



bns

Benelux
Neuromodulation
Society

BNS NEWSLETTER

ISSUE NUMBER 4 • DECEMBER 2023



PREFACE BY THE PRESIDENT

MAARTEN MOENS

Dear BNS-members,
Dear friends of Neuromodulation,

With the upcoming holidays, the BNS board is reaching out to all of our members with this fourth newsletter.

After the successful e-INS congress in Hamburg, many of us resumed our daily practice and research projects. This resulted in an accelerating pace towards the end of the calendar year.

In this newsletter, we will give you an updated overview of the latest publications from the BENELUX in our journal Neuromodulation and a look back to our first BNS Journal club in collaboration with the BSSFN.

This month, I will hand over the presidentship to Lisa Goudman and her team and I wish you a warmfull holiday season and a happy new year!

BNS
NEWSLETTER

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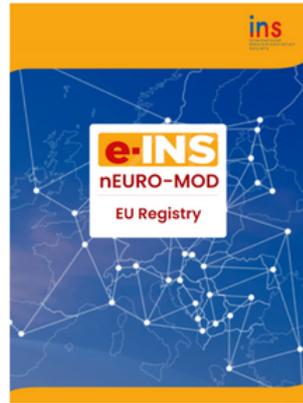
HIGHLIGHTS

Wonderful memories
from Hamburg...



SNEAK PREVIEW REGISTRIES

INS EU-Registry



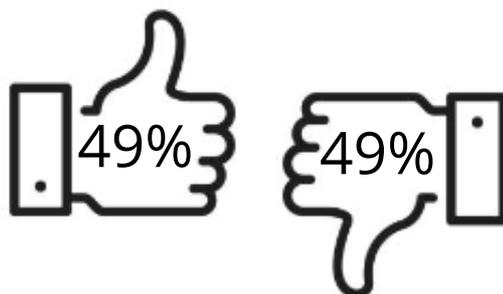
e-INS
3rd JOINT CONGRESS
OF THE INS EUROPEAN
CHAPTERS
HAMBURG, GERMANY
31 AUGUST - 02 SEPTEMBER
2023



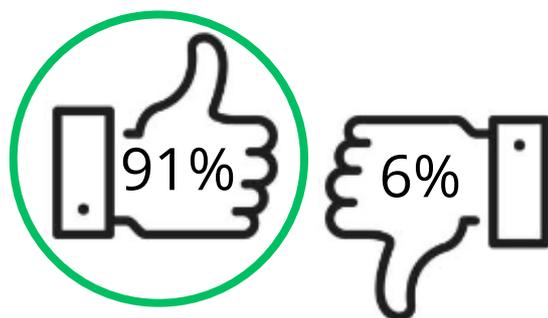
PROLOGUE-survey: [euroPeAn neuRomOduLatiOn reGister sUrvEy](#)

- Survey about a European Neuromodulation Register at e-INS.
- Completed (at least partly) by 104 healthcare professionals.
- Largest number of respondents from The Netherlands (26%), 17.3% from Germany, 12.5% from UK, 8.6% from Belgium, 4.8% from Italy, 4.8% from USA, 4.8% from Sweden, 2.9% from Norway, 2.9% from Switzerland, 2.9% from Denmark, 1.9% from France, and 1.9% from Turkey.

