientific conferences (India, USA, Russia, Europe; South Africa, Africa, Australia), he has obtained international awards such as: 1.) Recognition of Excellence as Chair at the 4th Globali Summit on Advance in Earth Science and Climate Change (29-30 September, Berlin, Germany); 2.) Lifetime Achievement Award. Scientific Laurels, India (2025); 3.) Award for the best paper in the section "Seismology and Earthquake Geodesy" (2022); 4.) Lifetime Achievement Award at the International Scientist Awards on Engineering, Science and Medicine, held on 6 and 7 March 2021, Goa, India (2021); 5.) Outstanding Scientist Award at

the International Scientist Awards on Engineering, Science and Medicine, November 12, 2021, Visakhapatnam, India (2021); 6.) At the 2022 MedGU Annual Meeting (Marrakech, Morocco), the paper “Comparison of electromagnetic signals before an earthquake using the Radio Direction Finding method” by Valentino Straser, Daniele Cataldi, and Gabriele Cataldi was awarded.

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**Stergios Pellis**

[sterpellis@gmail.com](mailto:sterpellis@gmail.com)

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**James “Mick” Davis** - is a technology executive, systems integrator, and applied-research program builder with more than three decades of experience translating emerging technologies into operational capabilities across naval aviation, electronic warfare and intelligence, cybersecurity, advanced research, distributed computing, and technology ventures. His career has included senior strategy and architecture work supporting U.S. Cyber Command, the Defense Intelligence Agency, NAVAIR, OSD, AFRL, and other national-security organizations. Davis is CEO of Stellar Transformer Technologies, where he is helping transition the Stellar Transformer hypothesis from a conceptual geophysical framework into a testable, sensor-driven digital-twin architecture integrating space-weather, geomagnetic, atmospheric, lightning, ELF/VLF, and terrestrial observations. The STELLAR program is being developed to investigate solar-terrestrial electromagnetic coupling and its potential utility in forecasting natural and technological hazards. His involvement in plasma and solar-terrestrial research extends back more than a decade. Davis served as Advisor on National Security Advanced Research & Development to the SAFIRE project and was a co-author of the 2017 NCGT paper *Evolution of Earth as a Stellar Transformer*. A former U.S. Navy electronic-warfare and intelligence aircrew with more than 4,000 flight hours aboard ISR aircraft, Davis later served in Army National Guard information-operations and security roles. His present focus is the convergence of Space Climate, geophysical sensing, digital twins, data fusion, and falsifiable experimentation to better characterize the coupled Sun–Earth environment.

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**Claudio V. Garone<sup>1</sup>** Remote Management Specialist | Data & AI Specialist | Innovation, Automation and Digital Manufacturing  
Specialist in Operation, Measurement, Remote Management and Verifications with experience in e-distribuzione / Enel Grids, graduated in Industrial Engineering and oriented towards the digital transformation of operational processes. Distinctive skills: data analysis, KPI monitoring, Business Intelligence, TIBCO Spotfire, Power BI, Power Platform, automation, generative Artificial Intelligence, AI agents, IoT, sensors, CAD/CAM, CNC and additive manufacturing. Strong orientation towards innovation, continuous improvement, safety, sustainability and enhancement of data to support operational decisions.

SENTINEL / SELF-ELF Geophysics, research, ELF signals, Ultra-low frequency electromagnetic monitoring, Schumann resonances, ELF natural signals and geophysical data comparison; connection to the Radio Emissions Project and LTPA Observer network.

<sup>1</sup> *Radio Emissions Project*  
[claudiogarone@gmail.com](mailto:claudiogarone@gmail.com)

Prototype Development: Modular environmental station with weather, air quality, soil, rainwater, EM fields and electrosmog monitoring; local dashboard and privacy by design approach.

Transformation of natural signals, EM spheres, seismic, spatial and biological data into sound material for artistic, scientific and popular purposes.

Industrial Engineering - 02/12/2019: thesis on Smart Grids, case study network analysis of a secondary substation with storage system design.

