

Issue 47 Winter 2021/22

Endocrine Views

Opinion and news from the European Society of Endocrinology

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Get a fresh perspective: ECE 2022 in Milan

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How do you trust a journal? Measuring the quality of published science

Insulin: 100 years on



European Society
of Endocrinology



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Editorial



A new year dawns, with the hope of more 'normal' times ahead. Excitingly, we have the prospect of ECE 2022 in Milan, Italy, in May. Its hybrid format, both face-to-face and virtual, allows us all to benefit from its fantastic programme, extending the reach of endocrine knowledge across Europe and beyond.

See pages 12–13 for insights into ECE 2022's vast array of sessions and opportunities, brought to you by Programme Organising Committee co-Chairs Carlos Diéguez and Beata Kos-Kudła. The six Award Lecturers give tempting previews of their talks on pages 14–15.

On page 3, Local Organising Committee Chair Andrea Giustina whets our appetite, both literally and metaphorically, for a trip to Milan, reminding us of the city's reputation for gastronomy, art and fashion, as well as cutting-edge medical science. Submit your abstracts by 31 January and register before the early bird deadline of 7 April!

As we look to the future, our President, Martin Reincke, brings us news of ESE's revised strategy for 2022–2026 (page 4), drawn up after wide consultation with the membership. Exciting times are ahead! On page 5, he and two ESE Past Presidents remind us of the strong foundation your Society has built over the past 6 years for its future development.

Scientific publication has always been, and remains, a cornerstone for the recording of our endeavours and measuring the impact of what we achieve. But how can we be certain that our measurements of effectiveness are valid, that the journals we respect are acting with integrity, and that the peer review process is not being undermined by the recent 'preprint pandemic'? These matters and more are discussed in opinion articles in this issue.

Wiebke Arlt and Adrian Clark, Editors-in-Chief of ESE journals, discuss 'How do you trust a journal?' on page 8. Maria Chiara Zatelli and Daniele Gianfrilli provide an Italian perspective on page 9, and Constantine Stratakis calls on his extensive experience at the US National Institutes of Health on page 10. On page 7, Philippe Chanson, Chair of the ESE Publishing and Communications Committee, tells us his thoughts in this issue's interview.

No great historic occasion would be properly recorded without the reflections of Wouter de Herder. On page 11, we are taken back exactly 100 years to the first therapeutic use of insulin, and the story (or perhaps more accurately 'saga') of the protagonists involved in its discovery.

The rest of the issue is, as always, bursting with new ESE initiatives and events. I look forward to seeing you at some of these in 2022.

Justo P Castaño
Editor, *Endocrine Views*

Areas of interest in this issue:



Awards



Events



Diabetes, Obesity,
Metabolism and
Nutrition



Publications



21–24 May 2022

Milan, Italy

www.eso-hormones.org/ece-2022

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Castello Sforzesco, Milan

Abstract deadline:

31 January 2022

(23.59 CET)

Early bird registration:

7 April 2022

(23.59 CEST)

Benvenuti a Milano!

The 24th European Congress of Endocrinology is heading to Milan, Italy, on 21–24 May 2022.

It is with great pleasure that I, and my colleagues on the ECE 2022 Local Organising Committee, invite you to join us in our home city of Milan for the first face-to-face ECE since 2019 – the ‘renaissance event’ of world endocrinology! When I became ESE President in Lyon in May 2019, little did we know that it would be 3 years until we would be able to be together again.

Italy – and Milan – have a long and distinguished medical history, which dates back to Roman times. More recently (well, the 15th century) Milan was home to Ca’ Granda Hospital, the first modern ‘ospedale dei poveri’ (hospital for the poor). Since then, several large hospitals have been built in the city, now constituting a medical network amongst the most advanced in the world. Along with a strong vocation for teaching and

research, the different faculties of medicine that are a relevant part of Milan’s university system are well represented.

Italy is also home to two endocrine societies, the Italian Association of Clinical Endocrinologists and the Italian Society of Endocrinology (SIE), with a long and rich history in our field. The Italian Society of Endocrinology started as an informal group in 1949 and became an official society in 1964. The first President was Nicola Pende, who is seen as the father of modern Italian endocrinology.

Milan has produced many scientists and clinicians in the field of endocrinology and metabolism, who have greatly contributed to our discipline’s advancement. They include Giovanni Faglia, Gianni Giustina, Luciano Martini, Marcella Motta, Eugenio Müller, Guido Pozza

and Gianfranco Silvestrin. These pioneers led the way for those of us who work today in endocrinology and diabetes here in Italy. Among the medical discoveries in our field that come from Milan, it is worth mentioning that the first-ever report of a case of acromegaly was made by Andrea Verga about 30 years before Pierre Marie. He named the disease ‘prosopectasia’.

Milan is also the business and financial hub of Italy, as well as its fashion capital. Its attachment to its long-standing traditions is reflected in the unforgettable flavours of internationally renowned local cuisine and wine. Our venue for ECE, the modern and central ‘MiCo’ (Milano Convention Centre) is architecturally interesting and set within a park, close to shops, restaurants and hotels, and easily accessible via the underground. It

is an ideal place for us to meet at ECE. We have arranged some great food for you at the MiCo, and some wonderful social events, which will introduce you to the ‘Milano spirit’. With the exciting scientific programme and the pre-Congress courses that are planned, there will be a true ‘festival of endocrinology’ here in 2022!

So my friends, we are ready and waiting to welcome you to Milan for ECE next May – we look forward to seeing you. All you need to do is submit your abstracts by the deadline of 31 January, and register before the early bird deadline of 7 April.

Andrea Giustina

Local Organising Committee Chair, ECE 2022

Immediate Past ESE President

‘With the exciting scientific programme and the pre-Congress courses that are planned, there will be a true “festival of endocrinology” here in 2022!’

Find out more about ECE 2022 from our Programme Organising Committee co-Chairs on pages 12–13

Read previews from our Award Lecturers on pages 14–15

Arco della Pace with vintage tram, Milan

© Stock/KarenKavajina



A revised strategy for ESE 2022–2026

I am pleased to provide a progress update on the revised ESE strategy for 2022–2026 (see *Endocrine Views* issue 46). I remember well the last strategic review in which I was personally fully involved: the plan for 2012–2016, developed at a workshop at Schloss Hohenkammer, Munich, in 2011. How the world has changed since then – as has ESE!

The Executive Committee has now completed a consultation process with members of our Committees and Task Forces, Focus Area Leads and others within the ESE community, to develop our proposed goals for the next 5 years (see panel, right).

As we go to print, ESE members, patient groups and industry partners are being consulted to shape these goals further.

ESE's overriding aim is to continue to support our vision to shape the future of endocrinology to improve science, knowledge and health.

'ESE's over-riding aim is to continue to support our vision to shape the future of endocrinology to improve science, knowledge and health'

PROPOSED ESE GOALS

- To **UNITE and REPRESENT** the **European endocrine community and be acknowledged as the reference point for endocrine science, knowledge and health**
- To **SUPPORT** our members in **education, clinical practice and research**
- To **ADVANCE** the science and standards of **endocrinology**
- **And our internal goal – to develop ESE as a SUSTAINABLE ORGANISATION which is trusted, valued and referred to as best-in-class by its stakeholders.**



The 5-year goals will be supported by strategies and tactics planned over the next 2 years.

To ensure accountability and a solid overview, I am also launching a Strategic Review Committee with a diverse membership. They will be responsible for making sure we remain on track!

A key objective of my Presidency is to stay true to our values and improve the level of equality and diversity within ESE. This is now captured in the following 'The Way that We Work' statement for ESE.

'We aspire to be visionary, inspiring, engaging and supportive. We are open, transparent and inclusive in everything that we do, and work towards diversity across our activities.'

I look forward to working with you all in the spirit of our new strategy – your support and engagement make it possible. Thank you.

