

NEWSLETTER

Androgen Excess and PCOS Society

Strengthening care for women with Androgen Excess Disorders



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AEPCOS SOCIETY NEWS

A CHANGEOVER OF PRESIDENTS

BY JILLIAN TAY

Looking back on 2020, it was a year full of challenges and changes. For our AEPCOS society, one major change is the changeover of our presidents from Prof Elisabet Stener-Victorin to Prof Kathleen Hoeger. We are very grateful for the hard work Prof Stener-Victorin had put in and are now looking forward to year 2021 with optimism and excitement with Prof Hoeger.

Greatest thanks to Prof Elisabet Stener-Victorin

Prof Elisabet Stener-Victorin is a Professor in Reproductive Physiology at Karolinska Institute, Stockholm, Sweden. She has led the AEPCOS Society from 2019 and had stepped down from the position in November 2020.

***"When I do something, I go in for it... I do it 100% or 120%.
When it is research, I do it 150%,"***

We would like to take this opportunity to thank her contribution to our Society.

Thank you for your 200% efforts!



Welcoming Prof Kathleen Hoeger

Prof Kathleen Hoeger is a Professor of Obstetrics and Gynaecology at the University of Rochester Medical Centre, New York, USA. She had taken over from Prof Stener-Victorin and became our current president of the AEPCOS Society.

"I appreciate the enormous challenges we face to translate research findings and ideas to the clinical arena. I look forward to working with our incredible members to continue to elevate their work to improve our basic scientific knowledge as well as our clinical understanding for our patients."

Welcome on board, Prof Hoeger!

AEPCOS ANNUAL MEETING

Virtually hosted, 7-8 Nov 2020

BY LAURA GALLEY



Photo by Chris Montomegry on Unsplash

The AEPCOS first ever virtual meeting was held successfully with great attendance and informational research updates! The interesting program was developed by the AE-PCOS Program Director. The program consisted of live and recorded presentations.

Huge thanks to our committee members - Mark Goodarzi (Cedars-Sinai Medical Center - UCLA; Los Angeles, CA, USA), Secretary Treasurer Tania Burgert (Children's Mercy Hospital; Kansas City, MO, USA), and Administrative Assistant James Morrow for their hard work and making it all possible!

Day 1: AMH and Insulin Resistance in PCOS

The day started by discussing the utility of AMH as a diagnostic tool and the potential role of AMH in the etiology of PCOS. The President's Lecture by Elisabet Stener-Victorin explored the risk of trans-generational psychiatric disorder transmission with PCOS. Selected basic and clinical science abstracts were presented orally. A debate over driving factors of PCOS development rounded off the morning.

The Early Career Special Interest Group organized multiple virtual conversations between early / mid-career delegates and 2 late career mentors over lunch. In the afternoon, select translational science abstracts were presented orally.

Day 2: Androgen Excess in PCOS

The second day of the meeting began in the afternoon by discussing androgen excess, cardiometabolic risk, and PCOS phenotypes. Select clinical science abstracts were presented orally. In the Career Award Lecture, Richard Legro discussed knowledge gaps in pregnancy and PCOS. The Clinical Research Award Lecture by Helena Teede explored TBD. Finally, the role of insulin resistance in the development of PCOS was examined.

Day 1:

AMH and Insulin Resistance in PCOS

The Annual Meeting began with an opening from our previous AE-PCOS President **Elisabet Stener-Victorin (Karolinska University; Stockholm, Sweden)**. Elisabet praised the flexibility of the group and the expertise of the planning committee for organizing the first AE-PCOS virtual conference. Additionally, she noted that this year included a record high number of registered attendees.

AMH AS A DIAGNOSTIC MARKER AND ORIGIN OF PCOS?

Following this, **Bulent Yildiz (Hacettepe University School of Medicine; Ankara, Turkey)** discussed the utility of AMH as a diagnostic tool for PCOS in unselected and referral populations. He noted that although AMH has the potential to be a strong diagnostic biomarker in place of PCOM because circulating levels of AMH reflect the excessive accumulation of small antral follicles in the ovary, further work is needed to define external calibration and standardized reporting. Then, **Paolo Giacobini (University of Lille; Lille, France)** presented work suggesting excess prenatal AMH exposure may be related to the origins of PCOS. He showed data from mouse models suggesting that prenatal AMH treatment leads to an elevation in LH secretion and pulsatility, potentially causing the following 3 generations to develop PCOS later in life.