Industrial Expert in Electrical Engineering and Automation - 03/06/2014: upper secondary education / professional qualification.

Industrial Technical Institute - 31/12/2011: qualification for the profession of Electrical and Automation Expert, grade 100/100.

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**Jishma R. Jayan Civil Engineer | Entrepreneur** ([jishmarjilakshmi@gmail.com](mailto:jishmarjilakshmi@gmail.com)) Works as civil engineer, academic, and entrepreneur specializing in geotechnical engineering and translational methods to address real-world environmental and infrastructural challenges.

In December 2020, Jishma **Co-founded Geo-Transect LLP**, ([director@tgeo.co.in](mailto:director@tgeo.co.in)) an interdisciplinary enterprise integrating geotechnical civil engineering, geology, and geophysics to advance vadose zone water management and subsurface site investigations. She holds a DGCA-certified Remote Pilot Certificate (Rotorcraft/RPAS) with specialized training in photogrammetry, LiDAR processing, and drone data application for civil and environmental engineering.

**Education:** M.Tech in Translational Engineering | Govt Engineering College, Barton Hill, Trivandrum (2021–2023)  
B.Tech in Civil Engineering | College of Engineering Trivandrum (2017–2021)

### **Key Expertise & Technical Skills**

Specializations: Translational Engineering, Geotechnical Engineering, Geophysical Subsurface Characterization.

Instruments & Field Testing: Electrical Resistivity Mapping, Magneto-telluric (MT) Instruments, Dumpy Level, DGPS.

Software & Tools: QGIS, Google Earth Pro, Global Mapper, AutoCAD 2D, EPANET.

Certifications: DGCA Certified Remote Pilot (RPAS Small/Rotorcraft)

### **Professional & Entrepreneurial Highlights**

Co-Founder & Director, Geo-Transect LLP: Directs non-destructive geophysical investigations for engineering structure foundations, artificial aquifer recharge, and landslide hazard remediation.

### **Invited Speaker & Keynotes:**

Udyama 1.0 Conclave (DTE, 2024): Talk on Geo-Transect's entrepreneurial journey as a successful academic-industry venture.

Asia Drone Flying Club Kerala Conference (2024): Presented on leveraging drone technology for enhanced geophysical studies.

Arabian Travel Market (Dubai, 2023): Speaker on sustainable vadose zone management design.

World Water Day Seminar (Groundwater Dept, Kerala, 2022): Delivered presentation on lateritic vadose zone artificial recharging.

NCGT Conference Parma, Italy 21 Sept. 2026 To deliver presentaion on “Exploring Indian Monsoon Earthquake Relationships within a Space Weather Electromagnetic Conceptual Framework”

### **Select Research & Scientific Paper Presentations**

"Application of Magneto-tellurics in foundation engineering: A case study" – International Conference on Geology: Emerging Methods and Applications (GEM-2023).

"Subsurface characterization of rock gully exposure using magneto-telluric scanning in Kollam, Kerala" – International Conference on Advances in Science of the Earth (SRTM University / IIG Mumbai).

"India Lightning Studies Reveal Relationship to Monsoons, Stellar Transformer Circuits, and Solar Activity: Plausible India Subcontinent Research Scenarios:", 2025. Bruce Leybourne, Biju Longhinos, Girish T. Easwaraiyer, Jishma R. Jayan, *NCGT-Journal*, V.13, N.10, pp. 1497-1503.

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**Biju Longhinos** – Professor of Geology  
College of Engineering (CET)  
Trivandrum, India

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**Stefano Calandra** is an Italian independent researcher, entrepreneur, and research director of **EqForecast srl** (Venice, Italy), where since 2016 he has led the development of operational models for seismic forecasting based on the integration of Earth–Space observational signals, crustal tidal effects, historical seismic statistics, and real-time micro seismic data. His work focuses on the identification of selective windows of seismic susceptibility in time, space, and expected magnitude, with particular attention to the interaction between astronomical-gravitational configurations and fault systems close to critical rupture.

