
SLTBR NEWSLETTER

Society for Light Treatment and Biological Rhythms

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Officers, Directors (), Committee Chairs:* Alfred J. Lewy*, M.D., Ph.D., *President*, Oregon Health Sciences University; Norman E. Rosenthal*, M.D., *President-Elect*, National Institute of Mental Health; Anna Wirz-Justice*, Ph.D., *Vice President*, Psychiatrische Universitaetsklinik Basel; Michael Terman*, Ph.D., *Secretary*, Newsletter Editor, New York State Psychiatric Institute; Carla J. Hellekson*, M.D., Fairbanks Psychiatric and Neurologic Clinic; Robert L. Sack, M.D., *Treasurer*, Oregon Health Sciences University; David Avery, M.D., *DSM-IV Liaison Committee*, Harborview Medical Center, Seattle; George C. Brainard, Ph.D., *Federal and Industrial Relations Committee*, Jefferson Medical College, Philadelphia; Charmane I. Eastman, Ph.D., *Membership Committee*, Rush-Presbyterian-St. Lukes Medical Center, Chicago; Daniel F. Kripke, M.D., *Annual Meeting Committee*, Veterans Administration Medical Center, San Diego; Leslie Powers, M.D., *Insurance Liaison Committee*, Columbia University, New York.

FINAL CALL FOR PAPERS AND PREREGISTRATION: SUMMER SOLSTICE MEETING

SLTBR members will meet at the National Institutes of Health in Bethesda, Maryland, on 21 June 1989. Abstracts are due by 22 April at Dr. Daniel Kripke's office (*cover sheet and information in this issue*). Morning sessions will feature research presentations, and afternoon sessions open committee forums on Federal and Industrial Relations, DSM-IV criteria for SAD, and Insurance Reimbursement. Any member who wishes to make a presentation at a committee forum should promptly contact the appropriate Committee Chair (*listed above*).

SLTBR membership is required of all attendees (*see item on membership categories, and application form*). Because of the meeting's location at NIH, Corporate Members are advised that there will be no commercial displays, nor distribution of commercial brochures. Such opportunities are available at the Association of Professional Sleep Societies (APSS) meeting in Washington, beginning 22 June. All members are advised of an APSS symposium on SAD, light treatment, and sleep, on 24 June.

Preregistration for the annual meeting is *very important* to help us determine room size and schedule.

Whether or not you present a paper, please mail your preregistration form (*attached*) to Dr. Kripke by 22 April. Other than the membership requirement, there will be no registration fee. Corporate Members may send *one* representative per membership; any additional representatives should arrange in advance for individual Associate Membership. For travel to our meeting at NIH, a campus map is attached.

THE DSM-IV DEBATE, CONTINUED

David L. Dunner, M.D., who is a member of the American Psychiatric Association's Work Group on Mood Disorders -- which is preparing for DSM-IV -- recently prepared a draft report assessing the status of seasonal criteria in DSM-III-R (American Psychiatric Association, 1987) and their prospects for revision. His report is abstracted below, followed by a response from Dr. Norman Rosenthal. The debate has just begun, and SLTBR members are urged to express their views in the open committee forum at the SLTBR annual meeting, as well as in writing to the Chair of our DSM-IV Liaison Committee:

Dr. David Avery, Dept. of Psychiatry, Harborview Medical Center, 325 Ninth Avenue, Seattle WA 98104. Tel 206-223-3425; Fax 206-223-3289 attn 3425.

SEASONAL PATTERN FOR DSM-IV

Seasonal pattern was added as a non-coded parenthetical mood descriptor for affective diagnoses in DSM-III-R. Questions posed by the APA Task Force on Mood Disorder for DSM-IV include: *a) What were the criteria for inclusion of this term in DSM-III-R and was the inclusion justified? b) Are there data to support or necessitate a change of these criteria?* Preparation of this report involved sending a request for comments to several investigators who had written on the subject of seasonal pattern or seasonal affective disorder. Their comments were then circulated to the same group for additional comments.

