

Curriculum vitae

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Dr. Michał Stefan Wojciechowski

Gender: male

Date of birth: 07.08.1974

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Department of Animal Physiology
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Education and employment:

January 2006 – present: lecturer in the Department of Animal Physiology of the Institute of General and Molecular Biology; Nicolas Copernicus University, Toruń

2003 – 2005: assistant in the Department of Animal Physiology of the Institute of General and Molecular Biology; Nicolas Copernicus University, Toruń

April 2003 - May 2005: post-doctoral fellow at the Mitrani Department of Desert Ecology of the Jacob Blaustein Institute for Desert Research, Ben-Gurion University of the Negev, Host: Professor Berry Pinshow

1998-2003: PhD-student, Nicholas Copernicus University; thesis title: Adaptive strategies in heterothermic bats, using the large mouse-eared bat *Myotis myotis* (Borkhausen, 1797) and the Daubenton's bat *Myotis daubentonii* (Kuhl, 1817) as examples. Advisor: dr hab. Eugenia Tęgowska, prof UMK. Thesis' reviewers: dr hab. Jolanta Sotowska-Brochocka, prof UW and dr hab. Andrzej Przystalski, prof UMK. **Ph.D. awarded** by the Faculty of Biology and Earth Sciences Council, N. Copernicus University, Toruń

Teaching: Course of Animal Physiology – laboratory classes and guidance of four M.Sc. theses students in bat ecological physiology

1993-1998: M.Sc. student in biology; thesis title: Biology of Microchiropteran bats and brown adipose tissue's thermogenesis induced by exogenous noradrenaline in large mouse-eared bat *Myotis myotis* (Borkh., 1797).; supervisor: dr hab. Eugenia Tęgowska, prof. UMK

Fellowships:

May 2006: one month research fellowship at the Mitrani Department of Desert Ecology of the Jacob Blaustein Institute for Desert Research, Ben-Gurion University of the Negev. Founded by the Blaustein Center for Scientific Cooperation.

July 2005: postdoctoral fellowship at the University of the Witwatersrand in Johannesburg, South Africa founded by the National Research Foundation. **Cancelled in favour of the position at the Nicolaus Copernicus University in Toruń**

April 2004: participation in the course "Ecology of animal migration" held at the Lund University, Sweden, April 14-23, 2004. Organized by the Department of Animal Ecology of the Lund University.

April 2003 - May 2005: post-doctoral fellow at the Mitrani Department of Desert Ecology of the Jacob Blaustein Institute for Desert Research, Ben-Gurion University of the Negev, Host: Professor Berry Pinshow. Funded by the Blaustein Center for Scientific Cooperation and by the Council for Higher Education in Israel (VATAT).

October 2002: European Commission Fellowship: Access to Research Infrastructures – research in the Mitrani Department of Desert Ecology of the Jacob Blaustein Institute for Desert Research; Ben-Gurion University of the Negev in Beer-Sheva.

Research projects and grants:

1996-present: Participation in the national censuses of hibernating bats, especially in north-eastern Poland

1996-1998: Work on my M.Sc. thesis on the thermoregulation and brown adipose tissue thermogenesis in *Myotis myotis*.

1998: N. Copernicus Univ. Supervisor's grant: "The importance of brown adipose tissue thermogenesis for the pre-flight warm-up in bat *Myotis myotis*" with my advisor, dr hab. Eugenia Tęgowska, prof. UMK

1998-2000: Involved in carrying out research of a grant of the Rector of the N. Copernicus Univ. Title: "Influence of insecticides modifying sodium channels' function on excitatory tissues' bioelectrical activity, food chemoreception, thermoregulation and structure of the alimentary tract." Head of the project: dr hab. Eugenia Tęgowska, prof. UMK

1998-2002: Work for the PhD thesis on the lethargy states in heterothermic bats supported by the N. Copernicus University funds. Partially in co-operation with dr. hab. Jan R.E. Taylor from the University of Białystok, Poland (respirometry measurement).