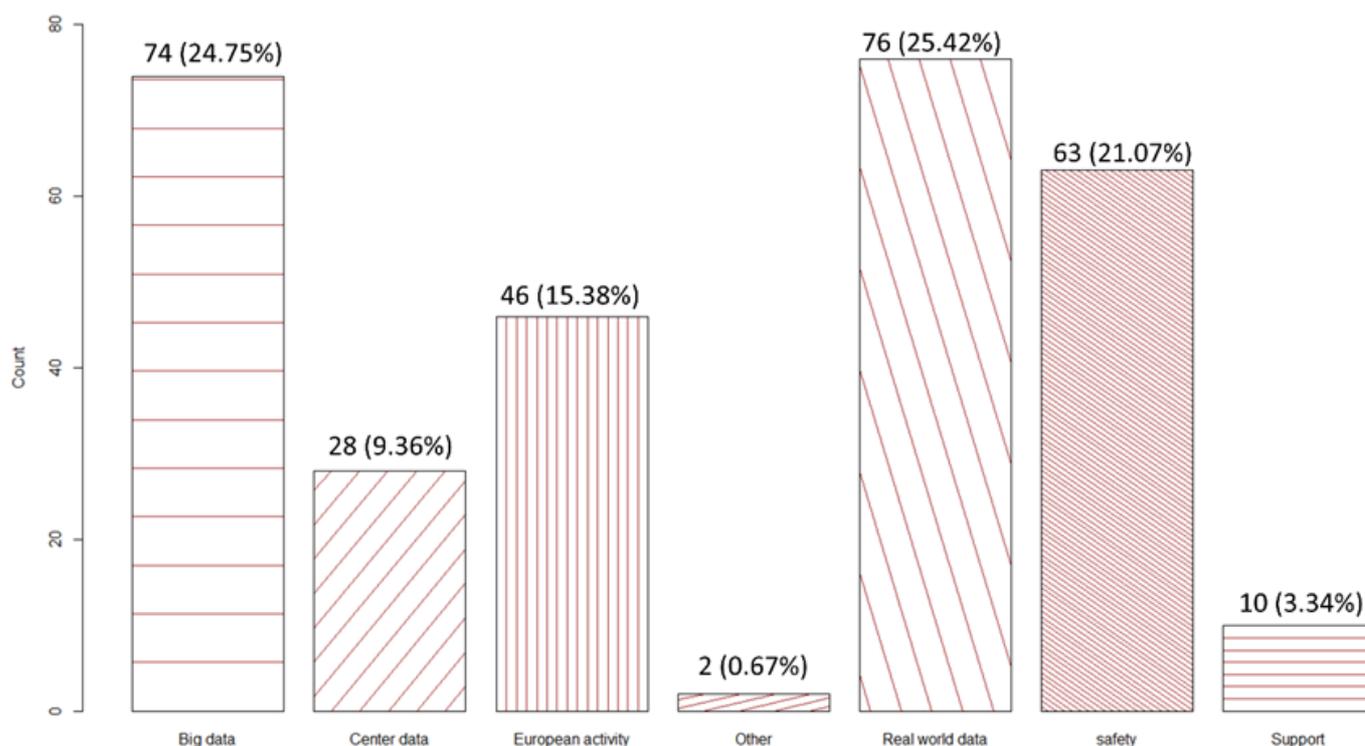
Do you already participate in a registry not sponsored by a neuromodulation company?



Do you think that a European neuromodulation registry is needed?



What should be the main reason for you to participate?