INCLUSION OF SEASONAL PATTERN IN DSM-III-R

The major data base for the inclusion of seasonal pattern in DSM-III-R apparently is the article by Rosenthal et al. (1984), describing seasonal affective disorder in 29 patients. This initial description has been confirmed in subsequent clinical studies by Rosenthal himself, Hellekson, Terman et al., and others. In general, researchers have used the criteria of Rosenthal et al. rather than DSM-III-R, but these are similar. The differences are not explainable on a data base. For example, *criterion A* refers to a 60 day period of the year for onset and *criterion B* to a 60 day period for remission. *Criterion C* requires three episodes in 3 separate years of which two were consecutive, and *criterion D* notes that seasonal episodes must outnumber nonseasonal episodes by more than 3 to 1. Furthermore, seasonal pattern can be a descriptor to bipolar disorder depressed, bipolar disorder not otherwise specified, major depression recurrent, and depressive disorder not otherwise specified. Seasonal pattern is apparently not included as a subcategory of cyclothymia or dysthymia.

CRITIQUE OF THE INITIAL DATA BASE

The original data base described seasonal pattern as occurring largely within the context of bipolar disorder and not unipolar mood disorders. There is some concern that DSM-III-R, by including this descriptor for depression NOS, has created a situation where any non-criterion-meeting mood disorder that happens to have a seasonal presentation could be included in research studies of the disorder. Secondly, the data base itself is one well-documented study which, however, had not been replicated at the time of inclusion of seasonal pattern in DSM-III-R. The family data reported were weak for the era of that type of study. In 1981, when the work by Rosenthal was carried out, family studies (rather than family history studies) were certainly an approved methodology. The symptoms reported, particularly hypersomnia, were supported by EEG studies. It is important to

know whether the patients were studied in the sleep lab during their most severe time or during a milder time (i.e., would some patients show insomnia if studied at other times during their depression?). The exclusion criteria were poorly developed in the Rosenthal study. Carbohydrate craving and hypersomnia are common features of other "atypical" depressions and yet no other kind of atypical depression was studied in parallel with the seasonal group. Atypical depressions have been reported to respond to monoamine oxidase inhibitors but a trial of MAO inhibitors in seasonal patients was not done.

One important question is whether seasonal affective disorder is a true illness. More recently Wehr et al. have reported a seasonal pattern with summer depression rather than winter depression, raising the possibility that the group included by Rosenthal et al. may be a subgroup of seasonal patients, some of whom have depressions beginning in the winter and some of whose depressions begin in the summer. Indeed, Rosenthal's data included patients with depression beginning in the fall.

The relationship of Seasonal Affective Disorder to other forms of atypical depression is also unclear. For example, Kupfer's group (Thase, Gilman, Jarrett, and Kupfer) has submitted preprints suggesting poor differentiation between SAD patients and other atypical patients and suggesting that a syndrome of atypical depression (reversed neurovegetative symptoms) might be the hallmark of such patients. This raises the question of how different forms of atypical depression relate to one another and to recurrent depression itself.

In summary, the clinical description is good given the limited number of the patients described. The family data derive from weak methodology. Laboratory data are of interest but are based on a small group of patients. Follow-up studies were of six months duration and 18 of 29 patients had the anticipated seasonal change (this reduction from 100% may be influenced by lithium or other treatment). Exclusion criteria were poorly thought through. Perhaps the most striking reason for including seasonal pattern in DSM-III-R was the notion that some patients might show a particular kind of therapeutic response, i.e. to bright light therapy. Numerous studies [see Terman et al. (1989) for review] have supported the notion that patients with winter depression and hypersomnia have a good response to morning light. Efficacy of light therapy at other times such as evening or midday is subject of considerable controversy. It is the committee's opinion that the term "seasonal pattern" was included in DSM-III-R without a sufficient data base.

INITIAL RESPONSE FROM THE FIELD

Fewer than five of the individuals asked to comment regarding seasonal pattern responded, and one of these indicated that he was satisfied with the current criteria. (Subsequently several more individuals commented and provided useful data; however, the response rate of the field was sluggish to say the least.) Thus, it would seem that the field at this point does not have sufficient interest (and data) to merit changing the criteria in DSM-III-R. However, some general comments about problems with the criteria and areas for future research might be relevant.