2000-2003: Investigator at the grant of the Polish State Committee for Scientific Research. Title: "Influence of the day length on seasonal and circadian changes of the thermogenic capacities of the brown adipose tissue in Siberian hamster, Syrian hamster and Daubenton's bat." Primary Investigator: Dr. Małgorzata Jefimow

2001: Cooperation with Dr. Tomasz Kokurewicz from the Agricultural University in Wrocław, Poland: The relationship between sex, age and body reserves and thermal preferences in Daubenton's bats (*Myotis daubentonii*) during natural hibernation.

2002: Cooperation with Prof. Berry Pinshow and Dr. Carmi Korine in the Mitrani Department of Desert Ecology of the Jacob Blaustein Institute for Desert Research; Ben-Gurion University of the Negev: Body fat content in males and non-reproductive females of the Hemprich's long-eared bat *Otonycteris hemprichii* and the European free-tailed bat *Tadarida teniotis* from Negev.

2006: UMK internal grant: Effect of the diet on the uric acid concentration in the blood of migrating birds. Does diet rich in polyunsaturated fatty acids result in the increase of uric acid concentration in blood?

2006: Grant of the Polish Ministry of Science and Higher Education: Effect of season and diet on thermoregulation, energy expenditure and changes of body mass of small migrating and overwintering passerine birds using the Balckap (*Sylvia atricapilla*) and Great Tit (*Parus major*) as examples.

Other grants and awards:

- 2001:** Travel grant from the Foundation for Polish Science: US\$ 1000
- 2000:** conference participation support from the organisers of the Life in the Cold. 11th International Hibernation Symposium. Jungholz, Austria: DM 1000
- 2003:** Doctoral thesis awarded by the Faculty of Biology and Earth Sciences Council, N. Copernicus University, Toruń.
- 2004:** Travel grant from the Ben-Gurion University of the Negev, Israel, US\$ 800
- 2004:** Corporate award of the Rector of the N. Copernicus University, Toruń for the scientific achievements in 2003/2004.
- 2005:** Travel grant from the Ben-Gurion University of the Negev, Israel, US\$ 800
- 2006:** Travel grant from the Foundation for Polish Science: US\$ 1100

Membership:

Polish Society for Bat Protection, member of the society's board.
 2000-2003 Member of the Local Committee for the Ethics in Animal Research
 The Society for Integrative and Comparative Biology
 The American Physiological Society

Manuscript reviewer:

2005 – Ecology (1), Physiological and Biochemical Zoology (1)

Publications:

- Wojciechowski M.** (2000) Torpor as a way of life. About the adaptive strategies of the insectivorous bats. KOSMOS 50: 101-112; [Review, in Polish]
- Jefimow M., **Wojciechowski M.**, Tęgowska E. (2003) Daily variations in the influence of noradrenaline on preferred ambient temperature of the Siberian hamsters. Comparative Biochemistry and Physiology A, 134: 715-724
- Kokurewicz T., Furmankiewicz J., **Wojciechowski M.**, (2002) Conservation plan of the pond bat (*Myotis dasycneme* (Boie, 1825)) in Poland. Prepared for the Polish Ministry of the Environment. Warsaw, 43 pp.
- Wojciechowski M.**, Neubauer G. (2002) Hibernating bat fauna of the Landscape Park of Suwałki in 1998 and 1999. Nietoperze 3 (1): 33-37 [in Polish with extensive English abstract]
- Kasprzyk K., Ruczyńska I., **Wojciechowski M.** (2002) Winter bat censuses in the Pomorze Nadwiślańskie Region in the years 1996-1999. Nietoperze 3 (1): 39-52 [in Polish with extensive English abstract]
- Fuszara E., Fuszara M., **Wojciechowski M.** (2002). Winter bat censuses in the Masurian Lake District in the years 1992-1999. Nietoperze 3 (1): 65-75 [in Polish with extensive English abstract]
- Fuszara E., Fuszara M., **Wojciechowski M.** (2003). Wintering of the Barbastelle, *Barbastella barbastellus*, in fortifications of the Masurian Lake District (Poland). Nyctalus 8: 536 – 540
- Ciechanowski M., Zwolicki A., **Wojciechowski M.**, Benedycka A., Biała A. (2003). Mammals (Mammalia) of the planned nature reserve “Torfowiska Wiszące nad jeziorem Jaczno” (Suwalskie Lakeland) and its surroundings. Parki nar. Rez. przyr. 22: 473-477 [in Polish with English abstract]
- Jefimow M., **Wojciechowski M.**, Tęgowska E. (2004) Seasonal and daily changes in the capacity for nonshivering thermogenesis in the golden hamsters housed under semi-natural conditions. Comparative Biochemistry and Physiology A 137:297-309

