6th INTERNATIONAL MEETING

STEROIDS AND NERVOUS SYSTEM

Royal Palace of Valentino - 2006 photo by G.C. Panzica

TORINO, Italy

Villa Gualino

February 19 - 23, 2011

FINAL PROGRAM

CONFERENCE ORGANIZED WITH THE SUPPORT OF

- **Università degli Studi di Milano**
- **Università degli Studi di Torino**
- **Dipartimento di Anatomia, Farmacologia e Medicina Legale**
- **Center of Excellence on Neurodegenerative diseases, Milano**
- **Neuroscience Institute of Turin (NIT)**
- **Neuroscience Institute Cavalieri-Ottolenghi (NICO), Orbassano**
- **Gruppo Italiano di Scienze Neuroendocrine (GISNe)**

- **International Brain Research Organization (IBRO)**
- **Società Italiana di Neuroscienze**
- **Gruppo Italiano per lo Studio della Neuromorfologia**
- **International Neuroendocrine Federation**

- **DBA Italia**
- **Nikon, Italy**
- **Millipore**
- **Horman – Animal Endocrinology**
- **Rekordata, Italy**

- **Elsevier Publisher**
- **Karger Publisher**
- **Informa Healthcare**
- **Wiley-Blackwell**

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GianCarlo Panzica (*Torino, Italy*)

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MEETING SECRETARIAT

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MEETING WEBSITE

http://www.dafml.unito.it/anatomy/panzica/neurosteroids/index.html

MEETING LOCATION

Villa Gualino
viale Settimio Severo 63
I-10133 TORINO
Telephone +39-0116603555 Fax +39-0116603535

TOPICS OF THE CONFERENCE

The international meeting on *Steroids and Nervous System* is organized to update our knowledge on the relationships among steroid hormones synthesized in different organs (including brain) and central as well as peripheral nervous system.
This is a wide research field covering different areas from molecular biology to behavior. This year the conference is focused on the following topics:

- **Neuroprotective effects of neuroactive steroids**
- **Pharmacological tools related to neuroactive steroids**
- **Steroids and GnRH system**
- **Endocrine disrupter action on behavior and neuroendocrine systems**
- **ER beta - where have we got to?**
- **Steroids and neuroimmunomodulation**
- **Alternative signalling mechanisms of neuroactive steroids in nervous system**
- **Steroid hormones and brain sex dimorphism: experimental murine models**

To cover these topics the conference is organized in satellite symposia, symposia, round table and posters' presentation. Each symposia will run for half day and will comprise invited lectures with a few additional short communications (selected by the Organizing Committee) to complete the program.

The other contributions will be displayed in poster format.

CONFERENCE DESK

A conference desk will be opened at Villa Gualino throughout the conference within the following timetable:

• Saturday	19	9.00	12.00 (for participants at the Satellite Symposia)
• Saturday	19	16.30	18.30 (for participants at the meeting)
• Sunday	20	8.30	15.00
• Monday	21	8.30	15.00
• Tuesday	22	8.30	15.00
• Wednesday	23	8.30	15.00

MEETING LOCATION

The conference will be held in Torino (Turin), Italy, at Villa Gualino (viale Settimio Severo 63, I-10133 TORINO), that is situated in a pleasant environment atop a hill in the town close to the Po river. All scientific sessions will take place in the Villa Gualino facility that includes a conference room seating 150 people, poster rooms, the conference desk, a restaurant, and a bar.
Villa Gualino overlooks the city of Torino but the road reaching the villa from the city is about 3-4 kms so it will not be practical to leave the conference site during the day for meals and return in time for the afternoon scientific sessions. There is a public bus service (running hourly) from Villa Gualino to downtown. A taxi service will be available on request.
Accommodation will be provided either in Villa Gualino, or in a variety of hotels located in various places in the city.

Torino is located in the northern part of Italy and therefore is easily accessible to other important cultural cities such as Firenze (Florence), Pisa, Verona and Venezia (Venice). However, these cities are located several hundred kms from Torino and several hours (4-6) of travel by train are required (good train or bus connections are available). Good connections by plane are with Roma (Rome) or with the south part of Italy. We encourage you to spend some additional time in Italy before of after the conference to visit these beautiful places, but because of time constrains we are not able to organize short excursions to these cities during the conference.