TRANSGENERATIONAL RISK OF PSYCHIATRIC DISORDERS IN PCOS

Next, **Elisabet Stener-Victorin** gave the President's Lecture entitled "PCOS and risk of transgenerational transmission of psychiatric disorders." She presented research suggesting that daughters, but not sons, of women with PCOS have an increased risk of attaining an anxiety diagnosis. This suggests that maternal environmental factors by in utero programming of somatic cells may mediate the transmission of psychiatric ill-health to daughters of women with PCOS.

Day 1: continued

BASIC SCIENCE ORAL PRESENTATIONS

These first sessions were followed by several short basic science oral presentations. First, **Haojiang Lu (Karolinska Institutet; Stockholm, Sweden)** questioned if androgen exposure results in germline transmission of PCOS-like phenotypes that can be reversed. The study revealed that androgen exposure in IVF donors may yield transgenerational reproductive and metabolic dysfunction. However, this may be reversed if the donor is treated with flutamide and exercise. Then, **Anna Benrick (University of Gothenberg and University of Skovde; Gothenburg, Sweden)** presented data suggesting that maternal adiponectin prevents against metabolic dysfunction in prenatally androgenized PCOS-like mice. She concluded that offspring may benefit from prenatal adiponectin supplementation as this protects the offspring against maternal androgen excess effects on the visceral adipose tissue. Last, **Cecily Bishop (Oregon State University; Corvallis, OR, USA)** discussed the impact of hyperandrogenemia and western-style diet on post-pregnancy metabolism in nonhuman primates. The findings of the study suggest that testosterone treatment and western-style diet differentially effect metabolism in the post-partum period with a trend toward worsened measures of insulin resistance in the western-style diet group.

CLINICAL SCIENCE ORAL PRESENTATIONS

Next, selected clinical science abstracts were presented. **Kim Van der Ham (Erasmus MC; Rotterdam, The Netherlands)** reviewed the cardiovascular risk profile of middle-aged women with PCOS. The results from the study suggest that women with PCOS do not have a significantly increased risk of cardiovascular disease events or risk factors compared to a community population. She postulated that this may be the result of increased cardiovascular risk awareness or better DNA-repair maintenance among women with PCOS. Then, **Carolyn Cesta (Karolinska Institute; Stockholm, Sweden)** presented data regarding the cardiometabolic function of men with sisters diagnosed with PCOS. She concluded that these men have an increased risk for developing a higher BMI, hypertension, and possibly type 2 diabetes. She proposed several possible mechanisms for these results, including similar intrauterine environments, similar childhood environments, and similar genotypes.

Day 1: continued

DEBATE: THE ETIOLOGY OF PCOS INSULIN RESISTANCE vs HYPERANDROGENISM

A very lively debate ensued between **Richard Legro** (Penn State College of Medicine and Penn State Health; Hershey, PA, USA) and **Terhi Piltonen** (University of Oulu; Oulu, Finland).



First, **Rick Legro** argued that the development of PCOS is driven by insulin resistance and improving insulin resistance improves the symptoms of PCOS. Rick provided data exemplifying that weight loss in women with PCOS improves symptoms through improvements in insulin sensitivity, not through improvements in hyperandrogenism. He further showed data suggesting that anti-androgen medications do not improve ovulation in women with PCOS. Therefore, he concluded that insulin resistance is at the heart of the pathophysiology of PCOS.

Then, **Terhi Piltonen** argued that the development of PCOS is driven by hyperandrogenism. Terhi presented data showing that exposure to a hyperandrogenic environment leads to PCOS symptoms and alter LH pulsatility. She also brought genetic data to the table displaying loci associated with the risk of PCOS are involved with androgen synthesis. Lastly, she discussed the lean phenotype of PCOS to firmly state that hyperandrogenism, not insulin resistance, is the key player in PCOS etiology.