First, the criterion for a 60-day window at the beginning and at the end of the episode was apparently not based on Rosenthal's initial data and is not, in itself, data-based. Some of the respondents question the need for these criteria. It would seem that many clinicians do not take histories pertinent to the exact month of onset of an illness and that dating the onset of episodes occurring several years ago may be difficult for patients. If the 60-day window is to be changed to 90 days or deleted entirely (as some people have recommended), there should be a data set to support such change, probably best obtained by interviewing patients regarding the time of onset and remission of episodes over the previous 5 years. A data set from perhaps 100 patients from at least two centers is suggested.

A second issue is whether the terminology should be changed from "seasonal" to "winter." As a corollary, some investigators have questioned whether "seasonal" should be a subcategorization at all since some patients may have their onset at a particular month but not necessarily winter. Wehr has documented cases of summer depression for which the term "seasonal pattern" would be appropriate but "winter depression" would not. Data on the month of onset of recurrent depressions are lacking, and it is not clear whether selection has been biased toward patients with onset in the winter months. It is suggested that the field compare months of onset in seasonal and nonseasonal cases, for the bipolar-I, bipolar II, and unipolar subcategories. A change in terminology, however, does not yet seem warranted.

As a corollary, the notion of "winter depression" being a more useful term because of response to light therapy is of some pertinence. Probably the best data [see Terman et al.'s (1989) review] suggest that the best response to light therapy is in those winter depressives who have hypersomnia and are given morning light. Some patients respond to light at other times whether or not they have hypersomnia. Thus there is not a perfect correlation between **winter depression** and therapeutic response to bright

light therapy.

A third area of concern is the depression NOS, seasonal pattern. It is unclear what symptoms a person must have to qualify for the diagnosis of depression NOS. Therefore, depression NOS with a seasonal pattern may be applied to some individuals who are below threshold for illness but who receive a diagnostic label because of mood and energy change occurring in the winter. It is difficult to conceive of a person having a seasonal exacerbation of symptoms where the mood symptoms do not persist nearly every day for 2 weeks such that this person would not meet criteria for major depression. Furthermore, the original criteria from Rosenthal seemed to have been based on patients who met RDC criteria at least for depression. A worrisome thought is that, by including individuals who have seasonal pattern associated with depression NOS, non-ill individuals may be included thus confounding the data. It is recommended that the relationship of seasonal pattern to depression NOS be examined by determining the prevalence of such diagnoses at various centers and ascertaining why some patients did not meet criteria for major depression.

A fourth problem is the relationship of seasonal pattern, or SAD itself, to other forms of atypical depression. It would be useful to determine which patients with recurrent depression meet criteria for seasonal pattern, which ones meet criteria for atypical depression but not seasonal pattern, whether the response rate of the two groups to antidepressants is similar, and whether the response rate to light therapy is similar in the two groups.

A conservative approach to changes from DSM-III-R to DSM-IV requires that such changes be data-based. This creates a peculiar situation in which the addition of seasonal pattern to DSM-III-R was not data based but other criteria apparently were employed. Thus, by asking for data in order to change something that was in itself not data based we are putting the field into a bit of a "catch 22" position. However, it would seem reasonable that one committee's decision to make changes in the absence of data might be no better than another committee's or individual's decision to create a diagnosis in the absence of data. Thus, requiring that the field make input of data prior to making future changes seems to be the most prudent approach.

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SOME THOUGHTS ABOUT THE CLASSIFICATION OF SAD: RESPONSE TO DUNNER

In their classic article outlining the dimensions along which a syndrome needs to be defined in order to be regarded as a distinct category, Feighner et al. set out clinical history, delimitation from other syndromes, course, family history and laboratory investigations. They did not, however, state how many of these parameters need to be delineated -- and to what degree -- for a condition to be regarded as separate and apart from previously described conditions. This decision is left to committees and it seems that the current DSM committee has decided, albeit grudgingly, to retain the term "seasonal pattern" in its DSM-III-R form, as a descriptor of the different types of recurrent affective syndromes.