Further tourist information are available at the website of the meeting. Additional information concerning Torino and the Region Piedmont can be found on Internet at:

http://www.comune.torino.it/

http://www.provincia.torino.it/

http://www.regione.piemonte.it/

Poster Presentation
Posters will be on display during the entire conference from Sunday to Wednesday at 15.00. Personal discussions can be organized during the lunch time. The posters will be discussed Wednesday 23 (h 12.00-15.00); the authors will be requested to be present at least one hour at the poster board.
Size of poster boards is 90 cm horizontal by 180 cm vertical. Posters will have to be mounted with sticky tape. **Material for the mounting will be provided by the Congress staff during the set-up of the posters**.

Short Oral Communication
A limited number of oral communications of 15 min (10 min presentation + 5 min discussion) concerning the main topics of the conference will be allowed. The presentation type is computer presentation. A computer with PowerPoint will be available in the conference room. You should prepare your presentation on a CD or USB pens that will be loaded on the computer. If you require additional devices (slide projectors, overhead projectors) please contact the meeting organizers at least 7 days in advance.

Lectures
The program is also including a list of invited lectures (25 min presentation + 5 min discussion) and plenary lectures (45 min presentation). A computer with PowerPoint will be available in the conference room. You should prepare your presentation on a CD or USB pens that will be loaded on the computer. If you require additional devices (slide projectors, overhead projectors) please contact the meeting organizers at least 7 days in advance.

Speakers should give their CDs or USB pens to the projectionist at least 15 min. before the starting time of their symposium. A computer to review the slides will be available in a separate place.

YOUNG INVESTIGATORS PROGRAM

Poster Competition
Posters presented by Young Investigators (those registered as students/trainees at the meeting) have the option of being judged by an ad hoc Committee constituted by the Educational Committee. Small prizes will be distributed according to the ranking determined by the Committee (prizes are offered by international publishers). We encourage all students who are interested in having their posters be evaluated to contact a person on the Education Committee prior to the poster session to make arrangements.

Young Investigator Symposium
A limited number of oral communications of 10 min (+ 5 min discussion) have been selected by the Scientific and Educational Committees among the contributions submitted by student registrants. These contributions will be presented during a special symposium Tuesday 17 morning.

Students' awards
A number of awards have been distributed to reimburse student registration fees. These awards are due to the contribution of the International Brain Research Organization (IBRO), International Neuroendocrine Federation (INF), Gruppo Italiano per lo Studio della Neuromorfologia (GISN) and Società Italiana di Neuroscienze (SINS).

Meet The Professor Lunches (Tuesday)
Trainees and their matched professor(s) should make arrangements with one another for a specific meeting place so that they may proceed to lunch together.

Payment of fees must be made in Euro (only).

Advanced payment by means of:

1. **Bank transfer** to: Banca Intesa-SanPaolo, Filiale Torino 06 (IBAN IT05 T030 6901 0061 0000 0062 049 - BIC BCITITMM) in favor of COM.ORG.INTERN.MEETING STEROIDS-NERVOUS SYSTEM (SNS09).
2. **Credit card** (VISA or MasterCard only). In this case you should fill the appropriate form, sign it and send to the meeting secretariat the original signature. Please add 10 euro to the total for credit card handling expenses.

On site payment, at the registration desk, **only by cash** (no credit cards, no checks, with the exception of Italian checks).

The registration fees cover the attendance to the scientific activities (symposia, poster sessions), to the opening ceremony, to the coffee breaks during the meeting. In the price of registration is also included the abstract book of the conference (additional copies must be ordered in advances).
A social dinner will be organized, it is optional and its cost will be charged to those who are willing to participate (see the registration forms).