Kathleen Hoeger (University of Rochester; Rochester, NY, USA), **Mark Goodarzi** (Cedars-Sinai Medical Center; Los Angeles, CA, USA), and **Elisabet Stener-Victorin** moderated a rather one-sided discussion of the debate as Rick Legro experienced technical difficulties and could not join the group. Although a motion was not made, Terhi playfully declared herself the winner and many in the chat agreed.

Day 1: continued

EARLY CAREER SPECIAL INTEREST GROUP (EC-SIG) NETWORKING EVENT

Over lunch the EC-SIG organized a virtual networking event hosted by **Heidi Vanden Brink** (Cornell University; Ithaca, NY, USA), **Michelle Meyer** (University of North Carolina at Chapel Hill; Chapel Hill, NC, USA), and **Terhi Piltonen**. Attendees joined small groups by their designated area of interest. The leaders of the basic science research group included Heidi Vanden Brink and Nour Mimouni (Paris Descartes University; Paris, France). The leaders of the clinical and translation research group included Joop Laven, Maryam Kazemi (Cornell University; Ithaca, NY, USA), Laura Cooney (University of Wisconsin; Madison, WI, USA), and Anuja Dokras (University of Pennsylvania; Philadelphia, PA, USA). The leaders of the population and social sciences group included Michelle Meyer, Alyse Goldberg (University of Toronto; Toronto, Canada), Robert Wild (University of Oklahoma Health Science Center; Oklahoma City, OK, USA), and Terhi Piltonen.

TRANSLATIONAL SCIENCE ORAL PRESENTATIONS

First, **Chau Thien Tay** (Monash Centre for Health Research and Implementation; Clayton, Australia) delivered a presentation on the 2018 PCOS guideline diagnostic criteria for PCOS in adolescents and its impact on the disease prevalence and long-term BMI. The results from the study suggest that the adolescent phenotype with both hyperandrogenism and ovulatory dysfunction has increased risk for long-term weight gain which begins before puberty. The study supports the guideline recommendation to omit polycystic ovary morphology investigation in adolescents. Then, **David Abbott** (University of Wisconsin and Wisconsin National Primate Research Centre; Madison, WI, USA) discussed the emergence of ovarian hyperandrogenism and luteal insufficiency following ESR1 knockdown in the mediobasal hypothalamus of adult female rhesus monkeys. Results from the study confirm that ESR1 in the ARC of the hypothalamus is an important molecular mediator of estradiol negative feedback regulation of gonadotropin release in a female nonhuman primate, and likely women. They also found that diminished ESR1 expression in the ARC may contribute to a PCOS-like phenotype.

Gregorio Chazenbalk (University of California at Los Angeles; Los Angeles, CA, USA) discussed transcriptional changes in Lipid metabolism of adipocytes derived from subcutaneous abdominal adipose stem cells of lean women with PCOS. The results from the study suggest that adipocytes of normal-weight women with PCOS exhibit enhanced adipogenic gene activation that may underlie an exaggerated lipid accumulation and may promote adipose insulin resistance. Then, **Tiantian Zhu** (Cedars-Sinai Medical Center; Los Angeles, CA, USA) presented results from a Mendelian randomization study regarding PCOS and breast cancer subtypes. The results from the study suggest that although women with PCOS do not have an increased risk of breast cancer subtypes that have the worst prognosis, PCOS is associated with an increased risk of luminal A-like, luminal B / HER2-negative-like, and luminal B-like breast cancer subtypes. Lastly, **Luis Hoyos** (University of California at Los Angeles; Los Angeles, CA, USA) presented a case study of a woman with PCOS who lost AMH immunoactivity due to a homozygous AMH gene variant. The case presentation concluded with a suggestion to consider an AMH variant and use various AMH assays when undetectable or severely reduced serum AMH levels are found in a patient with PCOS.