Martin Reincke
ESE President

From the ESE Office

I hope everyone had a very happy festive period with some rest and relaxation.

As reported in *Endocrine Views* 46, we have been intensively reviewing and updating our strategic objectives for 2022–2026. You can see the progress we have made from the article above by our President, Martin Reincke.

As part of this process, we consulted with the Executive Committee, all Committee members and Focus Area Leads, and with you, ESE's membership. We hope you had a chance to send us your views. We are confident that the 'strategic pillars' identified will work well for our endocrine community for the next

5 years, as well as supporting all of you as individuals!

We are also working hard on an expanded events schedule for 2022, covering basic and clinical interests from early career stage onwards. Page 16 shows the events scheduled so far, and more dates and details will come direct to your inboxes soon. These will include a continuation of the online Clinical Update series, to cover even more of the Focus Areas, and the online Postgraduate Clinical Training Course which will take place in the spring. We also welcome the return of the Summer School for our early career basic scientists, which will be held in the beautiful city of Innsbruck, Austria, over the summer.

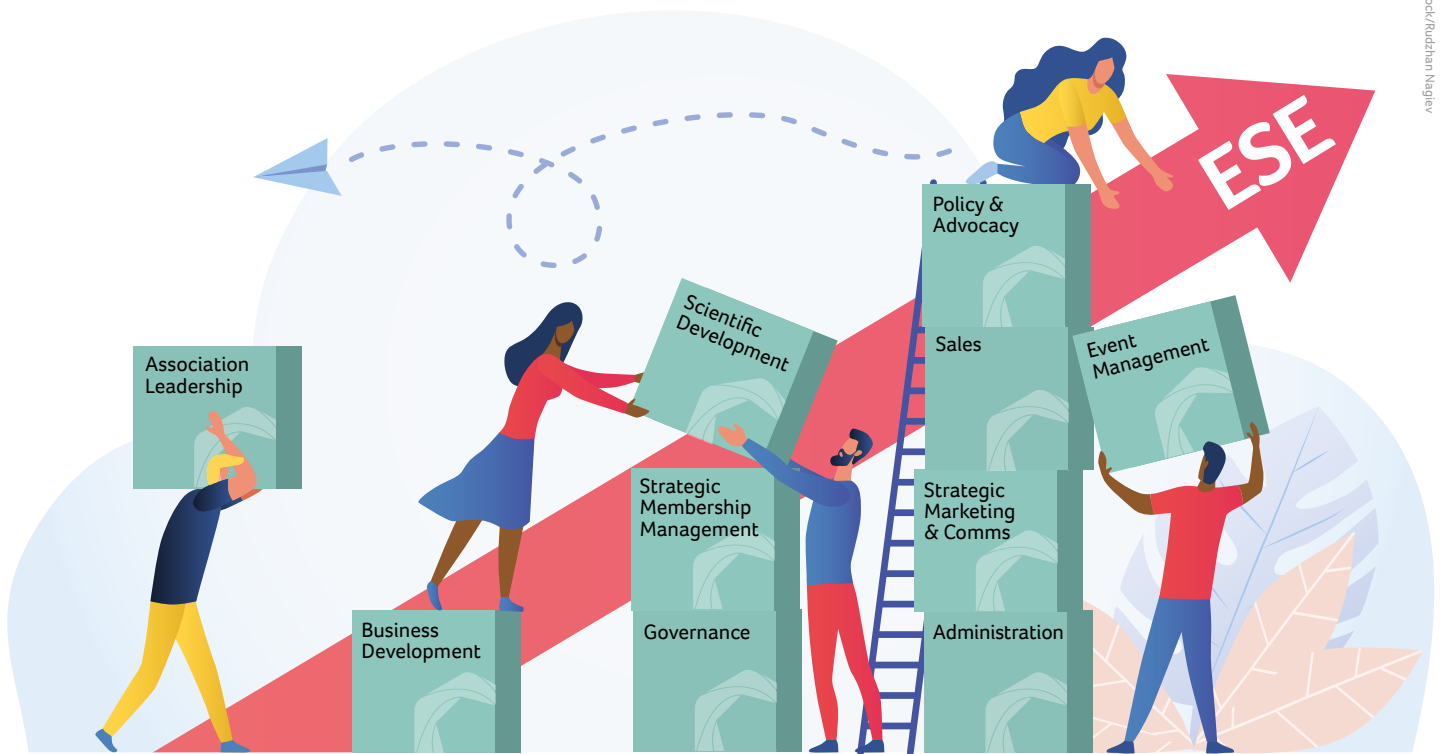
You will find a big focus on ECE 2022 in this issue. This Congress has

been planned in a hybrid format: welcoming as many of you as possible to meet face-to-face in Milan, but also providing an ECE@Home option for those who cannot join us. Submit your abstracts by 31 January 2022!

We are very aware that the resurgence of COVID in many European countries has made the lives of our members very pressurised and challenging. We are here to support you as much as possible, by continuing to deliver our activities in ways that are timely and accessible. Please get in touch with me if there is anything you would like to discuss.

Helen Gregson
Chief Executive Officer, ESE
helen.gregson@ese-hormones.org





ESE: growing independence and skills

It is remarkable that, just over 5 years ago, ESE did not have a single member of staff, or an office, or any independent infrastructure of its own.

It did not own a computer, a screen, a phone, an email address or a website platform – all of its activities were outsourced. In 2016, the then President, AJ van der Lely, with the Officers and the support of the Executive Committee, took the brave decision to build an independent and geographically diverse ESE team, with the aim of providing effective internal leadership to drive ESE's plans forward.

In just over 5 years, ESE has built a directly employed team, which includes capacity and skills across:

- association leadership
- scientific development
- business development
- strategic membership management
- sales
- strategic marketing and communications
- policy and advocacy
- governance
- event management, and
- administration.

In ESE's employment there are now a team of nine people of highly diverse nationality, including British, Belgian, French, New

Zealand, Dutch and Polish. ESE has also opened an office in Brussels and has recently set up a separate legal entity in Belgium – the ESE Foundation – to drive forward its public awareness activities.

The growth of ESE's independence, infrastructure and team has been fully supported by our ESE Officers and Executive Committee. Our view is that, in order to grow, it was essential to establish independence and a clearly pan-European profile. In addition, the development of our directly employed team has supported the effective facilitation of ESE's strategy, the successful implementation of activities and the introduction of new initiatives and, crucially, the ability to be

extremely flexible and quick in response to the recent COVID-19 pandemic.

Although the ESE Office still outsources a number of operational and logistical activities, the direction of travel is towards further increased independence – a journey which has seen great success over the past few years. Watch this space!

Martin Reincke
ESE President 2021–2023

Andrea Giustina
ESE President 2019–2021

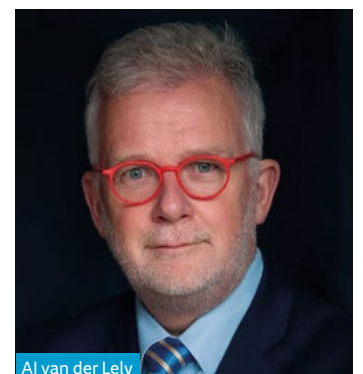
AJ van der Lely
ESE President 2015–2019



Martin Reincke



Andrea Giustina



AJ van der Lely

‘In order to grow, it was essential to establish independence and a clearly pan-European profile.’



EUWIN founders: (L-R) Cynthia Andoniadou, Jenny Visser and Wiebke Arlt

European Women in Endocrinology

A new group, European Women in Endocrinology (EUWIN) is set to improve opportunities and diversity for women in European endocrinology and within ESE.

We are delighted to be working with the group's founders: Cynthia Andoniadou (UK), Wiebke Arlt (UK) and Jenny Visser (The Netherlands). EUWIN's primary aim is to enhance networking and collaboration between women in European endocrinology, importantly including mentoring and support for the career advancement of young female trainees and investigators. Along with Cynthia, Wiebke and Jenny, we are currently seeking feedback from the community to determine how the group can best support them. An official launch is planned for ECE 2022 in Milan.