REGISTRATION FEES (prices in Euro)

Full registrant (including Satellite Symposia)	**550.00**
Registration for the meeting only	**450.00**
Student, full registrant (including Satellite Symposia)	**350.00**
Student, registration for the meeting only	**300.00**
Registration to Satellite Symposia only	**150.00**
One-day registration (only on site)	**120.00**
Two-day registration (only on site)	**200.00**
Additional copy of the Abstracts' Book	**30.00**
Abstracts' Book of 2003, 2005, 2007, 2009 editions	**10.00**
Conference dinner (only for those that have reserved in advance)	**65.00**

Satellite Symposium

*(Organizers: **Melcangi R.C., Panzica G.C.)***

Villa Gualino, Torino

Neuroactive steroids: focus on human brain

*(Chairs: **Melcangi R.C., Panzica G.C.)***

09.30 **Azcoitia I.** Yague J., Veiga S. and García-Segura L.M. **(Spain)** *Estradiol synthesis within the human brain*

10.00 **Pike C.J. (USA)** *Sex steroid hormone levels in aging brain and their relationships with Alzheimer's disease*

10.30 **Peri A. (Italy)** *Membrane cholesterol as a mediator of the neuroprotective effects of estrogen*

11.00 **van Wingen G.A.,** Ossewaarde L., Bäckström T., Hermans E.J. **(Netherlands)** *Gonadal hormone regulation of the affective neurocircuitry in humans*

11.30 **Peper J.S.,** Hulshoff Pol H.E., Crone E.A., van Honk J. **(Netherlands)** *Sex steroids and brain structure in pubertal boys and girls*

12.00-14.00 – Lunch

*(Chairs: **Garcìa-Segura L.M., Melcangi R.C.)***

14.00 **Bayer U.**, Hausmann M. **(UK)** *Sex hormone therapy and functional brain plasticity in postmenopausal women*

14.30 **Bäckström T.**, Haage D., Löfgren M., Johansson I.M., Strömberg J., Nyberg S., Andreen L., Björn I., Bengtsson S.K., Lundgren P. **(Sweden)** *Paradoxical effects of $GABA_A$ modulators may explain sex steroid induced negative mood symptoms in certain persons*

15.00 **Marx C.E. (USA)** *Pregnenolone as a novel therapeutic candidate in schizophrenia: preclinical and clinical evidence*

15.30 **Stein D.G. (USA)** *An update on progesterone and its metabolites in the treatment of traumatic brain injury and other CNS disorders*

16.00 General discussion

16.30 Closure of the Satellite Symposia

INTERNATIONAL MEETING

STEROIDS AND NERVOUS SYSTEM

Villa Gualino, Torino

17.30 - OPENING CEREMONY

18.00 - 19.00 ***Opening Lecture:***

Schlinger B.A. (USA)
Neurosteroidogenesis: a comparative and functional point of view

(Chair: ***Herbison A.)***

19.00 -21.00 ***Welcome Reception***

Neuroprotective effects of neuroactive steroids

(Chairs: Stein D.G., Pike C.J.)

09.00 Brann D.W., Wang R., Raz L., Vadlamudi R.K., Yang F., and Zhang Q.G. **(USA)** *Estradiol neuroprotection in cerebral ischemia – role of extranuclear estrogen receptors and NADPH oxidase modulation and effect of long-term estrogen deprivation*

09.30 Al Sweidi S., Bourque M., Sanchez M. G., Morissette M., Dluzen D. and **Di Paolo T. (Canada)** *Neuroprotective effects of sex steroids in Parkinson's disease: estrogen receptors and signaling pathways implicated*

10.00 Beyer C. (Germany) *Sex steroids modulate local inflammatory processes and protect myelination in experimentally-demyelinated mice*

10.30 Spence R.D., Hamby M.E., Umeda E., Itoh N., Du S., Bondar G., Lam J., Ao Y., Wisdom A., Cao Y., Sandoval F., Sofroniew M.V., **Voskuhl R.R. (USA)** *Neuroprotective effects of estrogen in multiple sclerosis*

11.00 Coffee Break

11.30 Fleiss B., Parkington H.A., Coleman H.A., Castillo-Melendez M., Hirst J.J., Walker D.W. **(Australia)** *Effect of maternal administration of allopregnanolone before birth asphyxia on neonatal hippocampal function in the spiny mouse*

11.45 Hampl R., Hill M., Bičíková M. **(Czech Republic)** *Steroids, schizophrenia and Alzheimer disease – what they have in common*

12.00 - 13.00 ***Plenary Lecture:***

Brinton R.D. (USA)

Estrogen-induced plasticity from cells to circuits: predictions for cognitive function

*(Chair: **García-Segura L.M.)***

13.00 - 15.00 ***Lunch and Poster exibition***

Pharmacological tools related to neuroactive steroids

(Chairs: Melcangi R.C., Zheng P.)