Day 2:

Androgen Excess in PCOS

AE-PCOS President **Elisabet Stener-Victorin** welcomed the virtual attendees and introduced androgen excess in PCOS as the focus of day 2. Additionally, **Anuja Dokras** made a statement to acknowledge the life work of Mr. Gopal Savjani, founder of ANSH labs, who recently passed away.

ANDROGENS EXPOSURE IN PCOS

Donna Vine (University of Alberta; Calgary, Canada) gave the opening lecture and explored the role of androgens, estrogens, and insulin signaling pathways in the development of cardiometabolic risk in PCOS. She concluded that androgens activate and modulate the expression of androgen and estrogen receptors which is associated with either adverse or compensatory changes in metabolic pathways dependent on the target tissue. Following this, **Varykina Thackray (University of California; San Diego, CA, USA)** presented data suggesting that androgen exposure during puberty versus adulthood resulted in distinct PCOS phenotypes. In summary, her team found that letrozole treatment results in reproductive hallmarks of PCOS in both pubertal and adult mice, suggesting that puberty is not critical to develop a PCOS reproductive phenotype. However, letrozole treatment of adult mice results in a minimal metabolic phenotype compared to pubertal mice, indicating that puberty may be an important factor in the development of metabolic dysregulation in PCOS.

CLINICAL SCIENCE ORAL PRESENTATIONS

These first sessions were followed by several short clinical science oral presentations. First, **Christine Burt Solorzano (University of Virginia; Charlottesville, VA, USA)** presented data on 11-oxygenated C19 steroids in normal weight, overweight, and hyperandrogenic girls. Her findings indicated that the adrenal gland may contribute to elevations of 11-keto androstenedione (11KT) observed in post-menarcheal girls with hyperandrogenism. Further, peripheral production in adipose may contribute to elevations in endogenous Testosterone or 11KT in hyperandrogenic girls. The next presentation by **Smita Jha (National Institutes of Health; Bethesda, MD, USA)** questioned the utility of 11-oxygenated androgens and provided data suggesting discordant serum 17-hydroprogesterone and androstenedione in the management of congenital adrenal hyperplasia. The research findings pointed to the utility of 11-oxyandrogens as a biomarker to assess poor versus good congenital adrenal hyperplasia control.

Day 2: continued

CLINICAL SCIENCE ORAL PRESENTATIONS CONTINUED

Brief clinical science oral presentations continued as **Maryam Kazemi (Cornell University; Ithaca, NY, USA)** presented data suggesting women of reproductive age with PCOS have an increased risk of osteosarcopenia. Her results suggested that PCOS may have deleterious impacts on musculoskeletal health, indicating that management strategies to prevent and delay the development of osteosarcopenia may be warranted in this clinical population. Then, **Alexandra Dietz de Loos (Erasmus University Medical Center; Rotterdam, Netherlands)** discussed the changes in metabolic syndrome observed in women with PCOS following a randomized controlled three-component lifestyle intervention. She found that weight mediated a statistically significant decrease in the prevalence of metabolic syndrome in women with PCOS undergoing a lifestyle intervention compared to care as usual. These results suggest that lifestyle interventions are needed to minimize metabolic syndrome and cardiovascular disease risk in women with PCOS and excess weight.

Lastly, **Iris Lee (University of Pennsylvania; Philadelphia, PA, USA)** drew attention to gaps in the diagnosis and treatment of PCOS from the perspectives of primary care providers and obstetricians-gynecologists. The study found that practitioners have significant knowledge gaps regarding the diagnostic criteria they use and offer limited metabolic and mental health screenings for patients with PCOS. This showed that there is a need for increased knowledge and implementation of the international guidelines among all providers.

The final round of oral presentations began with **Jaclyn Lo (Bryn Mawr College; Bryn Mawr, PA, USA)** presenting data that increased bile acid concentrations are associated with endogenous, but not exogenous, elevated testosterone in adolescents. She concluded that long-term endogenous testosterone exposure in PCOS is associated with a less healthy metabolic profile and changes in bile acid and fatty acid metabolism compared to short-term exogenous testosterone exposure in transgender males. Then, **Mamaru Awoke (Monash University; Clayton, Australia)** explored longitudinal weight gain outcomes in community-based women with and without PCOS. The study found that women with PCOS making unhealthy lifestyle behavior choices had the greatest rate of weight gain, further reinforcing the importance of early lifestyle interventions in PCOS.