Further information about this exciting initiative will be available soon!

Early Career Clinical Endocrinologists

The 5th Early Career Clinical Endocrinologists (ECCE) Meeting took place virtually on 21 October, organised by the ESE Council of Affiliated Societies.

A survey of the 23 participants demonstrated that their priorities were greater support in education, clinical training and research, the production of clinically oriented guidelines, assistance in the publication of research papers, and increased international networking, in the form of travel grants and international exchange programmes.

In his keynote address, Panagiotis Bamidis (Greece) gave an elegant overview of

medical education technologies, clinical decision support systems, smartphone applications, problem-/scenario-based learning, virtual patients and introduction of the concept of 'digital medicine' in Europe. It triggered a lively discussion among delegates.

The focus of the 6th ECCE meeting in October 2022 will be 'Training and continuous education for endocrinologists in medical nutrition therapy and physical exercise'.

ESE membership for patient groups

Patient Advocacy Groups (PAGs) are essential partners in ensuring that patients have access to the best information, and to diagnosis and care.

Our engagement with PAGs is a two-way process:

- PAGs can inform ESE about how best to integrate patient perspectives into Society initiatives, and
- ESE can support PAGs in developing up-to-date patient information and support, and by including the 'patient's voice' in policy and advocacy activities.

The introduction of ESE's new PAG Affiliate Membership means that patient groups can be formally affiliated to ESE. PAG Affiliate Membership is free of charge. Application criteria and benefits of membership can be found at www.e-se-hormones.org/patient-advocacy-group.

PAG Affiliate Members and ESE will meet twice per year to discuss ways of collaborating.

The new initiative is welcomed by PAG representatives, such as Muriel Marks from the World Alliance of Pituitary Organizations, who commented, 'For PAGs like ours, a structured interaction with ESE is a cornerstone in the support we, in turn, can provide to our member organisations and their members: people living with a rare endocrine disorder.'

We look forward to welcoming PAGs again at ECE 2022 in Milan.

Dirk De Rijdt
Director of Strategic Partnerships, ESE

ESE Awards 2023

Nominations are open for ESE's prestigious Awards!

Whether you work in a clinical or a research setting – and wherever you are in your career – there could be an award here for you or one of your colleagues.

It is easier than ever to apply through our simple online form. You can even self-nominate. The deadline is 28 February 2022, except for our joint award with the Endocrine Society – The Transatlantic Alliance Award – for which the deadline is at the end of June 2022.

You can find all the details relating to submission of your nominations at www.e-se-hormones.org.

New award for nurses

We are also excited to announce a new award this year: the ESE Endocrine Nurse Award. This will be awarded for excellence in endocrine nursing practice, leadership, research, training and patient engagement. Make your nominations by 28 February, as for the other awards.

EndoBridge 2021

The 9th Annual Meeting of EndoBridge took place on 21–24 October 2021 as a virtual event, and welcomed over 600 participants from 56 countries.

The 4-day scientific programme included state of the art lectures and interactive expert discussion panels on challenging and interesting clinical cases, as well as several clinical case e-posters presented by delegates. As usual, simultaneous translation into Russian, Arabic and Turkish

was provided throughout the meeting.

Next year's EndoBridge meeting will take place in Antalya, Turkey, on 20–23 October 2022. Further information can be found at www.endobridge.org.



An interview with Philippe Chanson

Philippe Chanson was elected Chair of the ESE Publishing and Communications Committee in 2021. In this issue of *Endocrine Views*, which examines how we judge the value of published science, we talked to Philippe and found out a little more about him and his perspectives on endocrinology.

What sparked your interest in endocrinology?

In France, medical students have to spend a few weeks in clinical wards, but I did not have the opportunity to train in endocrinology. Initially, I was interested in internal medicine and performed my residency in various internal medicine departments. One of these, in Paris's Lariboisière Hospital, had a special interest in diabetes and endocrinology. This is what convinced me to subspecialise.

My passion for pituitary diseases was born at Foch Hospital in Suresnes, near Paris. Here I met Françoise Peillon, a researcher in an INSERM lab who also consulted pituitary patients. My work with her on thyrotrophin (TSH)-secreting adenomas in the 1980s led to my first paper in *Journal of Clinical Endocrinology & Metabolism* (I was so proud of it at that time!). I also met Gerard Guiot, the charismatic neurosurgeon who had revived the transsphenoidal route for pituitary surgery some years before.

What would you have done if not medicine?

Since childhood, I had no other plan than to be a medical doctor, and I have no regrets! Retrospectively, in a second life, if it was impossible to be an MD, then I could be tempted to be an architect...

What areas of endocrinology most interest you?

The pituitary and neuroendocrinology are my main areas of interest. From a basic point of view, I try to help my team in the field of pituitary tumorigenesis in our lab at INSERM U1185. However, my main research is clinical: I work on acromegaly co-morbidities (osteoarthropathy and cardiac, metabolic and psychological consequences, etc.) and treatment.

All fields of pituitary disease are topics of research in our department (Cushing's disease, diabetes insipidus, prolactinomas, multiple endocrine neoplasia type 1, TSH-secreting adenomas...) and give me the chance to mentor young colleagues.

What current challenges do journal publishers face?

These include struggling against predatory journals, and resisting a tendency to increase the number of journals or to publish only/mainly articles driven by pharma. Countering plagiarism and the paper mills are also important challenges.

Are there better ways of judging a journal than its impact factor?

For the moment, the impact factor remains important. Even if it is not perfect and is frequently unfair, it continues to reflect the quality of a journal. But we all know that an impact factor is influenced by the size of the community of readers of a journal, which drives the number of citations. Our community of endocrinologists is smaller than that of cardiologists, for example. The impact factor of a cardiology journal, even of medium quality, will thus always be higher than that of the best endocrinology journals. If you need to compare the scientific quality of cardiologists and endocrinologists, a good way is to compare the quartile or quintile in which the impact factors of the respective journals in which they publish lie.

As long as scientific evaluation is based on impact factor, it remains a good way to assess the quality of science. The solution would be to change how scientific quality is evaluated in general.

How should we address the 'preprint pandemic'?

Peer review is a pillar of scientific evaluation. The COVID-19 pandemic was a very peculiar period that saw a build up of material published without peer review, while journalists in the general media had nothing better to do than comment on every new paper, to try to interest people who were eager for news about COVID and its treatment. Will this continue, and is this preprint pandemic really important? I don't know. But we clearly must

defend the value of peer review and choose rejection over poor quality 'prepublication'. The future will tell us... Personally, I never consult those preprint websites.

Why should authors choose to publish in ESE journals?

Because *European Journal of Endocrinology* is now 'number 1'! And because *Endocrine Connections*, which also has increased its impact factor, is also an excellent option. Indeed, why go overseas when everything is available (and even better) in Europe?!

What plans do you have for developing ESE communications?

Support *Endocrine Views*, as it continues to develop as a valuable forum for opinion and discussion. Use social media wisely. Work on the ESE website to improve navigation to accurate information and create a true community of European endocrinologists. Think about new journals if necessary.

What will the pandemic's lasting influence be on ESE communications?

It is difficult to say. The first 'face-to-face' congresses in early autumn 2021 in various countries (especially France) showed that people are eager to meet in person rather than by Zoom. The small workshops or courses with Continuing Medical Education that we currently organise, and to which people are invited to come in person, are very popular. On the other hand, we must remember that, for many



countries (often outside Europe), digital training provided a unique opportunity to follow courses or congresses.

How can ESE best support its members?

By giving them clear benefits: good training, travel to share opportunities and build experience, improvements in scientific quality, involvement in this fantastic project to belong to a European community, with many common values in terms of commitment to health, democracy and ethical science.

What are we most likely to find you doing on a day off?

