

NEWSLETTER

STRENGTHENING CARE FOR
WOMEN WITH ANDROGEN
EXCESS DISORDERS

CHAIR EDITOR

Joop Laven

MD, PhD

Erasmus Medical Centre
Rotterdam, The Netherlands

CO-EDITORS

Alyse Goldberg

MD, FRCPC

University of Toronto, Toronto, Canada

Jamie Benham

MD PhD FRCPC

University of Calgary, Calgary, Canada

Sujata Kar

MD DNB (OBGYN)

KCHPL, Bhubaneswar

UPDATE MEETING

Brain-Body Cross-
Talk in PCOS
COPENHAGEN
May 2025

IN THIS ISSUE

- 01 President Foreword
By Prof Terhi Piltonen
- 02 Society Update - Survey Request
- 04 Update Meeting
- 06 Early Career Special
Interest Group
Updates From Our EC-SIG Team
- 09 Research Highlights
By Prof Joop Laven
- 13 Member Spotlight
By Sandro Graca
- 14 New: Crossing Swords with Science:
The Candidate & the Opponent Speak
Featuring Dr. Nikke Vertanen And Prof Colin Duncan
- 18 Advocacy Update: PCOS Challenge
- 19 Member Engagement
- 20 Save The Date
Upcoming Meetings

FOREWORD FROM THE PRESIDENT

Dear Members,

Summer has arrived in full force—even here in the North—and with it comes a sense of renewal and transformation that mirrors the exciting developments within our society and our field. Many new initiatives are blossoming, and I'm thrilled to share some of them with you.

It was a great pleasure to meet so many of you in Copenhagen during our recent Update Meeting on Body–Brain Crosstalk in PCOS. A heartfelt thank you to our esteemed colleagues Paolo Giacobini, Madhuri Patil, and Tania Burgert for curating such an excellent and engaging program. The feedback was overwhelmingly positive! We also celebrated a milestone—the highest attendance ever recorded for an Update Meeting, with 155 registrants from 46 countries. We are truly an international society.

Next, we look forward to our Annual meeting in San Antonio for New Perspectives and insights into Reproduction in PCOS, held just before the ASRM meeting. While PCOS was initially studied in the context of infertility, our understanding and management of the condition have evolved tremendously. Today, we also recognize its broader implications, including impacts on pregnancy and offspring health. This calls for closer collaboration with colleagues in obstetrics, pediatrics, and related disciplines. Our Annual Meeting will also have a joint event with patient organizations, dedicated to women with PCOS and their families. This important gathering is led by PCOS Challenge.

In addition to our meetings, changes are happening within our leadership. Dr. Paolo Giacobini and Dr. Anuja Joham will be stepping down from the Board, having each led some of the most successful meetings in our society's history. We thank them both for their hard work, dedication and vision. New board member nominations will be announced after the summer—so please be sure to cast your vote.



We're also pleased to see growing engagement in our society's activities. The Early Career Special Interest Group has been particularly active, and we are now planning to expand our focus to better support mid-

career professionals. Stay tuned for more details and let us know if you'd like to get involved.

Another major development is the ongoing PCOS name change initiative, led by Professor Helena Teede from the Monash University. Although the topic has been raised in the past, we now have a clear, structured process in place. As the only international PCOS society, we are proud to partner with Monash and various patient organizations in this critical endeavor. Surveys—many of which our members have participated in—have already collected around 8,000 responses, signaling strong support for change. Still, your continued engagement and votes are essential as we move forward with selecting a new name. Our aim is to find a name that serves both the individuals affected by PCOS and the evolving scientific landscape. This is no small task. With ongoing research on phenotypes, early origins, and its broader impact—including across sexes—we hope to adopt a name that is inclusive, forward-looking, and scientifically sound.

With these news and I look forward seeing many of you in San Antonio!

Terhi Piltonen

President, AE-PCOS Society

RENAMING PCOS: A GLOBAL INITIATIVE TO RENAME POLYCYSTIC OVARY SYNDROME (PCOS)

The initiative to rename PCOS is led by the Australian National Health and Medical Research Council (NHMRC) Centre for Research Excellence in Women's Health, at Monash University, in collaboration with the Androgen Excess and PCOS Society (AE-PCOS). Together, we are working with professional societies and consumer groups worldwide to change the name of Polycystic Ovary Syndrome. In a 2023 global survey of 7,708 participants, 86% of individuals with PCOS and 76% of health professionals supported changing the name to better reflect its broad health effects.

Please participate in this initiative and engage in the global survey -https://monash.az1.qualtrics.com/jfe/form/SV_eWKSMw04xjUDNmS



Please share this information through your networks.

Why is the name is changing?

PCOS is the most common endocrine condition in reproductive-aged women, yet its name does not reflect the full range of health impacts. The focus on ovarian cysts (these are not true epithelial lined cysts but rather arrested follicles), overlooks the condition's metabolic, cardiovascular, hormonal, and psychological features leading to confusion, delayed diagnosis, and inadequate care that is well documented globally.

Over the past decade, we have conducted international surveys with 7,708 participants, including individuals affected by PCOS, clinicians, and researchers from across all continents—Americas, Europe, Asia, Australia/New Zealand, and Africa. Additionally, we have held workshops with these groups to gain deeper insights into perspectives on PCOS and the potential need for a name change. Findings showed that:

Awareness of PCOS as a multi-system condition significantly improved between 2015 and 2023 with

contributions from International Guidelines, education efforts, and patient group advocacy. In 2023, 86% with PCOS and 76% of health professionals supported changing the name to better reflect its broad health effects. Both groups identified more advantages than disadvantages in renaming PCOS and an impact assessment indicated an overall anticipated benefit from a name change. Patients and health professionals agreed that a name change would:

- Have limited negative impacts on patient care or awareness and would not increase confusion
- Offer considerable positive benefits including in awareness, diagnosis, screening and prevention across the broader features of PCOS
- Improve research funding especially for non-reproductive features
- Reduce barriers for policy change
- Require education and implementation efforts.