Day 2: continued

CAREER AND CLINICAL RESEARCH AWARD LECTURE

Richard Legro (Penn State College of Medicine and Penn State Health; Hershey, PA, USA) presented the Career Award Lecture. Legro discussed the knowledge gaps regarding pregnancy and PCOS. He brought convincing evidence to the table to make several points. First, gestational diabetes is common in women with PCOS; however, the glucose intolerance most likely exists prior to pregnancy. Although women with PCOS have increased risk of pregnancy morbidities, they are not at an increased risk for pregnancy loss. Metformin may be effective in preventing complications by limiting excessive gestational weight gain. Many future studies are needed to determine the impact of PCOS on pregnancy outcomes and explore preventative therapies before, during, and after pregnancy.

In the Clinical Research Award Lecture, **Helena Teede (Monash University; Clayton, Australia)** discussed the Monash Centre for Health Research and Implementation. Dr. Teede discussed the aims of the centre's PCOS Research Program, including studies to determine the aetiology of PCOS, improve PCOS diagnostic criteria, understand hormonal and metabolic mechanisms underlying PCOS, elucidate the natural history of PCOS, predict PCOS-associated risk factors, and optimize PCOS treatment.

INSULIN RESISTANCE IN PCOS

Melanie Cree-Green (Children's Hospital Colorado; Aurora, CO, USA) discussed the role of insulin resistance in PCOS in adolescents. She presented three cases of adolescents with PCOS who were monitored for insulin resistance since menarche. As two of the cases developed diabetes while receiving lifestyle intervention therapy, she suggested future research to assess weight loss medications in youth with PCOS. Next, **Andrea Dunaif (Icahn School of Medicine and Mount Sinai Health System; New York City, NY, USA)** presented data exploring how genomic work is beginning to identify causal pathways in PCOS. She particularly noted that current PCOS diagnostic criteria, which are based on subjective expert opinion, do not identify the biologically distinct disease subtypes. Last, **Alba Moreno (Victoria University; Melbourne, Australia)** discussed how researchers are unravelling the molecular mechanisms of peripheral insulin resistance in PCOS. Her study findings determined that insulin resistance is not preserved in skeletal muscle myotubes from women with PCOS, and transforming growth factor β (TGFB-1) but not AMH may be the contributing factor. She noted that future studies, including transcriptomic and proteomic analyses of skeletal muscle, are needed to determine the intrinsic mechanisms of insulin resistance in PCOS.

AEPCOS ANNOUNCEMENTS

Finally, **Kathy Hoeger (University of Rochester; Rochester, NY, USA)** was presented as the New President of the AE-PCOS Society as Elisabet Stener-Victorin (Karolinska University; Stockholm, Sweden) stepped down from the position. Additionally, it was announced that Helena is rotating off of the board as president, Dan is leaving the board as treasurer, Mark is rotating off of duty as program director, Tania is the new treasurer and website transition facilitator, Joop is the new President-elect, Anju is a new board member for clinical science, and Rebecca is a new board member for basic science and annual meeting chair.

RESEARCH HIGHLIGHTS

PCOS & Cardiovascular Disease: Still an Enigma!

BY JOOP LAVEN



PCOS and Cardiovascular Disease: Still an enigma!

BY JOOP LAVEN

The pathogenesis of PCOS commonly involves obesity and subsequent insulin resistance which leads to several cardiometabolic abnormalities such as dyslipidemia, hypertension, glucose intolerance, diabetes, and metabolic syndrome. Prior studies have found that subclinical CVD markers such as coronary artery calcium scores, C-reactive protein, carotid intima-media thickness, and endothelial dysfunction are more likely to be increased in women with PCOS. While these risk factors for CVD are definitely increased in women with PCOS, their relationship with subclinical and clinical CVD is less well established (1).

Risk factors for CVD are definitely increased in women with PCOS but their relationship with subclinical and clinical CVD is less well established.

