

13TH INTERNATIONAL CONFERENCE ON
**ARCHAEOLOGICAL
PROSPECTION 2019**

28 AUGUST - 1 SEPTEMBER 2019
SLIGO - IRELAND



CONFERENCE PROGRAMME

Programme – Wednesday 28 August

08.00	Registration
09.00	Welcome to IT Sligo James Bonsall
Session 1: <i>I am of Ireland</i>: How we use Archaeological Geophysics in Ireland, Keynote Presentations	
09.20	Irish perspectives on archaeological prospection Michael MacDonagh
09.50	Policy and Practice: Archaeo-geophysical surveying and TII Archaeology and Heritage Rónán Swan
10.20	National Perspectives: The Heritage Council and Archaeology Virginia Teehan
10.50	Coffee, Exhibition and Posters
11.20	The Discovery Programme: 26 Years of integrated archaeological survey in Ireland and Europe Anthony Corns
Session 2: <i>Discoveries and Explorations</i>: Irish Archaeological Prospection Research	
11.50	Microgravimetry for cavity detection– an example from pilot measurements on Newgrange passage tomb (Brú na Bóinne World Heritage Site, Ireland) Roman Pasteka, Pavol Zahorec, Juraj Papco, Conor Brady, Kevin Barton
12.10	Unusual monuments, Unusual molecules: geochemical processes at work in County Limerick, Ireland Heather Gimson, Cian Hogan, Ursula Garner
12.30	Lunch, Exhibition and Posters
13.30	Rise of the Machines: Improving the identification of possible graves in GPR data with interactive survey guidance and machine learning Ashely Green, Paul Cheetham,
13.50	When the Norsemen return: Complementary GPR surveys at the Viking Age site Woodstown in Waterford County, Ireland Petra Schneidhofer, Christer Tønning, James Eogan, Erich Nau, Alois Hinterleitner, Ian Russell, Terje Gansum, Wolfgang Neubauer
14.10	Newgrange, New Monuments and New Perspectives Joanna Leigh, Geraldine Stout, Matthew Stout
14.30	Hidden Depths and Empty Spaces: the contribution of archaeological prospection to the study of early medieval Ireland Susan Curran
14.50	Visualizing the Village: A Comparative Assessment of Remote Sensing Methods on Inishark, CO. Galway, Ireland Sean Field, Ian Kuijt

Programme – Wednesday 28 August (cont.)

15.10	Coffee, Exhibition and Posters
Session 3: Archaeological Prospection for Urban Environments	
15.40	The challenge of urban archaeological geophysics: the example of Grand'Place in Brussels Michel Dabas, François Blary, Gianluca Catanzariti, Paulo Charruadas, Sébastien Flageul, Benjamin Van Nieuwenhoeve, Philippe Sosnowska, Alain Tabbagh
16.00	Archaeological guidelines for geophysical survey in urban environment Guglielmo Strapazzon, Dimitrios Oikonomou, Evan Alevizos, Kleanthis Simyrdanis, Melda Küçükdemirci, Apostolos Sarris
16.20	The Archaeology of 20th Century Sports and Leisure: topophilia, interiography and texture Chris Gaffney, Tom Sparrow, Alex Corkum, Helen McCreary, Chrys Harris, Jason Wood
Session 4: Interpretation and presentation of prospection results	
16.40	When finding nothing is interesting Kris Lockyear
17.00	Manifestation of the urban design of ancient cities in N. Greece by archaeological prospection Gregory N. Tsokas, Panagiotis Tsourlos, George Vargemezis
17.20	Looking for military remains of the Battle of Gergovia: Benefits of a towed multi-frequency EMI survey François-Xavier Simon, Guillaume Hulin, Yann Deberge, Marion Dacko
17.40	Close
19.00-21.00	Welcome Reception – The Model