In 2023 at an international AEPCOS workshop informed by global survey results, 81% of the 94 voting supported a name change and there was commitment to a process with strong global engagement with consumers and health professionals to determine a new, more accurate name for PCOS—one that aligns with current scientific understanding, enhances public and clinical awareness, and improves experience diagnosis and treatment. In 2024, this process was submitted for publication and is under review. This work aligns to and exceeds stakeholder engagement and rigorous processes in past name change initiatives (e.g. nonalcoholic fatty liver disease to metabolic dysfunction associated steatotic liver disease and diabetes insipidus to arginine vasopressin deficiency and arginine vasopressin resistance).

In 2025, the agreed Delphi multi round survey and consensus workshop process is underway (Figure 1 & 2).

Figure 1: Depicts the journey to date and proposed consensus process

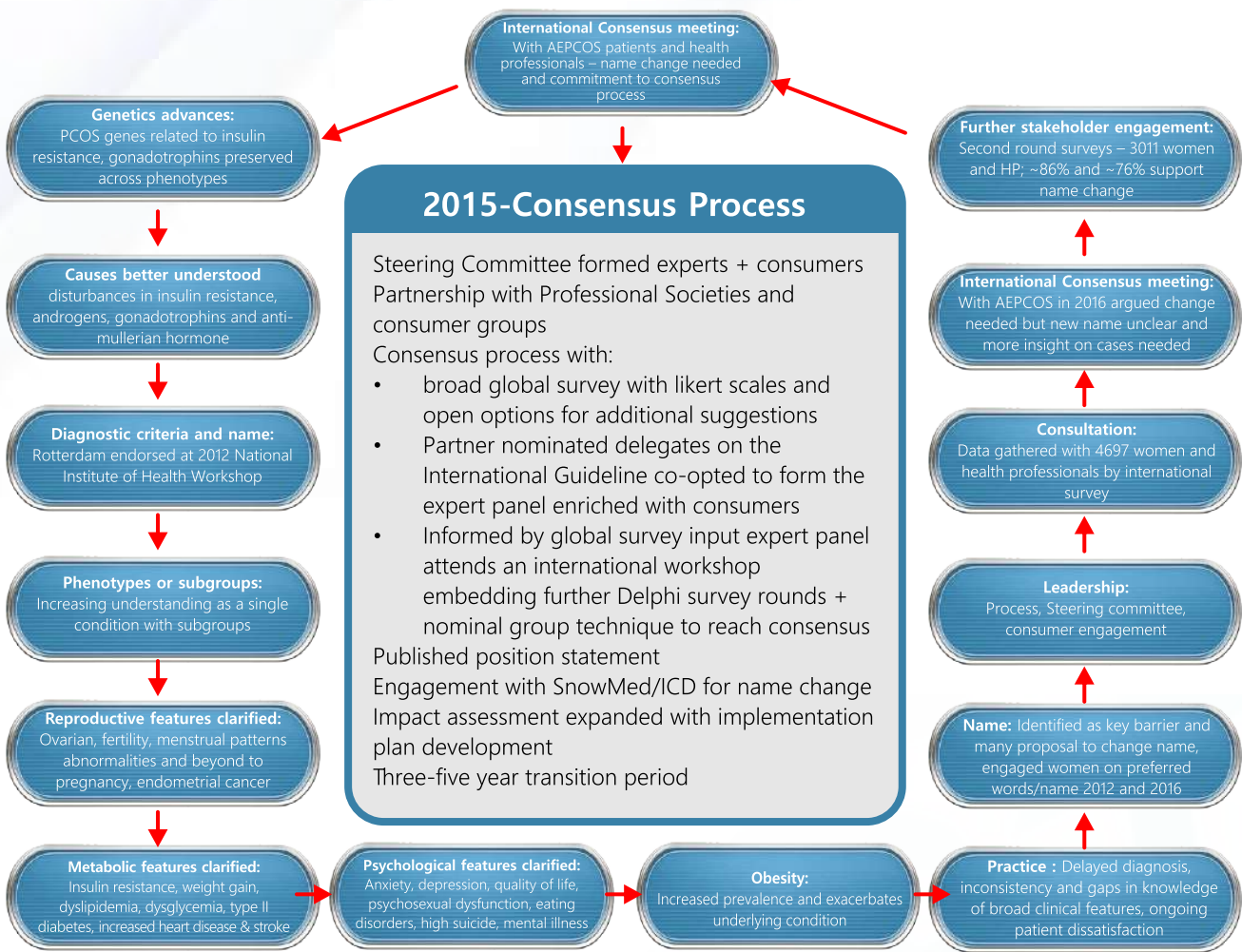


Figure 2: Timelines and next steps



Please participate in the initiative and engage in the global survey:
https://monash.az1.qualtrics.com/jfe/form/SV_eWKSMw04xjUDNmS



AE-PCOS

UPDATE MEETING: BRAIN-BODY CROSS- TALK IN PCOS

The AE-PCOS Update Meeting took place on May 10 in Copenhagen, Denmark, at ECE 2025.

Following the warm welcome by Paolo Giacobini (France), Chair of the update meeting committee, Elisabet Stener-Victorin (Sweden), Chief scientific officer, and the President of the society, Terhi Piltonen (Finland) provided some AE-PCOS news and officially started the presentations around the topic of the update meeting: Brain-body cross-talk in PCOS.

The first session focused on "Gut-Brain Cross-talk and immune system in PCOS" and was chaired by Terhi Piltonen, Finland and Anja Dekanski, Sweden. The session had two plenary presenters: Yanli Pang (Peking University, China) "The microbial metabolite agmatine acts as an FXR agonist to promote polycystic ovary syndrome in female mice", and Riikka Arffman (University of Oulu, Finland) "Gut Microbiome and Mood Disorder in Women with PCOS".