15.00 Schumacher M., Girard C., Adams D., and Schweizer-Groyer G. **(France)** *Axonal regeneration and neuroinflammation: roles for the translocator protein (TSPO)*

15.30 Rupprecht R. (Germany) *Translocator protein (18 kDa) as target for anxiolytics without benzodiazepine-like side effects*

16.00 Papadopoulos V., and Lecanu L. **(Canada)** *Neurosteroid pharmacology: caprospinol turning the tide on Alzheimer's drug development*

16.30 Pinna G. (USA) *SSRIs act as selective brain steroidogenic stimulants (SBSSs): insight into a non-serotonergic mechanism of action of SSRIs in mood and anxiety disorders*

17.00 Coffee break

17.30 Zheng P. (China) *Neurosteroid dehydroepiandrosterone sulphate enhances glutamate release through activation of dopamine D1 and sigma-1 receptor*

18.00 Bortolato M., Frau R., Bini V., Pillolla G., Paba S., Marrosu F., and Devoto P. **(USA)** *Therapeutic properties of steroid 5-alpha reductase inhibitors in neuropsychiatric disorders: from bench to bedside*

18.15 Cermenati G., Giatti S., Maschi O., Abbiati F., Brioschi E., Cavaletti G., Bianchi R., Pesaresi M., Volonterio A., Saez E., Melcangi R.C., Caruso D. and **Mitro N. (Italy)** *Liver x receptors activation ameliorate diabetic peripheral neuropathy increasing locally neuroactive steroid levels*

Steroids and GnRH System
(Chairs: Herbison A., Melcangi R.C.)

09.00 Moenter S.M. (USA) *Rapid non-genomic effects of oestradiol on GnRH neurons*
09.30 Rønnekleiv O.K., Zhang C., Bosch M.A., and Kelly M.J. **(USA)** *Estradiol regulation of T-type calcium channels in GnRH neurons*
10.00 Clarkson J., and Herbison A.E. **(New Zeland)** *Estradiol regulation of kisspeptin neurons during pubertal development*
10.30 Kauffman A.S. (USA) *Circadian and hormonal regulation of neural reproductive circuits*
11.00 Coffe break
11.30 Taziaux M., Swaab D.F., and Bakker J. **(The Netherlands)** *Neurokinin B in the human infundibular nucleus: sex difference and developmental aspects*
11.45 Tolson K.P., Tonsfeldt K.J., Goodall C.P., Palermini A., and Chappell P.E. **(USA)** *Disruption of endogenous circadian clocks in immortalized GT1-7 cells blocks estrogen positive feedback-stimulated GnRH secretion in vitro*

12.00 - 13.00 ***Plenary Lecture:***
Tena-Sempere M. (Spain)
Sex steroids and the control of kisspeptin system
(Chair: Motta M.)

13.00 – 14.00 ***Lunch and Posters' exhibition***

14.00-14.20
Luciano Martini Prize Lecture
- **Martini M. (Italy)** *Gonadal hormones regulation of nitrergic system*

14.30 - 16.15
Round Table:
Endocrine disrupter action on behavior and neuroendocrine systems
(Chairs: Frye C.A., Panzica G.C.)

Venerosi A., Tait S., Ricceri L., Stecca L., Mantovani A., and **Calamandrei G. (Italy)** *Dietary exposure to a non-persistent insecticide targets permanently neuroendocrine pathways and sex-dimorphic social response in a mouse model of neurodevelopmental disorder*
Fernandez M., Alessandri M., Paradisi M., Lorenzini L., Sivilia S., Giuliani A., Giardino L., and Calzà L. **(Italy)** *Effects of prenatal 2,3,7,8-tetrachlorodibenzo-p-dioxin exposition on central nervous system developmental myelination and thyroid hormone status*
Bo E., Miceli D., Rodriguez Gomez A., and Panzica G.C. **(Italy)** *Bisphenol A and genistein alter social and explorative behaviours in CD1 mice*
Fusani L., Farabollini F., Della Seta D., and Dessì-Fulgheri F. **(Italy)** *Environmental-like exposure of rats to xenoestrogen: effects on juvenile brain and behavior*
Patisaul H.B., and Losa S.M. **(USA)** *Endocrine disruption of sexually dimorphic neuroendocrine pathways in the peripubertal rat brain*
Kah O., Le Page Y., Vosges M., Tong S.K., Chung B-C. and Brion F. **(France)** *Aromatase-expressing radial progenitor cells are direct targets for endocrine disruptors in zebrafish*

21.00 ***Social Dinner***
Ristorante DEFILIPPI – Bussolino di Gassino

ER beta - where have we got to?