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**Serhii Shcherbyna** - PhD Phys.-Math from Department Seismology IGPH NAS Ukraine, Crimea, Simferopol, Kyiv 05/2015 – present: Research is focused on development of special methods, devices and software for earthquake forecasting. What was developed and used successfully: - methods of earthquake forecasting by spectrum of the microseismic noise from records of USGS seismic stations. It is based on the use of 17 USGS seismic stations from around the world. Where about 482 earthquakes were predicted by magnitude and time, from 2014 to now; - earthquakes forecast based on using vacuum gravimetry, that allowed prediction of about 17 earthquakes from February 2018 to start 2019 year; earthquakes forecast based on using a 2D laser deformography, that allowed prediction of about 66 earthquakes before start of the war in Ukraine; - earthquakes forecast in Romania on basis of using fractal dimensions FD1 and FD2. Last Earthquake in Romania was predicted about 10 days before its realizations. All forecast methods used special scientific variant C code GSL for development of special software for real-time forecasting. My areas of expertise span over: Seismicity, earthquakes preparing, level water in borehole dynamics, vacuum gravimetry, seismic waves propagation, laser devices development, fractals researches, geophysical software development, real-time earthquakes forecasting, software development for seismic hazard assessment, seismometers development, seismic devices calibration, digital 24-bits device development, geophysical device certifications. My main research focus during the

past 40 years is based on development of special methods, devices and software for earthquake forecasting. My last successful contribution to this field was estimated in the framework of STCU grant N 6065 “The Information Technology Based on New Laser Devices for Seismic Hazard Assessment”. This grant allowed development of a new 2D laser deformography system for measurement displacement of the Earth by two directions that are oriented by special angles to NS & EW. Additionally, 2D special infrared devices were developed for calibrating different geophysical devices – lasers, seismometers, accelerometers. From 2014 to now a real-time earthquake forecast method was started based on using special software for estimations of the spectra microseismic noise records from different USGS seismic stations. This method allowed to predict in reality more than 450 earthquakes in framework parameters of the time and magnitude. The laser method for earthquake forecasts allows us to calculate the coordinates. Using both methods gives the possibility to predict earthquakes by all necessary parameters – the time, coordinates & magnitude. The last successful fractal forecast Romanian Earthquake gives a sense to build an attempt to test this method for predictions by Israeli space-time earthquake sequences in frameworks of this project.

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**Glenn Rhoades** spent over 36 years at Martin Marietta (MMC), Lockheed Martin (LMCO), Jefferson County Government, Home Depot, Best Buy, Lowes, National Non-Profits and Organizational Advisory Boards in various positions including: executive management, engineering planning, special product sales/consulting, operations, administration, subcontract management. He holds a Bachelor of Arts in Environmental Design (Urban Sustainable Habitat and Product Design) degree from the University of Colorado and a Master of Business Administration degree from the University of Phoenix. From 1979 through 1982, Mr. Rhoades studied language at the Mangold Institute in Madrid, Spain and worked for the Christian ministry, The Navigators, at the University of Santiago de Compostella in Spain and studied philosophy and ethics at L'Abri Fellowship in Huémoz, Switzerland. He joined Martin Marietta in 1979 and retired in 1999 from the Lockheed Martin Corporation. He was on the 1988 Martin Marietta Operations team that took over operations of Johns Manville's World Corporate Headquarters located in Deer Creek canyon southwest of Denver and later helped the LMCO facilities team relocate the newly acquired