- Jefimow M., **Wojciechowski M.**, Masuda A., Oishi T. (2004) Correlation between torpor frequency and capacity for non-shivering thermogenesis in the Siberian hamster (*Phodopus sungorus*). *Journal of Thermal Biology* 29:641-647
- Jefimow M., **Wojciechowski M.**, Tęgowska E. (2004) Seasonal changes in the thermoregulation of laboratory golden hamsters during acclimation to semi-natural, outdoor conditions. *Comparative Biochemistry and Physiology A* 139:379-388
- Jefimow, M., **Wojciechowski M.S.**, Tęgowska, E. (2005). Reversal of photoschedule in spring does not prevent photorefractoriness in the Siberian hamsters. *Journal of Experimental Zoology* 303A:976-986
- Jefimow, M., **Wojciechowski M.S.**, Tęgowska, E. (2005). Effects of prolonged acclimation to intermediate photoperiod and photoschedule reversal in photosensitive golden hamsters. *Journal of Experimental Zoology* 303A:987-997
- Marom S., Korine C., **Wojciechowski M.S.**, Tracy C.R., Pinshow B. (2006) Energy metabolism and evaporative water loss in the European free-tailed bat and Hemprich's long-eared bat (Microchiroptera); species sympatric in the Negev Desert. *Physiological and Biochemical Zoology*, In press Sept/Oct Issue
- Wojciechowski M.S.**, Jefimow M., Tęgowska E. (2006) Environmental conditions rather than season determine torpor use and temperature selection in large mouse-eared bats (*Myotis myotis*). *Comparative Biochemistry and Physiology A*. In press

Submitted:

Wojciechowski M.S., Yosef R., Pinshow B. Blackcaps (*Sylvia atricapilla*) use torpor when resting at a stopover site during migration.

In preparation:

Tracy C.R., McWhorter T.J., **Wojciechowski M.S.**, Korine C., Pinshow B, Karasov W.H. Absorption of sugars in the egyptian fruit bat (*Rousettus aegyptiacus*).

Wojciechowski M.S., Korine C., Daniel S., Pinshow B. Dual Energy X-ray Absorptiometry is a reliable method of measuring body composition in small insectivorous bats.

Published conference abstracts:

Chudzińska I., Kasprzyk K., Szym E., **Wojciechowski M.** (1996) Wintering of bats on Pomeranian Lake District and Masurian Lake District in 1996. Abstracts of the 10th National Chiropterological Conference

Fuszara E., Fuszara M., **Wojciechowski M.** (1997) Wintering of the Barbastelle in fortifications of the Masurian lake district (Poland). Abstracts of the workshop: Zur Situation der Mopsfledermaus *Barbastella barbastellus* in Europa, Mansfeld, Germany, 5-7 IX 1997

Wojciechowski M., Tęgowska E., Jefimow M., Zienkiewicz A. (1997) Circadian activity and temperature preference in large mouse-eared bat *Myotis myotis* under laboratory conditions – preliminary results. Abstracts of the 11th National Chiropterological Conference, Kraków, Poland

Kasprzyk K., Ruczyńska I., **Wojciechowski M.** (1997) Wintering of bats on Pomeranian Lake District and Masurian Lake District in 1997. Abstracts of the 11th National Chiropterological Conference, Kraków, Poland

Tęgowska E., **Wojciechowski M.**, Pracka D., Pracki T., Jefimow M., Zienkiewicz A. (1997) Behavioural thermoregulation of the large mouse-eared bat *Myotis myotis* and sleep-