A recent meta-analysis pointed in a similar direction and showed increased risk ratio's for hypertension and low HDL-cholesterol. There was also a slightly elevated risk for non-fatal stroke, but coronary events were not increased in women with PCOS as was the total CVD risk (2). Moreover, black women with PCOS have a greater tendency for an adverse cardio-metabolic risk profile (increased insulin, HOMA-IR, and SBP) despite lower triglycerides than White women (3). Another recent meta-analysis identified an increased risk of CVD among women with PCOS, including occurrence of myocardial infarction, ischemic heart disease, and stroke. However, similar to other studies no difference in the all-cause or CVD-related mortality was observed (4).

Indeed, a recent genetic study investigated the associations of PCOS with type 2 diabetes, coronary heart disease and stroke. The latter associations were examined in European and Asian cohorts, both sex-specific and sex-combined whereas the causal effects of PCOS on risks of CHD and stroke were evaluated only in European cohorts. These authors did not report a significant association of genetically predicted PCOS with risk of diabetes, CHD or stroke. This suggests that PCOS in and of itself does not increase the risk of these outcomes (5).

More functional studies looking at arterial stiffness in young women suffering from PCOS indicate a decrease in vascular compliance in their arteries (6). A recent study measuring blood pressure over 24 hours in women with PCOS and controls indicated raised diastolic as well as systolic blood pressure in women with PCOS. This was not detected by measuring blood pressure just once hence it seems that hypertension is masked during early adulthood in women with PCOS (7). Because pregnancy is a stress test for the cardiovascular system in women it should be anticipated that women with PCOS have more often hypertensive diseases during pregnancy. However, a recent retrospective study in 200 pregnant women suffering from PCOS did not reveal an increased incidence of hypertensive disease (8).

Recent studies from my own group were also not able to substantiate the CVD risk in women with PCOS. The CVD risk factors in women between 60 and 75 years with PCOS were definitely increased compared to healthy controls. However, hard endpoints such CVD, CHD and stroke were similar between women with PCOS and healthy controls (9).

Women with PCOS have better DNA repair and maintenance genes which may protect them...

In that paper we postulate that women with PCOS might be more aware of the risk factors and anticipate to them by a healthier lifestyle. Moreover, hyperandrogenism might provide another protective mechanism. Finally, the fact that women with PCOS have better DNA repair and maintenance genes might also protect them from the accumulated damage due to their CVD risk factors. Hence, based on this selective enrichment with better DNA repair and maintenance genes, one could hypothesize that these women actually should be healthier compared to the general population provided that they had received proper preventive treatment in combination with a healthy lifestyle from an early age on. So, there might still be something to gain as far as their CVD health is concerned. Future larger (genetic) cohort studies looking in older populations may provide answers to as whether this theory might be correct.

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SPOTLIGHT ON RESEARCH LEADER

An Interview with Professor Anuja Dokras

MD, PhD

Penn Medicine, Philadelphia, PA, USA

Dr. Anuja Dokras earned her medical degree at the University of Mumbai, India and then studied at the University of Oxford, UK, as a Rhodes Scholar. Her PhD thesis at Oxford focused on development of techniques for preimplantation genetic diagnosis, a procedure that is now offered in conjunction with IVF, to prevent transmission of monogenic diseases. She then moved to the US where she completed her training in Obstetrics and Gynecology and subspecialty fellowship training in Reproductive Endocrinology and Infertility at Yale University.



Dr. Dokras is currently Professor of Obstetrics and Gynecology, Medical Director of the Reproductive Surgical Facility, Director of the Preimplantation Genetic Diagnosis Program and Chair of the Gynecology team of the Women's Health Service Line at the University of Pennsylvania, Philadelphia, USA. She also directs the PENN PCOS center, a multi-disciplinary center providing care for adolescents and women of all ages with PCOS. Her research program focuses on understanding the long-term cardiometabolic risks and mood disorders associated with PCOS. Early in her career, her research was funded by the Reproductive Scientist Development Program, and she received the Ira and Esther Rozenwaks New Investigator Award from the American Society of Reproductive Medicine (ASRM). Currently, her research is funded by the National Institute of Child Health and Development. She has played an important role in AE-PCOS Society leadership and is currently its Associate Executive Director. During her tenure as president of the society, she focused on patient engagement and international research collaborations. She has also been the scientific program chair for the ASRM annual and post-graduate meetings. In addition, she contributes to the editorial boards of several journals including Endocrine Reviews (associate editor) and the Journal of Clinical Endocrinology and Metabolism (former associate editor). She has been selected to 'Best Doctors in America' for several consecutive years.