During this morning session there were also abstract presentations by Tianze Cao (Lund university, Sweden) "Immune protein profiling of polycystic ovary syndrome", and Dorte Glintborg (Odense University Hospital, University of Southern Denmark, Denmark) "Autoimmune diseases in 30,340 Danish women

with polycystic ovary syndrome (PCOS) before and after PCOS diagnosis and in 151,520 controls. A national cohort study".

After some valuable networking during the first coffee break, the second session focused on "PCOS, the HPG and adrenal axis" and was chaired by Elisabet Stener-Victorin, Sweden and Riikka Arffman, Finland. Ali Abbara (Imperial College, UK) presented "Evaluation of the hypothalamo-pituitary-gonadal axis in women with PCOS", and Aleisha Moore (Kent State University, Ohio, USA) presented: "Alterations of the hypothalamo-pituitary-gonadal axis in animal models of PCOS". During this session two abstract presentation were given by Ludovica Cotellessa (Univ. Lille, France) "Exposure to high anti-Müllerian hormone (AMH) levels during mini-puberty in mice induces Polycystic Ovary Syndrome-like defects in both sexes" and Mick Rae "Excess adrenal androgen secretion is a consequence of in utero androgen excess in an ovine model of PCOS".

The first afternoon session, "PCOS and the brain", was chaired by Madhuri Patil (India) and Tianze Cao (Lund university, Sweden) and

started with a plenary presentation by Aled Rees. All presentations had engaging Q&A sessions and there was still some time at the end to have a general discussion led by Paolo Giacobini (France). Last but not least, the Chair of the Annual Meeting, Terhi Piltonen (Finland) announced the opening of registration and abstract submission to the 2025 AE-PCOS annual meeting in San Antonio, Texas, USA.

The AEPCOS update meeting at ECE2025 in

Copenhagen featured informative presentations, engaging Q&A sessions, and precious networking, with attendees from all parts of the world connecting and sharing insights about their work in the field. For the ECSIG members, there was one extra opportunity to network and socialize at a delicious Danish dinner.

Thank you to those who attended, and we look forward to seeing you in San Antonio later this year!

By Tanja Turunen



EARLY CAREER SPECIAL INTEREST GROUP

The Early Career Special Interest Group (EC-SIG) aims to support the professional development of early career professionals who have an interest in androgen excess disorders and polycystic ovary syndrome.

The EC-SIG objectives set by the Leadership Committee in collaboration with EC-SIG members are:

1. To expand collaborations between EC-SIG members.
2. To increase social media presence of EC-SIG to promote members and connect with early career professionals internationally.
3. To improve EC-SIG members knowledge about PCOS awareness initiatives.

The EC-SIG holds four meetings annually over Zoom. In addition, several Meet the Professor sessions are planned each year and in person events at AEPCOS meetings.

By **Jamie Benham**

Join EC-SIG!

Please contact
EC-SIG if you're interested in joining:
aepcos.ecsig@gmail.com



2025 Leadership Committee

Faculty Lead
Marla Lujan

Chairs
Jamie Benham
Tina Gorsek

Upcoming EC-SIG Events

- The next EC-SIG meeting will be held in September
- Join the EC-SIG at the AEPCOS Annual Meeting in San Antonio, Texas in October. We will have an EC-SIG Meet & Greet, Mentorship session, and Leadership session. Hope to see you there!
- Join us for a Meet the Professor session featuring Dr. Paolo Giacobini on November 27, 2025

EC-SIG CORNER



Many EC-SIG members had the opportunity to attend the AEPCOS Update Meeting in Copenhagen, Denmark in May! The EC-SIG hosted a meet & greet event the night prior to the meeting to connect with members from around the world.



EC-SIG MEMBER HIGHLIGHTS

- The EC-SIG hosted a Meet the Professor session with Dr. Donna Vine from the University of Alberta in Canada online in June.
- EC-SIG members had a chance to learn about Dr. Vine's clinical translational research program, and hear about her career path.
- Dr. Vine also shared about her PCOS advocacy work through the community outreach program, PCOS Together.



Meet the Professor

AE-PCOS Early Career SIG

Online Session:



November 27th
7am (EST)

speaker

Dr. Paolo Giacobini
Research Director at the
French National Institute of
Health and Medical Research
(INSERM) in Lille, France



www.ae-society.org

RESEARCH UPDATES

THE VAGINAL MICROBIOME AND POLYCYSTIC OVARY SYNDROME (PCOS)

Introduction:

The microbiome in the vagina is a distinct flora mainly represented by *Lactobacillus* species in a healthy person. Other bacteria constitute under 10% of the total microbial flora and are highly present in low numbers (Gao et al, 2024a). Significant variations in the vaginal microbiota are observed between pre-pubertal and postmenopausal women, primarily due to changes in the lower genital tract microbiome influenced by age, sex hormone levels, irregular menstruation, hormonal imbalances, and lifestyle factors. The vaginal environment is typically acidic, with a low pH maintained by the production of hydrogen peroxide and lactic acid by *Lactobacillus* species. Vaginal secretions contain numerous bacterial species, and the host provides the necessary resources to support their growth and development (Mukherjee et al, 2023). Depending on the amount of *Lactobacillus* in samples collected from the vagina, the vaginal microbiome may be differentiated into *Lactobacillus* dominant and non-*Lactobacillus* dominant groups (Gao et al, 2024a; Mukherjee et al, 2023).

