

The Fourth Annual Conference of the International
Society of Wildlife Endocrinology
14-16 October 2013
Lincoln Park Zoo, Chicago, IL, USA



Lincoln Park
Zoo



2013 Annual Conference, 14-16 October, Chicago IL, USA

Welcome to the 4th annual conference of the International Society of Wildlife Endocrinology

Over the past 4 years, we have been establishing our society. It continues to grow and develop. Currently we have more than 100 members from over 15 countries around the world. A new stylish and informative website (www.iswe-endo.org) has been launched. We have formed new collaborations and partnerships and used our expertise to make advances to improve the management and conservation of wildlife. When people ask about what goes on at the ISWE conference, we say that it is a specialized conference where we can actually discuss the fine details (down to the antibody) of our work! Nowhere else can we work together to figure out laboratory issues; who has analyzed samples from certain species and what reagents people use for their hormone assays. As our science advances, we evolve with it inventing new methods and protocols. ISWE's mission is "to advance the field of wildlife endocrinology by promoting stronger inter-disciplinary collaboration among wildlife and conservation biologists to optimize animal health, reproduction, and welfare in support of global conservation efforts." Our keynote speakers will highlight this multi-disciplinary approach to wildlife conservation and demonstrate through hard work your goals can be achieved...maybe one day you will discover a new hormone too! We hope this conference connects people with common goals and inspires the next generation of wildlife endocrinologists. Make sure to greet old friends and create some new colleagues during the conference. During the 2 ½ days of the conference we will hear about projects that focus on animal reproduction, stress and welfare. We will learn about innovative techniques and hear how wildlife endocrinology is applied to over 25 species. Finally, we would like to welcome you to Chicago and the Lincoln Park Zoo! We hope you enjoy your visit and please do not hesitate to ask questions.

Welcome!

Rachel Santymire (Lincoln Park Zoo)

Mandi Vick (ISWE)



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Acknowledgments

We would like to express our sincere thanks to the following colleagues for reviewing abstracts:

Martin Dehnhard	Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany
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Marina Ponzio	CONICET, University of Córdoba, Argentina
Rachel Santymire	Lincoln Park Zoo, Chicago, IL, USA
Mandi Schook	Cleveland Metroparks Zoo, Cleveland, OH, USA
Karen Steinman	SeaWorld & Busch Gardens Reproductive Research Ctr, San Diego, CA, USA
Sue Walker	Chester Zoo, Upton-by-Chester, UK
Catharine Wheaton	Disney's Animal Kingdom, Bay Lake, FL, USA

We warmly thank our invited speakers for contributing keynote lectures:

Samuel Wasser	University of Washington
Neena Schwartz	Northwestern University, Emeritus Faculty

We would like to thank our session moderators:

Andre Ganswindt	University of Pretoria, Pretoria, South Africa
David Kersey	Western University of Health Science, Pomona, CA, USA
Linda Penfold	South-East Zoo Alliance for Reproduction and Conservation, Yulee, FL, USA
Marina Ponzio	CONICET, University of Córdoba, Argentina
Catharine Wheaton	Disney's Animal Kingdom, Bay Lake, FL, USA
Nadja Wielebnowski	Oregon Zoo, Portland, OR, USA



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Important Information

Venue

Lincoln Park Zoo
Laflin Building, 2001 N. Clark St.
Chicago, IL 60614
(Parking lot access on Stockton Dr.)

Registration

Sunday, October 13th 3 - 6 pm
Hotel Lincoln- Grant Hospitality Suite on the 2nd floor

Monday, October 14th 7:30 am - lunch time
Registration desk will be in lobby on the first floor of Laflin building.

Vendors

Booths are located on the lower level of Laflin building and can be accessed using the elevator (behind the Ann Milligan Gray Room) or stairway.

Restrooms

Restrooms are located on the lower level of the Laflin building and can be accessed using the elevator (behind the Ann Milligan Gray Room) or stairway.

Breakfast and Coffee Break

Breakfast and Coffee breaks will be served in lobby on first floor of the Laflin building.

Lunch

Lunch will be served in Café Brauer across Stockton Drive from the Laflin building.

Icebreaker Reception

Monday, October 14th 5:30 – 7:30 pm
Refreshments & hors d'oeuvres will be served in the Regenstein African Journey. To exit the zoo after 6pm, you can use the turnstiles next to the East gate (by the Pritzker Family Children's Zoo) or the south gate by Café Brauer.

Poster Area and Setup

Tuesday, October 15th
Posters will be exhibited in the Foreman Pavilion (or Judy Keller Auditorium if it is raining) from 3:40 – 5:30 pm. Poster presenters can put up their posters at lunch time on Tuesday.