It seems to me that etiology and treatment should be given overriding importance in classification. Thus, for example, dementia resulting from pellagra would warrant a category separate from other types of dementia by virtue of its specific etiology and susceptibility to dietary treatment even though it can closely resemble other types of dementia, and even if, for argument's sake, it were not possible to measure niacin levels in the blood. A similar argument applies in the case of seasonal affective disorder, at least of the winter type. Its seasonality is clearly associated with diminished light in the winter; its reversibility by exposure to bright light seems well established. Quite apart from the light deficiency associated with winter, other forms of light deficiency also appear to be pathogenic for patients with SAD. Those working in the field recognize the light dependency of the condition: they curse the clear days that occur in the middle of a treatment study, thus confounding the week's Hamiltons; they are on the lookout for the sophisticated patient who manipulates his environmental light to avoid becoming depressed; they recognize the relapse that comes following a move to a windowless office or a string of cloudy days. This clear relationship to light should justify, even in the absence of distinct family histories and laboratory measures, separate classification in a field so weak on etiology.

And what about the face validity of the condition? Since its description in 1984 SAD has been recognized by growing numbers of workers in the U.S. and Europe. It is fair to say that no group in the temperate regions has looked for SAD patients and come away empty handed. On the contrary, clinics are burgeoning with such patients, and several centers have developed programs specifically geared to study and treat the disorder. SAD patients themselves have recognized their condition and clamored for

help. They have organized themselves into self-help groups -- NOSAD in the U.S., and SADA in Great Britain. They specifically wish to remain discrete from other patient groups in part because of their own belief in the distinctness of their condition.

But does classification matter, and do we need SAD -- or some variant of this term -- to be given a separate category? I would argue that it is and that we do. If for no other reason, it will help patients who claim reimbursement for their light fixtures by giving them a legitimate disease (with appropriate numerical code, please!) to put on their insurance forms. It will also help clinicians to be aware of the condition and foster research in SAD and light therapy.

In his report Dr. Dunner comments on the sluggish response by the field to his requests for data and on the dearth of actual data with direct bearing on the St. Louis classification system. To these legitimate complaints I believe that we who work in the areas of SAD and light should pay careful heed. So real, I believe, is the phenomenon of SAD that carefully guided research is bound to come up with sufficient data to justify separate classifications, if not in time for DSM-IV, then at least for IV-R or V. To this end I think it would be useful for the current APA committee for DSM-IV to outline those specific steps for us to take to delineate an acceptable syndrome. Then it will be over to us to collect and evaluate the data.

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LIGHT TREATMENT AND U.S. FEDERAL REGULATORY AGENCIES

SLTBR can have a positive influence on the course of decision-making concerning light therapy devices for SAD by educating the public and regulatory agencies about the safety and effectiveness of this treatment. In addition, SLTBR should develop guidelines for:

- a) effective use of light therapy for SAD and other conditions
- b) safe use of light therapy devices
- c) collection and analysis of evidence of clinical effectiveness
- d) development of devices for high intensity/short duration ("pulsed") light therapy

- e) good manufacturing practices
- f) good advertising practices

If SLTBR develops a consensus for such guidelines, the objectives of FDA very likely will be met. My opinion is that FDA's objectives are to:

- a) ensure that the device is safe
- b) ensure that the device is effective
- c) protect patients and other consumers from fraudulent claims

I also believe that there is a desire and willingness at FDA to facilitate the availability of safe and effective medical devices.

It appears to me that there are three primary groups that need to clearly state their objectives: *practitioners, patients and other consumers, and manufacturers*. Below are some of the likely objectives and policy issues that the various groups need to resolve.

PRACTITIONERS

- a) Availability of the device when needed by a patient
- b) Whether the apparatus should be available only by prescription and not over-the-counter (*OTC*)
- c) Reimbursement for the cost of the device to the patient
- d) Labeling to specify output parameters, such as spectral irradiance, UV-B irradiance, UV-A irradiance, and illuminance
- e) Whether directions for use of the device should be provided by supervising clinicians, rather than by the manufacturer
- f) Application of scientific data to the modification of output parameters to improve treatment efficacy
- g) The securing of profit from sales of the device by those practitioners who are investors in or owners of a manufacturing firm

PATIENTS AND OTHER CONSUMERS

- a) Availability of the lights for purchase
- b) Insurance reimbursement for cost of the device
- c) Assurance that the product meets output specifications
- d) Assurance of the product's safety
- e) Assurance of the product's effectiveness

MANUFACTURERS

- a) Securing profits from sales of the device
- b) Maximizing sales by distributing the device *OTC*
- c) Maximizing sales by advertising the device as a general prophylaxis for winter doldrums
- d) Maximizing sales by advertising the device as

effective in the treatment of a broad range of ailments, not only SAD

I believe these issues warrant thorough consideration by the members of our Society, and look forward to an active, constructive discussion at our annual meeting on 21 June.