(Chairs: : Kelly , Bakker J.)

09.00 Handa R.J., Sharma D., Uht R., and Mani S.K. **(USA)** *Functional roles for estrogen receptor beta in mediating the actions of androgen metabolites*

09.30 Wang J.M., and Brinton R.D. **(USA)** *ERβ and neural progenitor cell proliferation*

10.00 Ogawa S. (Japan) *The role of estrogen receptor beta in the regulation of social and emotional behavior*

10.30 Herbison A.E., Cheong R., Porteous R., Ábrahám I.M. **(New Zealand)** *A role for estrogen receptor beta in GnRH neurons?*

11.00 Coffee Break

Young investigators symposium

(Chairs: Frye C.A., Mensah-Nyagan G.)

11.30 Barron A.M., Brown M., Garcia-Segura L.M., Melcangi R.C., Kawato S., and Pike C.J. **(USA)** *The neurosteroidogenic TSPO ligand, Ro5-4864, reduces Abeta accumulation and improves working memory performance in the 3xTgAD mouse model of Alzheimer's disease*

11.45 De Marinis E., Ascenzi P., and Marino M. **(Italy)** *Neuroglobin is part of estrogen-mediated neuroprotective effects*

12.00 Diotel N., Do Rego J.L., Anglade I., Vaillant C., Pellegrini E., Tong S.K., Chung B-C., Vaudry H., and Kah O. **(France)** *A role for locally-produced estrogens in the adult neurogenesis of zebrafish?*

12.15 Kuhn J.A., Suckow V., Dina O.A., Levine J.D., and Hucho T.B. **(Germany)** *A dual role for estrogen in nociception*

12.30 Paramanik V., and Thakur M.K. **(INDIA)** *Estrogen receptor (ER)β signaling in brain: beyond its traditional target nucleus to mitochondria*

12.45 Tejada L.D., and Rissman E.F. **(USA)** *A role of androgen receptor in the sexual differentiation of mouse social recognition*

13.00 - 15.00 ***Lunch and Poster exibition***

Steroids and neuroimmunomodulation

(Chairs: Brinton R.D., García-Segura L.M.)

15.00 Deak T., Hueston C.M., and Blandino Jr. P. **(USA)** *The complex interplay between stress responsive systems and neuroinflammation*

15.30 Brunton P.J. and Russell J.A. **(UK)** *Inhibition of neuroendocrine stress responses to immune challenge in pregnancy is induced by allopregnanolone*

16.00 Reichardt H.M. (Germany) *Glucocorticoids in the control of neuroinflammation*

16.30 Arevalo M.A., Diz-Chaves Y., Santos-Galindo M., Bellini M.J., and García-Segura L.M. **(Spain)** *Selective estrogen receptor modulators decrease inflammatory response of glial cells*

17.00 Quennell J.H., Augustine R.A., Khant Aung. Z., Bunn S.J., and Anderson G.M. **(New Zealand)** *Estrogens: new regulators of brain SOCS*

Alternative signalling mechanisms of neuroactive steroids in nervous system

(Chairs: Mani S., Lambert J.)

09.00 Garcia-Segura L.M., Azcoitia I., Arevalo M.A. (Spain) *Interactions of estradiol, IGF-1 and Wnt signalling in the nervous system*

09.30 Simoncini T. (Italy) *Rapid signaling of estrogen and spine formation via the actin cytoskeleton*

10.00 Oberlander J.G., Penatti C.A.A., Porter D.M., and **Henderson L.P. (USA)** *Anabolic androgenic steroid abuse: multiple mechanisms of regulation of GABAergic synapses in the mammalian forebrain*

10.30 Santoru F., Berretti R., Sogliano C., Calza A., Dazzi L., and **Concas A. (Italy)** *Changes in neuroactive steroid levels, $GABA_A$ receptor plasticity and sensitivity to anxiolytic drugs induced by neonatal exposure to estrogen*

10.45 Kajta M., LasonW., Litwa E., Rzemieniec J., and Wojtowicz A.K. **(Poland)** *Dichlorodiphenyltrichloroethane (DDT)-induced apoptosis of embryonic neuronal cells: an involvement of G-protein-coupled receptor 30 and glycogen synthase kinase-3β intracellular signaling*

11.00 – 15.00 ***Poster Discussion (cheese and wine)***

Steroid hormones and brain sex dimorphism: Experimental murine models

(Chairs: Panzica G.C., Balthazart J.)

