

## SEPTEMBER NEWSLETTER: FOCUS ON MOLECULAR MECHANISMS IN ADIPOSE TISSUE THAT MAY INDUCE INSULIN RESISTANCE IN PCOS

The September newsletter is dedicated to the molecular mechanisms in adipose tissue that may participate to the pathogenesis of insulin resistance in PCOS.

Jan McAllister, member of AEPCOS from 2004 and Professor of Cell and Molecular Biology at the Penn State University, Hershey, PA, USA, interviewed Ricardo Azziz on molecular mechanisms that may induce insulin resistance in subcutaneous adipose tissue. Ricardo has been the main founder of AEPCOS Society and is actually President of Georgia Regent University, Augusta, Georgia, USA.

Because the treated issues are often controversial, we encourage comments from our members and will publish these in future newsletters. If you wish, you may send a letter to: [enrico.carmina@ae-society.org](mailto:enrico.carmina@ae-society.org)

The registration form and some information about 11<sup>th</sup> Annual Meeting of AEPCOS Society are reported while a picture from Quito AEPCOS Update Meeting (September 26, 2013) is presented.

For any information about all AEPCOS meetings, you may contact: [info@ae-society.org](mailto:info@ae-society.org)

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SEPTEMBER 30, 2013

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- \* Molecular mechanisms in subcutaneous adipose tissue of PCOS women
- \* 11th AEPCOS Annual Meeting
- \* Picture from Quito AEPCOS Meeting

### Editorial Board

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## FORTHCOMING AEPCOS MEETINGS

- 11th Annual Meeting of Androgen Excess & PCOS Society, Newport, Rhode Island, USA, October 17-18, 2013

# ANNUAL MEETING OF AEPCOS SOCIETY

Newport, Rhode Island, USA,



11th Annual Meeting of AEPCOS Society will be held at the HYATT REGENCY RESORT HOTEL, 1 Goat Island, Newport, Rhode Island 02840, USA, October 17-18, 2013.

The meeting will start October 17 at 4 PM to permit to people attending IFFS/ASRM meeting in Boston (that meeting is scheduled to finish October 17, at 1 PM) to can participate to AEPCOS meeting sessions. Newport is located 72 miles from Boston Convention Center (about 1 hour and 20 minutes by MA-24S). Transportation from Boston Convention Center to Newport Hyatt Regency Resort will be provided (bus leaving at 1:30 PM) but has to be reserved by September 15.

As special bonus, to people who register before October 1, a free issue of the special number of Journal Steroids reporting the main lectures of AEPCOS Beijing Annual Meeting will be distributed.

The venue of 11th AEPCOS Annual meeting, Hyatt Regency Resort Hotel, is situated on Goat Island. Surrounded by Narragansett Bay, the hotel offers the seclusion of a private island, just minutes to downtown Newport. The resort provides water shuttle (and van shuttle) to/from downtown Newport. For registration please connect to: [www.ae-society.org](http://www.ae-society.org) or contact: [info@ae-society.org](mailto:info@ae-society.org)

# REGISTRATION FORM

## 11TH AEPCOS ANNUAL MEETING

### REGISTRATION

\_\_\_\_\_ AEPCOS members \$260    \_\_\_\_\_ Non AEPCOS members \$360

Payment amount: \$\_\_\_\_\_ Credit card payment: \_\_\_\_\_ VISA    \_\_\_\_\_ MasterCard    \_\_\_\_\_ AMEX

Credit card number \_\_\_\_\_ Expiration date: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Cardholder  
name \_\_\_\_\_

Online payment \_\_\_\_\_ To safely pay online, connect to: [www.ae-society.org](http://www.ae-society.org)

Check payment \_\_\_\_\_ Make checks payable to Androgen Excess Society

Email, mail or fax the registration form to: Androgen Excess & PCOS Society, via delle Croci 47, 1st floor, suite 10, 90139 Palermo, Italy. Fax: +39-091328997, Email: [info@ae-society.org](mailto:info@ae-society.org)

Registration includes welcome dinner (October 17), Breakfast ,lunch and 2 coffee breaks (October 18).

The certificate will be issued to the name of the accredited participant.

To get registration form in word, please contact: [info@ae-society.org](mailto:info@ae-society.org)

## TRANSPORTATION TO/FROM NEWPORT

### BY AIR

T.F. Green Airport - Warwick, RI (26 miles/35 minutes)

Airlines - Serviced by all major domestic airlines

Car Rental Agencies - Serviced by all major car rental companies

Public Transportation - Cozy Cab or RIPTA

Cozy Cab operates scheduled shuttle van service between T F Green Airport and Newport RI, with service every two hours from 7 am to 10 pm, and hourly service on Friday and Sunday. Additional trips run daily at 5 am and 12 midnight. Fare is \$20 per person, one-way. Call 1-401-846-2500 or 1-800-846-1502 for reservations.