General Dynamics Centaur and Atlas Rocket programs from San Diego to Denver. In 1990, Mr. Rhoades was presented the Marietta Martin Peter B. Teets Presidential Inventors Award for his work on the Graphic Equivalency Ruler, a concept tool that Martin Marietta deemed as having a significant potential use by aerospace engineers and designers. Some of the MMC and LMCO projects included the Instrumentation and Flight Safety System Program (IFSS), the Small Intercontinental Ballistic Missile Program (SICBM), the Peacekeeper Missile Program (MX), the Barstow, California Heliostat plant and various interplanetary spacecraft labs and operations support. He holds a Martin Marietta patent award for the Graphics Equivalency ruler which MMC deemed a valuable tool for engineers to translate drawings from one scale to another with ease. In 2002, he was the Republican Nominee for Colorado's newest 7th Congressional District's State Board of Education seat and later for Colorado House District 26 in 2006. He also served as an Associate Member of the Foresight Institute, which promoted nanotechnology awareness and education and served on the Jefferson Center of Mental Health Board of Directors. In 2003, he became the CEO and founder of the Colorado Nanotech Initiative, Inc., 501-c3 non-profit. He joined the group in February of 2003 whose mission was to bring Colorado into the National Nanotechnology Infrastructure Network (NNIN). In that same year he became a member of the National Science Foundation's workshop on the ethical, societal and legal implications of nanotechnology. On November 16th, 2006, he helped open the University of Colorado's Nanofabrication Lab which finally allowed Colorado to be accepted into the NNIN. Later in 2008, Mr. Rhoades was appointed to the International Editorial Advisory Panel for the International Journal for Green Nanotechnology-Biomedicine published by the Taylor and Francis Group London, England. He also served as an advisor to Left Side Research, Montana. In 2014, Mr. Rhoades joined Dr. Peter Pry's Electromagnetic Pulse Task Force on National and Homeland Security, first as the Colorado State Coordinator and in 2015 promoted to the Director of US National Operations. He is currently the National Executive Director. The team works to bring public awareness of a multitude of threats from EMP, CME, cyber, directed energy and physical actions that could damage or destroy the American power grid. The Task Force does not accept funding from, nor endorse any product to ensure our mission remains objective and unbiased. However, based on the public-interest, we do encourage potential innovation concepts that appear to address and may warrant further review and testing by qualified technical personnel. He is also served as a national steering committee member of the Secure the Grid Coalition, co-chaired by former Clinton Administration CIA Director, James Woolsey and former US Representative, Newt Gingrich and was a past member of InfraGard's Electromagnetic Pulse Special Interest Group (EMP-SIG), an information-sharing partnership between federal law enforcement and critical infrastructure providers, organized under Presidential Decision Directive 63 and with oversight by the Federal Bureau of Investigation. He has been interviewed on several films, television and radio stations including The Black Sky Event feature documentary film, <https://vimeo.com/user70267526/review/468258966/6b8af6d6d6> Fox 31 and KOA in Denver, WLS in Chicago, Coast to Coast AM, a syndicated late night radio program and multiple other radio and television stories. He and his family live in Lakewood, Colorado,

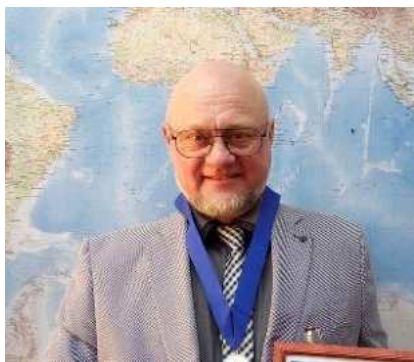
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**Stefan Ahmala**

Independent Researcher, Natural Philosopher, Creator of the Youtube Channel A3 Anomalies



## Parma, Italy NCGT Conference Proceedings and Program Guide



**Vlad M. Anokhin** <sup>1,2,3</sup>

[vladanokhin@yandex.ru](mailto:vladanokhin@yandex.ru)

<sup>1</sup>*Institute of Limnology of the Russian Academy of Sciences of St. Petersburg Federal Research Center of the Russian Academy of Sciences (SPC RAS)*

<sup>2</sup>*Herzen State pedagogical university,*

<sup>3</sup>*Pushkin Leningrad State University, St. Petersburg, Russia*

**Education:** Engineer-geologist, Leningrad Mining Institute, 1981;

Specialist in computer processing of geophysical data, Lomonosov Moscow State University, 1991;

Candidate of Geological and Mineralogical Sciences (fault tectonics of the Barents Sea), 1997;

Doctor of Geography (Global Geomorphology), 2011.

