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LAUDATIO

Zhennan Xue – ad multos transannos

Zhennan Xue was born on April 12, 1925, in Songjian, Shanghai. (According to Qinfu Ye [1]: “In China, people take the first day of the Chinese New Year in (the) lunar calendar as the starting point of a new age. No matter in which month a child is born, he is one year old, and one more year is added to his age as soon as he enters the New Year. ... a child [may be] two years old when he is actually two days or two hours old. This is possible when the child is born on the last day or hour of the past year.”)

Hence, according to Chinese custom, Professor Xue is 80 years old now, although by Western reckoning he will not be 80 until 2005, and from a transyear point of view, his age is merely over 60. He graduated from the Medical College of West China University and obtained another degree from the State University of New York. Thereafter, he worked in the biomedical engineering department of West China University and became president of the Chinese Society for Chronobiology and eventually professor of biomechanics at Sichuan University. He received many honors during his productive scientific life, including the special gratitude of the People’s Republic of China government. His many laboratory studies include work on goats and yaks, and the use of heart valves from yaks.

Zhennan Xue was chairperson of committees organizing international symposia of chronobiology in 1988, 1991, 1994, 1996 and 2000. In 1987, he became a member of the advisory board of Chronobiologia, and was active concomitantly in teaching and publishing over 200 scientific titles. He tutored five post-doctoral fellows, guided 20 graduate students for doctoral and over 50 students for master’s degrees.

We all live through our students. Two major figures in current Chinese chronobiology are his students. Zhengrong Wang is now vice-dean of the school of basic medical sciences at Sichuan University and remains the leading figure in Chinese chronobiology [2–52], now directing a large study on cancer chronotherapy while also active at a chronomolecular level. Jinyi Wu [53–133, besides some of 2–52] is vice-president of the China-West Yak Industry Group. He gathered China’s biomedical leaders to acquaint them with Western chronobiology via lectures starting in 1981. He has enthusiastically represented the field ever since. The meetings organized by Professor Xue were occasions to introduce new topics [134–162]. We appreciate these opportunities and wish Zhennan Xue many further productive activities.

We dedicate to him our most recent finding in biology of components with a length beyond (=trans) the calendar year. These about 1.3-year cycles, originally found in the solar wind [163, 164] have their counterpart in the human circulation [165–167]. At Professor Xue’s age, the transyear can be greater in amplitude than that of the signature of winter and summer. We wish Zhennan Xue many healthy, happy and productive future transyears and an elucidation of the underlying probably partly solar, partly geomagnetic, yet already genetically coded [165–167] mechanisms.

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REFERENCES

- 1 Ye QF. Birthday customs of the newborn and elderly. Part 2: Elderly people. <http://chineseculture.about.com/library/weekly/aa021901b.htm>
- 2 Halberg E, Wang Z, Cornélissen G, Wangensteen D, Halberg F Chronobiometry of blood pressure (BP) and heart rate (HR) in clinically healthy medical students. *Chronobiologia* 1990; **17**: 168–169.
- 3 Halberg F, Halberg E, Tamura K, Otsuka K, Carandente F, Hillman D, Rigatuso J, Kopfer R, Bingham C, Garcia L, Hermida R, Tarquini B, Mainardi G, Mello G, Cugini P, Maggioni C, Scarpelli PT, Vergassola R, Romoli F, Sitka U, Weinert D, Schuh J, Wang Z, Xue Z, Wu J, Ikonomov O, Stoynev A, Cornélissen G. Chronobionorms: standard requisites for rational, preferably early, prevention of cardiovascular, oncogeneative and personality disorders. Abstract, 3rd All-Union Conference on Chronobiology and Chronomedicine, September 26–29, 1990, Tashkent, USSR, pp. 343–346 (in Russian).
- 4 Halberg F, Hillman DC, Wang Z, Rigatuso J, Landrum B, Tamura K, Kato K, Kato J, Mainardi G, Tarquini B, Hermida R, Sitka U, Schuh J, Weinert D, Cugini P, Cornélissen G. Circaseptan (about 7-day) rhythmicity and the developmental neurovegetative system. Abstract, XX Int. Cong. Neurovegetative Research, Tokyo, Japan, Sept. 10–14, 1990, #S-10-07, p. 36.
- 5 Halberg F, Mikulecky M, Hillman DC, Wang Z, Hodková M, Wu J, Uezono K, Cornélissen G. Circaseptans, 30 years after Déter, in the phylogeny and ontogeny of the human chronome. Abstract, Int. Symp. Biorhythms in Clinical Medicine, Bratislava, Czechoslovakia, September 4–5, 1990, pp. 1–2.
- 6 Marazzi A, Wang Z, Paccaud F, Hillman DC, Cornélissen G, Halberg F. Circadian, circaseptan and secular variation in human birth and stillbirth. *Chronobiologia* 1990; **17**: 177.
- 7 Serfass R, Wang Z, Halberg F, Cornélissen G. Circadian rhythmic blood pressure response to playing tennis of a septuagenarian with cardiac ischemia. Abstract, 2nd World Conference on Clinical Chronobiology, Monte Carlo, April 10–13, 1990, ALM s.r.l., Florence, 1990, p. 77.
- 8 Halberg F, Cornélissen G, Halberg E, Mainardi G, Hermida RC, Tarquini B, Hillman DC, Wang ZR. Toward chronobiologic optimization of nutrition for cancer treatment and broad disease prevention. In: Roche AF (ed). *The Role of Nutrients in Cancer Treatment*, Report of the 9th Ross Conference on Medical Research. Columbus, OH: Ross Labs; 1991. p. 2–9.
- 9 Halberg F, Halberg E, Halberg J, Syutkina EV, Safin SR, Grigoriev AE, Yatsky GV, Ikonomov O, Otsuka K, Holte J, Tamura K, Saito Y, Hata Y, Uezono K, Wang ZR, Xue ZN, Del Pozo F, Hillman DC, Samayoa W, Bakken E, Cornélissen G. Womb to tomb blood pressure (BP) monitoring: are single or even 24-hour measurements enough?. Proc. Assoc. Adv. Med. Instrumentation 25th Ann. Mtg. Expo, Washington, DC, May 11–15, 1991, p. 38.
- 10 Halberg F, Wang Z, Cornélissen G, Bingham C, Rigatuso J, Hillman D, Wakasugi K, Kato K, Kato J, Tamura K, Sitka U, Weinert D, Schuh J, Coleman JM, Mammel M, Miyake Y, Ohnishi M, Satoh K, Watanabe Y, Otsuka K, Watanabe H, Johnson D. SIDS and about-weekly patterns in vital signs of premature babies. In: Yoshikawa M, Uono M, Tanabe H, Ishikawa S (eds). *New Trends in Autonomic Nervous System Research: Basic and Clinical Interpretations*, Selected Proc. 20th Int. Cong. Neurovegetative Research, Tokyo, September 10–14, 1990. Amsterdam: Excerpta Medica, 1991: 581–585.
- 11 Hillman DC, Wang ZR, Rigatuso J, Landrum B, Tamura K, Kato K, Kato J, Mainardi G, Tarquini B, Hermida R, Sitka U, Schuh J, Weinert D, Cugini P, Cornélissen G, Halberg F. Circadian-circaseptan ratios for vital signs and ventilation in human prematurity. *Biochim. Clin.* 1991; **15**: 151–154.
- 12 Rigatuso J, Cornélissen G, Wang ZR, Hillman DC, Mainardi G, Syutkina EV, Safin SR, Grigoriev AE, Yatsky GV, Tarquini B, Xue ZN, Tamura K, Maggioni C, Sitka U, Weinert D, Wakasugi K, Garcia L, Vernier R, Halberg F. Time structure of neonatal physiologic variation, notably of blood pressure (BP), in prematurity and at term. *Chronobiologia* 1991; **18**: 120.