Conference Dinner

Tuesday, October 15th
Dinner at Galway Arms (dinner on the 2nd level)
2442 N Clark St, Chicago, IL 60614
Attendees can walk from the zoo or hotel heading north on Clark St.

Zoo Day

Wednesday, October 16th
2:00 – 6:00 pm (Zoo gates close at 6 pm; there will be optional Behind-the-Scenes tours)

Internet Access

When connecting to the wireless, use the **lpzoo-internet** with the passphrase **Welcome to**

Lincoln Park Zoo

Disclaimer: Guests understand and acknowledge that we exercise no control over the nature, content or reliability of the information and/or data passing through our network.

Animals

- Penguins, Seabirds
- Vultures, Eagles, Owls
- Tropical Birds
- Garafes, Rhinos, Ostriches
- Polar Bears, Sun Bears
- Monkeys
- Lions, Tigers
- Seals
- Bears, Otters, Wolves
- Snakes, Bats, Wallabies
- Swans, Ducks
- Flamingos, Geese
- Chimpanzees, Gorillas
- Antelope, Zebras, Takin
- Cows, Goats, Pigs, Ponies

Shopping

- Wild Things!** A wild selection of Lincoln Park Zoo souvenirs, apparel, plush animals and exotic gifts.
- Safari Shop:** Zoo souvenirs at kid-friendly prices—inside the Kovler Lion House.
- HTZ's General Store:** John Deere merchandise, Lincoln Park Zoo T-shirts, plush animals and more.

Rides

- Paddle Boats:** Rentals last 30 minutes: \$12 for a 4-seater boat or \$16 for a 2-seater swan boat.
- LPZOO Children's Train:** Hop aboard this kid-friendly locomotive: \$2 per ride.
- at&t Endangered Species Carousel:** Take a ride with your favorite animal. Each ride is \$2 per person.
- African Safari Ride:** Encounter the wilds of Africa on this virtual-reality adventure: \$4 for zoo members and \$5 for non-members.

Food

- Safari Café:** Dippin' Dots® ice cream, cold beverages and snacks.
- Big Gals Café:** Fresh-baked flatbreads, sandwiches, soft-serve ice cream and Kids' Meals.
- Lulu Levy's Landmark Café:** Chicago-style hot dogs, fries and snacks.
- Park Place Café:** Mexican food, Italian fare, burgers, deli sandwiches, salads and more. Ice cream, too!
- Cafe Brewer:** Grilled burgers, beer and wine, sandwiches, salads and Kids' Meals.
- Ice Cream Shoppe:** Hand-dipped ice cream, banana splits and sundaes.

Facilities

- Gateway Pavilion Information
- Judy Keller Education Center
- Tadpole Room Sick Lymph Area
- Bus Drop-off Zone
- Foreman Pavilion

Legend

- Information
- Restrooms
- Zoo Food
- Zoo Shops
- ATM
- Strollers/Wheelchairs
- Lockers
- Picnic/Lunch Area
- Emergency/First Aid
- Parking
- CTA Bus Stop
- Conservation Center and Animal Hospital
- Entrance

What to Know

Hours

Summer Hours
Weekdays
10 a.m.–5 p.m.
(April–October)

Weekends and Holidays
(Memorial Day–Labor Day)
10 a.m.–6:30 p.m.

Winter Hours
10 a.m.–4:30 p.m.
(November–March)

While Lincoln Park Zoo is open 365 days a year, please note that some rides and snack stations may be closed during winter hours. All programs are subject to change based on the weather or needs of the animals.

Gateway Pavilion

Offers the following guest services at its location just inside the East Gate:

- Information Desk
- Membership Services
- First Aid and Public Safety
- Lost and Found
- Strollers and Wagons
- Free Wheelchairs

Strollers

Single/double strollers and wagons are available for rental at Gateway Pavilion for \$7, \$9 and \$12. Zoo members receive 50 percent off with their member IDs.

ATMs

Located at the entrance to Park Place Café and inside Wild Things! gift shop.

Teletypewriter

TTY available inside the Judy Keller Education Center. The number is 312-742-0300.

Contact Information

Lincoln Park Zoo
Cannon Drive at Fullerton Parkway
Chicago, Illinois 60614
312-742-2000
www.lpzoo.org



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SUNDAY, 13 OCTOBER

A registration table will be open at the conference hotel (Hotel Lincoln) from 3:00-6:00pm Sunday evening. Stop by the Grant Hospitality Suite on the Second Floor and pick up your registration materials.

MONDAY, 14 OCTOBER

- 07:45 Meet in the hotel lobby to walk to the Zoo
- 08:00 – 10:00am **Breakfast** (included in registration) & ISWE membership reporting session
- 10:00 – 10:50am **Keynote Speaker : Samuel Wasser, University of Washington**
Integrating physiology and ecology to influence wildlife policy.
- 10:50 – 11:20am **Coffee Break**

Animal Health & Welfare (Moderator: Nadja Wielebnowski).