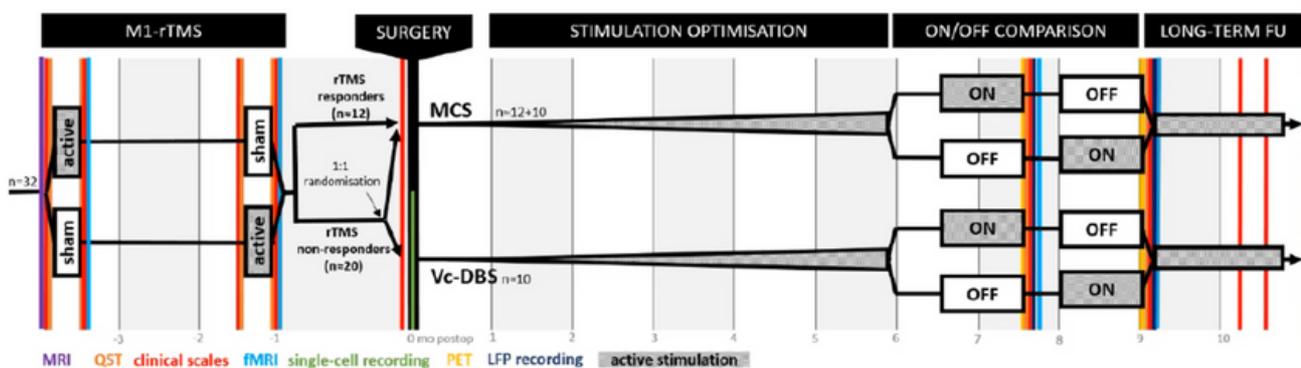


Reasons to participate in a European registry according to survey respondents. The following answers were provided: possibility to collect big data from European patients, possibility to report yearly on European activity in neuromodulation, to evaluate safety in neuromodulation, possibility to collect real world evidence, to start collecting data from your center, just supporting the initiative without any other reason and other reasons.

This preview provides promising results for the initiative to create a European neuromodulation registry. We are looking forward towards the next steps of the INS Director-at-Large for Europe, Africa & Canada on this initiative.

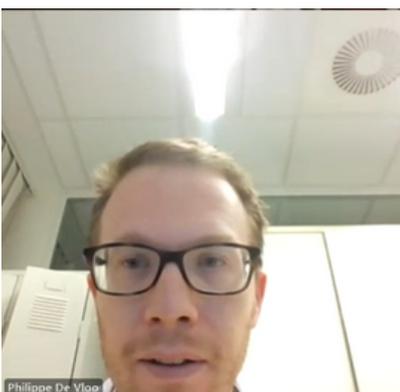
FIRST JOURNAL CLUB

On November 16th, 2023 we held our first Journal Club, during which Prof. Dr. Philippe De Vlooo enlightened us about neuromodulation for central post-stroke pain. After a great presentation during which the evolution and state-of-the-art were discussed, the ongoing RCT at UZ Leuven was discussed in which patients are randomized to either rTMS + MCS or rTMS + Vc-DBS. This Journal Club ended with an interesting discussion about sharing clinical experience, location of stimulation electrode, treatment algorithm etc., wherefore the BNS board is very pleased with this first event.



In total, 42 persons registered for this Journal Club and accreditation was obtained for nurses in The Netherlands and for physicians from both Belgium and The Netherlands.

With the BNS symposium in mind, the second Journal Club will take place around March-April 2024. The topic of the second Journal Club will be communicated in February.



We are grateful to Prof. De Vlooo for sharing his work with us and for making this first Journal Club a great success.

You're Invited!



BNS JOURNAL CLUB
CO-ORGANISED BY
BSSFN

Prof. Dr. Philippe De Vlooo
will discuss his ongoing research about
motor cortex stimulation and deep brain stimulation for central post-stroke pain.

PROGRAM:
19:00 WARM WELCOME BY BNS BOARD
19:05 NEUROMODULATION FOR CENTRAL POST-STROKE PAIN BY PROF. DR. DE VLOOO
19:45 GENERAL DISCUSSION WITH Q&A

When? November 16th, 2023
Where? Online or UZ Brussel (Belgium)

Link for registration:
https://vub.fra1.qualtrics.com/jfe/form/SV_cMuuMTWbVFCBRBs

RECENTLY PUBLISHED BNS PAPERS IN 'NEUROMODULATION'

The Untold Story of Occipital Nerve Stimulation in Patients With Cluster Headache: Surgical Technique in Relation to Clinical Efficacy