Listening to France-Musique on the radio and reading my newspaper *Le Monde* at home, walking or running in the woods around my house, perhaps finally finishing writing a paper, because a day off often provides a good moment where I can concentrate for a while, undisturbed by hospital or university life!

How do you feel about the future?

I am very enthusiastic about this new 'job' as Committee Chair! I also want to say that I really trust all young endocrinologists, who are the future of our community. I frequently meet some of them and I am always impressed by their qualities and potential. I am thus very confident for the future...

'We clearly must defend the value of peer review and choose rejection over poor quality "prepublication".'



How do you trust a journal?

Adrian Clark and Wiebke Arlt, both Editors-in-Chief of ESE journals, examine the challenges to integrity in current scientific publishing, and consider how an author or reader can have faith in the literature.

One of the many things that the COVID pandemic has taught us is that the public's trust in science is fragile. While most would agree that healthy skepticism is a reasonable attitude, when it results in people taking large doses of anti-helminthic drugs or refusing vaccination because 'it makes you infertile', we should be alarmed.

Furthermore, for some time, it has been recognised that an alarmingly small proportion of work published in respectable scholarly journals is reproducible, for reasons discussed at length elsewhere.¹ So, one of the questions that we should be asking as endocrinologists is 'How reliable is the research we read in scientific journals?' or, effectively, 'How do you trust a journal?' With so much research in endocrinology being published, how can we decide which papers we are going to read?

Most of us would agree that the majority of scientific and clinical research is conducted and published in good faith – the authors believe their work is true, even though, like most of us, they can make errors. Entirely fraudulent publications have, until recently, been rare, although the ongoing assault on scientific integrity generated by the paper mill industry is a growing concern.^{2,3}

Predatory journals

A further serious concern is that of the predatory journals: a phenomenon largely arising out of the growth of gold open access (author pays) publishing. In a famous experiment, John Bohannon submitted a deliberately spoof paper to 304 open access journals. A cursory examination should have revealed the serious shortcomings of the work to a high school student, but 157 journals accepted it (98 rejected it).⁴ Several other bizarre examples of deliberate spoof publishing exist. Those journals accepting the paper typify the phenomenon of the predatory journal: a publishing organisation aimed at making money from article publishing charges at the expense of good science. At the time it was discontinued in January 2017, Beall's list contained over 1100 organisations with possible predatory publishing criteria, including some well-recognised names active in endocrine science publishing.

Journal metrics

So, if we can exclude these predatory journals, what other guide to journal trustworthiness exists? Can journal metrics help? The Journal Impact Factor™ (JIF) is widely used as a proxy for journal quality. This is a measure of the average number of citations in a year to papers published over the two preceding full years, but it has widely recognised disadvantages, as follows.

'Perhaps the best guide to trustworthiness in a journal is your own experience as a reader and as an author, the policies on peer-review and ethical practices, the requirements for data reporting and sharing, and the quality of the editors.'



Adrian Clark



Wiebke Arlt

- It only tells you about journal articles published 2 or 3 years ago. Editorial policy or peer-review practices may have changed since that time.
- It requires several years of published content in order to calculate it, excluding newer journals, even if they have the highest standard of publishing practices.
- Citation behaviour may be influenced by the prominence of the cited author or institution, and the cited journal's reputation.
- It is open to distortion by the excessive influence of a small number of highly cited papers, or by a high level of review article content, or unethical journal requirements to self-cite. Citation numbers for any journal are always skewed and, as scientists know, describing a skewed dataset by a mean value alone is statistically invalid.
- Bad papers, papers drawing incorrect conclusions and purely methodological papers get cited when the work is refuted or a technique is used.
- JIFs are officially calculated by Web of Science and are exclusively awarded to journals indexed in the Science Citation Index Expanded (SCIE) and the Social Sciences Citation Index (SSCI) databases. The selection process for these databases has faced past criticism.

A number of variations of the impact factor have been developed which look at citations over a longer period of time (e.g. the 5-year impact factor), or give greater weight to citations in certain journals over others (e.g. the Eigenfactor), but all are subject to similar flaws.

Erroneously, many academic institutions and research funding bodies have been tempted to rate an individual's standing by the JIF of the journal in which they publish. Perhaps of greatest concern in deciding which journals to trust is the 'retraction index' – a fairly tight positive correlation between JIF and article retractions.⁵ Various explanations for this have been put forward, but it underlines the point that the JIF is no guide to the quality of the published work.

Are there alternatives to the impact factor? The music industry uses download volume and frequency to rank individual pieces of work. Using this for scientific publications has the advantage of much greater immediacy, but there is no evidence that the article has been read. Furthermore, there are confounding effects from computer robots that automatically download work with certain keywords.

A development along these lines is the Altmetric score, a measure of 'mentions' of an article in a wide range of sources including news outlets, Twitter, blogs, patents, etc. Although such a metric is more immediate than citation-based metrics, it still provides little guidance as to the validity of the work reported or the quality of peer review received.

The best guide to trustworthiness

Ultimately, perhaps the best guide to trustworthiness in a journal is your own experience as a reader and as an author, the policies on peer-review and ethical practices, the requirements for data reporting and sharing, and the quality of the editors – information that can be readily accessed from most journal websites. This also includes initiatives to train



and educate the next generation of reviewers and editors, which both *Endocrine Connections* and *European Journal of Endocrinology* (EJE) have recently launched. You may apply to join the Editorial Board of *Endocrine Connections* (<https://ec.bioscientifica.com/page/jointheboard/join-the-editorial-board>) or to be selected for the EJE Rising Star Reviewer Board which, from 2022 onwards, will feature outstanding mid-career

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3. Clark & Buckmaster 2021 *Endocrine Connections* **10** E3–E4.
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5. Fang & Casadevall 2011 *Infection & Immunity* **79** 3855–3859.

researchers whose career and publication trajectories indicate that they will be suitable to be considered for an EJE Associate Editor post in the (not-too-distant) future.

Journals owned and run by learned societies are arguably more reliable than those owned and run by commercial entities. The authors of this article can assure you that, as Editors-in-Chief, we do everything in our power, and with the help of our outstanding Editorial Boards, to ensure that the content of our journals is valid and reproducible.

Adrian Clark

Editor-in-Chief, *Endocrine Connections*

Wiebke Arlt

Editor-in-Chief, *European Journal of Endocrinology*

Judging scientific production: an Italian perspective

The process of measuring individuals' achievement is valuable, agree Maria Chiara Zatelli and Daniele Gianfrilli, but how this can be achieved equitably is not so clear.

Ever since I entered science, I have been told that if you cannot measure something, then it does not exist. Metrics employed to measure scientific relevance and personal contribution to scientific results (and therefore to publications) should be, therefore, a very good means by which to understand whether I am really good at science, or work enough just to survive in the challenging world of 'either publish or perish'. But how are these metrics used in my academic environment, in Italy?

In Italian academia, career progression from postdoctoral fellow, to researcher (non-tenure track), to researcher (tenure track), to associate professor and then to full professor is regulated by competitive exams announced by each university based on research, teaching and clinical assistance needs (as applicable). To be eligible to participate in these competitive exams, everyone needs to pass the national scientific qualifying examination (Abilitazione Scientifica Nazionale, ASN).

A group of experts (Commissione Nazionale), chosen by the Ministry for Universities and Research (MUR) from among the top Italian academic scientists in each field, evaluates the entries they receive from colleagues who want to pursue an academic career. This non-comparative evaluation is based on scientific production, teaching, academic titles, involvement in scientific societies, participation as a member of an editorial board of an international scientific journal and fund-raising capacity.

And how is scientific production evaluated? By using metrics: to be considered eligible for each academic step, one needs a specific number of published papers, number of citations and h-index in the last 5, 10 or 15 years, depending on whether you are applying for associate or full professor. If you do not have the necessary parameters, you cannot advance career-wise, independently of the evaluation of the other aspects and academic qualifications.