Q1. How did you get involved in research in androgen excess diseases?

As a junior faculty member, I saw many patients with PCOS in my practice, and very early on I mentored a resident on a study examining the risk of metabolic syndrome in this population. Our results showed a significantly increased prevalence for cardiovascular disease risk in these young women, which piqued my interest in understanding the long-term implications of these findings. In collaboration with a colleague in the Department of Cardiology, I applied for a grant to study the impact of PCOS on endothelial function. That initial funding started my career as a translational researcher in PCOS.

Q2. What are your success habits?

Hard work and perseverance because there are no short cuts! Being attentive to the needs of patients in order to identify the right research questions. Curiosity about the clinical practice and willingness to collaborate in order to drive the field forward.

Q3. What are your thoughts regarding future directions of androgen excess research?

I am extremely optimistic and excited about the progress in both PCOS and androgen excess research. Within the past 5-10 years there have been significant advances in understanding the genetic basis of PCOS, development of animal models of PCOS and clinical trials to guide women seeking fertility care. On the other hand, there are still several gaps in knowledge regarding pathophysiology, long-term complications and appropriate models of care delivery. Many of the co-morbidities associated with PCOS span across domains, providing opportunities for multi-disciplinary groups of investigators to engage in future research.

Q4. What advice will you give to our upcoming researchers?

First, let me congratulate the upcoming researchers for having chosen to engage in research in androgen excess. As I said above, there are tremendous opportunities in this field. My advice to them will be to embrace new opportunities, be willing to pivot in order to pursue new ideas, build relationships with a variety of mentors and broaden your scope within your area of research by exploring other applications and collaborations in related fields.

Q5. Would you be willing to mentor a mentee?

Certainly, I am always happy to mentor young trainees. Personally, I have had some phenomenal mentors, and to me, it's critical to continue this lineage. Mentoring trainees at different stages – whether undergraduate students, medical students, residents in training or fellows – presents different experiences and challenges. I see mentoring as one of the privileges of academic medicine – to guide and support our trainees from initial research projects to future aspirations. For example, some of my mentees have now established PCOS centers at other academic institutions in the U.S.

“Hard work and perseverance because there are no short cuts!”

“Curiosity about the clinical practice and willingness to collaborate in order to drive the field forward.”

Prof Anuja Dokra's success habits

EARLY CAREER SIG MEMBER



Dr. Michelle L Meyer

PhD, MPH

University of North Carolina
Chapel Hill, NC, USA

Dr. Meyer received her MPH and PhD in Epidemiology at the University of Pittsburgh, Pennsylvania. During her predoctoral training with Dr. Evelyn Talbott, she studied non-invasive measures of vascular disease in women with polycystic ovary syndrome (PCOS) and controls. After receiving her PhD, she completed her postdoctoral training at the University of North Carolina at Chapel Hill, North Carolina furthering her interests in measures of vascular disease in large population-based studies. In 2016, she became faculty in Emergency Medicine and received the Building Interdisciplinary Research Careers in Women's Health (BIRCWH) award to examine the links between signs of androgen excess and cardiometabolic risk factors in Hispanic/Latina women. Currently, she is a co-chair of the AE-PCOS Early Career Special Interest Group.

As a cardiovascular epidemiologist, her research interests include cardiometabolic risk in women with androgen excess, sex-differences in cardiovascular disease, and in arterial stiffness and brain aging. She is completing manuscripts on the association of PCOS signs with diabetes and kidney disease in the Hispanic Community Health Study/Study of Latinos from research conducted during her BIRCWH award.