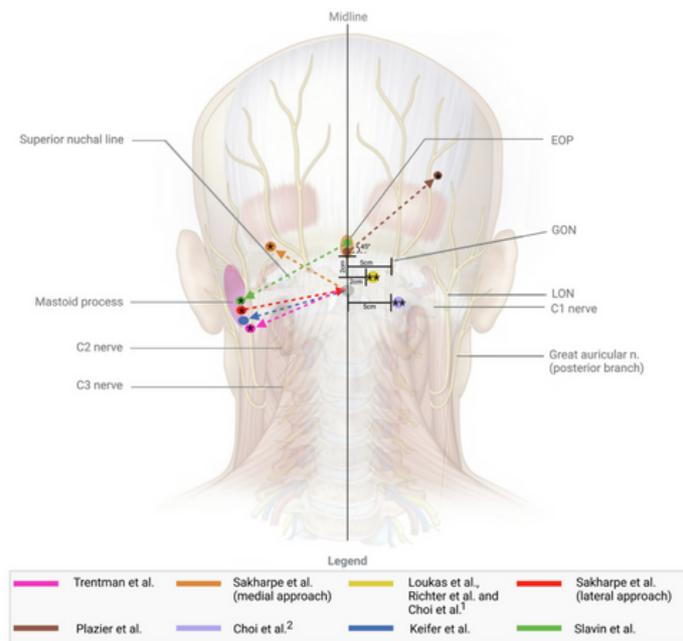
Erkan Kurt, MD^{1,2,a}; Linda Kollenburg, BSc^{1,a} ; Robert van Dongen, MD²; Ruben Volkers, MSc²; Wim Mulleners, MD³; Saman Vinke, MD¹

Approximately one in every 1000 adults experiences cluster headache (CH). Although occipital nerve stimulation (ONS) appears encouraging in treatment for most patients with refractory CH, some patients do not reach adequate pain relief with ONS. A reason for failure of ONS might be anatomical variations and different surgical approaches. Therefore, an extensive literature analysis was performed, and cadaveric experimentation was combined with our clinical experience to provide a standardized proposal for ONS and obtain optimal management of patients with refractory CH.

Data from 36 articles published between 1998 and 2023 were analyzed to retrieve information on the anatomical landmarks and surgical technique of ONS. For the cadaveric experimentation (N = 1), two electrodes were inserted from the region over the foramen magnum and projected toward the lower third of the mastoid process.

The existence of multiple approaches of ONS has been confirmed by the present analysis. Discrepancies have been found in the anatomical locations and corresponding landmarks of the greater and lesser occipital nerve. The surgical approaches differed in patient positioning, electrode placement, and imaging techniques, with an overall efficacy range of 35.7% to 90%.

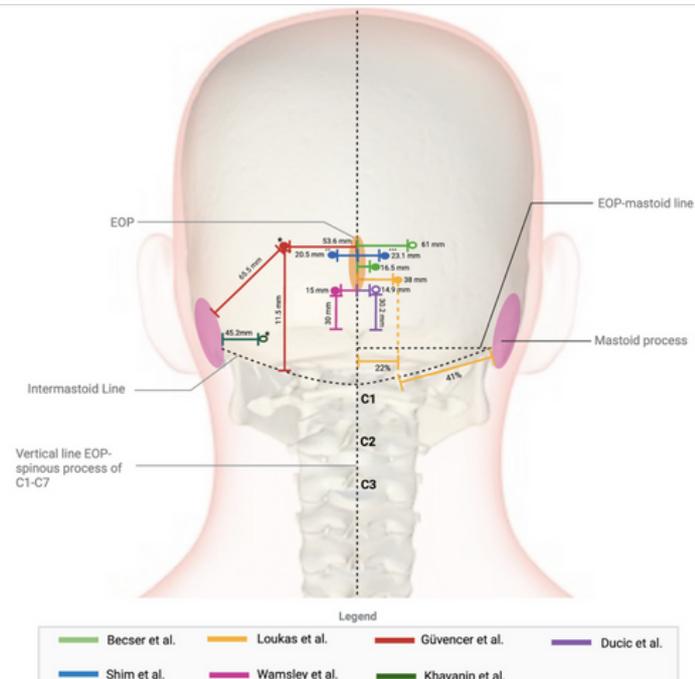
Reports on the surgical approach of ONS remain contradictory, hence emphasizing the need for standardization. Only if all implanting physicians perform the ONS surgery using a standardized protocol, can future data be combined and outcomes compared and analyzed.



Overview of insertion methods for the electrodes in ONS.

<https://pubmed.ncbi.nlm.nih.gov/38032594/>

Overview of landmarks and localization of the GON and LON.