- 13 Wang ZR, Hillman D, Rigatuso J, Cornélissen G, Halberg F. Prematurity, age and about-monthly amplitude of blood pressure, heart rate, oxygen saturation and axillary temperature. *Chronobiologia* 1991; **18**: 120–121.
- 14 Arthur SK, Gyamfi MA, Amuasi JH, Wang ZR, Wu JY, Cornélissen G, Halberg F. About-7-day and about-3.5-day blood pressure and heart rate variation in Ghanaians. In: Proc. Workshop on Computer Methods on Chronobiology and Chronomedicine, Tokyo, Sept. 13, 1990, Halberg F, Watanabe H (eds), Medical Review, Tokyo, 1992, pp. 155–172.
- 15 Breus TK, Cornélissen G, Bingham C, Hillman DC, Halberg E, Guillaume F, Wang ZR, Han HW, Shao DL, Wu JY, Komarov FI, Rapoport SI, Levitin AE, Romanov YA, Musin MM, Naborov IV, Grigoriev AE, Safin SR, Syutkina EV, Grigoriev AI, Halberg F. Cardiovascular and other chronoepidemiology via ambulance calls versus geomagnetic and sunspot variability. In: Halberg F, Watanabe H (eds). Proc. Workshop on Computer Methods on Chronobiology and Chronomedicine, Tokyo, Sept. 13, 1990. Tokyo: Medical Review, 1992: 203–231.
- 16 Breus TK, Cornélissen G, Bingham C, Hillman DC, Ivanova SV, Musin MM, Komarov FI, Rapoport SI, Grigoriev AI, Zaslavskaya RM, Oraevsky VN, Levitin AE, Guillaume F, Wang ZR, Han HW, Shao DL, Wu JY, Syutkina EV, Grigoriev AE, Safin SR, Halberg F. Influence of geomagnetic and solar activity upon cardiovascular and other epidemiologies. In: *Chronobiology, Chronomedicine and Influence of Heliogeophysical Factors upon the Human Organism*. Space Research Institute Press, Russian Academy of Sciences, Moscow, 1992, pp. 146–191. (In Russian.)
- 17 Garcia Alonso L, Hillman D, Cornélissen G, Garcia Penalta X, Wang ZR, Halberg F. Nature, not solely nurture: chronome beyond season governs infants' height and weight. Abstract, XV Congreso Nacional de Química Clínica, Queretaro, Mexico, May 1–5, 1992. *Bioquímica* 1992; **17**: 56.
- 18 Halberg F, Cornélissen G, Hillman DC, Bingham C, Halberg E, Guillaume F, Barnwell F, Wu JY, Wang ZR, Halberg FE, Holte J, Schmitt OH, Kellogg PJ, Luyten W, Breus TK, Komarov FI, Mikulecky M, Garcia L, Lodeiro C, Iglesias T, Quadens O, Muller C, Kaada B, Miles L, Hayes DK. Chronobiology in a moon-based chemical analysis and physiologic monitoring laboratory. In: Ponnamperuma C, Gehrke CE (eds). *A Lunar-Based Chemical Laboratory (LBCAL)*. Hampton, VA: A. Deepak Publishing, 1992: 161–203.
- 19 Halberg F, Cornélissen G, Hillman D, Hayes D, Sonkowsky R, Regal R, Halberg F, Halberg J, Wang ZR, Wu JY, Otsuka K, Watanabe H, Watanabe Y, Syutkina E, Safin S, Grigoriev A, Breus T, Romanov Y, Komarov F, Rapoport S, Sitka Y, Weinert D, Schuh J, Garcia Alonso L, Quadens O, Prikryl P, Siegelová J, Mikulecky M, Hodkova M, Arthur SK, Rigo J, Adam Z, Paulin F, Madjrirova N, Zaslavskaya R, Haus E, Montalbetti N, Bingham C, Wilson D, Markina V. Chronome: relation of multifrequency rhythms and age trends with chronorisk, and role of chronome for prophylactic medicine. In: *Chronobiology, Chronomedicine and the Influence of Heliogeophysical Factors upon the Human Organism*. Space Research Institute Press, Russian Academy of Science, Moscow, 1992, pp. 83–124. (In Russian.)
- 20 Johnson DE, Wang ZR, Wu JY, Cornélissen G, Rigatuso J, Coleman JM, Mammel M, Tamura K, Lussky R, Halberg F. Chronobiologic harbingers in prematurity of sudden infant death syndrome. In: Proc. Workshop on Computer Methods on Chronobiology and Chronomedicine, Tokyo, Sept. 13, 1990, Halberg F, Watanabe H (eds), Medical Review, Tokyo, 1992, pp. 141–142.
- 21 Leung B, Cornélissen G, Hillman D, Wang ZR, Binkley S, Bingham C, Halberg F. Halting steps toward a circadian-infradian pineal melatonin chronome. In: Proc. Workshop on Computer Methods on Chronobiology and Chronomedicine, Tokyo, Sept. 13, 1990, Halberg F, Watanabe H (eds), Medical Review, Tokyo, 1992, pp. 263–285.
- 22 Saito Yuzo, Cornélissen G, Saito YK, Saito YI, Saito J, Wu J, Hillman D, Wang Z, Hata Y, Tamura K, Halberg E, Halberg F. Gradual adjustment of circaseptan-circadian blood pressure and heart rate rhythms after a trans-9-meridian flight. *Chronobiologia* 1992; **19**: 67–74.
- 23 Wan C, Wang Z, Cornélissen G, Halberg F. Age, gender and circadian or circasemidian blood pressure and heart rate variation of children. *Chronobiologia* 1992; **19**: 121–129.
- 24 Wang Z, Wang L, Zhang L, Liu Q, Xue Z, Cornélissen G, Halberg F. Circadian relations among cardiovascular variables of young adults. *Chronobiologia* 1992; **19**: 111–120.
- 25 Garcia Alonso L, Hillman D, Cornélissen G, Garcia Penalta X, Wang ZR, Halberg F. Nature, not solely nurture: chronome as well as season governs growth patterns of infants. In: Otsuka K, Cornélissen G, Halberg F (eds). *Chronocardiology and Chronomedicine: Humans in Time and Cosmos*. Tokyo: Life Science Publishing, 1993: 71–75.
- 26 Wang ZR, Hillman D, Rigatuso J, Cornélissen G, Xue ZN, Halberg F. Blanks, sampling artifacts, and circadian and circaseptan blood pressure rhythrometry on a very premature baby. In: *Chronocar-*

- diology and Chronomedicine: Humans in Time and Cosmos, Otsuka K, Cornélissen G, Halberg F (eds), Life Science Publishing, Tokyo, 1993, pp. 52–56.
- 27 Wang ZR, Mammel M, Coleman JM, Hillman D, Xue ZN, Johnson D, Cornélissen G, Halberg F. About-weekly patterns of vital signs in four very premature babies. In: Chronocardiology and Chronomedicine: Humans in Time and Cosmos, Otsuka K, Cornélissen G, Halberg F (eds), Life Science Publishing, Tokyo, 1993, pp. 57–58.
- 28 Wang ZR, Sun XC, Cornélissen G, Wu JY, Meng L, Cai DG, Xue ZN, Halberg F. Doppler flowmeter-assessed circadian rhythms in neonatal cardiac function, family history and intrauterine growth retardation. *Am J Perinatol* 1993; 10: 119–125.
- 29 Wang ZR, Zhang LR, Li Shifeng, Wang L, Li Shifang, Xue ZN, Cornélissen G, Halberg F. Circadian variation in goat's carotid arterial blood flow and response to dopamine. In: Chronocardiology and Chronomedicine: Humans in Time and Cosmos, Otsuka K, Cornélissen G, Halberg F (eds), Life Science Publishing, Tokyo, 1993, pp. 104–112.