Therefore, these parameters are crucial for our careers. Indeed, after you attain the ASN, they are also taken into account when participating

'We are constantly being measured before, during and after achieving a position. This is actually good, I believe, because each one of us is always stimulated to perform well.'



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in competitive evaluation to run for a position in a specific university. The higher, the better: it's more likely you'll surpass the other candidates.

Similarly, metrics are used to evaluate a researcher or a research group when applying for competitive grants announced by the MUR. Frequently they are also used to rank the principal investigators of competitive research applications submitted to private foundations. In these cases, in addition to the previously quoted metrics, the total impact factor of the principal investigator may also be considered. Another parameter that may also be evaluated is whether the researcher appears as the first or last name on a published paper, to assess the specific contribution of each author.

All or some of these parameters, along with exam tests, are also assessed in competitive evaluations of candidates applying for medical, non-academic positions in a public hospital, both when hiring a doctor and when promoting an employee to a higher career level.

Consequently, we are constantly being measured before, during and after achieving a position. This is actually good, I believe, because each one of us is always stimulated to perform well.

However, in my opinion, these metrics may not reflect the real value of the researcher, or of the performed research. Indeed, researchers belonging to big research groups (with high availability of resources) may take advantage of lobbying their colleagues, sharing research results and therefore having their names on the group's publications, quoting their pals' papers, connecting with other big groups, and gaining visibility and credits in order to raise funds. Small groups with few researchers may be disadvantaged despite being very productive, since they will never reach the same numbers, and fund-raising will become more and more difficult.

Normalisation and extension criteria should be identified to reach equity in evaluating scientific production. However, how this should be performed remains a matter of debate.

Maria Chiara Zatelli

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Daniele Gianfrilli

Department of Experimental Medicine, Sapienza University of Rome, Italy



The Gordian knot of academia, journals, and metrics

Constantine Stratakis reflects on the unyielding problem of how best to measure the impact and value of scientific research.

An intractable problem is only solved by bold action: this is how Alexander the Great addressed in Gordium, in ancient Phrygia, the issue of the intricate knot that was tying the pole of the chariot of the founder of the city, Gordius. On the issue of metrics for academia and publishing, despite several bold attempts over the years, we have not had an Alexandrian solution, at least not yet.

The generally accepted principle in academia is that 'not everything that counts can be counted, and not everything that can be counted counts', a saying that clearly found Albert Einstein in agreement but was, apparently, stated first by W B Cameron.¹ And what counts in science is what matters in the long run: the impact of what gets published to fellow scientists, society and future discoveries.

It appears that we all agree that good science takes time and that a single metric can't adequately capture its impact. When assessing grant applications, too, productivity, citations and impact are the three pillars of their assessment.² What we seem to not agree on is how to provide a solution to the Gordian knot of overall assessment. This becomes especially difficult as academia becomes even more competitive as a professional field, organisations and health systems need to make decisions on supporting healthcare recommendations based on published evidence, and investment funds support pharmaceutical companies and technology development on account of data appearing in scientific journals.³⁻⁵

In other words, the stakes are too high for not getting it right, yet doing the right thing appears to be increasingly difficult. And let's not forget that we all live in the era of social media and ample information outlets. Thus, alternative metrics, also known as 'altmetrics' have also appeared, beyond traditional indices: how many times an article gets downloaded, what are the online uses of a new method or report, and so on.^{6,7}

I worked for three decades at the National Institutes of Health (NIH), the leading funding organisation of research in the life sciences in the USA, and a beacon for the rest of the world for the organised assessment of grant applications and their implementation across some of the best academic institutions around the globe. I lived through at least three versions of the NIH 'biosketch', the academic curriculum vitae (CV) that an applicant would submit to the NIH along with their grant application. More than 30 years ago, it was what most people would consider to be an academic CV, then it got shorter, listing only the most significant or recent publications, and then, most recently, it introduced the concept of significant contributions in a certain field.

The changes reflect the agony of the funder: how do you assess impact? Clearly not by number of publications (first version), then not by what the applicant considers most significant or their most recent papers (next to last version), but by what the contributions are to certain fields (current version).

Likewise, impact factors (IF) were replaced by the h-index, and then by the NIH-invented relative citation ratio (RCR) for journals and their content.⁸

At the end, what is practical advice to our audience?^{9,10} Without being a cynic (Salvador Dali said that 'God invented man, and man invented the metric system'), we need to accept that some type of a metric for published research (however imperfect) will continue to exist, for practical reasons, if

'The stakes are too high for not getting it right, yet doing the right thing appears to be increasingly difficult.'



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'We should also subscribe to the notion of the continuing evolution of what measures impact, and dedicate ourselves to contributing to the discussion.'

not for anything else. These include making funding decisions, assessing promotions and tenure decisions, and making healthcare recommendations in insurance coverage and public health systems. But we should also subscribe to the notion of the continuing evolution of what measures impact, and dedicate ourselves to contributing to the discussion with our experiences, real-life data, and uses and abuses of the current system.

Who knows? Maybe one day, the Gordian knot will be solved, perhaps with the incorporation of artificial intelligence and massive real-time data that may eventually show what real impact is...

Constantine A Stratakis

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Co-Editor-in-Chief of *Hormone & Metabolic Research*, co-Editor of *Molecular and Cellular Endocrinology*, and former Deputy Editor of *Journal of Clinical Endocrinology & Metabolism* (2010–2014)

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The discovery of insulin

A post-reality melodrama, in several parts



John MacLeod



Frederick Banting



Charles Best



James Collip

James Bertram Collip by Walker Storeman © National Portrait Gallery, London

January 2022 marks exactly a century since the first patient received a dose of the ‘miracle treatment’ that has since saved countless lives. It is a good time to remind ourselves of insulin’s story, courtesy of Wouter de Herder.

The protagonists

At the time of insulin’s discovery, four researchers (the protagonists) studied the internal (= endocrine) secretion of the pancreas at the University of Toronto:

1. **John James Rickard Macleod** (1876–1935) from Scotland: Professor of Physiology at the University of Toronto from 1918 to 1928, with a primary focus on carbohydrate metabolism.
2. **Frederick (‘Fred’) Grant Banting** (1891–1941): lecturer in pharmacology at the University of Toronto from 1921 to 1922. In 1922 he received his MD degree.
3. **Charles Herbert Best** (1899–1978): hired by John Macleod in 1921 as a student assistant to help Banting in the laboratory.
4. **James Bertram Collip** (1892–1965): Head of the Biochemistry Department of the University of Alberta Faculty of Medicine from 1920; employed by John Macleod to assist in the purification of insulin during his sabbatical in 1921–1922.

Episode 1: the award

In 1923, the Nobel Prize in Physiology or Medicine was awarded to John Macleod and Fred Banting for the discovery of insulin. So, already, the protagonist team was split up into two prize winners and two bystanders. Macleod shared his prize money with Collip and Banting shared his with Best.

Episode 2: the famous two, part one

Interestingly, most people only recall the names of Banting and Best associated with the discovery of insulin. What happened is that, after 1923, Banting (initially supported by his ‘friend’ Best) started downplaying the contributions of Macleod and Collip in the discovery of insulin. It was stated that Macleod only facilitated the insulin research, but never played an active role, and the contribution of the modest Collip could be easily ignored.

Episode 3: the famous two, part two

The national hero Best was promoted to Head of the Department of Physiology, and elected to the ‘Banting and Best Chair of Medical Research’ at the University of Toronto in 1923. In 1930, the name was changed to the ‘Banting and Best Department of Medical Research’. In 1928, Macleod had returned to Scotland as Regius Professor of Physiology at the University of Aberdeen. Best succeeded Macleod as Professor of Physiology at the University of Toronto.

