

**BY-LAWS  
OF  
INTERNATIONAL SOCIETY OF BONE MORPHOMETRY, INC.**

**ARTICLE I  
Offices**

1.1 Principal Office. The principal office of the International Society of Bone Morphometry, Inc. (the "Corporation") in the Commonwealth of Kentucky shall be located in the City of Versailles. The Corporation may have such other offices, either within or outside the Commonwealth of Kentucky, as the Board of Directors of the Corporation may deem advisable from time to time

1.2 Registered Office. The registered office of the Corporation may be, but need not be, identical with its principal office in the Commonwealth of Kentucky. The address of the registered office may be changed from time to time by the Board of Directors.

**ARTICLE II  
Capital Shares**

2.1 No Capital Shares. The Corporation shall have no capital shares or shareholders, and its business and affairs shall not be conducted for private pecuniary gain or profit, nor shall any of its gain, profit, or property inure to the incorporators thereof, nor to any officer or director thereof, except as otherwise provided in Section (2) (a) of ARTICLE II of the Corporation's Articles of Incorporation with respect to compensation for services rendered, but the entire gain, profit, net earnings, and property of the Corporation shall be devoted exclusively to the charitable and other uses and purposes set out in ARTICLE II of its Articles of Incorporation.

**ARTICLE III  
Members**

3.1 Membership. All registrants at the International Bone Morphometry Congress in 1996 shall be Members of the Corporation until the next International Bone Morphometry Congress. Thereafter, the registrants at each International Bone Morphometry Congress shall be Members until the following Congress. The membership fee will be paid by virtue of paying the registration fee for an International Bone Morphometry Congress.

3.2 Voting. Except as to matters specifically delegated to others in these By-Laws, each Member shall have one vote in matters of the Corporation. Written proxies granting voting rights shall be permitted.

3.3 Quorum. One-tenth of the Members shall constitute a quorum for the transaction of business at any meeting of the Members, provided that, if less than a quorum of Members are present at said meeting, a majority of the Members present may adjourn the meeting from time to time without further notice.

3.4 Manner of Acting. The act of a majority of the Members present at a meeting at which a quorum is present shall be the act of the Members, except as otherwise provided by law, by the Corporation's Articles of Incorporation, or by these By-Laws.

3.5 Annual Meetings. The Members shall hold their annual meeting at the Corporation's International Bone Morphometry Congress, or such other place as the Board of Directors may designate. The annual meeting need not take place in years in which there is no such Congress. The purpose of such meetings shall be the election of directors as set forth in Section 4.2 hereof and the transaction of such other business as may properly come before it. At least thirty (30) days (but not more than six hundred (600) days) prior written notice, given personally, or by mail or telegraph of the annual meetings shall be given. Such notice shall state the time, place and purposes of such meeting.

3.6 Special Meetings. The Members shall hold a special meeting whenever called by a majority of the Members, the President, or the Board of Directors. A special meeting may be called on at least thirty (30) days (but not more than six hundred (600) days) prior written notice, given personally, or by mail or telegraph. Notice shall state the time, place and purpose of the meeting.

3.7 Meetings by Consent. If all Members shall meet at any time and place and they consent in writing to a holding of a meeting, such meeting shall be valid without call or notice. At such a meeting any corporate action may be taken.

3.8 Meetings; Chairman and Secretary. At all meetings of the Members, the Chairman of the Board of Directors shall act as Chairman and the Secretary of the Corporation shall act as Secretary, except that if either or both of them shall be absent, a Chairman or Secretary, or both may be chosen at the meeting.

## **ARTICLE IV** **Directors**

4.1 General Powers. The business affairs of the Corporation shall be managed by its Board of Directors.

4.2 Number, Tenure and Qualifications. The Board of Directors shall consist of not less than three (3) individuals, and until otherwise changed by an amendment to these By-Laws shall consist of eight (8) individuals. Each director (other

than the initial Board of Directors and any director who is an officer of the Corporation) shall be elected by the Members. The officers of the Corporation shall always serve as Class I directors. Drs. Meunier, Parfitt and Melsen are Class II directors and their directorships shall serve until the first International Bone Morphometry Congress following the 1996 Congress and shall be up for election at such Congress and again at every other Congress thereafter. Drs. Takahashi, Faugere and Recker are Class III directors and their directorships shall serve until the second International Bone Morphometry Congress following the 1996 Congress and shall be up for election at such Congress and again at every other Congress thereafter. The directors need not be residents of the Commonwealth of Kentucky. Each director elected by the Members shall be eligible for one (1) successive reelection.