- 30 Wan CM, Wang ZR, Cornélissen G, Halberg F. Chronobiologic aspects of blood pressure (BP) in children with a positive (P) vs. negative (N) family history (FH) of high BP. *Chronobiologia* 1994; 21: 154–155.
- 31 Wang ZR, Wan CM, Lei Y, Cornélissen G, Halberg F. Phase-zero trial of clinical chronoradiotherapy of lung cancer. *Chronobiologia* 1994; 21: 155–157.
- 32 Wan CM, Wang ZR, Cornélissen G, Halberg F. The role of the biological clock in the formation of the norm, pathology and therapy. 1. Chronobiological aspects of the formation of blood pressure in children with positive and negative family history of high blood pressure. *Biofizika (Moscow)* 40: 994–995, 1995 (in Russian with English summary) and *Biophysics* 1995; 40: 995–996 (translated into English).
- 33 Wang ZR, Wan CM, Lei Y, Cornélissen G, Halberg F. The role of the biological clock in the formation of the norm, pathology and therapy. 2. Clinical chronoradiotherapy of lung cancer. *Biofizika (Moscow)* 1995; 40: 996–998 (in Russian with English summary) and *Biophysics* 40: 997–999, 1995 (translated into English).
- 34 Cornélissen G, Syutkina EV, Halberg F, Otsuka K, Wang ZR, Wan CM, Garcia Alonso L, Portela A, Delmore P, Fink H, Bingham C, Gaziano E, Grigoriev AE, Abramian AS, Mitish MD, Yatsyk GV, Teibloom M, Maggioni C, Tereshenko LI, Lipatova TYu, Logvinenko I, Zaslavskaya RM. Chronobiologic blood pressure self-monitoring from the beginning until the cure of sickness or death. *Human Physiology* 1998; 24: 118–125.
- 35 Halberg F, Cornélissen G, Otsuka K, Zhao ZY, Delyukov A, Gorgo Y, Wang ZR, Rawson MJ, Holte J, Schwartzkopff O. Chronobiological approaches to integrative anthropology illustrated by heart rate variability (HRV) and geomagnetics. *Reports of Vinnitsa State University* 1998; 2: 254–255.
- 36 Otsuka K, Cornélissen G, Shinagawa M, Kubo Y, Yamanaka T, Omori K, Ohkawa S, Zhao ZY, Delyukov A, Gorgo Y, Wang ZR, Shankaraiah K, Tarquini B, Weydahl A, Halberg F. Weekly variation of time domain measures of heart rate variability and geomagnetics in Asian Chronome Ecological Study of Heart Rate Variability (ACEHRV). Presentation 15, 15th Meeting, Japanese Chrono-Cardiology Society. Therapeutic Research 1999; 20: 388–395.
- 37 Otsuka K, Cornélissen G, Zhao ZY, Weydahl A, Delyukov A, Gorgo Y, Wang ZR, Perfetto F, Tarquini R, Kubo Y, Shinagawa M, Hotta N, Ishii T, Omori K, Watanabe Y, Nunoda S, Ohkawa S, Halberg F. Rhythm and trend elements in the time structure, chronome, of heart rate variability. *Geronto-Geriatrics* 1999; 2: 31–48.
- 38 Wang ZR, Wang L, Wan CM, Cornélissen G, Anand I, Halberg F. Circadian rhythm of gene expression of myocardial contractile protein, left ventricular pressure and contractility. *Space Medicine and Medical Engineering* 1999; 6: 391–396.
- 39 Halberg F, Cornélissen G, Bingham C, Hillman D, Katinas G, Sampson M, Revilla M, Prikryl P Sr, Prikryl P Jr, Sanchez de la Pena S, Gonzalez C, Amory-Mazaudier C, Bouvet J, Barnwell F, Maggioni C, Sothern RB, Wang ZR, Schwartzkopff O, Bakken E. Season's Appreciations 2001. *Neuroendocrinol Lett* 2002; 23: 170–187.
- 40 Halberg F, Cornélissen G, Katinas G, Appenzeller O, Otsuka K, Sothern RB, Tarquini R, Perfetto F, Maggioni C, Wilson D, Schröder W, Schwartzkopff O, Kessler T, Wang Z, Burioka N, Watanabe Y, Bakken E. System times and time horizons for biospheric near-matches of primarily non-photic environmental cycles. *Biomed Pharmacother* 2002; 56 (Suppl. 2): 266s–272s.
- 41 Qu Y, Wang ZR, Huang X, Wan CW, Yang CL, Liu BL, Cornélissen G, Halberg F. Circadian telomerase activity and DNA synthesis for timing peptide administration. *Peptides* 2003; 24: 363–369.
- 42 Cornélissen G, with Halberg F, Schwartzkopff O, Katinas G, Johnson D, Otsuka K, Watanabe Y, Wang ZR, Wan CW, Perfetto F, Tarquini R, Maggioni C, Syutkina EV, Masalov A, Siegelova J, Zhao ZY, Singh RB, Singh RK, Delyukov A, Gorgo Y, Zaslavskaya RM, Gubin GD, Gubin DG, Kumagai Y, Uezono K, Wilson D, Weydahl A, Bakken E. Editor's foreword: What Gesell wished, Hellbrügge accomplished: Chronomics of child development. *Neuroendocrinol Lett* 2003; 24 (Suppl 1): 14–24.
- 43 Halberg F, Wang ZR, Schwartzkopff O, Cornélissen G. Chronomik für die grosse Öffentlichkeit. *Neuroendocrinol Lett* 2003; 24 (Suppl 1): 74–83.
- 44 Cornélissen G, Rigatuso J, Wang ZR, Wan CM, Maggioni C, Syutkina EV, Schwartzkopff O, Johnson DE, Halberg F, International Womb-to-Tomb Chronome Group: Case report of an acceptable average but overswinging blood pressure in Circadian Hyper-Amplitude-Tension, CHAT. *Neuroendocrinol Lett* 2003; 24 (Suppl 1): 84–91.
- 45 Katinas G, Berger S, Cornélissen G, Hillman D, Woolum JC, Engebretson M, Syutkina EV, Masalov A, Wang ZR, Wan CM, Bakken EE, Schwartzkopff O, Halberg F. Acetabularia acetabulum: Unicellular model of neonatal vascular chronome. *Neuroendocrinol Lett* 2003; 24 (Suppl 1): 201–207.
- 46 Zhou B, Wang ZR, Wan CM, Sothern RB, Cornélissen G, Halberg F. Diazepam and melatonin effects upon circadian variation of cultured murine mycardiocytes. *Neuroendocrinol Lett* 2003; 24 (Suppl 1): 216–222.
- 47 Zaslavskaya RM, Makarova LA, Shakarova AN, Komarov F, Wang ZR, Wan CM, Katinas G, Cornélissen G, Halberg F. Individualized time series-based assessment of melatonin effects on blood pressure: model for pediatricians. *Neuroendocrinol Lett* 2003; 24 (Suppl 1): 238–246.
- 48 Halberg F, Cornélissen G, Schwartzkopff O, Katinas G, Wang ZR, Tarquini R, Perfetto F, Maggioni C, Watanabe Y, Bakken EE. Health promotion beyond Bohumil Fiser's 60th birthday. In: Halberg F, Kenner T, Siegelova J (eds). *Proceedings, Symposium, Chronobiological Analysis in Pathophysiology of Cardiovascular System*. Brno: Masaryk University; 2003. p. 9–73.