The composition and stability of the vaginal microbiome is dynamic throughout the menstrual cycle, with a notable increase in alpha diversity, decrease in the abundance of *Lactobacillus* spp., and decrease in community

stability during menses (Graham et al, 2021; Lee et al, 2025). Moreover, irregular menstruation could lead to a change in the composition of lower genital tract microbiome (Gao et al, 2024a). Similarly, hormonal differences might influence the vaginal microbiome as well (Hong et al, 2023).

Assessment of the vaginal microbiome is typically performed by collecting a swab from the lower portion of the vagina. No significant differences have been observed when swabs are taken from the mid-vaginal region or the posterior vaginal fornix. Additionally, it appears that the accuracy of the sample is not affected by whether the swab is collected by a physician or by the patient (Gao et al, 2024b).

Studies in PCOS:

Several studies in the past few years have focused on exploring the significance of vaginal microbiota and its role in PCOS. Initial studies were small and provided seemingly contradictory results in terms of alpha and beta diversity (Hong et al, 2020; Lu et al, 2021; Tu et al, 2020). A large-scale study conducted in China found that women with PCOS exhibited greater diversity and increased heterogeneity in their vaginal microbiome. The proportion of *Lactobacillus* was reduced in the PCOS group, while the levels of *Gardnerella* and *Ureaplasma* were elevated compared to women without PCOS (Jin et al, 2023). One case-control study found that women with PCOS have higher vaginal microbiome alpha diversity, lower abundances of *Lactobacillus crispatus*, and elevated *Mycoplasma* and *Prevotella*, after adjusting for BMI (Hong et al, 2023). Similar results were reported in meta-analysis summarizing data from 14 studies showing that women with PCOS possessed significantly lower microbial alpha diversity compared with controls (Sola-Leyva et al, 2023).

Another study comparing a limited number of

controls with PCOS patients found vaginal microbial communities in PCOS patients displayed subtle differences from those in the control group. However, species diversity was greater in the PCOS group (Chen et al, 2025). A significant shift in microbial composition was also observed. In women with PCOS, the proportion of Firmicutes decreased, while Actinobacteriota, Bacteroidota, Fusobacteriota, and Proteobacteria increased. At the genus level, the abundance of *Lactobacillus* and *Streptococcus* declined, whereas *Gardnerella*, *Prevotella*, and other genera showed increased levels. Differential analysis revealed significantly higher levels of *Prevotella*, *Sneathia*, *Enterococcus*, and *Gardnerella* in the PCOS group compared to the control group (Chen et al, 2025). The transcriptomic data from that study highlighted a significant up regulation of inflammatory and dysregulated metabolic pathways. These authors concluded from that study that hormonal imbalances in PCOS contribute to significant changes in the vaginal microbiome and metabolic pathways, increasing the risk of endometrial cancer (Chen et al, 2025).

A study by Espinosa et al. observed that about two thirds of women with PCOS had altered vaginal microbiota and about one fifth of them had non-specific microbial vaginitis. Additionally, two thirds of the PCOS women exhibited a proinflammatory state, indicating cell lysis and neutrophil extracellular traps, in the vaginal epithelium suggestive of ongoing inflammation. The most common microbiota profile observed was an intermediate state, marked by a reduced presence of *Lactobacillus* species and an increased abundance of other bacterial morphotypes, such as *Gardnerella vaginalis*, found in two-thirds of the patients. This proinflammatory state, potentially exacerbated by hormonal imbalances, is thought to contribute to infertility in women with PCOS by impairing sperm motility through cytokine-mediated trapping (Espinosa et al, 2024). Similar findings were reported in a large population-

based study, which showed that bacterial vaginosis is more prevalent in women with PCOS compared to those without the condition. Chronic inflammation and disruptions in the vaginal microbiome associated with PCOS may increase susceptibility to bacterial vaginosis. In women with PCOS, bacterial vaginosis may be an underrecognized contributor to infertility or pregnancy complications (Chudzicka-Strugala et al, 2024). A recent review reported elevated levels of *Mycoplasma* and *Actinomyces* species in the vaginal microbiome of women with PCOS. Both species have been proposed as potential biomarkers for the condition. Although current evidence is limited, available data suggest a link between PCOS and vaginal dysbiosis. Specifically, PCOS appears to be associated with a disrupted vaginal microbiota, characterized by a reduced abundance of *Lactobacillus* species and increased levels of potentially pathogenic bacteria, such as *Mycoplasma* and *Streptococcus* (Pereira et al, 2024). Indeed, a large recent study also concluded that bacterial vaginosis is more common in women with PCOS than in those without the condition. Chronic inflammation and alterations in the vaginal microbiome associated with PCOS may increase the risk of developing bacterial vaginosis. In women with PCOS, bacterial vaginosis could be an underrecognized factor contributing to infertility or pregnancy complications. (Chudzicka-Strugala et al, 2024).

One study identified notable differences between women with PCOS and those with tubal infertility, both undergoing IVF treatment. While there was considerable overlap between the two groups, no significant differences were found in β -diversity, indicating that their overall bacterial compositions were relatively similar. However, the Shannon index was higher in the PCOS group, suggesting greater microbial diversity. Similar results were observed with the Simpson index. The PCOS group also showed a significantly lower abundance of *Lactobacillus* species and an enrichment of ten additional

potentially pathogenic species. (Zhao et al, 2025). It has been reported that It seems that implantation failure as well as pregnancy loss are both associated with an increase in microbiome diversity and a loss of *Lactobacillus* dominance in the lower female reproductive system (Gao et al, 2024a). Probiotic treatment of symptomatic patients with oral and/or vaginal administration of bacterial strains of *Lactobacillus* has yielded conflicting results, suggesting that the microbiome as a whole, rather than a single bacterial species, may be effective for severe bacterial vaginosis (Martinelli et al, 2023). A large trial exploring the effects of *Lactobacillus* supplementation is ongoing and might provide some insights into whether this will improve clinical pregnancy rates and live birth rates in PCOS patients (Chen et al, 2023).