Programme – Thursday 29 August

Session 5: Interpretation and presentation of prospection results	
09.00	First 3D reconstruction of the palaeoenvironment at the Mesolithic site of Duvensee using geophysics and geoarchaeology Erica Corradini, Dennis Wilken, Marco Zanon, Daniel Gross, Harald Lübke, Diana Panning, Katharina Rusch, Rebekka Mecking, Ercan Erkul, Natalie Pickartz, Ingo Feeser, Wolfgang Rabbel
09.20	Investigating a tumulus in the Etruscan necropolis of Banditaccia – Applying multiple non-invasive prospection methods on a World Heritage Site Mario Wallner, Immo Trinks, Ingrid Schlögel, Alois Hinterleitner, Hannes Schiel, Tanja Trausmuth, Fabio Colivicchi, Maurizio Forte, Wolfgang Neubauer
09.40	Quantification of Daub Masses based on Magnetic Prospection Data Natalie Pickartz, Robert Hofmann, Stefan Dreibrodt, Knut Rassmann, Liudmyla Shatilo, René Ohlrau, Dennis Wilken, Wolfgang Rabbel
10.00	Conclusions from Twenty Years of Electrical Resistivity Tomography (ERT) Surveys in Israel for Archaeological Prospection Paul Bauman, Alastair McClymont, Eric Johnson, Richard Freund, Randy Shinduke
10.20	Interpreting GPR data from Jaffna Fort, Northern Sri Lanka, using historic maps and new excavations Armin Schmidt, Prishanta Gunawardhana, Christopher Davis, Duncan Hale, Robin Coningham, P. Pushparatnam, Richie Villis, Mark Woolston-Houshold, Mark Manuel
10.40	Coffee, Exhibition and Posters
Session 6: Interpretation and presentation of prospection results	
11.10	Geophysical Evidence for the Timing, Pace, and Complexity of Construction at the Poverty Point World Heritage Site, Louisiana, USA Michael Hargrave, R. Berle Clay, Diana Greenlee, Rinita Dalan
11.30	The Origins of the West Plaza Rise at the Poverty Point World Heritage Site, Louisiana, USA Rinita Dalan, Diana Greenlee, Michael L. Hargrave, R. Berle Clay, Thurman Allen, George Holley
11.50	The sunken trade centre of Rungholt – Geophysical investigations in the German North Frisian Wadden Sea Michaela Schwardt, Dennis Wilken, Hanna Hadler, Annika Fediuk, Tina Wunderlich, Andreas Vött, Wolfgang Rabbel
12.10	Harbours from Antiquity to the Middle Ages: a Geophysical Panorama Wolfgang Rabbel, Dennis Wilken, Tina Wunderlich, Annika Fediuk, Michaela Schwardt, Daniel Köhn, Clemens Mohr, SPP 1630 Working Groups
12.30	Lunch, Exhibition and Posters

Programme – Thursday 29 August (cont.)

Session 7: Remote sensing & integrated prospection approaches	
13.30	Evaluating the capability of a SUAS mounted multispectral sensor for the mapping of archaeological resources in an alluvial landscape Nicholas Crabb, Matthew Brolly, Niall Burnside, Andy Howard, Robin Jackson, Chris Carey
13.50	Urupa - burial grounds - and remote sensing in Aotearoa (New Zealand) Hans-Dieter Bader
14.10	Drone radar: A new survey approach for Archaeological Prospection? Roland Linck, Alen Kaltak
14.30	High-resolution underwater archaeological prospection of Upper Austrian pile dwellings and lakes using multi-beam and sediment sonar Immo Trinks, Wolfgang Neubauer, Timothy Taylor, Mario Wallner, Klaus Löcker, Jutta Leskovar
14.50	Multi method investigation of submerged features at Semblister, Shetland Claire Christie, Michael Stratiagos, Benjamin Jennings
15.10	Coffee, Exhibition and Posters
Session 8: Processing and visualisation of data	
15.40	The limits of a blob: geophysically informed automatic extraction of magnetometer anomalies Armin Schmidt
16.00	Revealing the Hidden Structure of the Ancient City Ur (Iraq) with Electrical Resistivity Tomography Mandana Parsi, Jörg Fassbinder, Nikos Papadopoulos, Marion Scheiblecker, Sandra Ostner
16.20	Methodological framework to automatically compare large-scale magnetometry measurements with excavation datasets Gábor Mesterházy
16.40	A 3D imaging procedure for subsurface magnetic susceptibility: application to the basaltic foundations of a Gallo-Roman villa in Auvergne, France Julien Guillemoteau, Francois-Xavier Simon, Bertrand Dousteysier, Marion Dacko, Guillaume Hulin, Jens Tronicke
17.00	Applying Magnetic Depth Estimation Techniques to Archaeo-geophysics Jeremy G. Menzer
17.20	Novel volume visualisation of GPR data inspired by medical applications Wolfgang Neubauer, Alexander Bornik, Mario Wallner, Geert Verhoeven
17.40	Close