15.00 Brock O., and Bakker J. **(Belgium)** *A role for ovarian hormones in the sexual differentiation of the female brain?*

15.30 Büdefeld T., Grgurevic N., Spanic T., Tobet S.A. and **Majdic G. (Slovenia)** *Brain sex differentiation in agonadal steroidogenic factor 1 knockout mice*

16.00 Arnold A.P. (USA) *Sex chromosome effects that explain sex differences in phenotype: what's the next step?*

16.30 Coffee Break

17.00 Frye C.A. (USA) *Pregnane xenobiotic receptors in the ventral tegmental area may mediate progestogen-facilitated reproductive behavior of female rats*

17.15 Marchetti B., L'Episcopo F., Tirolo C., Testa N., Caniglia S., Panzica G.C., and Morale M.C. **(Italy)** *Gender difference in the response of adult subventricular zone (SVZ) neuroprogenitors in a mouse model of Parkinson' disease: critical role of estrogen*

17.30 – ***CLOSURE OF THE MEETING***

Neuroprotective effects of neuroactive steroids

1 **Alias A.G. (USA)** *5α–reductase stimulator, cyclosporin A, in the treatment of Alzheimer's disease?*

2 Barron A.M., Brown M.A., and **Pike C.J. (USA)** *Estradiol neuroprotection is differentially regulated by continuous versus cyclic progesterone following lesion of the entorhinal cortex*

3 **Bengtsson S.K.,** Johansson I-M., Bäckström T, and Wang M. (**Sweden**) *Chronically elevated levels of allopregnanolone affects cognition in the $APP_{SWE}PSEN1_{\Delta E9}$ transgenic mouse model of Alzheimer's disease*

4 **Brioschi E.,** Cermenati G., Giatti S., Cavaletti G., Bianchi R., Maschi O., Pesaresi M., Abbiati F., Volonterio A., Saez E., Caruso D., Melcangi R.C., and Mitro N. (**Italy**) *Protection from diabetes-induced peripheral neuropathy and restoration of the local neuroactive steroid levels mediated by the activation of the liver x receptors*

5 **Cermenati G.,** Giatti S., Abbiati F., Pesaresi M., Calabrese D., García-Segura L.M., Caruso D., Mitro N. and Melcangi R.C. **(Italy)** *Liver X receptors activation increase the levels of neuroactive steroids in the central nervous system of diabetic animals*

6 **De Filippis B.**, Ricceri L. and Laviola G. **(Italy)** *A Postnatal supplementation with corticosterone improves some behavioural deficits in a mouse model of Rett syndrome*

7 **Giatti S.,** Santos-Galindo M., Rigoglio R., Pesaresi M., Calabrese D., Oggioni N., Canta A., Cavaletti G., García-Segura L.M., and Melcangi R.C. **(Italy)** *Neuroprotective effects of progesterone in the chronic phase of the experimental autoimmune encephalomyelitis: observations in male Dark Agouti rats*

8 **Gyenes A.,** Hoyk Z., Csákvári E., and Párducz Á. **(Hungary)** *The effect of 17β-estradiol and SERMS on injury-induced microglia activation in the oculomotor nucleus*

9 **Kumar P.,** Kale R.K. and Baquer N.Z. **(India)** *Neuroprotective role of 17βeta-estradiol administration on altered age related neuronal parameters in female rats*

10 Launay E., Al Abed A.S., Lamothe V., Potier M., Marighetto A., and **Bennetau-Pelissero C.** (**France**) *Differential effects of estradiol and of an ER-beta ligand naringenin in a mouse model of aging–related degradation in declarative memory*

11 **Leitner H. (Austria)** *The role of neurosteroids in the pathogenesis of multiple sclerosis*