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THE LIGHTS ARE ON IN SIBERIA

In October 1988 the Alaska-Siberian Medical Exchange sponsored a trip for ten Alaskan health scientists to meet with colleagues from the Siberian Medical Academy in Novosibirsk, USSR. Soviet interest in light therapy for shift work disorder, about which they have considerable expertise, was very high. The syndrome of SAD was new to their nosology, but subsequent clinical studies using light therapy have been begun based on information and literature discussed in the work sessions. We look forward to the results of their first 20 SAD patients when the Soviet delegation returns our visit, with further meetings to be held at University of Alaska in Anchorage.

Dr. Sergey G. Krivoshekov, Head of the Laboratory of Labor Physiology, works with hypothermia and circadian rhythm problems. His field work was in the Antarctic for four winters, and more recently in Spitzbergen, Norway. Drs. Krivoshekov, Hellekson, and Booker, a UAA medical sociologist, hope to initiate joint research on light therapy for shift work adaptation and adaptation to the polar winter night. The Alyeska Pipeline Company is cooperating by arranging a field trip to Prudhoe Bay, the northern oil pipeline terminus, as part of the Soviets' Alaskan visit. A second Soviet colleague, Dr. Arkaidy A. Putilov, Head of the Laboratory of Biorhythmology in the Institute of Physiology, will join in this work with his special interest in phase typing individuals as morning "larks" or evening "owls."

The major project proposed by this group of four scientists for the Alaska Siberian Medical Exchange is an expansion of the 1988 Fairbanks Work and Health Study ($n=310$) which showed prevalence of SAD at 8.9% and of sub-syndromal SAD at 19% using the criteria of Kasper et al. (1989; in Rosenthal and Blehar, 1989). The next project would be to examine

the epidemiology and to carry out clinical trials of light therapy of SAD in three Alaskan and three Siberian cities of corresponding latitudes. The Siberian scientists will also join us in a "Livable Winter Cities" Symposium where practical applications of light therapy will be discussed with architects and city planners from across Alaska and Canada. The SLTBR Board of Directors is delighted to welcome Drs. Krivoshekov and Putilov as members of our Society.

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BOOK REVIEW: SEASONAL AFFECTIVE DISORDERS AND PHOTOTHERAPY

Last summer a special issue of the *Journal of Biological Rhythms* was devoted to nine papers on SAD, chosen from a larger number presented at an NIMH workshop at Bethesda, Maryland. I remember thinking at the time that this issue would form the foundation for an excellent book and so I was delighted to find that Guilford Press had undertaken the task of publishing these nine and 11 other papers under one cover (Rosenthal and Blehar, 1989). As far as I know, this is the first book devoted exclusively to SAD, and the absence of any competition must make it the state-of-the-art SAD bible for clinician and scientist alike. [Another volume, however, edited by C. Thompson and T. Silverstone (1989) is soon also to appear.]

The book, prefaced by an introductory overview chapter by the two editors, is organized into four sections: *I) clinical aspects of SAD* (six chapters), *II) animal models* (four chapters), *III) seasonal changes in normal populations* (three chapters), and *IV) phototherapy* (six chapters). The sections, however, are not all-exclusive, and many of the chapters have overlapping sub-sections, but I did not find the contents particularly repetitive. Except for one chapter by the Swiss group, the 41 remaining authors are from North American institutions and nearly half of these come from various groups at NIMH. There is thus a fair degree of self-pollination which, in part, reflects the evolution of the area particularly with regard to therapeutic aspects. I would like to have seen a greater degree of cross-fertilization by inclusion, for example, the views of Aschoff or Gwinner on mechanisms of seasonal versus endogenous circannual rhythms in animal and human populations, and the views of Wurtman on carbohydrate metabolism and SAD. Nevertheless, I hasten to add

that despite the interdependence of authors, generally speaking, critical issues are not shirked; there is a true feeling of scientific inquiry, while a fascination for the disorder, and an optimism for unravelling its aetiology and underlying mechanisms comes through many of the writings.