Programme – Friday 30 August

Session 9: Interpretation and presentation of prospection results	
09.00	Extensive geophysical investigations to study the archaeological site of Norba (Norma, central Italy) Salvatore Piro, Stefania Quilici Gigli, Enrico Papale, Daniela Zamuner
09.20	Ancient Charax Spasinou (Iraq) – Interpreting a multi-phase city based on magnetometer survey data Lena Lambers, Jörg Faßbinder, Stuart Campbell, Stefan Hauser
09.40	Geophysical survey of single phase archaeological sites: Magnetometry in Wadi Shamlu, Kurdistan, Northern Iraq Marion Scheiblecker, Simone Mühl, Jörg Faßbinder
10.00	Going back to Medamud: Excavation feedback on processing, interpretation and planning Julien Thiesson, Félix Relats Montserrat
10.20	Back to the roots. Remote sensing techniques for rediscovering the Chalcolithic eponymous settlement of Cucuteni culture Andrei Asandulesei, Felix-Adrian Tencariu, Radu-Ştefan Balaur, Mihaela Asandulesei
10.40	Coffee, Exhibition and Posters
Workshop: Geophysics on Drones	
11.10	Mounting Geophysical Instruments on UAVs: New Developments and Challenges Matt Guy, Geomatrix Earth Science Ltd.
12.30	Lunch, Exhibition and Posters

Programme – Friday 30 August (cont.)

Session 10: Interpretation and presentation of prospection results	
13.30	Geophysical surveying in Egypt and Sudan: periodical report for 2017–2018 Tomasz Herbich, Robert Ryndziewicz
13.50	Up-skilling and Up-scaling: the realities of adapting to the challenges of the current environment in British commercial geophysics Chrys Harris
14.10	Archaeological feedback of a GPR survey at Labeagako Santa Maria (Navarre): confirmation of survey interpretation and few more surprises Ekhine Garcia-Garcia, Roger Sala, Alexandre Duró, Helena Ortiz-Quintana, M. ^a Rosario Mateo, Javier Nuin
14.30	Ground penetrating radar (GPR) for non-destructive testing of monument walls Gregory Tsokas, Nectaria Diamanti, Dimitrios Angelis, Panagiotis Tsourlos, George Vargemezis
14.50	From roman villas to 19th century gardens: case studies about geophysical survey of built heritage in Hungary László Nagy
15.10	Coffee, Exhibition and Posters
Session 11: Processing and visualisation of data	
15.40	Automated segmentation of archaeogeophysical images by convolutional neural networks Melda Küçükdemirci, Apostolos Sarris
16.00	Pathways to prediction: quantifying the impact of soil moisture variations on electric and electromagnetic contrast Philippe De Smedt, Daan Hanssens
16.20	Three-dimensional modeling of petroglyphs of South Siberia Vasily Kovalev, Vladislav Kazakov, Kair Zhumadilov, Lyudmila Lbova, Aleksandr Simukhin
16.40	Modelling the layer between topsoil and subsoil using magnetic prospection data Alois Hinterleitner, Ralf Totschnig, Klaus Löcker, Hannes Schiel, Bendeguz Tobias
17.00	Strategies for the optimization of 3-D electrical resistivity tomography data using the Jacobian matrix Kleanthis Simyrdanis, Nikos Papadopoulos
17.20	Processing strategies for 3-D marine dynamic electrical resistivity tomography data Dimitrios Oikonomou, Nikos Papadopoulos, Kleanthis Simyrdanis, Gianluca Cantoro, Julien Beck, Meng Heng Loke
17.40	Close
19.30 – 22.30	Gala Dinner- <i>Clayton Hotel Sligo</i>

