Please mark your calendars and plan to join us at the 2014 WDA meeting in Albuquerque, New Mexico. Watch for announcements regarding special wildlife veterinary panels and field workshops.
Professor Jon M. Arnemo and PhD student Alina L. Evans, of Hedmark University College, explain how translational medicine is moving from the laboratory to the wilderness.

The modern life of humans in western societies is characterized by lack of exercise and an unhealthy diet with a high carbohydrate and starch intake, causing the so-called “metabolic syndrome”: Too much belly fat, high blood sugar, high blood pressure, a high level of fat in the blood and a low level of “good” cholesterol in the blood. If you have three or more of these risk factors you are at danger. This syndrome, combined with a lack of physical activity, may result in a variety of life-threatening medical problems including obesity, diabetes, loss of muscle mass, hypertension and cardiovascular disease.

In USA more than 30% of adults and 50% of elderly people have this syndrome, which will cause immense problems for the health care system in the future. Because we tend to live longer lives, supported by continuous medical progress and intensive health care, people stay for years in hospitals and nursing homes, developing problems like bed sores, muscle atrophy, blood clots and osteoporosis.

We put Man on the Moon more than 40 years ago and there are spaceships that can make it to Mars in less than nine months. There is, however, a limit for how long humans can stay weightless without experiencing life-threatening cardiovascular diseases and other problems including osteoporosis and loss of muscle mass due to inactivity and lack of gravity.

Scandinavian brown bears live an apparently “unhealthy” life. They add 30-40 % body mass as fat every summer and fall, mainly from sugar-rich berries, adding a lot of “belly fat” and causing high levels of “bad” cholesterol and triglycerides in the blood. Then they stop exercising for 6-7 months because they hibernate in a den during the entire winter. During this period of almost complete physical inactivity, they reduce their body temperature by 3-4 degrees and they don’t eat, drink, urinate or defecate and females may give birth to 2-4 cubs in January and continue lactating for 3-4 months inside the den. The bears, however, don’t develop bed sores, muscle atrophy, osteoporosis, blood clots, diabetes or cardiovascular diseases like inactive humans on high carb diets. They repeat this unhealthy lifestyle every year of their entire life without any signs of ill effects. We don’t know why, but obviously, the bears have evolved physiological mechanisms to cope with this difficult life.

Translational medicine is the process of applying fundamental biological discoveries by developing drugs and medical devices for human patients. Traditionally, laboratory animals like rats, mice and rabbits were used to test new procedures and drugs for treatment of humans.

In this novel approach, hibernating brown bears are used as a model for human medical research. If we can better understand the physiology and metabolic pathways of hibernating bears, we might be able to understand the underlying mechanisms of modern human diseases and develop treatments and drugs to improve human health. And one day we may be able to put Man on Mars.

Using free-ranging, wild animals as a translational model is truly a multidisciplinary approach, combining ecology, ecophysiology, biology, veterinary medicine and human medicine. Instead of studying medical problems on laboratory animals in a highly artificial environment, we start in the other end: Bears have already solved these problems - the challenge is to reveal their secrets.
TREASURER'S REPORT
Nadine Lamberski
As of August 2013, 63 of 291 (21.6%) members have paid dues for 2013.
We have an account balance of $915.00
Those who have paid dues are listed on the next page. Please check to make
sure your name is on the list!

There are 2 ways to donate to the WVS. 1) Go to our website (www.wildlifedisease.org). Click on the "Sections" heading, then "Donate to a section", followed by "Wildlife Veterinary". Alternatively, you can click on "Sections", then "Wildlife Veterinary", then "Donate to a section". The drop down menu suggests a minimum donation of $20; or 2) Respond to the hard copy renewal notice if you receive one in the mail.