- wakefulness rhythm. Abstracts of the 3rd Congress of the Polish Sleep Research Society. Bydgoszcz, Poland.
- Tęgowska E., Jefimow M., **Wojciechowski M.** (1998) The effect of alfa₁ adrenergic antagonist on thermogenesis in cold exposed and NA injected mice. *Molecular and Physiological Aspects of Regulatory Processes of the Organism*, Kraków, 1998, Wyd. Nauk. WSP, p. 314.
- Wojciechowski M.**, Tęgowska E. (1998) Thermogenesis in brown adipose tissue of the large mouse-eared bat *Myotis myotis* after administration of exogenous noradrenaline. Abstracts of the 7th Polish Theriological Conference, Białowieża, Poland.
- Wojciechowski M.**, Tęgowska E. (1998) Why do bats need a brown adipose tissue? Abstracts of the 12th National Chiropterological Conference, Wrocław, Poland
- Klimczak Z., Szarlej W., **Wojciechowski M.** (1998) New findings of rabies in bats in Poland in 1998. Abstracts of the 12th National Chiropterological Conference, Wrocław, Poland
- Kasprzyk K., Różowicz A., Trochimiuk J., **Wojciechowski M.** (1998) Wintering of bats on Pomeranian Lake District, Masurian Lake District and Suwałki Landscape Park in 1998. Abstracts of the 12th National Chiropterological Conference, Wrocław, Poland
- Wojciechowski M.**, Tęgowska E. (1999) What are bats doing when they are hungry? - on seasonal and diurnal changes in the thermal preference and body temperature of the mouse-eared bat *Myotis myotis* in relation to food availability. Abstracts of the 12th National Chiropterological Conference, Błazejewko, Poland.
- Wojciechowski M.**, Kasprzyk K., Jefimow M. (1999) First record of nursery colony of the pond bat *Myotis dasycneme* (Boie, 1825) in Poland. English abstract available on-line at: Abstracts of the 12th National Chiropterological Conference, Błazejewko, Poland.
- Wojciechowski M.**, Tęgowska E., Antas M., Knopik J. (1999) Circadian activity, body temperature and thermal preferendum of mouse-eared bat *Myotis myotis* in laboratory conditions. *Bat Research News* 40 (3): 147-148
- Wojciechowski M.**, Tęgowska E., Jefimow M. (2000) Thermal environment as an “external modulator” of the adaptive changes in fasted and non-fasted heterothermic bats. Abstracts of the 11th International Hibernation Symposium 2000, Jungholz, Austria
- Jefimow M., **Wojciechowski M.**, Wasilewska E., Tęgowska E. (2000) Noradrenaline-induced changes in thermopreferendum and blood parameters in Djungarian hamsters acclimated to cold and short photoperiod. Abstracts of the 11th International Hibernation Symposium 2000, Jungholz, Austria
- Wojciechowski M.**, Tęgowska E. (2000) Daily activity of the heterothermic bats – role of the thermal environment and food availability. Abstracts of the 4th Meeting of the Polish Sleep Research Society, Warszawa, Poland
- Tęgowska E., **Wojciechowski M.**, Pracka D., Pracki T., Wareńczak D. (2000) Daily torpor of the large mouse-eared bat *Myotis myotis* – interrelations of the electrophysiological characteristics and body temperature – problem of the sleep debt. Abstracts of the 4th Meeting of the Polish Sleep Research Society, Warszawa, Poland
- Wojciechowski M.**, Tęgowska E. (2000) Necessity or choice: why do bats hibernate? Abstracts of the 14th National Chiropterological Conference, Rogów, Poland
- Wojciechowski M.**, Tęgowska E., Jefimow M. (2001) Body mass and thermal environment affect torpor in heterothermic bats. *Bat Research News* 2001, 42 (3): 129
- Jefimow M., **Wojciechowski M.**, Tęgowska E. (2001) Nonshivering thermogenesis in *Myotis daubentonii* at different ambient temperatures. *Bat Research News* 2001, 42 (3): 103
- Wojciechowski M.** (2001) Bats – perfect heterotherms. Abstracts of the 15th National Chiropterological Conference, Gdańsk, Poland.