Publication highlights:

Meyer ML, Sotres-Alvarez D, Steiner AZ, Cousins L, Talavera GA, Cai J, Daviglus ML, Loehr LR. Polycystic Ovary Syndrome Signs and Metabolic Syndrome in Premenopausal Hispanic/Latina Women: the HCHS/SOL Study. *J Clin Endocrinol Metab.* 2020;105(3):e447-e456.

Meyer ML, Malek AM, Wild RA, Korytkowski MT, Talbott EO. Carotid artery intima-media thickness in polycystic ovary syndrome: a systematic review and meta-analysis. *Hum Reprod Update.* 2012;18(2):112-26.

MEMBER ENGAGEMENT

BY LAURA GALLEY

Prof Helena Teede

MBBS, FRACP, PhD, FAAHMS

Monash University

Melbourne, VIC, Australia

Prof Teede's unique ability to bring together stakeholders and create a collective vision with high buy-in makes her a skilled leader in the field. As director of three Centres of Research Excellence, she supports a large team of nearly 250 personnel from clinical and academic backgrounds. One of her most cherished lines of work, her research translation program, is a strong example of her ability to effectively lead multidisciplinary teams. Prof Teede built a network of collaborations between global PCOS experts, digital health specialists, and consumers to develop the AskPCOS app. The app, now available in 126 countries, enables women with PCOS to better manage their condition through individualized, self-guided care. It is clear that her leadership has improved PCOS health literacy on an international level.

Prof Teede credits much of her success to others, noting that every completed project has a greater impact when all involved members are motivated and feel accountable to disseminate the work. Nevertheless, she ruminated that her exceptional ability to gather and motivate cross-functional groups stems from her transparency as a project manager, value-based leadership, and recognition of collective priorities. She hopes that this award will enable her to be even more effective in engaging others on a large scale. She aspires to continue helping others solve problems and being a vehicle for change.

Prof Teede praised the AE-PCOS society for being a committed group in a diverse field. She encouraged all members to consider building or joining collaborative teams and welcomed early career members seeking mentorship.

She will be presented with her award at ENDO 2021, the Endocrine Society's annual meeting.

Prof Helena Teede wins the 2021 Endocrine Society Laureate Award for Outstanding Leadership in Endocrinology



CONSUMER ENGAGEMENT

BY JILLIAN TAY & LAURA GALLEY

Featuring VIRTUAL PCOS ADVOCACY DAY



PCOS Challenge is hosting a virtual PCOS Advocacy Day on March 4, 2021.

This event aims to influence federal policy to invest in resources to help women with PCOS by:

- Understanding the breadth and depth of the impact of PCOS
- Making PCOS research a priority
- Supporting all those affected with PCOS with resources and programs

Join this important event to make a difference in the lives of those affected by PCOS!

More information available at this link:
<https://pcoschallenge.org/pcos-advocacy-day/>

CALENDER OF EVENTS

PCOS Advocacy Day: 5 Mar 2021, Virtual

ENDO 2021: 20 Mar – 23 Mar 2021, Virtual

ESHRE Annual Meeting: 26 June – 1 Jul 2021, Virtual

PCOS CON by PCOSAA: 16 Sep – 18 Sep 2021, Virtual

PCOS Awareness Symposium: 25 Sep 2021, Philadelphia, PA

ASRM Congress & Expo: 16 Oct – 20 Oct 2021, Virtual

AEPCOS Society meeting: TBA

CALL FOR NEWSLETTER CONTENTS

This is a new section of our newsletter!

We want to engage with our society members!

Have you recently been awarded a prize/grant?

Have you been offered a new faculty position or made a career change?

Have you been invited to speak in a major event?

Are you a rising academic researcher looking for young potential PhD students?

Do you have a job/fellowship to offer?

Have you participated in any research translation work?

Maybe you started writing a blog or joined a twitter/Instagram account you would like us to follow?

Share with us any news or announcements.

We want to hear from you!

Interested members please email newsletter@ae-society.org using the subject line “Member engagement”. We suggest the content to be around 300-400 words with 1-3 accompanying images.