Based on your responses to our recent survey, the majority of respondents agree with using funds to support student involvement, offset workshop expenses, and cover travel costs for invited speakers at the annual meeting.
Members of WDA-WVS who have paid 2013 Dues (Thank you!):

Jon M. Arnemo
Mark Atkinson
Laurie Baeten
Karen Beck
Kimberlee Beckmen
Teri Bellamy
Rebecca Bloch
Kenneth Cameron
Kevin Castle
Ryan Clarke
Sarah Coburn
Todd Cornish
Walter O. Cottrell
Tom deMaar
Cindy Driscoll
Holly Ernest
Kelly Daroca
Genny Dumonceaux
Elizabeth Falendysz
Greg Frankfurter
Rae Gandolf
Dolores Gavin-Widen
Dean Goeldner
Ben Gonzales
Tiggy Grillo

Debbie Grossblat
Craig Harms
Lisa Harrenstien
Maria Harris
Terrell Heaton Jones
Sonia M. Hernandez
Clay Hilton
Nazario Iannacone
Vicki Jameson
Dave Jessup
Anne Justice-Allen
Roni King
Patrice Klein
Sasha Knauf
Sara Koeth
Nadine Lamberski
David Ley
Scott H Loeffler
Lindsey Long
Knut Madslien
Rosa Martinez Valverde
Kay Mehren
Carol Meteyer
Daniel M. Mulcahy
Christine Nelson
Jennifer Niemuth
Steve Ososfsky
Robert Patenaude
Bonnie Raphael
Pablo Regner
Elena Rizzi
Annette Roug
Emi Saito
Nina Schoch
Helen Schwantje
Claudio Soto-Azet
Cora Singleton
Chris Walzer
# UPCOMING MEETINGS

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<tr>
<th>Date Range</th>
<th>Event Description</th>
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<tr>
<td>Sept. 8 to Sept. 11</td>
<td>103rd Annual Conference, American Association of Fish and Wildlife Agencies, Portland, OR, USA</td>
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<td>Sept. 16 to Sept. 19</td>
<td>12th Biennial Conference on the Colorado Plateau, Flagstaff, AZ, USA</td>
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<td>Sept. 17 to Sept. 20</td>
<td>31st World Veterinary Congress, Prague, Czech Republic</td>
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<td>Sept. 18 to Sept. 21</td>
<td>International Conference on Behavior, Physiology, and Genetics in Wildlife, Berlin, Germany</td>
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<tr>
<td>Sept. 19 to Sept. 22</td>
<td>1st Annual Conference, WDA Latin America, Sao Paulo, Brazil</td>
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<td>Sept. 22 to Sept. 27</td>
<td>Society for Vector Ecology International Congress, La Quinta, CA, USA</td>
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<td>Sept. 28 to Oct. 4</td>
<td>American Association of Zoo Veterinarians, Salt Lake City, UT</td>
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<td>Sept. 30 to Oct. 4</td>
<td>Australasian WDA Section: Grampians, Victoria, Australia,</td>
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<td>Oct. 5 to Oct. 9</td>
<td>The Wildlife Society 20th Annual Conference, Milwaukee, WI, USA</td>
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<td>Oct. 13 to Oct. 16</td>
<td>Southeastern Association of Fish and Wildlife Agencies, Oklahoma City, OK, USA</td>
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<td>Oct. 17 to Oct. 23</td>
<td>American Association of Veterinary Laboratory Diagnosticians and United States Animal Health Association, San Diego, CA, USA</td>
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<td>Oct. 28 to Nov. 2</td>
<td>Managing infectious disease in conservation programs, Durrell Cons. Academy, Channel Is, UK</td>
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<td>Nov. 11 to Nov. 15</td>
<td>Human Wildlife Conflict Workshop, Whiterock Conservancy, Coon Rapids, IA, USA</td>
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<tr>
<td>Dec. 9 to Dec. 13</td>
<td>Biennial Conference, Society for Marine Mammalogy, University of Otago, Dunedin, New Zealand</td>
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EDUCATION OPPORTUNITY

Master in Applied Ecology

With the Conservation Medicine Group at Campus Evenstad

Hedmark University College, Norway

2014-2015 Application Deadline: December 1st (to apply for funding, contact by Sept 1st is ideal).