If pressed for time I would recommend the reader to start with the first chapter (Introduction and Overview) by Blehar and Rosenthal, and the introduction to the last chapter written by Terman. Together, these form an excellent evaluatory guide to the book's contents. From there one can follow up on more specific aspects. I assume that the majority of the likely readers will be clinicians and the sort of questions they will be concerned with are: *a)* what is the most effective procedure for light therapy in terms of time of day, duration, intensity, and number of days exposure to artificial light? *b)* How effective is light therapy compared to conventional treatment for depression? *c)* To what extent is SAD a discrete clinical entity? *d)* Do SAD patients represent the extreme of a continuum of seasonal changes in physiological and psychological variables found in the normal population?

The first of these issues, the question of optimum time of day for light exposure, is the most controversial. Lewy et al. present their phase-typing hypothesis which states that the circadian system of SAD patients is phase-delayed during winter depression *relative* to when they are euthymic, and therefore exposure to morning light of high intensity (minimum 2500 lux) should phase-advance the system and bring about remission. This hypothesis makes perfect sense from a chronobiological standpoint and is supported by Lewy et al.'s own findings; and yet Rosenthal et al. in their chapter on light therapy report that light exposures are as efficacious in midday or evening as they are in the morning. One has to turn to Terman's chapter for the umpire's decision; based on pooled data from several investigators, the current wisdom is that morning light exposure is superior but that light can have beneficial effects at any time of the day. In assessing such findings, it is important to attend to baseline Hamilton rating scores, the size of the posttreatment change (is it clinically meaningful?), the rapidity of the response, as well as whether the response is above the placebo range found in other antidepressant therapies (many light therapy studies have no adequate controls). The book is well supplied with tables and figures so that a reasonable preliminary evaluation of data can be made without going to the original journal articles.

The diagnostic criteria, phenomenology, demography and epidemiology of SAD are covered in part

in many of the chapters but are specifically dealt with by Hellekson in describing the large Alaskan study, Sonis in reviewing childhood and adolescent SAD (*SAD-CA*), and Thase in comparing SAD with other forms of recurrent depression. The consensus of opinion that one forms from these chapters is that SAD is a distinct form of recurrent affective disorder. Furthermore, Kasper et al. argue that normals do not benefit from light therapy unless they turn out to have subsyndromal SAD (*S-SAD*). However, the concept of a discrete syndrome starts to be blurred by such findings as those of Kripke et al. that non-seasonal major depressives may also benefit from light therapy and Wehr et al.'s descriptions of seasonal patterns of summer depression which may respond to cold exposure therapy. Lacoste and Wirz-Justice provide an extensive review on seasonality in the normal population (psychological variables, sleep, nutrition, thermoregulation, autonomic function, neuroendocrine axis, CNS monoamines) and this together with the conclusions drawn independently by Depue et al. and Terman reinforces the concept of SAD being the pathological extreme of a continuum in the population at large. It is against this background that one should evaluate the validity of the DSM-III-R criteria (Spitzer and Williams).

Concerning the utility of animal models, one should read Zucker's superb chapter first; in it he assesses the face, predictive, and construct validity of animal models of depression. Both Zucker and Mrosovsky (in his chapter) underline that there can be no animal model of SAD but that specific aspects of the syndrome such as seasonal weight gain and inertia can be studied in animals and have heuristic value. It is from this limitation that one should evaluate the animal work: hibernation (Mrosovsky), seasonal changes in hamster body weight, and metabolism (Wade), the circadian basis for photoperiodism (Pittendrigh), hypothalamic noradrenergic and serotonergic mechanisms (Lacoste and Wirz-Justice), and the "dopamine mediated behavioral facilitation system" (Depue et al.). The human evidence for any monoamine and catecholamine involvement is covered in these last two chapters, as well as others (e.g., Jacobsen et al.), while Skwerer et al. review changes in immune function, the endocrine system, and other biological parameters after light therapy.