### Teaching activity

- Professor of the Department of Physical Geography and Nature Management of the Faculty of Geography, Herzen State University,
- Professor of the Department of Geography and Tourism of the Faculty of Geography, at the Pushkin State University. Russian State Pedagogical University. Herzen, conducting courses: "History, theory, methodology of geography", "Methods of physical geography", "Recreational geography", "Modern problems of physical geography", "Water and civilization", "Modern trends in physical geography research".
- Conducting internships for Russian State Pedagogical University students at VSEGEI, VNIIOkeangeologiya, INOZ FRC RAS.
- Management of 2 candidates and 3 master's theses.

**Positions:** geologist at SSC Yuzhmorgeologia, Gelendzhik, 1981-86;

Senior Researcher at VSEGEI, St. Petersburg, 1986-2002;

Leading Researcher VNIIOKEANGELOGIA, St. Petersburg, 2002-2014;

Director of Institute of Limnology, Federal Research Center of the Russian Academy of Sciences, 2015 – present;

Professor at the Herzen State University 2016 - present.

Professor at the Pushkin State University 2022 - present.

### Publications

More than 170 scientific publications, including 4 monographs, 3 sets of State geological maps of Russia, 51 articles in the RSCI, 16 articles in the SCOPUS and Web of Science indexing.

**Experience:** More than 30 years of field and marine research in various regions of the Arctic, Siberia, Far East, Pacific and Indian Oceans. Participation in 22 multi-year budget projects (in 4 as a project manager), including:

- prospecting for alluvial gold on the islands of the Arctic Ocean (1979, 1980);
- geological and ecological-geological mapping (including drilling), geophysical survey and interpretation of seabed data in the Pacific, Indian, Black, Baltic and Barents seas, Ladoga, Onega, Ilmen lakes, etc. (1981-1986, 1990-2001);
- Search for Fe-Mn nodules and crusts in the Pacific, Indian Oceans and the Baltic Sea (1985, 1986, 1992-1994, 2001-2017);

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**Mojtaba Maleki** is an independent researcher from Iran specializing in geophysics, Earth expansion theory, and large-scale paleogeographic reconstructions. With extensive experience in quantitative modeling of Earth's geometric and gravitational parameters, he investigates fundamental constraints on continental arrangements, geoid stability, and mantle dynamics. His research integrates spherical mathematics, geodesy, satellite data interpretation, and theoretical geophysics to explore testable extensions of classical plate tectonics. Dr. Maleki has contributed several studies focusing on radial Earth expansion, geoid harmonics, and the influence of solar radiation and space weather on Earth's climate over geological time. His work combines geometric analysis, numerical simulations, and observational constraints to develop coherent models that reconcile large-scale continental divergence with gravitational and energetic feasibility. He is proficient in mathematical modeling, spherical harmonic analysis, geodetic data interpretation, and scientific visualization, including the development of illustrative tables and charts for comparative studies across geological eras. His approach emphasizes testable predictions compatible with paleomagnetic, geodetic, and satellite datasets. Mojtaba Maleki holds a deep interest in interdisciplinary research connecting geophysics, planetary science, and climate evolution. He is committed to rigorous scientific methodology and to providing frameworks that can be directly tested against observational data, contributing to a better understanding of Earth's dynamic evolution and its long-term interactions with the Sun and space environment.