### BY RAIL

Amtrak Kingston Station - West Kingston, RI (18 miles/30 minutes)

Public Transportation - Reserved Car Service (401) 295-1100 or RIPTA

### BY CAR

From New York City, take I-95 to the third Newport exit, picking up Route 138 east (which joins briefly with Rte. 4) and crossing the Newport toll bridge slightly north of the downtown district.

From Boston (75 miles), take Route 24 through Fall River, picking up route 114 into town.

## ANDROGEN EXCESS & PCOS SOCIETY

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Ricardo Azziz, M.D.,  
M.B.A., M.P.H.

In this month's Newsletter, Jan McAllister interviewed Dr. Ricardo Azziz, who commented on his recent publication in *Diabetes*:2013; 62(7): 2278-86, entitled, "[miRNA-93 INHIBITS GLUT4 AND IS OVEREXPRESSED IN ADIPOSE TISSUE OF POLYCYSTIC OVARY SYNDROME PATIENTS AND WOMEN WITH INSULIN RESISTANCE.](#)" This is the first study to compare the differential expression of micro RNAs (miRNAs) in adipose tissue of women with PCOS.

What did your report study?

PCOS affects about 10 percent of women and is characterized by excess male hormone, irregular ovulation and menstruation and is associated with an increased risk for insulin resistance (IR), which can lead to diabetes and heart disease. There has been no clear mechanism to describe IR in PCOS. In this study we investigated the relationship of microRNAs and IR in subcutaneous fat tissue from the lower abdomen of women with PCOS.

We should note that fat tissue is a largest endocrine organ in human body. Fat along with muscle and liver control our whole body metabolic status. In turn, miRNAs are short (20-24 nucleotide) non-coding RNAs involved in post-transcriptional regulation of gene expression. miRNAs are known to influence many cellular functions including glucose and lipid metabolism.

What did your report find?

Among these miRNAs, we found that miR-93 was over-expressed in members of PCOS groups and of the control group who were insulin resistant. In addition, expression of miR-93 was positively correlated with IR index, and induced miR-93 overexpression directly inhibited expression of glucose transporter isoform 4 (GLUT4) in fat. GLUT4 is a protein that transports glucose from outside into cells in response to insulin. Decreased amounts of GLUT4 will result in cellular IR..

Why are these findings so novel?

These data are the first to explore the influence of miRNAs in PCOS. In addition, our study is one of the first reports of a molecular defect that may occur both in women who are insulin resistant (IR) and, in particular, in women with PCOS. Our results point to a novel mechanism for regulating insulin-stimulated glucose uptake via miR-93, while also demonstrating upregulated miR-93 expression in all PCOS, and in non-PCOS women with IR, possibly accounting for the IR of the syndrome.



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Are there future therapeutic or diagnostic implications for women with PCOS?

Our results would guide our search for novel therapies and specific molecular markers in PCOS. In addition, as miR-93 directly inhibits GLUT4, determining its role carries the strong potential of the knowledge being highly beneficial to advancing the fields of obesity and diabetes research.

Specifically, as we observed that miR-93 was over-expressed in PCOS and in control (asymptomatic) group who were insulin resistant, and that miR-93 over-expression suppressed GLUT-4 content in adipose tissue, better understanding the factors that cause miR-93 overexpression may allow us to identify new therapeutic avenues for treating or preventing IR. In addition, our findings may be used to generate a novel platform to test drugs aimed at improving IR in PCOS and potentially in other subjects. Finally, miR-93 content (in adipose and other tissues?) could become a useful biomarker for the diagnosis and evaluation of IR.

**AEPCOS UPDATE MEETING,  
QUITO, ECUADOR, SEPTEMBER 26**



From left: Jose' Mendoza, President of Ecuadorian Society of Ob/Gyn, capitulo Pichincha, Enrico Carmina, Exec. Director of AEPCOS, Roger Lobo, New York, USA, Wellington Aguirre, Quito, Ecuador.

The meeting was a big success with more than 400 participants. Other members of AEPCOS including John Nestler, USA, Alicia Motta, Argentina, Poli Mara Spritzer, Brazil, Teresa Sir-Peterman, Chile and Jaime Urdinola, Colombia gave invited lectures and contributed to the success of this Update Meeting.