Conclusions:

In conclusion, the vaginal microbiome of women with PCOS appears to differ from that of healthy controls. Generally, the vaginal microbiome in PCOS is characterized by increased diversity and greater heterogeneity. These alterations may trigger a proinflammatory state, which could be further amplified by hormonal imbalances in women with PCOS, potentially contributing to the pathophysiology of the syndrome.

References

- Chen, H., Tu, Y., Zhang, C., Li, J., Wu, T., Liu, S., He, L., Zhang, A., Li, Y., Li, L., Sui, Y., Wang, L., Chen, X., Xi, J., Wu, Y., Jin, L. & Huang, H. F. (2023) Effect of transvaginal *Lactobacillus* supplementation on reversing lower genital tract dysbiosis and improving perinatal outcomes in PCOS patients after IVF-FET: a study protocol for a multicenter randomized controlled trial. *Trials*, 24(1), 821.
- Chen, P., Liu, Q., Shi, H., Liu, Z. & Yang, X. (2025) Choline metabolism disorder induced by *Prevotella* is a risk factor for endometrial cancer in women with polycystic ovary syndrome. *Mol Biol Rep*, 52(1), 285.
- Chudzicka-Strugala, I., Golebiewska, I., Banaszewska, B., Trzcinski, M., Brudecki, G., Elamin, W. & Zwozdziak, B. (2024) Bacterial Vaginosis (BV) and Vaginal Microbiome Disorders in Women Suffering from Polycystic Ovary Syndrome (PCOS). *Diagnostics (Basel)*, 14(4).
- Espinosa, M. E., Melo, A., Leon, M., Bautista-Valarezo, E., Zambrano, F., Uribe, P., Bravo, A., Taubert, A., Hermosilla, C., Iturrieta, V. & Sanchez, R. (2024) Vaginal Microbiota and Proinflammatory Status in Patients with Polycystic Ovary Syndrome: An Exploratory Study. *J Clin Med*, 13(8).
- Gao, X., Louwers, Y. V., Laven, J. S. E. & Schoenmakers, S. (2024a) Clinical Relevance of Vaginal and Endometrial Microbiome Investigation in Women with Repeated Implantation Failure and Recurrent Pregnancy Loss. *Int J Mol Sci*, 25(1).
- Gao, X. S., Groot, T., Schoenmakers, S., Louwers, Y., Budding, A. & Laven, J. (2024b) The Vaginal Microbiome: Patient- versus Physician-Collected Microbial Swab: A Pilot Study. *Microorganisms*, 12(9).
- Graham, M. E., Herbert, W. G., Song, S. D., Raman, H. N., Zhu, J. E., Gonzalez, P. E., Walther-Antonio, M. R. S. & Tetel, M. J. (2021) Gut and vaginal microbiomes on steroids: implications for women's health. *Trends Endocrinol Metab*, 32(8), 554-565.
- Hong, X., Qin, P., Gao, L., Huang, L., Shi, Y., Peng, D. & Wang, B. (2023) Change of the vaginal microbiome with oral contraceptive therapy in women with polycystic ovary syndrome: a 6-month longitudinal cohort study. *BMC Med*, 21(1), 478.
- Hong, X., Qin, P., Huang, K., Ding, X., Ma, J., Xuan, Y., Zhu, X., Peng, D. & Wang, B. (2020) Association between polycystic ovary syndrome

and the vaginal microbiome: A case-control study. *Clin Endocrinol (Oxf)*, 93(1), 52-60.

Jin, C., Qin, L., Liu, Z., Li, X., Gao, X., Cao, Y., Zhao, S., Wang, J., Han, T., Yan, L., Song, J., Zhang, F., Liu, F., Zhang, Y., Huang, Y., Song, Y., Liu, Y., Yao, Z., Chen, H., Zhang, Z., Zhao, S., Feng, Y., Zhang, Y. N., Qian, Y., Sun, T., Feng, Q. & Zhao, H. (2023) Comparative analysis of the vaginal microbiome of healthy and polycystic ovary syndrome women: a large cross-sectional study. *Reprod Biomed Online*, 46(6), 1005-1016.

Lee, S., Aasmets, O., Arffman, R. K., Laru, J., Rossi, H. R., Salumets, A., Piltonen, T. T. & Org, E. (2025) The reproductive tract microbiome in women with polycystic ovary syndrome and across different menstrual cycle phases. *Hum Reprod*, 40(3), 518-528.

Lu, C., Wang, H., Yang, J., Zhang, X., Chen, Y., Feng, R. & Qian, Y. (2021) Changes in Vaginal Microbiome Diversity in Women With Polycystic Ovary Syndrome. *Front Cell Infect Microbiol*, 11, 755741.

Martinelli, S., Nannini, G., Cianchi, F., Staderini, F., Coratti, F. & Amedei, A. (2023) Microbiota Transplant and Gynecological Disorders: The Bridge between Present and Future Treatments. *Microorganisms*, 11(10).

Mukherjee, A. G., Wanjari, U. R., Kannampuzha,

S., Murali, R., Namachivayam, A., Ganesan, R., Dey, A., Babu, A., Renu, K., Vellingiri, B., Ramanathan, G., Priya Doss, C. G., Elsherbiny, N., Elsherbini, A. M., Alsamman, A. M., Zayed, H. & Gopalakrishnan, A. V. (2023) The Implication of Mechanistic Approaches and the Role of the Microbiome in Polycystic Ovary Syndrome (PCOS): A Review. *Metabolites*, 13(1).

Pereira, M. P., Jones, S. & Costin, J. M. (2024) Association of Polycystic Ovarian Syndrome (PCOS) With Vaginal Microbiome Dysbiosis: A Scoping Review. *Cureus*, 16(6), e62611.