Finally, I should like to recommend Wehr's fascinating account (the first chapter) of the history of the area, in which he makes it clear that seasonality has been a pivotal theme in writings on mania and melancholy for over 2,000 years and that light therapy is equally steeped in antiquity. It is only modern psychiatry that is unaware of seasonality: Galen, Hippocrates, Thomas Willis, Robert Burton, Pinel and Kraepelin, to name a few, would not find the title of

Rosenthal and Blehar's book novel. I suspect that they would have liked to own a copy and that you will too.

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NCDEU WORKSHOP IN MAY

A workshop on the identification, assessment, and treatment of SAD will be held on 30 May 1989 at the 29th annual meeting of the New Clinical Drug Evaluation Unit in Key Biscayne, Florida, under NIMH sponsorship.

It is organized by Dr. Mary Blehar of the Mood, Anxiety, and Personality Disorders Research Branch, NIMH. She, along with Drs. Rosenthal, Terman, and Wehr, will discuss issues including the strength of evidence of efficacy of light therapy, methods of use, assessment measures, and similarities and differences between clinical trials of light and traditional pharmacological treatment.

The meeting lasts till 2 June, and there is no registration fee. For further information, contact *Ms. Elaine G. Pearl, 5600 Fishers Lane, Room 10C-06, Rockville MD 20857. Tel 301-443-3524.*

SELECTED REFERENCES

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BULLETIN BOARD

Members are invited to post brief position announcements in the Newsletter, at no charge.

Faculty positions at the junior or senior level are available in the Human Alertness Center of the Institute for Circadian Physiology, in the areas of circadian physiology, sleep-wake physiology, human performance, or ergonomics/human factors. Applicants should show a record of outstanding research accomplishment. Contact *Scott Campbell, Ph.D., Institute of Circadian Physiology, 677 Beacon Street, Boston MA 02215. Tel 617-247-4900.*

Postdoctoral position in areas of light therapy for SAD, shift-work adjustment, and sleep-wake physiology. Previous experience with concepts and techniques of biological rhythm research. Start immed. Contact *Charmane Eastman, Ph.D., Rush-Presbyterian-St. Luke's Medical Center, 1653 West Congress Pkwy., Chicago IL 60612-3864. Tel 312-942-4472; MCI Mail 363-7775; Fax 312-942-2387 attn 2-8328.*

Postdoctoral position for M.D. or Ph.D. available early 1990 in the area of biological rhythms, basic and applied research, within NIMH-funded psychobiology training grant at Columbia University/NYS Psychiatric Institute. Program emphasizes integration of animal model and clinical approaches to study of underlying mechanisms of disease. Seminars cover breadth of faculty interest, including developmental psychobiology, aggression, feeding disorders, psychosexual differentiation, timing processes. Requires U.S. citizenship or perm. resid. Contact *Michael Terman, Ph.D., New York State Psychiatric Institute, Box 50, 722 West 168th Street, New York NY 10032. Tel 212-960-5712; MCI Mail 308-7099; BITNET Terman@NYSPI; Fax 212-960-2584.*

CALL FOR MEMBERS

The success of our Society depends on an active and supportive membership. If you find these newslet-

ters interesting and relevant, and our tasks at hand important, then please join us officially by filling out the membership application at the back of this issue and sending it with your check and other materials as requested. Benefits of membership include: *a)* receiving the Newsletter on a regular basis; *b)* posting notices on the Newsletter Bulletin Board without fee, and listing papers in press; *c)* discounted registration for annual meetings; *d)* participation in SLTBR committees; *e)* presenting research at annual meetings; *f)* joining our active international dialogue and debate; as well as the obvious intangibles.

Membership categories include:

Regular (\$60/year) -- for researchers with Ph.D., M.D., or equivalent degree who are actively working in the field of bright light treatment or biological rhythms. Only regular members have voting privileges. The Board of Directors will vote on applications for regular membership.

Associate (\$30/year) -- for any interested persons such as scientists in other fields, clinicians, patients.

Student (\$10/year) -- for students pursuing an advanced degree and engaged in research related to bright light treatment or biological rhythms. Anyone holding an M.D., Ph.D. or comparable degree is not eligible for student membership, i.e., postdoctoral fellows, residents.

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