Programme – Saturday 31 August

Session 12: Interpretation and presentation of prospection results	
09.00	Integrating geophysical and geoarchaeological surveys for the reconstruction of a Roman Port infrastructure: the Claudian Harbour at Portus Stephen Kay, Elena Pomar, Simon Keay, Kristian Strutt, Stoil Chapkanski, Jean-Philippe Goiran
09.20	Understanding the Anomaly: Multi-Method Geoscientific Research Applied on a Roman Fort in Pojejena Michał Pisz, Radosław Mieszkowski, Emil Jęczmienowski
09.40	Archaeological interpretation of the prospection data from Ephesos Jasmin Scheifinger
10.00	A New Look at Old County Number Records: Geophysical Reassessment of Scheduled Roman Villas Neil Linford, Paul Linford, Andrew Payne
10.20	Looking for Etruscan harbours: geophysical survey of the ancient site of Pyrgi Quentin Vitale, Christophe Benech, Jean-Philippe Goiran
10.40	Coffee, Exhibition and Posters
Session 13: Remote sensing & integrated prospection approaches	
11.10	Innovating Archaeological Investigations in Mediterranean Landscapes: Contributions from the Prospecting Boundaries Project Christopher Sevara, Michael Doneus, Erich Draganits, Roderick B. Salisbury, Cipriano Frazzetta, Doris Jetzinger, Sheba-Celina Schilk, Sebastiano Tusa
11.30	The application of the geophysical method in forested highland terrains of Bohemia Roman Křivánek
11.50	Beneath the Stains of Time: The physiochemical prospection of multiperiod sites in southern Britain - a geophysics approach to geochemistry? Paul Cheetham
12.10	"Where animals were equal to humans". Surprising results of complementary geophysical survey on gallows in Lower Silesia (Poland) Michał Pisz, Magdalena Majorek, Bartosz Świątkowski, Daniel Wojtucki, Karolina Wojtucka, Krzysztof Narloch
12.30	Lunch, Exhibition and Posters

Programme – Saturday 31 August (cont.)

Session 14: Interpretation and presentation of prospection results	
13.30	Village Life in the Middle Ohio Valley, USA: Geophysical Survey and Anomaly Testing Jarrod Burks
13.50	Magnetic prospection close to the magnetic equator: Case studies in the Tigray plateau of Aksum and Yeha, Ethiopia Sandra Ostner, Jörg W.E. Fassbinder, Mandana Parsi, Iris Gerlach, Sarah Japp
14.10	GPR Investigations in Earthlodges of the Northern Plains, USA Kenneth L. Kvamme
14.30	Venice in the desert: Archaeological geophysics on the world's oldest metropolis Uruk-Warka, the city of King Gilgamesh (Iraq) Jörg Fassbinder, Sandra Ostner, Marion Scheiblecker, Mandana Parsi, Margarete van Ess
14.50	Multiple processing and interpretation methods of a complex 3-D GPR dataset: An example from northern Australia Lawrence Conyers
15.10	Coffee, Exhibition and Posters
Session 15: Interpretation and presentation of prospection results	
15.30	Prospecting Mesolithic buried landscapes and sites. Two case studies from two different types of landscapes in the southern Netherlands Eelco Rensink
15.50	The influence of buried archaeology on equine locomotion: results from the Burghley Horse trials cross country course Neil Linford, Russell Mackechnie-Guire
16.10	Conference closing remarks
16.20	Conference close
17.00 – 19.00	Annual Meeting of the International Society for Archaeological Prospection (ISAP) Free for all ISAP Members

Posters

1	Outlining the karst: ERT and GPR surveys to detect karstic morphologies in the Sierra de Atapuerca sites (Burgos, Spain)
	Lucía Bermejo Albarrán, Ana Isabel Ortega, Roger Guérin, Lawrence Conyers, Josep M. Parés, Isadoro Campaña, José María Bermúdez de Castro, Eudald Carbonell
2	Geophysical and archaeological research of the baroque church of Saint Nicolas in Kovarce, Slovakia
	Mário Bielich, Ján Tirpák
3	Introducing the ‘Soil science & Archaeo-Geophysics Alliance’(SAGA): a new interdisciplinary network in archaeo-geophysics
	Carmen Cuenca-Garcia, Kayt Armstrong, Apostolos Sarris, Phillipe De Smedt, Clare Wilson, Elina Aidona, Anne Roseveare, Martin Roseveare, Petra Schneidhofer, Jörg Faßbinder, Ian Moffat, Marion Scheiblecker, Abir Jrad, Martijn van Leusen, Kelsy Lowe and SAGA's Management Committee
4	Aerial thermal imaging from UAV in archaeology, a case study: the abandoned medieval town of Montecorvino (Foggia, Italy)
	Luca d'Altilia
5	Old plans versus geophysical surveys: The case study of Gurob (Egypt, Fayum)
	M Lionel Darras, Tomasz Herbich, Marine Yoyotte
6	Laying the geophysical groundwork: in-situ measurements as a framework for strategizing archaeological prospection
	Philippe De Smedt, Ynse Declercq, Daan Hanssens, Wouter B. Verschoof-van der Vaart, Tom Hamburg, Walter Laan, Pieter Lalloo, Frédéric Cruz, Karsten Lambers
7	UAV-based Airborne Laser Scanning in densely vegetated areas: Detecting Sue pottery kilns in Nakadake Sanroku, Japan
	Michael Doneus, Maria Shinoto, Irmela Herzog, Naoko Nakamura, Hideyuki Haijima, Tomokazu Ōnishi, Shōhei Kita'ichi, Baoquan Song
8	Surveying Kushite sites in Sudan: town and cemetery in Kawa
	Tomasz Herbich, Robert Ryndziewicz
9	Review strategies for archaeological prospection, incorporating excavation and research
	Cian Hogan