Episode 4: the winner takes all

As expected, Best also wanted a research institute named after him, but his ambitions were continuously blocked by Banting. At this stage, the two scientists deeply hated each other. Banting stated in 1940, ‘Best is naïve in his abject selfishness,’ and, in 1941, ‘If they ever give that Chair of mine to that son of a bitch, Best, I’ll roll over in my grave.’ Apparently, Banting foresaw that something bad would happen to him: Major Sir Frederick Banting died shortly after an aeroplane crash on Newfoundland while travelling to England in 1941. Of course, Best took over his Chair and also became Head of the Department of Physiology.

Episode 5: the new hero rewrites history

After the deaths of Macleod in 1935 and of Banting in 1941, Best started rewriting the history of medicine in a manner that nowadays could easily be linked with scientific fraud. Assisted by the media and movies, he repositioned his role in the discovery of insulin and became the new hero. The Charles H Best Institute was erected beside the Banting Institute and opened in 1953. Meanwhile, Collip became Dean of the Medical Faculty of the University of Western Ontario in London, Canada, in 1946. He stated, ‘The truth can be found in the scientific publications in the journals.’ He died in 1965.

Episode 6: backstage action

The ‘actor backstage’ was the Romanian physiologist Nicolae Paulescu (1869–1931). He reported his discovery of insulin earlier than the Toronto group, but he was ‘in the wrong place at the wrong time’. He was never awarded the Nobel Prize nor shared any of the prize money.

Episode 7: epilogue

An important discovery in medicine, which seemed to be the achievement of either one person in Romania or a group effort in Canada, led to individual claims and self-proclaimed heroism. The discovery of insulin, however, has saved the lives of many and the drug still plays an important role in the daily disease management of many patients with diabetes.

Wouter de Herder

Professor of Endocrine Oncology, Erasmus MC, Rotterdam, The Netherlands

FURTHER READING

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31 January 2022

(23.59 CET)

Early bird registration:

7 April 2022

(23.59 CEST)

www.ece-hormones.org/ece-2022


ECE 2022

The Congress you've been waiting for! 24th European Congress of Endocrinology | Milan, Italy, 21–24 May 2022

ECE 2022 in Milan, Italy, will be the first face-to-face European Congress of Endocrinology for 3 years. It will also offer the option of virtual registration, for those unable to attend in person.

Carlos Diéguez (Spain) and Beata Kos-Kudła (Poland) are the Basic and Clinical Leads respectively of the ECE 2022 Programme Organising Committee (POC). Here, they give a personal insight into their experience of developing ESE's first hybrid Congress, one whose inclusive format is sure to share the best knowledge in endocrine science and medicine, across Europe and beyond.

What led to the idea of a hybrid Congress?

Organising a major congress during a pandemic was always going to present challenges. The first of these was the restrictions on people's movement. As well as being uncertain of the difficulties that delegates might face in attending ECE 2022 itself, we found that virtual POC meetings were not the easiest way to conduct brainstorming!

One hallmark of recent Congresses has been that we have enjoyed the company of many attendees from outside Europe. ESE has perhaps felt quite moved by how people from many non-European countries, including some of the poorest, invested so much time and money to attend our Congress. This is why we felt it was our duty, as a responsible scientific society, to give them all the opportunity to attend ECE 2022 in at least a virtual fashion. This option would obviously also be available to any European members who, for any reason, could not join us in Milan. So, the decision was made to organise a hybrid meeting.

What have you found most rewarding?

The challenges of organising ECE during a pandemic were balanced by many rewarding experiences. Foremost has been the response from potential speakers. Despite all the uncertainties, their acceptance of our invitation to talk at and attend the meeting in Milan has been fantastic. In addition, the pharmaceutical industry's enthusiasm to set up complementary satellite symposiums has been overwhelming, as was the response regarding the Patient's Voice sessions.

Plenary lectures at ECE 2022

Also see pages 14–15 for Award Lecturers' previews

Genotype-phenotype analyses permit prediction of cure from primary aldosteronism
Morris Brown (UK)

Cellular and molecular mechanisms regulating muscle regeneration in ageing
Pura Muñoz-Cánoves (Spain)

Resilience endocrinology
George Chrousos (Greece)

Fatty bone stem cells
Clifford Rosen (USA)

Old dogmas and new players in puberty and reproduction
Manuel Tena-Sempere (Spain)

Thyroid hormone resistance, diagnosis and treatment
Carla Moran (Ireland)

Endocrine-disrupting chemicals: scientific, economic, regulatory and policy implications
Leonardo Trasande (USA)



What's new for 2022?

We would like to say 'almost everything'! As you know, there is a general rule at ECE not to repeat speakers from the last three meetings. We also strive to include topics that have not received enough attention in recent years. Amongst the newest things is the first Transatlantic Alliance Award Lecture. You can read a preview by the inaugural recipient, Shlomo Melmed, on page 15.

Recent years have seen many advances in genomics, including next generation sequencing, non-coding mRNA and genome-editing technology such as CRISPR/Cas. Including the use of these advances to understand endocrine disease and improve patient therapy, along with the use of artificial intelligence, was a general goal when we drew up the programme.

We tried to expand the boundaries of our field with sessions related to functional organ cross-talk that lies at the root of endocrinology. There are also topics related to hormones and emotions, and basic insights into stem cells, cellular plasticity and the development of endocrine tumours.

The Debate sessions are a must to attend, on 'Peptide receptor radionuclide therapy or targeted molecular therapies?' and 'Pituitary adenoma or pituitary tumour?' and 'Adjuvant radioactive iodine therapy for low to intermediate risk differentiated thyroid cancer patients'.

What will excite delegates the most?

Over the last few years, many new drugs have been developed and approved for the benefit of patients. Endocrinology is a specialty with great clinical relevance, so to have specific talks and sessions to discuss how patients can obtain the greatest benefits from these new treatments is, without doubt, very exciting.

We should emphasise that ECE 2022 will bring lectures and presentations by outstanding specialists in the field of endocrinology. We must admit that we are extremely lucky: such great names do not often meet at the same time and place.

What is your advice to early career members?

Set up your individual plan of sessions to attend before the Congress starts. The cleverest thing to do might be to get out of your comfort zone. If you work in basic science, try to also attend translational and clinical sessions. And adopt the opposite approach if you are a clinician.



3 New Scientific Approaches sessions featuring:

- Endocrine-related Cancer
- Pituitary and Neuroendocrinology
- Reproductive and Developmental Endocrinology

14 Oral Communications sessions

highlighting your research

PLUS

- 14 Rapid Communications sessions
 - 3 Debates
 - 3 Nurses' sessions
 - EYES Symposium
 - ECAS Symposium
- as well as the Patient's Voice, Daily Spotlights, ECE Hub sessions, Satellite Symposia and Networking opportunities



Cathedral with statue of Vittorio Emanuele II, Milan

‘The challenges of organising ECE during a pandemic were balanced by many rewarding experiences. Foremost has been the response from potential speakers ... their acceptance of our invitation to talk and attend the meeting in Milan has been fantastic.’



24 Symposia and 12 Meet the Expert sessions to span all ESE Focus Areas

3 Meet the Basic Scientist sessions

focusing on:
Diabetes, Obesity, Metabolism and Nutrition
Endocrine-related Cancer
Environmental Endocrinology

What will the pandemic's legacy be for ECE?

There is little doubt that we all are longing for face-to-face meetings! However, a potential legacy in the form of hybrid meetings could facilitate a greater global impact for ECE outside the boundaries of Europe.

In this way, distant participants at future Congresses will not be afraid of transport problems and will be able to follow the latest developments in endocrinology from work or home. New knowledge will reach far more scientists, who might not be present at the live event.

Hybrid conferences significantly shorten all distances and will become a response to the needs of the modern world.

What will we find you doing on the day after ECE 2022?

Carlos: I will go to Lake Como to stay with friends to relax and enjoy some time. Then I will go back to work, which is also something I really enjoy (and have the luck of being paid for doing it!).