Description:
Our group of wildlife veterinarians and ecologists focuses on anesthesia, physiology, infectious diseases and clinical pathology of Scandinavian wildlife. We have an intensive period of wildlife captures from January through June. Students have the opportunities to design and carry out their own research project and to participate in a number projects. A research project resulting in a publication is expected.

Qualifications:
Veterinary graduates should have at least one year of clinical experience (by August 2014).
Non-veterinarians should have a bachelor’s degree in a related field with a strong science background including statistics.
Strong communication skills (writing experience is highly desired) and ability to work as part of a field team.
English proficiency requirements vary depending on nationality, see website.

Recent Master theses and veterinary projects:
Viral diseases in Alaskan ungulates and capture physiology of moose (Alina Evans, USA, 2010-2012; Dr Evans is now a PhD student at Campus Evenstad)
Physiologic effects of disturbance during experimental human approach and hunting on the Scandinavian brown bear (Andrea Miller, USA, 2011-2013; Dr Miller is now a PhD student studying echinococcus epidemiology at the Swedish University of Agricultural Sciences)
Alphaherpes and pestiviruses in Alaskan caribou (Mary Wood, USA, 2011-2013; Dr Wood is now the Wildlife Veterinarian at the Wyoming Department of Game and Fish)
Prevention and treatment of hypoxemia in moose immobilized with xylazine-acepromazine-etorphine (Marianne Lian, Norway, 2011-2012; Dr Lian is now a Fulbright Fellow at the Alaska Department of Fish and Game)
Population impacts of sarcoptic mange on Scandinavian wolves (Boris Fuchs, Switzerland, 2012- )
Role of roe deer in the transmission of selected tick-borne diseases (Carmelo Gomez, Spain, 2012- )
Capture and handling induced stress effects on physiological parameters in brown bears (Ursus arctos) (Nuria Fandos Esteruelas, Spain, 2012-2013 ; Dr Esteruelas is now pursuing a PhD at Campus Evenstad)
Chemistry and hematology reference ranges for the Scandinavian brown bear: effects of age, gender and season (Anne Randi Græsli, Norway, 2012-2013)
Capture induced stress effects on physiological parameters in roe deer (Nikolas Huber, Austria, 2012- )
Chemistry and hematology reference ranges for European roe deer (Susanne Küker, Germany, 2013- )
Toxoplasmosis in Scandinavian brown bears (Krista Jones, USA, 2012-2013; Dr Jones is now a PhD student at studying parasite transmission in bettongs at Murdoch University, Perth, Australia)
Remote, wireless and real-time: stress physiology in Scandinavian wolves (Martine Angel, USA, 2013- )

We also have a PhD program in Applied Ecology/Conservation Medicine!
Contact Dr Jon Arnemo – jon.arnemo@hihm.no

More information: http://www.hihm.no/English/Campus-Evenstad/Study-programmes
WDA-WVS OBJECTIVES

• To promote and encourage the utilization of veterinarians in the field of wildlife resource management and research.
• To enhance the contribution of veterinary medicine to the welfare of the wildlife resource.
• To stress the importance of the connectedness of human, wildlife, domestic animal, and environmental health.
• To encourage cooperative efforts among resource management professionals and wildlife veterinarians.
• To encourage and promote a philosophy of animal management and preventative medicine as it relates to free-ranging species.
• To encourage an increased emphasis in colleges of veterinary medicine relative to management and preventative medicine of free-ranging species.
• To encourage the recognition of disease syndromes in their broadest sense as potentially influenced by habitat succession, alteration and pollution.
• To educate and gain rapport with government agencies and wildlife resource interest groups concerning the importance of wildlife preventative medicine and disease in relation to the wildlife resource and domestic species.
• To educate and inform governmental agencies and wildlife resource interest groups of support and educational services which may be provided by wildlife veterinarians.
• To help establish and work for continuing education programs for wildlife veterinarians.

To have an item included in the newsletter, contact Kevin. To have an announcement sent to the WVS members, directly contact Anne. Feel free to contact any of the officers regarding section business.