Sola-Leyva, A., Perez-Prieto, I., Molina, N. M., Vargas, E., Ruiz-Duran, S., Leones-Banos, I., Canha-Gouveia, A. & Altmae, S. (2023) Microbial composition across body sites in polycystic ovary syndrome: a systematic review and meta-analysis. *Reprod Biomed Online*, 47(1), 129-150.

Tu, Y., Zheng, G., Ding, G., Wu, Y., Xi, J., Ge, Y., Gu, H., Wang, Y., Sheng, J., Liu, X., Jin, L. & Huang, H. (2020) Comparative Analysis of Lower Genital Tract Microbiome Between PCOS and Healthy Women. *Front Physiol*, 11, 1108.

Zhao, H., Wang, C., Narsing Rao, M. P., Rafiq, M., Luo, G., Li, S. & Kang, Y. Q. (2025) Effects of vaginal microbiota on in vitro fertilization outcomes in women with different infertility causes. *Microbiol Spectr*, 13(3), e0125524.

By Joop S.E. Laven

Dept. OBGYN, Erasmus University Medical
Centre, Rotterdam,
The Netherlands

SPOTLIGHT ON OUR MEMBER: SANDRO GRACA, MSC

Managing Social Media for the AE-PCOS Society: Bridging Research, Awareness, and Global Engagement



As the Social Media Officer for the Androgen Excess and PCOS Society (AE-PCOS), my role is rooted in connecting a global network of researchers, clinicians, advocates, and patients.

Through strategic content planning and community engagement, I aim to spotlight groundbreaking studies, share updates on emerging evidence, and highlight the work of our members driving innovation in this space. More than just disseminating information, our goal is to foster conversations that bridge the gap between research and real-world impact.

My passion for this work is fueled by my involvement in PCOS research at the University of Wolverhampton in the U.K., coupled with a commitment to evidence-based health advocacy. I believe that research should not remain confined to journals, and social media provides a unique platform to communicate findings to broader audiences, ensuring key insights reach both professionals and those directly affected by PCOS.

Of course, there are challenges. One of the most significant hurdles is navigating the influx of misinformation that permeates all online platforms. Addressing PCOS-related misinformation is a key focus of my research, and through

my role with AE-PCOS, I work closely with the Board and the Early-Career Special Interest Group (EC-SIG) to ensure our society remains a beacon of reliable, research-backed information online.

Bridging the language of academia with the needs of our diverse audience - spanning early-career researchers, seasoned experts, clinicians, advocacy leaders, and ultimately patients themselves - is an ongoing commitment. It is important to make complex research accessible and impactful, ensuring it resonates across the community.

Looking ahead, I envision AE-PCOS's social media platforms evolving into even stronger hubs for research advocacy and global engagement. My goal is to transform our online spaces into interactive forums where research inspires action, collaboration is fostered, and our community feels empowered and connected.

As part of this vision, our upcoming project, Evidence-based Dissemination of Guidelines and Expertise in PCOS (EDGE-PCOS), will provide short, social-media-optimized videos featuring Board members, mentors, and EC-SIG members presenting concise talks aimed at dispelling common myths about PCOS. I encourage you to follow us on all our platforms and share our content, so that together, we can amplify the global impact of PCOS research and education through innovative digital engagement.

New in this issue!

CROSSING SWORDS WITH SCIENCE: THE CANDIDATE & THE OPPONENT SPEAK

Interview with DR NIKKE VERTANEN [PhD Candidate] and PROF COLIN DUNCAN



Introduction:

Today, we're speaking with Dr. Nikke Virtanen [PhD], who has recently and successfully defended his PhD thesis on a topic of significant biomedical relevance:

" Activation of the HIF pathway in polycystic ovary syndrome (PCOS): hemoglobin, ferritin and HIF-targeted medical interventions ", from the University of OULU, Finland.

Joining us as well is Professor WILLIAM COLIN DUNCAN. Dr. Duncan is a Professor of Reproductive Medicine and Science and acts as a Principal Investigator at the Centre for Reproductive Health, Institute for Regeneration and Repair at the The University of Edinburgh. In the field of PCOS he is known for his work on PCOS-related metabolism utilizing PCOS sheep model.

A highly respected scientist and the official opponent at the defence.

It's a pleasure to have both here to reflect not just on the scientific work, but on the journey, the experiences, and the moments that made this academic milestone truly memorable.

Let's begin by looking back at the process, the day itself, and what this milestone has meant to both on a personal and professional level.

1. Dr Virtanen , What initially sparked your interest in Polycystic Ovary Syndrome and specifically in HIF pathway?

NV : My interest in these topics began quite by accident. I was looking for a PhD position and my PIs happened to have a project available, which I took up. I had only a passing familiarity with either of these topics before, but I quickly grew interested in them due to all the possibilities, both scientific and clinical.

2. Was there a turning point during your PhD research where everything started to make sense-or felt especially challenging?

NK : I would say the turning point of my PhD was the moment we finally produced a working animal model that captured those traits of PCOS we were interested in. That took two years, and there were times (after trying two mouse models that turned out to be too weak for our purposes...) when I was beginning to worry if I would be able to complete this project. But after we got the model working, I was quite sure the project would be successful in the end.

3. What was the most memorable moment from your defence day?

NK: The day of my defence was so full of memorable moments it is impossible to name just one



over all the others. Some of the big ones would be waiting to enter the lecture hall just before the defence, taking pictures across the campus with coworkers, friends, and family after the defence, and of course the many touching moments in the defence party in the evening. Curiously, memories of the actual defence itself are all a little hazy!