- 49 Cornélissen G, Halberg F, Bakken EE, Wang ZR, Tarquini R, Perfetto F, Laffi G, Maggioni C, Kumagai Y, Prikryl P, Homolka P, Dusek J, Siegelova J, Fiser B. Can society afford not to follow a chronobiological approach to blood pressure screening, diagnosis and treatment? In: Halberg F, Kenner T, Siegelova J (eds). *Proceedings, Symposium, Chronobiological Analysis in Pathophysiology of Cardiovascular System*. Brno: Masaryk University; 2003. p. 75–90.
- 50 Schwartzkopff O, Halberg F, Cornélissen G, Katinas G, Wang ZR, Kröz M, Hecht K, Tarquini R, Perfetto F, Maggioni C, Siegelova J, Dusek J, Fiser B, Singh RB, Bakken E. Self-experimentation: dangerous when first done by a few, now safe for everybody's health? In: Halberg F, Kenner T, Siegelova J (eds). *Proceedings, Symposium, Chronobiological Analysis in Pathophysiology of Cardiovascular System*. Brno: Masaryk University; 2003. p. 91–104.
- 51 Halberg F, Cornélissen G, Wang ZR, Wan C, Ulmer W, Katinas G, Singh Ranjana, Singh RK, Singh Rajesh, Gupta BD, Singh RB, Kumar A, Kanabrocki E, Sothern RB, Rao G, Bhatt MLBD, Srivastava M, Rai G, Singh S, Pati AK, Nath P, Halberg Francine, Halberg J, Schwartzkopff O, Bakken E, Shastri VK. Chronomics: circadian and circaseptan timing of radiotherapy, drugs, calories, perhaps nutriceuticals and beyond. *J Exp Therapeutics Oncol* 2003; 3: 223–260.
- 52 Halberg F, Cornélissen G, Stoynev A, Ikonomov O, Katinas G, Sampson M, Wang ZR, Wan CM, Singh RB, Otsuka K, Sothern RB, Sothern SB, Sothern MI, Syutkina EV, Masalov A, Perfetto F, Tarquini R, Maggioni C, Kumagai Y, Siegelova J, Fiser B, Homolka P, Dusek J, Uezono K, Watanabe Y, Wu JY, Sonowsky R, Schwartzkopff O, Hellbrügge T, Spector NH, Baciu I, Hriscu M, Bakken E. Season's Appreciations 2002 and 2003. Imaging in time: The transyear (longer-than-the-calendar year) and the half-year. *Neuroendocrinol Lett* 2003; 24: 421–440.
- 53 Cutkomp L, Marques MD, Snider RM, Wu J, Halberg F. Chronobiology of molt and longevity of *Folsomia candida* at different ambient temperature and internal evolution. *Chronobiologia* 1986; 13: 173–174.
- 54 Halberg F, Kausz E, Winter Y, Wu J, März W, Cornélissen G. Circadian rhythmic response in cold pressor test. *J Minn Acad Sci* 1986; 51: 14.
- 55 Bingham C, Halberg F, Wu J, Cornélissen G, Sanchez S, Halberg

- E, Harvey J, Lakatua D, Bazin H. "Treatment effects" before "treatment"-need for repeated checks of bias specified a priori for variable and timing and, when indicated, rerandomization. *Chronobiologia* 1987; **14**: 152–153.
- 56 Bourreau E, Robel P, Baulieu EE, Wu J, Halberg F. Circaseptan (about 7-day) pregnenolone rhythm in brain & plasma of adrenalectomized & orchidectomized rats. *Cancer Det. Prev.* 1987; **11**: 97.
- 57 Cutkomp LK, Marques MD, Snider R, Cornélissen G, Wu J, Halberg F. Chronobiologic view of molt and longevity of *Folsomia candida* (Collembola) at different ambient temperatures. *Progress in Clinical and Biological Research* 1987; **227A**: 249–256.
- 58 Halberg F, Halberg E, Halberg J, Cornélissen G, Sanchez de la Peña S, Wu J, Cagnoni M, Scarpelli P, Tarquini B, Mainardi G, Panero C, Cugini P, Sorice V, Cariddi A, Delmore P, Bakken E. Chronobiology, the indispensable control in bioscience: chronobioengineering for social medicine. In: *Social Diseases and Chronobiology: Proc. III Int. Symp. Social Diseases and Chronobiology*, Florence, Nov. 29, 1986, Tarquini B (ed), Società Editrice Esculapio, Bologna, 1987, pp. 7–35.
- 59 Halberg F, Wu J, Cornélissen G, Sanchez de la Peña S, Hayes DK. Feedsideward mechanisms coordinating hormone concentration: delta-rhythms. *Beltzville Symposia in Agricultural Research XII: Biomechanisms Regulating Growth and Development: Keys to Progress*, Beltzville, Maryland, May 3–7, 1987, abstract #20.
- 60 Halberg F, Wu J, Cornélissen G, Zheng T, Halberg F. Cephalo-cardiac interactions in chronobiologic perspective. In: *Proc. Heart & Brain/Brain & Heart: XV Tromsø Seminar in Medicine*, June 24–27, 1987, Tromsø, Norway, pp. 33–34.
- 61 Halberg F, Wu J, Sanchez de la Peña S, Halberg J, Cornélissen G, Marques N, Marques MD, Harvey J, Halberg E. Rhythm-scrambling (dissimilation) on simulated shift-schedules may be innocuous or beneficial. Abstract, 8th Int. Symp. on Night- and Shift-Work, Kraków, June 1987, p. 9.
- 62 Harvey J, Halberg F, Wu J, Cornélissen G. Circadian electrical skin resistance (ESR) & cardiovascular rhythms. *Chronobiologia* 1987; **14**: 183–184.
- 63 Lakatua D, Sanchez de la Peña S, Halberg F, Marques N, Wu J, Carandente F. Complementary circadian and circaseptan intermodulation in ACTH 1–17 effect upon adrenocortial function. *Chronobiologia* 1987; **14**: 58.
- 64 Lu M, Fu S, Halberg F, Zhang X, Yang S, Wu J, Ren G. Effects of acupuncture on mitotic index in rat tongue epidermis. *Chronobiologia* 1987; **14**: 198–199.
- 65 Sanchez de la Peña S, Halberg F, Cornélissen G, Wu J, Wood P, Hrushesky W, Eaton J. Circaseptan aspects of mouse malaria: agreement of original and new protochronanalyses with meta-chronanalyses. *Chronobiologia* 1987; **14**: 231.
- 66 Sanchez de la Peña S, Lakatua D, Wu J, Marques N, Halberg F. Circadian rhythmic corticosterone (B) production by aged stroke-prone spontaneously hypertensive (SHR-SP) rats. *Chronobiologia* 1987; **14**: 59–60.
- 67 Song X, Fu S, Halberg F, Wu J, Zhu S, Zhang X. Acupuncture effects on capillary diameters in rat hypothalamic nuclei. *Chronobiologia* 1987; **14**: 240–241.
- 68 Song X, Halberg F, Wu J, Lu Y, Huang S, Wei J, Fu L. Acupuncture effects on response of reduced glutathione in mouse liver to aconitine toxicity. *Chronobiologia* 1987; **14**: 241.
- 69 Sorice V, Maggioni C, Halberg F, Cornélissen G, Tarquini B, Mainardi G, Panero C, Cariddi A, Scarpelli P, Sanchez S, Wu J, Romano S, Haus E, Cagnoni M. Infradian postnatal structure of mean arterial blood pressure (MAP) & human cardiovascular disease risk. *Chronobiologia* 1987; **14**: 242.
- 70 Stoenien MD, Huang NK, Halberg F, Wu J, Tarquini B, Mainardi G, Panero C, Cariddi A, Sorice V, Scarpelli P, Romano S, Cagnoni M, Bingham C. Detection of neonatal cardiovascular disease risk by Bayesian classifier (BC). *Chronobiologia* 1987; **14**: 244–245.