4.3 Removal and Resignations. At a meeting of the Board of Directors called expressly for that purpose, any director may be removed for good cause by a vote of a majority of the directors. Any member of the Board of Directors may resign from the Board of Directors at any time by giving written notice to the President or Secretary of the Corporation, and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

4.4 Annual and Regular Meetings. An annual meeting of the Board of Directors shall be held at the Corporation's International Bone Morphometry Congress, or such other place as the President may direct upon at least ten (10) days' prior notice in writing, given personally, or by mail, a telegram or fax to all of the directors of the Corporation for the purpose of electing officers and the transaction of such other business as may properly come before the meeting. The annual meeting need not take place in years in which there is no such Congress. The Board of Directors may provide by resolution the time and place, either within or outside the Commonwealth of Kentucky, for the holding of regular meetings without other notice than such resolution.

4.5 Special Meetings. Special meetings of the Board of Directors may be called by, or at the request of, the President of the Corporation, the chief executive officer of the Corporation, or any two directors of the Corporation. All special meetings of the Board of Directors shall be held at the principal office of the Corporation or such other place as may be specified in the notice of the meeting.

4.6 Notice. Notice of any special meetings shall be given at least thirty (30) days' prior thereto by written notice delivered personally or mailed to each director at his business address, or by telegram or fax. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail in a sealed envelope so addressed, with postage prepaid. If notice be given by telegram, such notice shall be deemed to be delivered when the telegram is delivered to the telegraph company. If notice be given by fax, such notice shall be deemed to be delivered when receipt of the fax is confirmed by return fax or other writing signed by the intended recipient. Any director may waive notice of any meeting. The attendance of a director at any meeting shall constitute a waiver of notice of such meeting, except where a director attends a meeting for the express purpose of objecting to the transaction of any business because

the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the Board of Directors need be specified in the notice or waiver of notice of such meeting.

4.7 Quorum. A majority of the number of directors fixed by these By-Laws shall constitute a quorum for the transaction of business at any meeting of the Board of Directors, provided, if less than a majority of the directors are present at said meeting, a majority of the directors present may adjourn the meeting from time to time without further notice.

4.8 Manner of Acting. The act of the majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors, unless otherwise required by the Articles of Incorporation or these By-Laws.

4.9 Vacancies. Any vacancy occurring in the Board of Directors may be filled by the affirmative vote of a majority of the remaining directors though less than a quorum of the Board of Directors. A director elected to fill a vacancy shall be elected for the unexpired term of such director's predecessor in office.

4.10 Compensation. By resolution of the Board of Directors each director may be paid such director's reasonable expenses, if any, of attendance at each meeting of the Board of Directors, and may be paid a reasonable state annual stipend as director or a reasonable fixed sum for attendance at each meeting of the Board of Directors. No such payment shall preclude any director from serving the Corporation in any other capacity and receiving reasonable compensation therefor.

4.11 Action by Written Consent. Any action required or permitted to be taken by the Board of Directors at a meeting may be taken without a meeting if a consent in writing, setting forth the action so taken, shall be signed by all of the directors.

4.12 Chairman of the Board. The Board of Directors may appoint one of its members as Chairman of the Board of Directors. Unless otherwise appointed by the Board of Directors, the Treasurer shall serve as the Chairman of the Board of Directors.

## **ARTICLE V** **Officers**

5.1 Classes. The officers of the Corporation shall be a President, a Vice President, a Secretary and a Treasurer, each of whom (except the Vice President under normal circumstances) shall be elected by the Board of Directors. Such other officers and assistant officers as may be deemed necessary may be elected or appointed by the Board of Directors. Any two or more offices may be held by the same person (except the offices of President and Vice President shall not be held simultaneously by the same person).

5.2 Election and Term of Office. The officers of the Corporation (except the Vice President under normal circumstances) shall be elected by the Board of Directors at the Corporation's International Bone Morphometry Congress. If the election of officers shall not be held at any such Congress, such election shall be held as soon thereafter as is practicable. The Vice President shall to the greatest extent possible always be the immediate past President. Vacancies may be filled or new offices created and filled at any meeting of the Board of Directors. Each officer shall hold office until such officer's successor shall be duly elected at the following International Bone Morphometry Congress (or as set forth above) or until such officer's death or until such officer shall resign or shall have been removed in the manner hereinafter provided.

5.3 Removal and Resignations. Any officer or agent elected or appointed by the Board of Directors may be removed by the Board of Directors whenever, in its judgment, the best interests of the Corporation would be served thereby, but such removal shall be without prejudice to the contract rights, if any, of the person so removed. Election or appointment of an officer or agent shall not of itself create contract rights. Any officer of the Corporation may resign at any time by giving written notice to the President or Secretary of the Corporation, and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

5.4 Vacancies. A vacancy in any office because of death, resignation, removal, disqualification or otherwise may be filled by the Board of Directors for the unexpired portion of the term.