TriNetX

Incidence of Infections, Explantations, and Displacements/Mechanical Complications of Spinal Cord Stimulation During the Past Eight Years

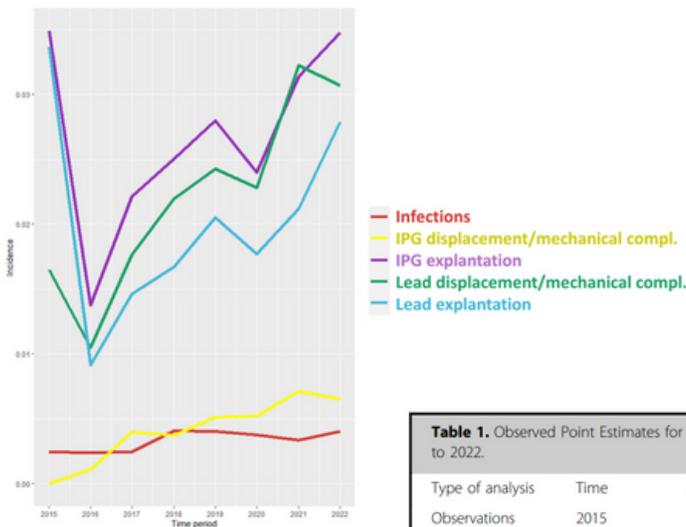
Lisa Goudman, PhD^{1,2,3,4,5,6} ; Maarten Moens, MD, PhD^{1,2,3,4,7};
 Sophie Kelly, BS⁶; Christopher Young, BS⁶; Julie G. Pilitsis, MD, PhD⁶

BTriNetX is a global federated health research network that provides access to electronic medical records across large healthcare organizations, whereby diagnoses, procedures, medications, laboratory test results, and genomic information are available.

Despite the presence of large data sets concerning adverse events in relation to SCS, studies that analyzed real-world data of lead migration, infection rates, and device explantation as a mathematical time series to predict the incidence of these events for upcoming years are still scarce.

Therefore, the goal of this study was to evaluate RWD of the incidence of SCS infections, explantations, and displacements/ mechanical complications during the last eight years and forecast point estimates for the upcoming three years based on the identified patterns.

Statistically significant increasing time trends were revealed for the annual incidence of IPG and lead displacements/ mechanical complications in patients with PSPS T2 over the past eight years. These time trends were visible in both male and female patients and in smokers and nonsmokers. For annual incidence of explantations and infections, no significant time effect was observed. In 2025, the incidence of displacements/mechanical complications of the lead (3.07%) is predicted to be the highest, followed by explantations of the IPG (2.67%) and lead (2.02%).



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<https://pubmed.ncbi.nlm.nih.gov/37855766/>

Table 1. Observed Point Estimates for Incidence of Displacements/Mechanical Complications, Explantations, and Infections of the Lead and IPG From 2015 to 2022.

Type of analysis	Time	Lead displ.	IPG displ.	Lead expl.	IPG expl.	Inf.	
Observations	2015	1.65%	0.00%	3.37%	3.49%	0.25%	
	2016	1.05%	0.11%	0.92%	1.38%	0.24%	
	2017	1.77%	0.40%	1.46%	2.22%	0.25%	
	2018	2.19%	0.37%	1.67%	2.50%	0.41%	
	2019	2.43%	0.51%	2.05%	2.80%	0.40%	
	2020	2.28%	0.52%	1.77%	2.40%	0.38%	
	2021	3.22%	0.71%	2.12%	3.14%	0.34%	
	2022	3.07%	0.65%	2.79%	3.48%	0.41%	
	Time trend	Time trend	$\tau = 0.79, p = 0.009$	$\tau = 0.86, p = 0.004$	$\tau = 0.43, p = 0.17$	$\tau = 0.36, p = 0.26$	$\tau = 0.43, p = 0.17$
		Model	SES ($\alpha = 0.84$)	Holt ($\alpha = 0.2, \beta = 0.422$)	SES ($\alpha = 0.01$)	SES ($\alpha = 0.01$)	SES ($\alpha = 0.89$)
Predictions	2023	3.07 [1.95 to 4.20]	0.85 [0.68 to 1.02]	2.02 [0.38 to 3.65]	2.67 [1.16 to 4.19]	0.40 [0.25 to 0.54]	
	2024	3.07 [1.95 to 4.20]	0.94 [0.73 to 1.14]	2.02 [0.38 to 3.65]	2.67 [1.16 to 4.19]	0.40 [0.25 to 0.54]	
	2025	3.07 [1.95 to 4.20]	1.03 [0.75 to 1.30]	2.02 [0.38 to 3.65]	2.67 [1.16 to 4.19]	0.40 [0.25 to 0.54]	