- 71 Cornélissen G, Halberg F, Sanchez de la Peña S, Wu J, Carandente F. The need for both macroscopy and microscopy in dealing with spectral structure. *Chronobiologia* 1988; **15**: 323–327. (Comment on Powell EW. The master clock illusion. *Chronobiologia* 1988; **15**: 321–322.)
- 72 Getting B, Huang N, Halberg F, Wu J. Composite vs. constituent blood pressure and heart rate indices. *Chronobiologia* 1988; **15**: 266.
- 73 Halberg E, Jardetzky N, Halberg F, Soong LB, Wu J, Zhou S, Jardetzky O. Magnetic resonance spectroscopy of human circadian high-energy phosphorus metabolism reveals potential chrono-therapy marker. *Chronobiologia* 1988; **15**: 271–272.
- 74 Halberg F, Delmore P, Bakken E, Cornélissen G, Shinoda M, Tarquini B, Scarpelli PT, Sanchez de la Peña S, Wu JY, Halberg J, Halberg E, Germanó G, Cagnoni M. Chronobiologic blood pressure and heart rate assessment in clinical practice: today and tomorrow. Handout accompanying invited main lecture in Monte Carlo, Monaco, March 17, 1988, at 1st World Congress on Chronobiology.
- 75 Halberg F, Halberg J, Cornélissen G, Sanchez de la Peña S, Wu J, Halberg F, Halberg E. A glance at scope, tools, mechanisms, aims and promise of chronobiology. *Brain Dysfunction* 1988; **1**: 227–244.
- 76 Halberg J, Hillman D, Halberg F, Sanchez de la Peña S, Wu J, Halberg F. Systolic, mean arterial and diastolic blood pressure and heart rate infradians after schedule shifts. *Chronobiologia* 1988; **15**: 267.
- 77 Holte J, Christensen K, Wu J, Cornélissen G, Halberg F, Haus E. Cardiovascular monitoring during pregnancy complicated by diabetes. *Chronobiologia* 1988; **15**: 269.
- 78 Huang NK, Halberg F, Stoenien MD, Tsai A, Wu J. Entropy and high blood pressure risk. *Chronobiologia* 1988; **15**: 268–269.
- 79 Maggioni C, Halberg F, Wu J, Cornélissen G, Gargiulo M, Benzi G, Vanzulli A, Losito S, Mello M. Quantitative assessment of blood pressure peaking at odd times-circadian ephasia-during human pregnancy. *Chronobiologia* 1988; **15**: 268.
- 80 Maggioni C, Vanzulli A, Losito S, Benzi G, Cornélissen G, Wu J, Montalbetti N, Ognisanti F, Halberg F. Circannual blood pressure modulation separates healthy third-trimester pregnancy (H) from that associated with intrauterine growth retardation (R). Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, pp. 11–15.
- 81 Sanchez de la Peña S, Halberg F, Wetterberg L, Wu J, Dammacco F, Carandente F. Melatonin and cefodizime may broaden defense by blocking murine circadian hypothalamic and pituitary melatonin rhythms. *Chronobiologia* 1988; **15**: 273.
- 82 Sanchez de la Peña S, Wu J, Halberg F, Cornélissen G, Wetterberg L, Halberg E, Lakatua D, Marques N, Harvey J, Bazin H, Tran B, Carandente F. Immunomodulation by an antibiotic in malaria and aging: internal endocrine schedule-shift and chronopharmacologic feedsidewards. *Chronobiologia* 1988; **15**: 129–182.
- 83 Tarquini B, Halberg F, Wu J, Cornélissen G, Vergassola R, Romoli F, Sorice V, Mainardi G, Panero C, Cariddi A, Hurley P, Cagnoni M. Circannual modulation of circadian cardiovascular parameters in healthy full-term newborns. *Chronobiologia* 1988; **15**: 270.
- 84 Watanabe H, Tamura K, Wu J, Cornélissen G, Halberg F. Chronobiologic blood pressure and heart rate assessment in Japanese hospital staff. Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, pp. 5–6.
- 85 Wu J, Sanchez de la Peña S, Halberg F, Cornélissen G, Wetterberg L, Halberg E, Lakatua D, Bingham C, Harvey J, Bazin H, Zheng T, Leung B, Tran B. Chronosynergistic effects of lighting schedule-shift and cefodizime on plasmacytoma growth and host survival time. *Chronobiologia* 1988; **15**: 105–128.
- 86 Germanó G, Romeo F, Cornélissen G, Germanó U, Wu J, Ferrucci A, Milito U, Halberg F. Individuazione di un ritmo circadiano degli episodi di angina instabile. *Cardiologia* 1989; **34** (Suppl. 2 al n. 12): 69 (Poster n. 11).
- 87 Halberg E, Jardetzky N, Halberg F, Soong LB, Halberg F, Wu J, Zhou S, Jardetzky O. Magnetic resonance spectroscopy and ambulatory cardiovascular monitoring noninvasively gauge timing of phosphate metabolism and circulation. *Chronobiologia* 1989; **16**: 1–8.
- 88 Halberg F, Cornélissen G, Mainardi G, Tarquini B, Cugini P, Sitka U, Halberg E, Wu J, Weinert D, Schuh J, Kato J, Kato K, Tamura K. Niederfrequente Blutdruckrhythmen und der Kinderarzt. *der Kinderarzt* 1989; **20**: 1569–1574.
- 89 Halberg F, Cornélissen G, Wu J, Zachariah PK. Chronopharma-

- cologic individualized and group assessment of outcomes in antihypertensive drug trials. Proc. 2nd Ann. IEEE Symp. on Computer-Based Medical Systems, Minneapolis, June 26–27, 1989, Computer Society Press, Washington DC, 1989, pp. 253–259.
- 90 Halberg J, Halberg E, Cornélissen G, Wu JY, Sanchez de la Peña S, Hillman D, Zhou SL, Otto S, Halberg F. Cardiovascular rhythms, their adjustment to schedule change and shift work. Proc. 2nd Ann. IEEE Symp. On Computer-Based Medical Systems, Minneapolis, June 26–27, 1989. Washington DC: Computer Society Press, Wahington DC 1989, pp. 260–266.
- 91 Halberg J, Otto S, Halberg E, Wu J, Hillman D, Zhou S, Cornélissen G, Halberg F. Deviant blood pressure (BP) assessed parametrically and nonparametrically in police officers on street duty. *Chronobiologia* 1989; **16**: 139–140.
- 92 Hillman D, Halberg J, Zhou S, Wu J, Cornélissen G, Halberg F. Bounded hyperbaric index (HBI) for special use in shift workers. *Chronobiologia* 1989; **16**: 144.
- 93 Holte JE, Cornélissen G, Wu J, Halberg F. Representations of feed-sideward modulation. Proc. 2nd Ann. IEEE Symp. on Computer-Based Medical Systems, Minneapolis, June 26–27, 1989, Computer Society Press, Washington DC, 1989, pp. 170–183.
- 94 Johansson B, Widner H, Norrvig B, Wu J, Halberg F. Stroke incidence: circadian and circaseptan (about-weekly) variations in onset. *Chronobiologia* 1989; **16**: 148.
- 95 Lester B, Sanchez de la Peña S, Wu J, Halberg F. Chronoimmuno-modulation by cefodizime (CDZ) of the susceptibility of B6D2F1 mice to a melanoma B16 (MB16). *Chronobiologia* 1989; **16**: 154.
- 96 Maggioni C, Wu J, Cornélissen G, Vanzulli A, Losito S, Remazani A, Benzi G, Marino L, Candiani GB, Montalbetti N, Halberg F. Endocrine rhythms, intrauterine growth retardation (IUGR) and beta-mimetic effects upon circadian cortisol MESOR. *Chronobiologia* 1989; **16**: 159.