4. Did anything unexpected or amusing happen during the defence?

NK: At one point one of our postdocs rushed down from the rows of seats to the stage. I learned later that there was something wrong with the audio that they had to fix, but at the moment I barely noticed the whole thing. On a funnier note, I really struggled with one of my opponents questions, before putting forth an answer that I admitted was mostly speculation

since I didn't know the answer. He laughed and said that it's fine, considering that nobody does! Which also goes to show that one cannot know everything and is not expected to. Overall, I think we were thankfully spared from any real mishaps during the defence.

7. How has working in a multidisciplinary research environment of OULU University shaped your outlook?

NK: Working in a multidisciplinary environment does give one more perspective as to what kind of research questions, and approaches to solving them, there can be. There are of course very different kinds of resources and methods being used in different fields, even just within biochemistry and medicine, let alone in other fields. Without any forays into these fields outside one's own original training background, I feel that the ability to picture what kind of research is possible can remain limited, and I am certainly grateful for the environment in Oulu for broadening my horizons in this regard.

8. What cultural or interpersonal lessons have stayed with you from working with colleagues, mentors, or your opponent? Although I understand "Finland" is home!

NK: Every person I have worked with has brought their own additions to the mix of valuable lessons, as everyone can serve as a good example of something. Some colleagues provide excellent examples of efficiency and good working culture, while others are impeccable at organizational skills. So far I have always found these things to be more tied to the person than anything else, regardless of any background, and that was in itself one take home message for me: people are different and

flexibility is supremely important in any work environment.

9. If you could go back & give yourself advice at the beginning of this project, what would it be? Would you like to change anything?

NK: . If I could give myself a piece of advice at the beginning of my project, it would be to go straight for the working mouse model! I wonder what we could have done with that extra two years to spend on this project... On a more general note, I would tell myself to stress a lot less. Every experiment is not actually a question of life or death, and things usually work out eventually.

10. Finally, What are your short- or long-term plans now that you've completed your PhD?

NK: Long-term plans in this field can be tricky to make and I can't really say much about those, but my short- and medium-term plans are to look for postdoc positions abroad. I feel it is important to go out and see how things are done in other places and cultures, to see what kind of things are being done outside one's original environment, and to learn about new methods and topics to widen one's perspective.

Prof William Colin Duncan

1. What impressed you most about this thesis and the defense? Specifically what qualities of the candidate you thought made him a good researcher?

CD: To be a good researcher you need to articulate what you did, what you found why it is important.

That means that as well as being technically competent you should read widely, go to lots of presentations in different fields and talk with other researchers. I was impressed by the thesis because it interrogated clinical data from a population of women with PCOS to develop a theory that was then tested in a mechanistic was in a preclinical model.

2. What would you say is the broader significance of this work in the field?

CD: PCOS is a lifelong condition that mechanistically is poorly understood. There is no specific management that will mitigate all the features of



PCOS and treatment is symptomatic and often unsatisfactory. There is an unmet need for new therapeutic paradigms. This bedside to bench science is fundamental to developing new treatment approaches. The concepts introduced are important and open a new area of study in PCOS.

3. What stood out to you culturally or institutionally about the defense process here?

CD: I loved the formality of the public defense with family, peers and more senior academics present. The tea and formal celebratory meal afterwards where people shared their thoughts

on the candidate and the candidate thanked many people, was impressive and made the occasion very memorable and special.

4. How did this defense compare to others you've participated in, whether as a supervisor or opponent?

CD: It was similar to a defense in Sweden although it was a bit more formal and there were external assessors also questioning the candidate as well as the opponent. I mainly examine in the UK and that is very different. In the UK there usually isn't a formal presentation. The candidate is questioned by viva voce in small private room with just an external and internal examiner present. That can go on for three or four hours. Unlike in Scandinavia there is not a requirement for a number of publications just that the experimental chapters contain new data that is publishable quality. The thesis is examined in draft format and after the defense there will be a list of corrections that have to be incorporated before the final thesis is accepted. Any celebration or party afterwards is more ad hoc and not as formal.

5. What changes have you noticed in the way young researchers approach scientific problems today compared to earlier in your career?

CD: During my doctorate I spend at least a fortnight doing and analysing a Northern blot to look at changes in the expression of one gene. Any usually you had to do it again as something hadn't worked well. Now you can look at the entire transcriptome in less time. That means that there is so much more data to analyse and publications to keep up with now. Publications often need a lot more data. I remember publishing a paper in a high impact journal that was essentially one immunohistochemistry run (although it had taken me two years to get the unique samples) and it seemed easier then in some ways. I think then and now we all learn and use a rigorous scientific approach, but young

researchers now must get to grips with more techniques and tools and ever more data.

6. What keeps you passionate about your work at this stage of your career?

CD: It is that eureka moment while sitting looking at slides or data when you suddenly understand something and you know that at that moment you are the one person who has that knowledge. The excitement of discovery totally makes up for the disappointments of experiments not working and the challenges of publication and getting funding. Exciting the public and patients about my research really motivates me.

7. What do you think is the biggest challenge facing young researchers today?

CD: I think there generally isn't as much unrestricted funds available these days so that going to the lab/institute where you want to do a post-doc when you want to do it can be challenging. Despite the increasing challenges of getting your head around the existing literature and the huge amount of data to sift through, I think the biggest challenge is making that jump to independent research and the restricted opportunities available for that transition.

Closing Remarks

Thank you both for sharing your insights, stories, and reflections. It's always inspiring to hear the human side of science—the dedication, the unexpected challenges, and the cultural moments that shape such a significant journey.

Dr Nikke , congratulations once again on this major achievement. Prof. Colin , thank you for your thoughtful engagement and for being part of this important academic moment.

We wish you both continued success in your respective paths, and hope today's conversation encourages others to appreciate not only the science, but the people behind it.

By Dr Sujata Kar

ADVOCACY UPDATE:

PCOS CHALLENGE

PCOS Advocacy Day

On Thursday, March 6th, advocates from across the United States gathered in Washington, D.C. for the 8th Annual PCOS Advocacy Day, led by PCOS Challenge: The National Polycystic Ovary Syndrome Association (USA). This pivotal event united patients, investigators, healthcare professionals, industry leaders, and supporters in a collective call for greater attention to PCOS.