Time trends were evaluated with Mann-Kendall tests. Predictions for 2023, 2024, and 2025 were added for each variable with an SES model or Holt's method. displ., displacement/mechanical complications; expl., explantations; inc., incidence; Inf., infections; SES, simple exponential smoothing.

Based on real world data, device explantation was the most frequent event of interest, with negative peaks in the time series in 2016 and 2020, presumably due to the introduction of rechargeable pulse generators and to the COVID-19 pandemic, respectively. The possibility of device explantation clearly points to reversibility, a major advantage regarding the safety of this therapeutic option with a medical device. Real-world data provide a complementary estimate of displacements/mechanical complications, explantations, and infections related to SCS, whereby longer time series will enable us to forecast future incidence rates to promptly address events with high estimates.

BNS MEMBERSHIP

The BNS Board encourages all members of the large neuromodulation family to get their BNS membership. Only by standing together, shoulder to shoulder, based on good practice and scientific sound evidence, new indications, new innovations and more awareness around neuromodulation will be achieved.

The BNS stands for being a trusty partner in the regulatory framework for the authorization and for increased focus on research with joint research projects and shared registries.

New members may contact us at:
BNS.scientific@gmail.com
170 euro/year

GOOD TO KNOW

Neuromodulation nurses, students and young researchers in neuromodulation can be a BNS member and therefore also an INS member for only 50 euro/year.

The BNS board believes that treating patients with neuromodulation is a multidisciplinary team effort and strongly encourages nurses and researchers to join the big BNS family!

Mail to: BNS.scientific@gmail.com

BNS MEMBERSHIP

WHAT IS IN FOR YOU?

Access to the journal
'Neuromodulation'

Access to webinars & journal
clubs

Mentorship program

Access to fact sheets and
educational video's

and so much more...

TO POCKET OR NOT TO POCKET

When? January 26th, 2024 from 10 – 14.30h

Where? Radisson Blu Astrid hotel
Koningin Astridplein 7, 2018 Antwerp

Program:

“Pocket-related inconveniences”, Linda Kollenburg

“The most common complication in neuromodulation: infections”, Maarten Moens

“And what about bleedings?”, Erkan Kurt

“Is there a future for wireless technologies”, Bart Billet

Research pitches (open for abstract submission:
email to: BNS.scientific@gmail.com)

Accreditation requested

REGISTRATION (SYMPOSIUM FOR FREE)

BY CLICKING ON THE LINK, BY SCANNING THE QR CODE OR BY SENDING US AN EMAIL:
[HTTPS://VUB.FRA1.QUALTRICS.COM/JFE/FORM/SV_86TOAQWPAGMFZG2](https://vub.fra1.qualtrics.com/jfe/form/sv_86toaqwpagmfzg2)



Upcoming congresses

NANS January 18-21, 2024, Caesars Palace, Las Vegas



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INS May 11-16, 2024, Vancouver Convention Centre - EAST BUILDING

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International
Neuromodulation
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16th WORLD CONGRESS
OF THE INTERNATIONAL
NEUROMODULATION
SOCIETY 11-16 MAY, 2024
VANCOUVER, CANADA