- 97 Montalbini M, Galvagno A, Follini S, Sanchez de la Peña S, Hillman DC, Wu J, Degioanni J, Kawabata Y, Kutyna F, Bungo M, Halberg F. Cardiovascular about-24-hour (circadian) and about-7-day (circaseptan) rhythms in human social isolation. Abstract, Health of Inner Cities and Urban Areas, International Conference, Cardiff, Wales, September 4–7, 1989, The Institute of Statisticians/SIRMCE, 1989, p. 101.
- 98 Sanchez de la Peña S, Halberg F, Galvagno A, Montalbini M, Follini S, Wu J, Degioanni J, Kutyna F, Hillman DC, Kawabata Y, Cornélissen G. Circadian and circaseptan (about-7-day) free-running physiologic rhythms of a woman in social isolation. Proc. 2nd Ann. IEEE Symp. on Computer-Based Medical Systems, Minneapolis, June 26–27, 1989. Washington DC: Computer Society Press, 1989 pp. 273–278.
- 99 Tamura K, Ishii H, Mukaiyama S, Sakurabayashi T, Fujimaki S, Scarpelli PT, Germano G, Wu J, Cornélissen G, Halberg F. Chronobiologic blood pressure and heart rate assessment in Japan as well as the USA and Italy. Abstract, Health of Inner Cities and Urban Areas, International Conference, Cardiff, Wales, September 4–7, 1989, The Institute of Statisticians/SIRMCE, 1989, p. 129.
- 100 Tamura K, Wu J, Cornélissen G, Halberg F. Comparison of two consecutive ambulatory 24-h blood pressure and heart rate profiles in Japanese hospital staff. *Chronobiologia* 1989; **16**: 189.
- 101 Tubau J, Wu J, Massie B, Halberg F. Circadian-ultradian analysis of antihypertensive effect (Rx) upon blood pressure (BP) and heart rate (HR). *Chronobiologia* 1989; **16**: 192.
- 102 Wrba H, Dutter A, Sanchez de la Peña S, Wu J, Carandente F, Halberg F. Secular or circannual immunomodulation of placebo (Pl) and melatonin (Mt) effects on murine breast cancer? *Chronobiologia* 1989; **16**: 197.
- 103 Wu J, Maggioni C, Vanzulli A, Losito S, Remazani A, Benzi G, Marino L, Candiani GB, Montalbetti N, Cornélissen G, Halberg F. Blood pressure (BP) and heart rate (HR) chronobiology during pregnancies with or without intrauterine growth retardation (IUGR). *Chronobiologia* 1989; **16**: 197–198.
- 104 Zhou S, Halberg J, Shinoda M, Yamaguchi M, Wu J, Wu B, Cornélissen G, Halberg F. Percentage circadian rhythm in harmonic models of increasing complexity applied to blood pressure (BP) and heart rate (HR). *Chronobiologia* 1989; **16**: 200.
- 105 Garcia L, Lodeiro C, Castro H, Gomez Bermudez MC, Barreiro M, Hermida RC, Sanchez de la Peña S, Hillman D., Wu J, Halberg E, Cornélissen G, Halberg F. Serum triglyceride rhythm alteration detected chronobiologically but not conventionally. *Chronobiologia* 1990; **17**: 167–168.
- 106 Halberg F, Bakken E, Cornélissen G, Halberg J, Halberg E, Wu J, Sanchez de la Peña S, Delmore P, Tarquini B. Chronobiologic blood pressure assessment with a cardiovascular summary, the sphygmochron. In: Meyer-Sabellek W, Anlauf M, Gotzen R, Steinfeld L (eds). *Blood Pressure Measurements*. Darmstadt, FRG: Steinkopff Verlag; 1990. p. 297–326.
- 107 Halberg F, Cornélissen G, Halberg J, Bakken E, Delmore P, Wu J, Sanchez de la Peña S, Halberg E. The sphygmochron for blood pressure and heart rate assessment: a chronobiologic approach. In: *Medical Monitoring in the Home and Work Environment*, Miles LE, Broughton RJ (eds), Raven Press, New York, 1990, pp. 85–98.
- 108 Halberg F, Marques N, Cornélissen G, Bingham C, Sanchez de la Peña S, Halberg J, Marques M, Wu J, Halberg E. Circaseptan biologic time structure reviewed in the light of contributions by Laurence K. Cutkomp and Ladislav Dérer. *Acta entomol bohemoslov* 1990; **87**: 1–29.
- 109 Halberg F, Otsuka K, Delmore P, Bakken E, Cornélissen G, Shinoda M, Tarquini B, Scarpelli PT, Sanchez de la Peña S, Wu J, Halberg J, Halberg E, Germano G, Cagnoni M. Clinical aspects of Holter blood pressure monitoring and Holter electrocardiography: chronobiological analyses and clinical significance of blood pressure and heart rate in general clinical practice. *Erekutoronikusu no Rinsho [Clinical Electronics]* 1990; **60**: 21–28. (In Japanese.)
- 110 Halberg F, Vecsei P, Wu J, Lange R, Ratajczak H, Thomas P, Hagen K, Robel P, Baulieu EE, Cornélissen G. Nonsense correlations or neuroendocrine chronoimmunomodulation by dehydroepiandrosterone (DHEA) and its sulfate (S). Abstract #341, 1st International Congress, ISNIM (4th Int. Workshop on Neuroimmunomodulation), Florence, May 23–26, 1990, p. 456.
- 111 Halberg JU, Halberg E, Cornélissen G, Hillman D, Sanchez de la Peña S, Wu J, Otto S, Halberg F. Chronobiologically deviant blood pressure in shift working police on metropolitan street duty. *Progress in Clinical and Biological Research* 1990; **341B**: 281–290.
- 112 Halberg J, Halberg E, Sanchez S, Wu J, Anderson SM, Hillman D, Cornélissen G, Halberg F. Blood pressure (BP) and heart rate (HR) chronobiology in shift working police officers vs. non-shift workers. *Chronobiologia* 1990; **17**: 170.
- 113 Jiang T, Zhang K, Li X, Shen J, Wu G, He Y, Wu J, Halberg F. Circadian parameters of murine liver glycogen rhythm gauge a "fortifier" consisting of 6 Chinese herbs. *Chronobiologia* 1990; **17**: 173–174.
- 114 Johansson BB, Norrvig B, Widner H, Wu J, Halberg F. Stroke incidence: circadian and circaseptan (about-weekly) variations in onset. *Progress in Clinical and Biological Research* 1990; **341A**: 427–436.
- 115 Lange R, Ratajczak H, Thomas P, Hagen K, Wu J, Halberg F. Circadian rhythms in expression of cell surface antigens of murine spleen cells. *Ann. Rev. Chronopharmacol.*, Proc. 4th Conf. Chronopharmacol., March 12–15, 1990, Vol. 7, Reinberg A, Smolensky M, Labrecque G (eds), Pergamon Press, Oxford, 1990, pp. 223–226.
- 116 Tamura K, Wu J, Cornélissen G, Halberg F. Agreement between consecutive ambulatory 24-hour blood pressure and heart rate profiles in Japanese hospital staff. *Progress in Clinical and Biological Research* 1990; **341A**: 263–272.
- 117 Tarquini B, Fernández JR, Wu J, Cornélissen G, Maggioni C, Maiardi G, Panero C, Hermida RC, Cagnoni M, Halberg F. Infradian, notably circannual, cardiovascular variation gauging effect of intrauterine exposure to β -adrenergic agonists. *Progress in Clinical and Biological Research* 1990; **341A**: 595–604.
- 118 Vecsei P, Wu J, Lange R, Ratajczak H, Thomas P, Hagen K, Cornélissen G, Halberg F. Rat brain dehydroepiandrosterone sulfate (DHEA-S), circulating corticosterone and estradiol, and spleen cell surface antigens. *Chronobiologia* 1990; **17**: 179–180.