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**Dr. Volodymyr Krasnoholovets** was born in Kyiv, Ukraine. I graduated from a mathematical school and then became a student of Kyiv Taras Shevchenko National University, Department of Physics, Faculty of Theoretical Physics. The master's degree was received in 1979. For the next several years, I worked as an experimentalist in the area of superconductivity at the Institute for Metal Physics, National Academy of Sciences of Ukraine, Kyiv. Since the end of 1981, I have been working at the Department of Theoretical Physics, Institute of Physics, Natl. Acad. Sci., Kyiv. A PhD thesis was defended in 1987, which was devoted to the study of a proton polaron model in compounds with hydrogen bonds, including biological systems. At the Department, I focus on condensed matter physics. Since 1993, I am a Senior Research Scientist. In the mid-1980s, I also began to take an interest in the foundations of physics. The first paper in this field was published in 1993. In 1998-2003, I actively worked with one of the classical French mathematicians, Prof. Michel Bounias (1943- 2003). Together with M. Bounias, a theory of real physical space was developed, which started from pure mathematical principles, namely, set theory, topology, and fractal geometry. I predicted and then measured a new physical field that is as fundamental as the electromagnetic field; it was named the *massotension field*, whose carriers are *inertons*, the carriers of fragments of mass. Inertons fill our entire environment and can seriously affect our lives. Inertons are harbingers of earthquakes and volcanic eruptions, but nowhere to this day have appropriate devices been installed to measure the intensity and frequency of inerton signals; geophysicists ignore devices for measuring mass flows and local changes in the gradient of the gravitational-inertonic field. Similarly, inertons are particles of dark matter, and their measurements require astrophysical observatories, which should open a new direction in astrophysics — inerton astronomy. In this direction — also complete disregard on the part of astronomers and astrophysicists. Another professional interest is applied physics, in which the main interests lie in the energy sector with simultaneous defence of the environment (there is also no interest from investors, governments, and local communities). I was an editor of several books and collections of works dealing with quantum physics and gravity. The total number of scientific publications is around 120.

## Parma, Italy NCGT Conference Proceedings and Program Guide



**Bill Orr - Former Chief Investigator, Earth Climate Research Institute – Chemical/Patents**

Author: 6/23/2009 Scientifically Challenging EPA's Proposed GHG-Endangerment Rule "A Scientific Challenge of EPA's Proposed Finding of Endangerment that CO<sub>2</sub>, Methane, Nitrous Oxide, Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride, collectively or individually, are causal agent(s) or contributors of Climate Change (230 pages)."

## Parma, Italy NCGT Conference Proceedings and Program Guide



**Giovanni P. Gregori** (born 1938), Degree in Physics (1961, *University of Milan*), “*Libera Docenza*” in Terrestrial Physics (1971), was elected “*Associate*” of the *Royal Astronomical Society* (1991), and also Honorary Member of the *Deutsche Geophysikalische Gesellschaft e. V.*, *Arbeitskreis Geschichte der Geophysik* and Member of the *Athens Institute for Education and Research (ATINER)*, and Member of *ISSO – International Seismic Safety Organization*. During 1991-1995 he was elected Member of the “*Executive Committee*” of *IAGA*. He chaired different *IAGA Commissions* – including the *Interdivisional Commission on History of IAGA* - and convened several thematic workshops. He is in the Editorial Board of a few international journals. During 1963-2005 he served as CNR researcher investigating Earth sciences at IFA and IDASC. Since retirement, he is “*CNR Associate*” at *IMM*. He is the author of three monographs and of a few hundred papers in the international literature. My leading scientific focus has been twofold. On the one hand, the formal job with CNR was concerned with solar-terrestrial relations – hence with whole geophysics, including climate change. Hence, the monograph published in 2002. At present, I am still very active in this branch. On the other hand, after retirement (in November 2005), the focus returned to my teenage dream, i.e. to re-establish anew theoretical physics starting from basic axioms and avoiding paradoxes. After publishing a monograph in 2005, unbelievably, I afforded to accomplish this “impossible” target. This result was published in a series of papers, shared with several coauthors. The last paper is labelled 2026w. Every coauthor – being a true scientist - humbly objected his limited contribution. My reply was that even a small brick is fundamental for building a skyscraper. My book 2025 - which is the object of my talk - is an attempt to deal with this entire perspective from an epistemological viewpoint, avoiding as much as possible mathematics.

I want to thank the *NCGT Journal* for publishing my several papers, which are generally against the main flow of the fashionable “generally agreed” paradigms. I emphasize the great merit of *NCGT* for being a true *Journal*, which feels the fundamental role of freedom of thought for the progress of knowledge. The journal was born originally for contrasting the unproven paradigm of plate tectonics, and has now become the unique, maybe, fully open-minded journal in scientific literature. This is a great merit indeed.

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