Beata: Relaxing by picturesque Lake Como is the best option but, for those who have to return to normal activities sooner, a short stay in Milan is very appealing. The world capital of culture, fashion and business will certainly stimulate the imagination, ignite the senses and allow rest after the 'scientific emotions' of ECE 2022!

And finally...

We thank the ESE Executive Committee for giving us the opportunity to be part of this POC. Special thanks are due to Riccarda Granata for always being there, advising us and overseeing things. We are also grateful to all the members of the POC, whose commitment, valuable knowledge and experience meant that a truly exciting scientific programme could be created. Andrea Giustina, in his dual role as Chair of the Local Organising Committee and Immediate Past ESE President, was a source of valuable support. We also thank Gemma Boyd from Bioscientifica, who has ensured that everything has run smoothly.



Carlos Diéguez
POC Basic Lead



Beata Kos-Kudła
POC Clinical Lead

You can meet the POC co-Chairs in a short session at 17.45 during the Opening Ceremony of ECE 2022 on 21 May 2022



Award Lecturers at ECE 2022

Always a central part of the excitement of the European Congress of Endocrinology, the Award Lectures capture the zeitgeist in our field. We are delighted to bring you previews from the lectures you can enjoy at ECE 2022, from some of the leading names in endocrinology. This year, we are delighted to also bring you the inaugural Transatlantic Alliance Award.



AJ van der Lely
Geoffrey Harris Award
A prestigious award recognising researchers in the field of neuroendocrinology

A powerful and almost forgotten tool in endocrinology: a chair

One of the pitfalls that endocrinologists and other clinicians frequently encounter is that they focus on the known signs and symptoms of diseases when asking about the complaints of their patients. For example, acromegaly patients are asked about their headaches, perspiration, oedema and fatigue. Other complaints are easily ignored, as they are considered not to be part of the classical list of signs and symptoms of acromegaly.

Equally, we place too much trust in the laboratory results and, in fact, we too often tell our acromegaly patients that they should be fine when we have normalised their serum insulin-like growth factor-1 levels.

When we start to listen carefully to our patients, we must conclude that they should tell us whether they feel great or not – and not the other way around. The perfect tool to use when there is dissociation between a patient's story and their results in the lab is one that has been forgotten: a chair. Put the chair next to the patient, sit down and listen, and listen carefully. Their story teaches us much more about their disease than many of us realise.

'Put the chair next to the patient, sit down and listen, and listen carefully.'



Roland Stimson
European Journal of Endocrinology Award
For advancement of knowledge in endocrinology through publication

Regulation of human brown adipose tissue function

The increasing global prevalence of obesity highlights the need for new treatments to aid weight loss and prevent the adverse cardiometabolic consequences of obesity. Our lab focuses on understanding the pathways controlling energy metabolism, with the aim of identifying new therapeutic targets to improve metabolic health.

The relatively recent discovery of brown adipose tissue in adult humans has revived interest in activating this tissue therapeutically to increase energy expenditure. To improve our understanding of human brown adipose tissue function, we have performed a series of physiological studies in healthy volunteers using techniques such as positron emission tomography imaging,

microdialysis and thermal imaging. We have determined key differences in the regulation of brown adipose tissue function between species, such as identifying how glucocorticoids regulate brown adipose tissue activation in humans. We have also determined how brown adipose tissue utilises energy substrates to fuel thermogenesis. More recently, we have undertaken transcriptomics in human brown adipocytes to identify novel pathways regulating brown adipose tissue function, and have demonstrated their relevance *in vivo*.

Understanding the pathways regulating cold-induced thermogenesis may lead to novel therapies to aid weight loss and treat associated metabolic disease.

'Understanding the pathways regulating cold-induced thermogenesis may lead to novel therapies to aid weight loss and treat associated metabolic disease.'



Alberto Pereira
Clinical Endocrinology Trust Award
For research addressing aspects of endocrinology at the forefront of clinical practice

Setting the scene for (rare) endocrine diseases in Europe

My research focuses on the long term consequences of pituitary diseases, and on the effects of stress hormones on the central nervous system (CNS) specifically. This has elucidated the long term effects of hormone excess on the CNS, as well as on other organs that affect stress resilience and, consequently, general well-being and quality of life. This profoundly affects our understanding of the biological effects of stress hormone excess on the CNS, and on the care of patients with specific rare endocrine conditions.

Endocrine tumours are characterised by low incidence, genetic predisposition (either isolated or as manifestation of a hereditary tumour syndrome), abnormal hormone secretion and expression of hormone receptors, specific genetic patterns and

generally slow growth. Their special biology provides unique opportunities for systems biology and for development of targeted therapies. The complexity precludes diagnosis and treatment modalities from fitting into standard concepts of care, and the low prevalence means that screening and clinical decision making are very important.

The establishment of the European Reference Networks provided a foundation to improve quality, safety and access to highly specialised healthcare across Europe for patients affected by rare or low prevalence and complex conditions. The European Reference Network on Rare Endocrine Conditions (Endo-ERN) covers specific expertise from birth to senescence. It gives equal responsibilities to patient representatives and healthcare providers. The scope and mission of Endo-ERN are complex but, ultimately, its work in reducing healthcare inequalities across Europe will thrive.

'Endo-ERN covers specific expertise from birth to senescence. It gives equal responsibilities to patient representatives and healthcare providers.'



Josef Köhrle
European Hormone Medal

Awarded to an international scientist for significant contributions to basic or clinical endocrinology

Great impact in low quantities: thyroid hormones, trace elements and endocrine disruptors

Thyroid hormones regulate development (especially of the brain), growth, body temperature and metabolic pathways. Do their blood concentrations inform us about their action and consequences for the individual? Not really!

Their follicular biosynthesis and storage, protein-protected distribution via the bloodstream, specific transport across cellular membranes, intracellular (in)activation and/or metabolism have been revealed. Thus, in 2022, we are facing a remarkably variable subcellular scenery, contributing to the prereceptor control of local tri-iodothyronine (T3) availability to intracellular T3 receptors. These act as ligand-modulated transcription factors for gene expression.

Endogenous and exogenous signals efficiently and bidirectionally influence all these steps, eventually resulting in the permissive mode of thyroid hormone action. Too little or too much T3 at the wrong spot or the wrong time severely impairs health, quality of life and integrity of an individual. That's what we have learned from amphibian metamorphosis or deficiencies of essential trace elements (iodine, selenium, iron, zinc) required for this thyroid hormone multistage machinery. Evolution successfully took advantage of the 'exotic' element iodine as a key constituent of a potent hormone acting at tiny, local concentrations.

Considering that the anthropogenic mass recently exceeded our blue planet's biomass, we must minimise exposure to endocrine disruptors that already interfere at low concentrations with the thyroid hormone system.

'We must minimise exposure to endocrine disruptors that already interfere at low concentrations with the thyroid hormone system.'



Peter Rossing
European Hormone Medal

Awarded to an international scientist for significant contributions to basic or clinical endocrinology

Diabetic kidney disease: after years of darkness came light

Around the globe, chronic kidney disease (CKD) affects approximately 800 million people. Most don't know, because we are not looking for it, and thus they cannot receive the optimal therapy. In most places, diabetes is the leading cause of chronic kidney disease. In addition, many with diabetes also have cardiovascular disease as a complication.

We have worked with biomarkers to identify those at risk for complications, to allow early intervention. For decades, we have known that blood pressure therapy was important but not enough to stop progression. In particular, blocking the renin-angiotensin system with angiotensin-converting enzyme inhibitors or angiotensin receptor blockers has been recommended.

For the last 20 years, we have tried to find new ways to stop or prevent these complications, without success. Suddenly, the past couple of years have provided several new options that we have been involved in developing and testing which have met with success, reducing progression of CKD heart failure and mortality. These include SGLT2 inhibitors and the non-steroidal mineralocorticoid receptor antagonist finerenone. Potential benefits have also been seen with endothelin receptor antagonists and glucagon-like peptide-1 receptor agonists.