- 119 Wilkinson M, Wu J, Williamson A, Zhang K, Cornélissen G, Halberg F. Longitudinally assessed multifrequency rhythms of visual symptoms (VS) of a nurse suffering from migraine during 4 years. *Chronobiologia* 1990; **17**: 181.
- 120 Wu B, Wu J, Cornélissen G, Halberg F. Circannual rhythm in response of renin release to calcium deprivation in isolated rat glomeruli. *Progress in Clinical and Biological Research* 1990; **341A**: 511–516.
- 121 Wu J, Cornélissen G, Tarquini B, Mainardi G, Cagnoni M, Fernández JR, Hermida RC, Tamura K, Kato J, Kato K, Halberg F. Circaseptan and circannual modulation of circadian rhythms in neonatal blood pressure and heart rate. *Progress in Clinical and Biological Research* 1990; **341A**: 643–652.
- 122 Han HW, Shao DL, Wu JY, Cornélissen G, Halberg F. Chronobiologic approach to beat-to-beat variations of cultured murine myocardial cells. *Cell Biophysics* 1991; **18**: 217–229.
- 123 Han HW, Shao DL, Wu JY, Cornélissen G, Haus E, Halberg F. Circasemidian, circadian and circasemiseptan chronome components of single murine myocardial cells beating in culture. In: Proc. XX Int. Conf. Chronobiol., Tel Aviv, Israel, June 21–25, 1991, p. 12.12.
- 124 Saito Y, Hillman D, Wu JY, Tamura K, Cornélissen G, Halberg E, Halberg F. Adjustment of familial chronome of blood pressure and heart rate after transmeridian flight. In: Proc. XX Int. Conf. Chronobiol., Tel Aviv, Israel, June 21–25, 1991, p. 3.16.
- 125 Tarquini B, Neri Serneri R, Cornélissen G, Wu JY, Halberg F. Circadian response pattern of thromboxane B2 to indobufen treatment. In: Proc. XX Int. Conf. Chronobiol., Tel Aviv, Israel, June 21–25, 1991, p. 15.24.
- 126 Wu JY, Johnson S, Halberg E, Hillman D, Cornélissen G, Halberg F. About-half-weekly (circasemiseptan) and about-yearly (circannual) aspects of sudden infant death syndrome (SIDS) in Minnesota. *Chronobiologia* 1991; **18**: 121–123.
- 127 Ratajczak HV, Lange RW, Sothern RB, Hagen KL, Vecsei P, Wu JY, Halberg F, Thomas PT. Surgical influence on murine immunity and tumor growth: relationship of body temperature and hormones with splenocytes. *Proc. Soc. exp. Biol. Med.* 1992; **199**: 432–440.
- 128 Singh RK, Mahdi AA, Singh AK, Bansal SK, Wu J, Zhou S, Halberg F. Circadian variation of human circulating cholesterol components on vegetarian and omnivorous diets in healthy Indians. *Indian J Clin Biochem* 1992; **7**: 185–192.
- 129 Watanabe Y, Asahi Y, Wu JY, Hillman D, Otsuka K, Cornélissen G, Halberg F. Circadian-infradian aspects of the human adult blood pressure and heart rate chronomes assessed longitudinally. In: Proc. Workshop on Computer Methods on Chronobiology and Chronomedicine, Tokyo, Sept. 13, 1990, Halberg F, Watanabe H (eds), Medical Review, Tokyo, 1992, pp. 233–244.
- 130 Haus E, Haus M Sr, Cornélissen G, Wu JY, Halberg F. A longitudinal view with 16,944 sets of self-measurements of the aging human circulation. In: Chronocardiology and Chronomedicine: Humans in Time and Cosmos, Otsuka K, Cornélissen G, Halberg F (eds), Life Science Publishing, Tokyo, 1993, pp. 99–102.
- 131 Mainardi GC, Wu JY, Cornélissen G, Tarquini B, Syutkina EV, Safin SR, Grigoriev AE, Yatsyk GV, Alvarez Seoane M, Garcia Alonso L, Halberg F. Gender differences in neonatal rhythm characteristics of blood pressure and heart rate. In: Chronocardiology and Chronomedicine: Humans in Time and Cosmos, Otsuka K, Cornélissen G, Halberg F (eds), Life Science Publishing, Tokyo, 1993, pp. 59–70.
- 132 Cornélissen G, Halberg F, Siegelova J, Wu J. The chronome of sudden infant death syndrome. Abstract, MEFA '95 Congress, Brno, Czech Republic, October 24–27, 1995, p. 11.
- 133 Siegelova J, Cornélissen G, Halberg F, Wu J. The changing chronome of sudden infant death syndrome (SIDS). *Scripta medica (Brno)* 1996; **67** (Suppl. 2): 71–76.
- 134 Anderson S, Cornélissen G, Halberg F, Scarpelli PT, Germanó G, Livi R, Scarpelli L, Cagnoni M, Holte J. Ultradian components as a function of age and gender in the human blood pressure spectrum. Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, pp. 9–10.
- 135 Ayala DE, Hermida RC, Halberg F. Linear-nonlinear rhythmometric parameter estimation of the incidence of giardiasis. Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, p. 34.
- 136 Cornélissen G, Halberg F, Cugini P, Scarpelli PT, Otsuka K, Maggioni C, Meis P, Croppi E, Livi R, Scarpelli L, Germanó G, Weber M, Drayer JIM, Cagnoni M. Circadian relations between blood pressure (BP) and heart rate (HR) in health, including pregnancy. Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, pp. 7–8.
- 137 Halberg J, Bakken E, Delmore P, Halberg Francine, Cornélissen G, Halberg E, Halberg F. The sphygmochron for chronobiologic blood pressure and heart rate assessment. Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, pp. 16–18.
- 138 Hermida RC, Halberg F. Toward breast cancer prevention by nonparametric estimation and testing of circadian endocrine markers of risk. Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, p. 36.
- 139 Hillman D, Otsuka K, Halberg F. Chronobiologic cardiovascular data inventory and the analysis of both edited and unedited data. Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, pp. 27–33.
- 140 Maggioni C, Vanzulli A, Losito S, Benzi G, Cornélissen G, Wu J, Montalbetti N, Ognisanti F, Halberg F. Circannual blood pressure modulation separates healthy third-trimester pregnancy (H) from that associated with intrauterine growth retardation (R). Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, pp. 11–15.
- 141 Otsuka K, Mukai F, Shiroma K, Watanabe H, Cornélissen G, Hillman DC, Halberg F. Circadian cardiovascular relations in patients wearing a pacemaker and/or in "hypertension". Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, pp. 3–4.
- 142 Sanchez de la Peña S, Halberg F, Cornélissen G, Halberg E, Kawasaki T, Scheving L, Woodward D, Schuman L, Lucas E, Hambley B, Kennedy B, Cardoso S, Ginn LJ, Spector NH, Farr L Circadian cardiovascular monitoring during a conference at high altitude and thereafter. Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, pp. 24–26.
- 143 Watanabe H, Tamura K, Wu J, Cornélissen G, Halberg F. Chronobiologic blood pressure and heart rate assessment in Japanese hospital staff. Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, pp. 5–6.
- 144 Wu B, Wu J, Zhou S, Halberg F. Metachronanalysis of circannual variation in a culture of gooseweed, *Lemna minor*, held for 43 months in LL. Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, pp. 19–20.
- 145 Wu J, Halberg F, Nomura T, Yamaguchi M, Iwata N, Weber M, Drayer JIM, Shinoda M. Intraindividual comparison for novelty effect of two "ambulatory" 24-hour blood pressure and heart rate profiles in healthy human adults. Abstract, 1st International Conference of Chronobiology and Chronomedicine, Chengdu, People's Republic of China, October 2–7, 1988, pp. 21–23.