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Join us in Vancouver

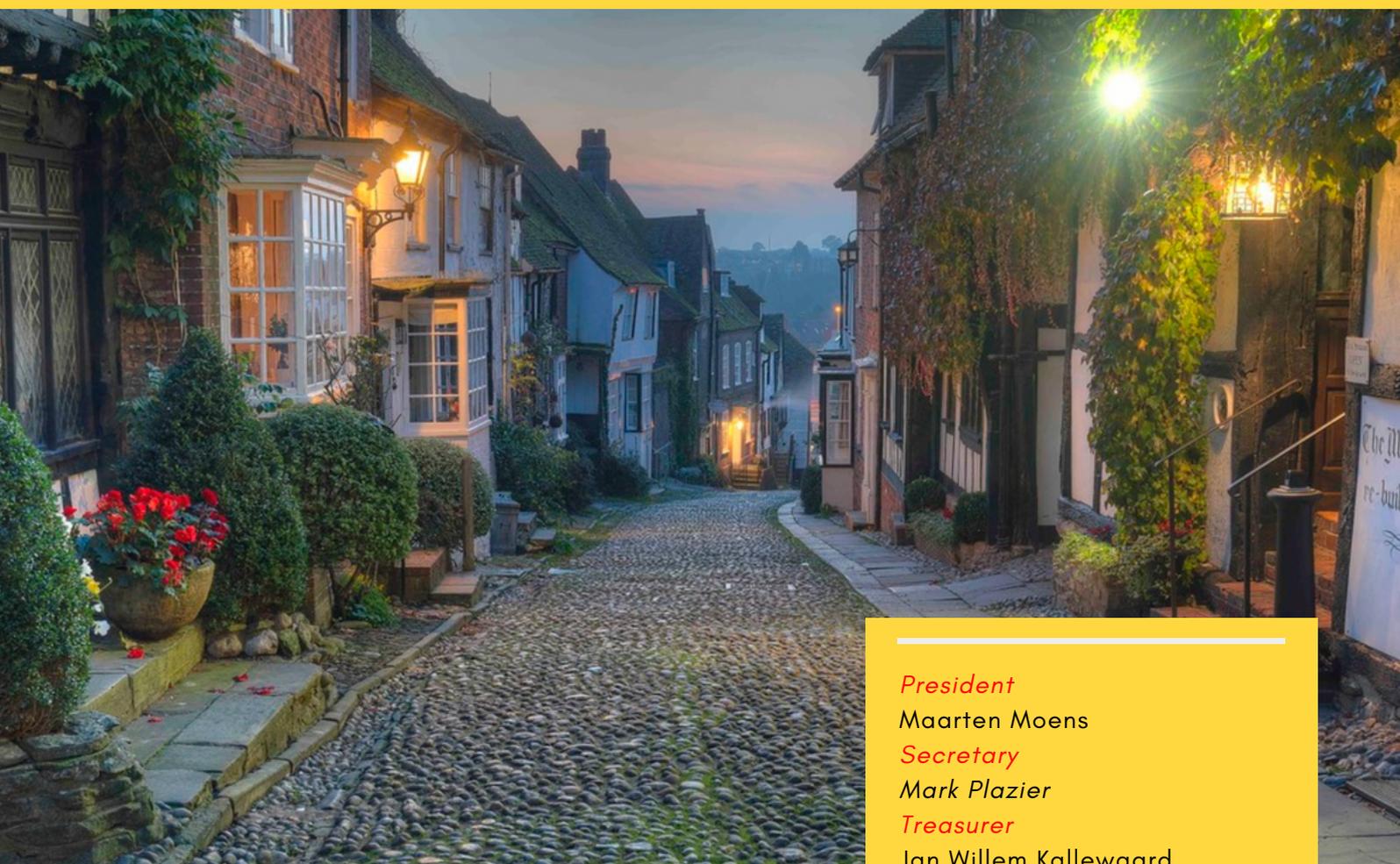
Explore New Science. Gain Global Perspective.

 Early Bird Deadline: 13 February 2024

[Register Now](#)

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A CALM, WARM AND FRUITFUL 2024!



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