Posters (cont.)

10	Revisiting the Segesta and the Monreale Survey Sites - The Benefits and Possibilities of Digitising Analog Archaeological Spatial Data	Doris Jetzinger, Christopher Sevara
11	Restoring burial mounds damaged by disasters — Contribution of archaeological prospection to collect information at the Idera burial mound, Japan	Akihiro Kaneda, Hiroshi Yamaguchi
12	Geophysical surveys of Eneolithic ditch enclosures in central Bohemia	Roman Křivánek
13	Interaction of geophysical prospection, archaeological excavation and historical sources to reconstruct a medieval monastery in Southern Bavaria	Roland Linck, Florian Becker, Mario Hölzl
14	Multi-spectral, multi-temporal survey in the American Midwest	Helen McCreary, Jarrod Burks, Alex Corkum, Chris Gaffney, Andy Wilson
15	Non-destructive survey of early medieval ramparts	Peter Milo, Igor Murín, Michaela Prišťáková, Tomáš Tencer, Michal Vágner
16	3-D resistivity imaging of rock-cut chamber tombs: the case of the Mycenaean Cemetery in Prosilio, Greece	Nikos Papadopoulos, Dimitris Oikonomou, Gianluca Cantoro, Nikos Andronikidis, Apostolos Sarris
17	3-D electrical resistivity tomography in an urban environment: the case of Shallalat Gardens, Alexandria, Egypt	Nikos Papadopoulos, Dimitris Oikonomou, Nasos Argyriou, George Kritikakis, Calliope Limneos Papakosta
18	The Good, the Bad and the Ugly (Data): 100-year Discussion over Roman Fort in Herzegovina solved with shards of information	Michal Pisz, Tomasz Dziurdzik
19	Archaeo– geophysical prospection of forts in the North Omdurman (Sudan)	Robert Ryndziewicz, Mariusz Drzewiecki
20	Magnetic signal prospecting in a former Achaemenid ‘palace’: the example of Gumbati (Georgia)	Julien Thiesson, Sébastien Gondet, Jörg W.E. Fassbinder, Florian Becker, Marion Scheiblecker, Sandra Ostner, Mandana Parsi, Solène Bourgeois Espéron, Kai Kaniuth

Posters (cont.)

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| 21 | Ground-penetrating radar study of the Asaviec 2 archaeological site |
| | Alina Tšugai-Tsyruhnikova, Jüri Plado, Maxim Charniauski, Irina Khrustaleva, Aivar Kriiska |
| 22 | Automated detection and analysis of diffraction hyperbolas in ground-penetrating radar data |
| | Lieven Verdonck |
| 23 | WuMapPy an open-source software for geophysical prospection data processing: 2019 milestone |
| | Quentin Vitale, Lionel Darras, Christophe Benech, Julien Thiesson |
| 24 | Co-creation and archaeological prospection: LoCATE – The Local Community Archaeological Training and Equipment Project |
| | Kate Welham, James Brown, Paul Cheetham, Mike Gill, Lawrence Shaw |
| 25 | Improving the lithological significance of shear wave tomograms through coring and pressure correction |
| | Dennis Wilken, Wolfgang Rabbel, Tina Wunderlich, Martina Karle |