- 146 Alvarez M, Fernandez Chavez O, Maggioni C, Granados D, Syutkina EV, Safin SR, Tarquini B, Cornélissen G, Halberg F. Long-term cardiovascular as well as putative neurologic effects of in utero exposure to betamimetics. Abstract #1, Asian Symposium of Chronobiology and Chronomedicine, Chengdu, China, March 24–29, 1991.
- 147 Johnson DE, Wang ZR, Wu JY, Cornélissen G, Rigatuso J, Coleman JM, Mammel M, Tamura K, Lussky R, Halberg F. Chronobiologic harbingers in prematurity of sudden infant death syndrome. Ab-

- stract, Asian Symposium of Chronobiology and Chronomedicine, Chengdu, China, March 24–29, 1991, p. 1.
- 148 Tamura K, Kato J, Kato K, Halberg F. Chronobiologic engineering to control essential hypertension as a life cycle disorder. Abstract #119, Asian Symposium of Chronobiology and Chronomedicine, Chengdu, China, March 24–29, 1991.
- 149 Akhmetov K, Zaslavskaya R, Teibloom M, Halberg F. Chronosensitivity to hypotensive drug in hypertensive patients. Keynote, 2nd Int. Symp. of Chronobiology and Chronomedicine, Shenyang, China, Sept. 28–Oct. 2, 1996, pp. 49–50.
- 150 Cornélissen G, Halberg F, Edmunds L. Multiseptan modulations of circadian cell division and cell settling patterns in Euglena. Abstract, 2nd Int. Symp. of Chronobiology and Chronomedicine, Shenyang, China, Sept. 28–Oct. 2, 1996, pp. 63–64.
- 151 Fiser B, Siegelová J, Cornélissen G, Dusek J, Al-Kubati M, Watanabe Y, Halberg F. Chronometanalysis of blood pressure data from drug tests. Keynote, 2nd Int. Symp. of Chronobiology and Chronomedicine, Shenyang, China, Sept. 28–Oct. 2, 1996. p. 53–54.
- 152 Gubin D, Gubin G, Cornélissen G, Madjirova N, Stoynev A, Ikonomov O, Halberg F. Circasemiseptan aspects of the aging human blood pressure (BP) and heart rate (HR) chronomes. Keynote, 2nd Int. Symp. of Chronobiology and Chronomedicine, Shenyang, China, Sept. 28–Oct. 2, 1996, pp. 42–43.
- 153 Siegelová J, Cornélissen G, Halberg F, Fiser B, Dusek J, Al-Kubati M, Machat R, Kumagai Y, Watanabe Y, Otsuka K. Self-starting cumulative sums for the individualized assessment of antihypertensive response and optimization by timing. Keynote, 2nd Int. Symp. of Chronobiology and Chronomedicine, Shenyang, China, Sept. 28–Oct. 2, 1996. p. 48.
- 154 Zaslavskaya R, Petukhova E, Halberg F, Teibloom M. Chronotherapy with propranolol of stenocardia patients with taking into account chronosensitivity to the drug. Keynote, 2nd Int. Symp. of Chronobiology and Chronomedicine, Shenyang, China, Sept. 28–Oct. 2, 1996, pp. 89–90.
- 155 Cornélissen G, Watanabe Y, Sothern RB, Grafe A, Bingham C, Halberg F. Dangers of correlation analyses assessing solar cycle stage-dependence of human blood pressure and heart rate. In: Proc. 3rd International Symposium of Chronobiology and Chronomedicine, Kunming, China, October 7–12, 1998. Chengdu, China: Chinese Society for Chronobiology and Chronomedicine; 1998. p. 143.
- 156 Halberg F. Season's appreciations 1997. In: Proc. 3rd International Symposium of Chronobiology and Chronomedicine, Kunming, China, October 7–12, 1998. Chinese Society for Chronobiology and Chronomedicine, Chengdu, China, 1998, pp. 4–15.
- 157 Halberg F, Cornélissen G. Chronoastrobiology. In: Proc. 3rd International Symposium of Chronobiology and Chronomedicine, Kunming, China, October 7–12, 1998. Chengdu, China: Chinese Society for Chronobiology and Chronomedicine; 1998. p. 128–142.
- 158 Halberg F, Cornélissen G, Xue ZN, Zhao ZY, Carandente F, Carandente O, Schwartzkopff O. Chronobiology, an evolving scientific discipline, and chronomedicine, a medical specialty. In: Proc. 3rd International Symposium of Chronobiology and Chronomedicine, Kunming, China, October 7–12, 1998. Chinese Society for Chronobiology and Chronomedicine, Chengdu, China, 1998, pp. 159–171.
- 159 Masalov A, Cornélissen G, Halberg F, Otsuka K, Syutkina EV, Zhao ZY, Delyukov A, Tarquini B. Rhythms, chaos, human heart rate variability and open-heart surgery: circaseptan and circasemiseptan amplification. In: Proc. 3rd International Symposium of Chronobiology and Chronomedicine, Kunming, China, October 7–12, 1998. Chinese Society for Chronobiology and Chronomedicine, Chengdu, China, 1998, p. 146.
- 160 Sothern RB, Cornélissen G, Bingham C, Watanabe Y, Grafe A, Halberg F. Solar cycle stage: an important influence on physiology that must not be ignored. In: Proc. 3rd International Symposium of Chronobiology and Chronomedicine, Kunming, China, October 7–12, 1998. Chengdu, China: Chinese Society for Chronobiology and Chronomedicine; 1998. p. 144.
- 161 Watanabe Y, Cornélissen G, Sothern RB, Nikityuk B, Bingham C, Grafe A, Halberg F. Numerical counterparts to sunspot cycles in human blood pressure and heart rate variability. In: Proc. 3rd International Symposium of Chronobiology and Chronomedicine, Kunming, China, October 7–12, 1998. Chengdu, China: Chinese Society for Chronobiology and Chronomedicine; 1998. p. 145.
- 162 Halberg F, Cornélissen G, Sanchez de la Peña S, Schwartzkopff O, Wall DG, Kysylyczyn J, Sarkozy S, Delmore P, Borer K, Otsuka K, Siegelova J, Homolka P, Dusek J, Fiser B. [Why and how to implement 7-day/24-hour blood pressure monitoring.] Addendum 1, Proceedings, 4th International Symposium of Chronobiology and Chronomedicine, Yantai, China, Oct. 7–14, 2000, 37 pp. [Translated into Chinese.]
- 163 Richardson JD, Paularena KI, Belcher JW, Lazarus AJ. Solar wind oscillations with a 1.3-year period. *Geophys Res Lett* 1994; **21**: 1559–1560.
- 164 Mursula K, Zieger B. Solar excursion phases during the last 14 solar cycles. *Geophys Res Lett* 1998; **25**: 1851–1854.
- 165 Cornélissen G, Masalov A, Halberg F, Richardson JD, Katinas GS, Sothern RB, Watanabe Y, Syutkina EV, Wendt HW, Bakken EE, Romanov Y. Multiple resonances among time structures, chronomes, around and in us. Is an about 1.3-year periodicity in solar wind built into the human cardiovascular chronome? *Human Physiology* 2004; **30** (2): 86–92.
- 166 Halberg F, Cornélissen G, Schack B, Wendt HW, Minne H, Sothern RB, Watanabe Y, Katinas G, Otsuka K, Bakken EE. Blood pressure self-surveillance for health also reflects 1.3-year Richardson solar wind variation: spin-off from chronomics. *Biomed Pharmacother* 2003; **57** (Suppl 1): 58s–76s.
- 167 Halberg F, Cornélissen G, Schack B. Self-experimentation on chronomes, time structures; chronomics for health surveillance and science: also transdisciplinary civic duty? *Behavioral and Brain Sciences*.