- 11:20 – 11:40 Bonnie Baird: *Comparing exhibit and education armadillos using behavioral and physiological measures of welfare*
- 11:40 – 12:00 Elizabeth Freeman: *Effects of environmental stressors on the health of female black rhinoceros (Diceros bicornis bicornis) in Addo Elephant National Park, South Africa*
- 12:00 – 12:20 Hani Freeman: *The Effect of Atypical Life Histories on Hair Cortisol Concentrations in Captive Chimpanzees*
- 12:20 – 2:00pm **Lunch** (included in registration)
- 2:00 – 2:20 Bernardo Mesa: *Population assessment of wild Belizean felids through non-invasive genetic, glucocorticoid metabolite, parasite, and diet analyses.*
- 2:20 – 2:40 Natalia Prado-Oveido: *Role of life history traits in hyperprolactinemic female African elephants (Loxodonta africana)*
- 2:40 – 3:00 Raechel Jacobs: *Monitoring adrenocortical activity, fertility, and behavior in two newly introduced gorillas (Gorilla gorilla gorilla)*

Stress (Part I; Moderator: Andre Ganswindt)

- 3:00 – 3:20pm Bernard Wallner: *The impact of secondary sex characteristics (SSC) and social behavior to cortisol and sexual hormones in female primates*
- 3:20 – 3:40pm Cayman Adams: *Challenges in assessing total corticosteroid concentrations in serum of bachelor African elephants (Loxodonta africana).*
- 3:40 – 4:10pm **Coffee Break**
- 4:10 – 4:30pm Christine Masters: *Influence of adrenocorticotrophin hormone challenge and external factors (age, sex, and body region) on hair cortisol concentration in Canada lynx (Lynx canadensis)*



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4:30 – 4:50pm	Christopher Schell: <i>Impact of novel scent stimuli on fecal glucocorticoid and androgen metabolites in mated coyote pairs (<u>Canis latrans</u>)</i>
4:50 – 5:10pm	Jill Mateo: <i>Physiological, social and ecological mechanisms of survival in Belding's ground squirrels (<u>Urocitellus beldingi</u>)</i>
5:10 – 5:30pm	Krista Millich: <i>The impact of social and ecological conditions on physiological markers in red colobus monkeys (<u>Procolobus rufomitratus</u>) in Kibale National Park, Uganda</i>
5:30 – 7:30pm	Icebreaker Reception (refreshments & hors d'oeuvres; included in registration)

Tuesday, 15 October

08:30 – 09:30am	Breakfast (included in registration)
09:30 – 10:20am	Keynote Speaker: Neena Schwartz, Northwestern University, Emeritus Faculty, <i>Building a lab of my own.</i>
10:20 – 10:50am	Coffee Break
Reproduction (Part I; Moderator: Linda Penfold)	
10:50 – 11:10am	Andre Ganswindt: <i>Monitoring of male and female reproductive function in southern African spiny mice based on fecal hormone analysis</i>
11:10 – 11:30am	Beth Roberts: <i>Characterizing urinary PGF_{2α} metabolites (PGFM) during the estrous cycle and pregnancy in the Giant Panda</i>
11:30 – 11:50am	Catharine Wheaton: <i>Fecal progesterone and estradiol monitoring of ovarian activity in African lions (<u>Panthera leo</u>) following treatment with varying number and duration of efficacy of deslorelin (Suprelorin®) implants</i>
11:50am – 12:10pm	Kari Morfeld: <i>Comparing body condition and metabolic biomarkers to determine relationships with ovarian acyclicity in female African elephants (<u>Loxodonta africana</u>) in zoos</i>
12:10 – 12:30pm	Katrina Knott: <i>Characterizing the estrous cycle and delayed implantation profile of gestation in giant anteaters through non-invasive monitoring of fecal hormone metabolites</i>
12:30 to 2:00pm	Lunch (included in registration)

Methodologies and Miscellaneous (Moderator: David Kersey)

2:00 – 2:20pm	Govindhaswamy Umapathy: <i>Detection of pregnancy and fertility status in big cats and ungulates using an enzyme immunoassay based on 5α-pregnane-3α-ol-20-one</i>
2:20 – 2:40pm	Karen Steinman: <i>An improved method for enzyme immunoassay analysis of androgens in polar bear (<u>Ursus maritimus</u>) urine using enzymatic hydrolysis</i>
2:40 – 3:00pm	Lara Metrione: <i>Pregnant, or not pregnant, that is the question</i>
3:00 – 3:20pm	Rupert Palme: <i>What about running an HPLC immunogram?</i>
3:20 – 3:40pm	Gabriella Postiglione: <i>Blow-samples as substratum to extract and quantify reproductive and adrenal hormones of beluga whales (<u>Delphinapterus leucas</u>)</i>