Now we must work on implementation. We must learn whether we should personalise treatment by selecting individual drugs for each patient, based on clinical characteristics or biomarkers, or whether it is optimal for all to have multiple drugs, for a superior benefit.

'Suddenly, the past couple of years have provided several new options that we have been involved in developing and testing which have met with success.'



Shlomo Melmed
Transatlantic Alliance Award

Presented to an international leader for advancements through collaboration in the USA and Europe

Growth hormone: an adult endocrine misnomer

Growth hormone (GH), secreted by the anterior pituitary gland, elicits profound effects on skeletal growth, metabolism and body composition. Most growth-promoting actions are mediated by induced production of hepatic and local tissue insulin-like growth factor-1 (IGF1) levels. GH also exerts direct effects, independent of IGF1.

The GH receptor (GHR) is expressed in multiple tissues, and may be activated by the GH ligand derived from the pituitary, or from local tissue autocrine/paracrine/intracrine GH synthesis. Local, non-pituitary GH (npGH) signals on peripheral tissue GHR to induce cell proliferation by suppressing p53, thereby releasing epithelial cells from proliferative restraint. Furthermore, npGH increases with ageing, blocks repair of age-associated DNA damage, and is a component of the senescence-associated secretory phenotype, enabling a pro-proliferative epithelial field

change. Blocking GHR signalling also increases p53, which restrains proliferation.

These mechanisms may underlie the known protective effects of both GH deficiency and GHR signalling disruption on age-associated pathologies, including cancer. Once final adult height has been achieved, GH actions appear to mediate maintenance of symmetrical homeostasis and body composition. With ageing, a switch occurs whereby GH leads to accumulated DNA damage, thereby exacerbating adverse ageing-related diseases.

Elucidation of these mechanisms cautions against inappropriate GH abuse by adults, and also points to the potential for blocking GH action to enable extended lifespan. These postulates highlight adult GH as a regulator of the cellular microenvironment by suppressing age-associated DNA damage repair, rather than functioning exclusively as a promoter of skeletal height.

(Text prepared with my colleagues Vera Chesnokova and Svetlana Zonis.)

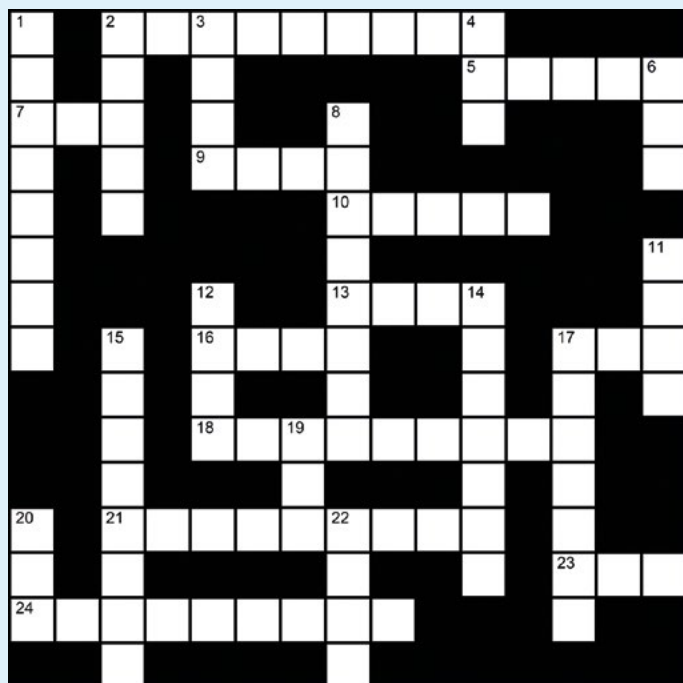
'With ageing, a switch occurs whereby GH leads to accumulated DNA damage, thereby exacerbating adverse ageing-related diseases.'



The Endo Crossword



Send us your solutions to this topical puzzle for your chance to win one of three €20 Amazon vouchers! Let us have your answers, along with your name and email address, by emailing them to info@euro-endo.org.



Solution

Answers to the puzzle in issue 44

Across

2. Marburg, 3. Rabies, 6. Prion, 8. HIV, 11. SARS-CoV, 14. Reed, 16. Capsomere, 18. Stanley, 19. Norovirus

Down

1. Mumps, 4. Envelope, 5. Lassa, 7. Ivanovsky, 9. Capsid, 10. Dengue, 12. Smallpox, 13. MERS-CoV, 14. Reverse, 15. Epitope, 17. Mosaic

Across

- 2 Highest statue on the cathedral in **2 down** (9)
 5 **and 6 down** Ancient symbol of **2 down**, the scrofa semilanuta resembles a 'chimera' of which two animals? (5,3)
 7 Selenium-containing '21st amino acid' (abbr.) (3)
 9 **and 10 across** Famous car manufacturer, founded near **2 down** in 1910 (4,5)
 10 **See 9 across**
 13 Annular structure in the eye (4)
 16 Sustained state of unconsciousness (4)
 17 Hypothalamic circadian pacemaker (abbr.) (3)
 18 Scientist who distinguished between diabetes types 1 and 2 in *The Lancet* in 1936 (9)
 21 Famous cake from **2 down**, traditionally eaten at Christmas (9)
 23 Prefix meaning outside (3)
 24 Novel neuropeptide stimulating LH release by GnRH receptor upregulation (9)

Down

- 1 Heraldic symbol of **2 down**: dragon-like snake with a child in its mouth (8)
 2 Host city of the 2026 Winter Olympics (5)
 3 Intermediate compound in production of catecholamines from tyrosine (abbr.) (4)
 4 **and 19/20 down** The three proteinogenic amino acids (in addition to **7 across**) absent from human insulin (abbr.) (3,3,3)
 6 **See 5 across**
 8 Schiaparelli, astronomer from **2 down**, started the debate on the existence of what? (8)
 11 Trace element required for insulin synthesis (4)
 12 Alternative name for LH (abbr.) (4)
 14 **and 17 down** Scientist who named insulin (7-7)
 15 First patient treated with insulin (8)
 17 **See 14 down**
 19 **See 4 down**
 20 **See 4 down**
 22 Prefix indicating replacement of O with S (4)

Did you know?



A disease with a long history

The symptoms of diabetes were first recorded before 1500 BCE. A physician in Ancient Egypt noted a disease associated with weight loss and frequent urination. Ants were reportedly attracted to the patients' urine.

Almost 1700 years later, the Greek physician Aretaeus described it as 'a melting down of the flesh and limbs into urine' and gave it the name 'diabetes' from the Greek 'to pass through'. The sweetness of patient's urine was noted in India by the name 'madhumea' (honey urine) at least a millennium

before the name 'mellitus' (from the Latin 'honey') was ascribed in 17th century Europe.

Dietary therapies were suggested from the earliest times, though the diverse regimes would have met with mixed success. Management improved by the late 1800s, even though the pathology was still not understood. Bouchardat, a French physician, noted that patients' symptoms improved during wartime rationing. Dietary approaches began to focus on consuming meat and green vegetables in preference to sugars and starches.

Save the date

For more information about any ESE event see www.es-e-hormones.org.

45th Symposium on Hormones and Cell Regulation

23–26 March 2022

Mont Ste Odile, France

ECE 2022

24th European Congress of Endocrinology

21–24 May 2022

Milan, Italy

Deadlines

31 January 2022

ECE 2022

Abstract submission deadline

28 February 2022

ESE Awards 2023:

- Geoffrey Harris Award
- European Journal of Endocrinology Award
- Clinical Endocrinology Trust Award
- European Hormone Medal
- Jens Sandahl Christiansen Award
- Endocrine Nurse Award

Nomination deadline

1 March 2022

Small Meeting Grant

Application deadline

7 April 2022

ECE 2022

Early bird registration deadline

31 May 2022

Short-Term Fellowship Grant

Application deadline

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