The delegation urged U.S. lawmakers to prioritize PCOS by increasing research funding, improving diagnostic testing, and accelerating the development of effective PCOS-specific treatments. Their unified efforts underscored the global need for continued collaboration and increased research to advance understanding and care for those affected by PCOS.



By **Sasha Ottey**

EVENT HIGHLIGHTS

**PCOS
ADVOCACY
DAY 2025**

PRESENTED BY

PCOS Challenge
THE NATIONAL POLYCYSTIC OVARY SYNDROME ASSOCIATION (USA)

ADVOCATING FOR INCREASED PCOS RESEARCH AND NEW TREATMENTS


U.S. Representative
Debbie Wasserman Schultz (FL-25)


U.S. Senator
Elizabeth Warren (MA)


U.S. Senator
Jon Ossoff (GA)


U.S. Representative
Don Bacon (NE-2)



FOLLOW US
@PCOSChallenge



**#PCOS #PCOSAdvocacyDay
#PrioritizePCOS #PCOSChallenge**

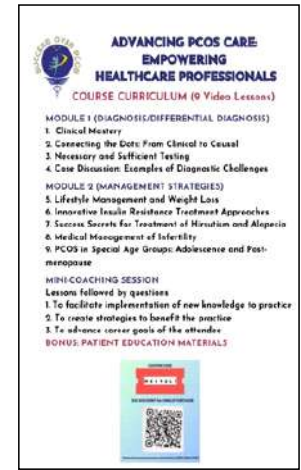
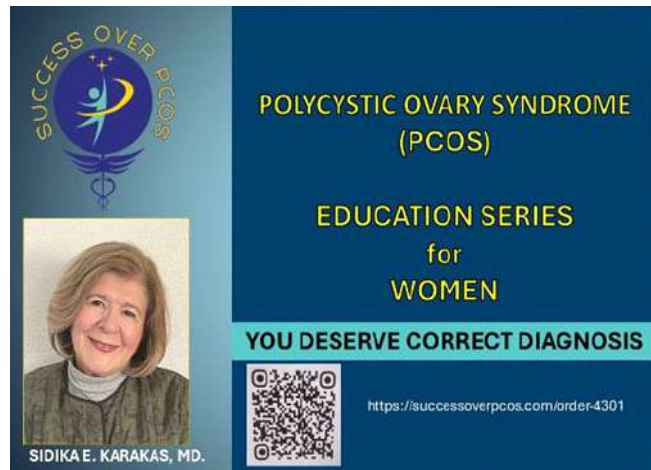
MEMBER ENGAGEMENT

WE ARE PLEASED TO SHARE NEWS FROM OUR MEMBERS:

Sidika E. Karakas, MD

As an endocrinologist and emeritus professor with over 25 years of experience in PCOS practice, I'm delighted to share the results of my commitment to educating and empowering PCOS patients and providers. I established SUCCESS OVER PCOS and developed a practical, comprehensive course titled "Advancing PCOS Care: Empowering Healthcare Professionals" (<https://successoverpcos.com/order-4301-3164-2027>) for providers and "PCOS Education Series" (<https://successoverpcos.com/order-4301>)

for patients. This course provides a holistic, practical approach to PCOS care, addressing the fragmented,



specialty- centered education often encountered in medical training. It covers all aspects of PCOS diagnosis and treatment, aiming to improve patient outcomes and provider satisfaction.

She is seeking feedback from AE-PCOS members to enhance the course and ensure it meets the needs of both patients and providers effectively.

Shruthi Mahalingaiah, MD, MS and the Mahalingaiah Lab team have been making research discoveries about reproductive health and ovulation disorders and sharing their work around the world. Discussing topics including PCOS, several Mahalingaiah Lab team members delivered sessions unpacking their breaking new insights at the recent Society for Reproductive Investigation (SRI) 2025 Annual Scientific Meeting in Charlotte, NC this past March. Recently, Dr. Mahalingaiah also traveled to Mysore, India to deliver a course on Endocrine Disruptors and Reproductive Health, addressing the roles of various exposures (such as heat stress) and more on reproductive health outcomes. The course addressed best practices in cohort design and data collection to foster growth in research skills and collaboration among attendees.

Dr. Mahalingaiah and the Mahalingaiah Lab team are excited for other upcoming publications and speaking engagements on the horizon, and to continue closing the gap in research on PCOS and ovulation disorders for patients.



CALENDER OF EVENTS

Next AEPCOS →

- July 2025 Endocrine Society, San Francisco, Ca USA
<https://www.endocrine.org/meetings-and-events/endo-2025>
- October 2025 American Society for Reproductive Medicine Scientific Congress and Expo San Antonio, Tx, USA <https://asrmcongress.org/>
- November 2025 Obesity Week hosted by the Obesity Society Atlanta, Georgia, USA
<https://obesityweek.org/>

Join us at the AEPCOS Annual Meeting. Register here:

<https://ae-society.org/meetings/>

23-25 Oct, 2025

Androgen Excess and PCOS Society Annual Meeting,

Topic: **New Perspectives and Insights into Reproduction in PCOS**

The theme for the 23rd Annual Meeting of the Society is "New Perspectives and Insights into Reproduction in PCOS". The meeting will explore recent mechanistic and clinical advances related to reproductive health in this chronic, lifelong condition, highlighting the latest research findings in PCOS-related basic and clinical research.

The meeting will take place at Plaza San Antonio Hotel & Spa, Autograph Collection, 555 S Alamo St, San Antonio, TX, 78205



Prior to the ASRM Scientific Congress & Expo (Oct 25-29)

Thank You...