- Wojciechowski M.**, Korine C., Daniel S., Pinshow B. (2003) Dual Energy X-Ray Absorptiometry is a reliable method for measuring body fat content in small insectivorous bats. *Integrative and Comparative Biology* 43:1040
- Marom S., **Wojciechowski M.**, Korine C., Pinshow B. (2003) Energy metabolism and water loss in two sympatric microchiropteran species - A day : night comparison. *Integrative and Comparative Biology* 43:1040
- Pinshow B., Korine C., Daniel S., **Wojciechowski M.**, van Tets I.G. (2004) Measuring body composition in small migrant birds and insectivorous bats by dual-energy x-ray absorptiometry. *FASEB Journal* 18:A371 Suppl. S
- Pinshow B., Marom S., **Wojciechowski M.**, Daniel S., Korine C. (2004) Metabolic heat production and evaporative water loss in two desert bats, *Tadarida teniotis* and *Otonycteris hemprichii*. Abstracts of the 3rd International Conference of Comparative Physiology & Biochemistry in Africa. Ithala, KwaZulu-Natal. August 2004.
- Wojciechowski M.**, Yosef R., Pinshow B. (2005) Body composition of small migrating birds at a stopover site in southern Israel. *Integrative and Comparative Biology* 44 (6):666.
- Elimelech E, Pinshow B., **Wojciechowski M.S.** (2005) Effect of prey density on the capture method used by *Myrmecaelurus* sp. larvae (Neuroptera, Myrmeleontidae). *Isr. J. Zool.* 51:62-63
- Wojciechowski M.S.**, Yosef R., Korine C., Pinshow B. (2005) Measuring body composition of small migrating birds with dual-energy X-ray absorptiometry at a migratory stopover in Eilat, Israel. Workshop of the SE European Bird Migration Network, 1-3 July 2005, Przebendowo, Poland
- Tracy, C. R., McWhorter, T. J., **Wojciechowski, M. S.**, Korine, C., Karasov, W. H. & Pinshow, B. (2005) Relatively low paracellular absorption in a reptile, the Egyptian mastigure, *Uromastix aegyptius*. *Integrative and Comparative Biology* 45(6), 1203.
- Tracy, C. R., **Wojciechowski, M. S.**, McWhorter, T. J., Yosef, R., Karasov, W. H. & Pinshow, B. (2005) Carbohydrate absorption in migrating blackcaps, upon arrival and after refeeding, at a stopover in southern Israel. *Integrative and Comparative Biology* 45(6), 1085.
- Wojciechowski M. S.**, Jefimow M., Tęgowska E. (2006) Passive rewarming from torpor in bats. Is it possible without fluctuations in ambient temperature? *Molecular and Physiological Aspects of Regulatory Processes of the Organism*, Cracow, 2006, Wyd. Nauk. WSP, p. 576-577.
- Jefimow M., **Wojciechowski M. S.** (2006) The effect of fasting on the thermoregulatory behavior of Siberian hamsters. *Molecular and Physiological Aspects of Regulatory Processes of the Organism*, Cracow, 2006, Wyd. Nauk. WSP, p. 204-206.

Invited seminars:

- 1998:** XIIIth Workshop for Evolutionary Ecology. Physiological Ecology. Warsaw, Poland. Title: Why do bats need a brown adipose tissue? Co-author: Eugenia Tęgowska, N. Copernicus University
- 1999:** Workshop session during 12th National Chiropterological Conference, Błazejewko, Poland. Title: The captive care of insectivorous bats Co-author: Maciej Fuszara, Polish Academy of Sciences
- 2002:** Departmental seminar at the Department of Animal Ecology of the University of Białystok, Poland. Title: Bats: heterothermic animals.
- 2002:** Departmental seminar at the Mitrani Department of Desert Ecology of the Jacob Blaustein Institute for Desert Research; Ben-Gurion University of the Negev.

Title: Heterothermic bats from the temperate zone. Animals with an unpredictable diet in a predictable environment.

2004: Departmental seminar at the Mitrani Department of Desert Ecology of the Jacob Blaustein Institute for Desert Research; Ben-Gurion University of the Negev.

Title: "Body composition of small migrating birds at a staging site in southern Israel. Does the flight direction play a role?"

2005: Departmental seminar at the Department of Animal Ecology of the University of Białystok, Poland. W podróż z prowiantem, czy bez? O sezonowych zmianach składu ciała migrujących ptaków.