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3:40 – 5:30pm

Poster Session with light snacks and refreshments at Foreman Pavilion

Animal Health & Welfare

Sergey Naidenko: *Aerial temperature as crucial factor for the Siberian tiger (Panthera tigris altaica) well-being in Russian Far-East*

Rodrigo Neca Ribeiro: *Assessment of animal welfare in semen collection in tigrina (Leopardus tigrinus) through serum cortisol*

Stress

David Paul Benson: *Peak glucocorticoid metabolite levels within 45 minutes of capture during biological validation of EIA assays in White-tailed Ptarmigan*

Kathleen Hunt: *Assessment of capture stress, entanglement stress and stranding stress in leatherback sea turtles (Dermodochelys coriacea)*

Vera Voznessenskaya: *Application of non-invasive method for monitoring stress hormones for the study of interspecies chemical communication in the house mouse (Mus musculus musculus)*

Travis E Wilcoxon: *Correlations among plasma corticosterone and multiple physiological metrics in a songbird community*

Reproduction

Corinne P Kozlowski: *Assessment of reproductive cycling and stress in captive fennec foxes (Vulpes zerda) using non-invasive hormone monitoring*

Amanda M Murti: *Characterization of reproductive status of Mexican gray wolves (Canis lupus baileyi) using non-invasive hormone monitoring*

Corinne Pisacane: *Could fecal progestins or glucocorticoid levels provide clarity in determining cheetah pregnancy vs. pseudopregnancy?*

Rodrigo Neca Ribeiro: *The efficacy of etonogestrel implants for ovarian suppression and the use of commercial kits for detection of fecal gonadal steroids in female ocelots (Leopardus pardalis)*

Methodologies and Miscellaneous

Klas Abelson: *The validity of commercial ELISA assays for quantification of fecal corticosterone metabolites in mice*

Juan Manuel Busso: *Advances in non-invasive hormone monitoring of birds and mammals from southern South America: Development of a technical platform for reproductive and stress research in Argentina*

Katie Graham: *Effects of sample collection, processing, and storage treatment for validation of an enzyme immunoassay to monitor testosterone in circulation in male sea turtles (Chelonia mydras and Caretta caretta)*

Otto Kalliokoski: *The effect of high caloric diets on fecal glucocorticoid measurements as an indicator of stress in laboratory mice*

Yasmine N. Majchrzak: *Validation of salivary cortisol: using saliva to measure stress in dromedary camels (Camelus dromedarius)*

Gabriella Postiglione: *Quantification of cortisol, progesterone and testosterone in saliva-samples collected from walruses (Odobenus rosmarus divergens)*

6:00 – 9:00pm

Optional Conference Dinner at Galway Arms (pre-registration required)



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Wednesday, 16 October

08:20 – 09:20am **Breakfast** (included in registration)

Reproduction (Part II; Moderator: Marina Ponzio)

- 09:20 – 09:40am Kelly Robinson: *An Endocrine Indicator of Maternal Success in Phocid Seals*
- 09:40 – 10:00am Marina Ponzio: *Urinary metabolite monitoring of ovarian activity to characterize the natural oestrus cycle in the critically endangered chinchilla (Chinchilla lanigera)*
- 10:00 – 10:20am Megan Brown: *Reproductive hormones and behaviors are indicative of reproductive performance in female whooping cranes (Grus americana)*
- 10:20 – 10:40am Ned Place: *Predicting mating outcomes in old females: an assessment of anti-Müllerian hormone.*
- 10:40 – 11:00am **Coffee Break**

Stress (Part II; Moderator: Catharine Wheaton)

- 11:00 – 11:20am Matthew Heintz: *The immediate and long-term relationship between social play behavior and fecal glucocorticoid metabolites in wild chimpanzees (Pan troglodytes)*
- 11:20 – 11:40am Merideth Bashaw: *Monitoring fecal glucocorticoid metabolites in native Australian marsupials*
- 11:40am – 12:00pm Susanne Pribbenow: *Non-invasive monitoring of stress in Iberian lynx (Lynx pardinus) and Eurasian lynx (Lynx lynx) using faecal glucocorticoid measurement.*
- 12:00 – 12:20pm Tara Mandalaywala: *Social and developmental factors affect fecal glucocorticoid levels across the first year of life in infant rhesus macaques (Macaca mulatta)*
- 12:20 – 12:40pm Winnie Eckardt: *Using non-invasive techniques to study the stress physiology of the Virunga mountain gorillas (Gorilla beringei beringei)*

Official end of conference: Optional zoo tours if interested