12 **Luchetti S. ,** van Eden C., Melief J., Swaab D.F. and Huitinga I. **(The Netherlands)** *Neurosteroid synthetic pathway changes in multiple sclerosis chronic active and chronic inactive lesions*

13 Meyer L., **Gaucherot A.,** Patte-Mensah C., Taleb O., and Mensah-Nyagan A.G. **(France)** *The neurosteroid allopregnanolone counteracts antineoplastic drug-induced allodynia and hyperalgesia: behavioral and histological evidence*

14 **Rambousek L.,** Vales K., Bubenikova-Valesova V., Kacer P., Stuchlik A., Chodounska H., Kapras V., and Vyklický L. Jr **(Czech Republic)** *3α5β-pregnanolone glutamate crosses the blood-brain barrier and shows neuroprotective activity*

15 **Sudai E.**, Croitoru O., Gispan I. and Yadid G. **(Israel)** *DHEA attenuates cocaine-seeking behavior and relapse parallel to increase in hippocampal neurogenesis*

16 **Taleb O.,** Meyer L., Patte-Mensah C., and Mensah-Nyagan A.G. **(France)** *Protective effects of allopregnanolone against anticancer drug-evoked sensory nerve dysfunction*

17 **Vallee M**., George O., Vitiello S., Le Moal M., Mayo W., and Piazza P.V. **(France)** *Low brain allopregnanolone levels mediate flattened circadian activity associated with memory impairments in aged rats*

Pharmacological tools and neuroactive steroids

18 **Brown A.R.,** Peden D.R., Belelli D., and Lambert J.J. **(UK)** *Effects of endogenous neurosteroids on $GABA_A$ receptors during cortical development*

19 **Černý I.,** Vidrna L., Pouzar V., Chodounská H., Borovská J., Vyklický V., and Vyklický L. Jr. **(Czech Republic)** *C-17 modified analogs of pregnanolone sulfate*

20 **Devoto P.**, Frau R., Bini V., Pillolla G., Paba S., and Bortolato M. **(Italy)** *5-alpha reductase expression is reduced in brain of isolation-reared rats: relevance to dopaminergic impairments*

21 **Do Rego J.L**., Vaudry D., and Vaudry H. **(France)** *Effect of etifoxine, a non-benzodiazepine anxiolytic, on neurosteroid biosynthesis*

22 **Do Rego J.L.,** Seong J.Y., Haraguchi S., Moon M.J., Vaudry D., Koyama T., Hasunuma I.,Luu-The V., Pelletier G., Tsutsui K. and Vaudry H. **(France)** *Control of neurosteroid production in the frog brain by neuropeptides related to corticotropin-releasing hormone*

23 **Frau R.**, Bortolato M., Bini V., Pillolla G., Paba S., and Devoto P. **(Italy)** *Inhibition of 5-alpha reductase elicits antipsychotic-like effects via post-synaptic mechanism in nucleus accumbens and prefrontal cortex*

24 **Gunn B.G.,** Lambert J.J., and Belelli D. **(UK)** *Neurosteroids potently enhance synaptic $GABA_A$ receptor-mediated inhibition in medial parvocellular neurones of the paraventricular nucleus of the mouse hypothalamus*

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Alternative signalling mechanisms of neuroactive steroids

30 **Kohtz A.K.,** Walf A.A., Zhu Y., and Frye C.A. **(USA)** *Membrane progestin receptors in the ventral tegmental area may mediate progesterone-facilitated reproductive behavior of female rats*

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34 **Zamudio-Bulcock P.A.,** and Valenzuela C.F. **(USA)** *Neurosteroid modulation of glutamatergic transmission at neonatal climbing fiber-to-Purkinje cell synapses. Involvement of transient receptor potential channels*

Steroid hormones and brain sex dimorphism

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39 **Martini M.,** Xavier A., and Valverde O. **(Italy)** *Estrous cycle and sex affect cocaine-induced behavioral changes in CD1 mice*

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Aromatase

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52 **Magadalenal N.N.** and Inbaraj R.M. **(INDIA)** *Steroidogenesis difference in the brain of reproductively active indian major carp Labeo rohita and its variation due to the interference of estrogen mimic bisphenol-A*

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Steroids, Kisspeptin and GnRH system

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Others

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