5.5 Chairman of the Board of Directors. The Chairman of the Board of Directors may, at the discretion of the Board of Directors, be the chief executive officer of the Corporation and, if such, shall, in general, supervise and control the affairs and business of the Corporation, subject to control by the Board of Directors. The Chairman of the Board shall preside at all meetings of the Board of Directors.

5.6 President. In the absence of the Chairman of the Board of Directors, the President shall preside at all meetings of the Board of Directors. The President may sign any deeds, mortgages, bonds, contracts or other instruments which the Board of Directors has authorized to be executed, except in cases where the signing and execution thereof shall be expressly delegated by the Board of Directors or by these By-Laws to some other officer or agent of the Corporation, or shall be required by law to be otherwise signed or executed. The President shall, in general, perform all duties incident to the office of President and such other duties as may be prescribed by the Board of Directors from time to time. Unless otherwise ordered by the Board of Directors, the President shall have full power and authority on behalf of the Corporation to attend, act and vote at any meetings of shareholders of any corporation in which the Corporation may hold stock, and at any such meeting shall hold and may exercise all rights incident to the ownership of such stock which the Corporation, as owner, would

have had and exercised if present. The Board of Directors may confer like powers on any other person or persons.

5.7 Vice President. In the absence of the President, or in the event of this inability or refusal to act, the Vice President shall perform the duties of the President and when so acting shall have all the powers of and be subject to all the restrictions upon the President. The Vice President shall perform such other duties as from time to time may be assigned to such Vice President by the President or by the Board of Directors.

5.8 Treasurer. The Treasurer shall have charge and custody of and be responsible for all funds and securities of the Corporation; receive and give receipts for monies due and payable to the corporation from any source whatsoever, and deposit all such monies in the name of the Corporation in such banks, trust companies and other depositories as shall be selected in accordance with the provisions of Section 6.4 hereof; and, in general, perform all the duties incident to the office of Treasurer and such other duties as from time to time may be assigned to the Treasurer by the Chairman of the Board (if different), the President or the Board of Directors. If required by the Board of Directors, the Treasurer shall give a bond for the faithful discharge of such Treasurer's duties in such sum and with such surety or sureties as the Board of Directors shall determine.

5.9 Secretary. The Secretary shall (i) keep the minutes of the meetings of the Board of Directors in one or more books provided for that purpose; (ii) see that all notices are duly given in accordance with the provisions of these By-Laws or as required by law; (iii) be custodian of the corporate records and of the seal, if any, of the Corporation (iv) keep a register of the mailing address of each director; (v) in general, perform all duties incident to the office of Secretary and such other duties as from time to time may be assigned to the Secretary by the Chairman of the Board (if different), the President or the Board of Directors.

5.10 Assistant Treasurers and Assistant Secretaries

(a) The Assistant Treasurer, if that office be created and filled, shall, if required by the Board of Directors, give bond for the faithful discharge of the Assistant Treasurer's duties in such sum and with such surety as the Board of Directors shall determine.

(b) The Assistant Treasurers and Assistant Secretaries, in general, shall perform such additional duties as shall be assigned to them by the Treasurer or the Secretary, respectively, or by the Chairman of the Board, the President or the Board of Directors.

5.11 Compensation. The compensation of the officers of the Corporation shall be fixed from time to time by the Board of Directors, and no officer shall be prevented from receiving such compensation by reason of the fact that he is also a

director of the Corporation; provided, however, if any compensation is paid to any officer of the Corporation, the amount of such compensation shall not exceed such amount as is reasonable under all of the facts and circumstances.

## **ARTICLE VI** **Contracts, Loans, Checks and Deposits**

6.1 Contracts. The Board of Directors may authorize any one or more officers or agents to enter into any contract and execute and deliver any instruments in the name of and on behalf of the Corporation. Such authority may be general or confined to specific instances.

6.2 Loans. No loans shall be contracted on behalf of the Corporation, and no evidences of indebtedness shall be issued in the Corporation's name, unless authorized by a resolution of the Board of Directors. Such authority may be general or confined to specific instances.

6.3 Checks, Drafts, Etc. All checks, drafts or other orders for the payment of money, notes or other evidences of indebtedness issued in the name of the Corporation shall be signed by such one or more officers or agents of the Corporation and in such manner as shall, from time to time, be determined by resolution of the Board of Directors.

6.4 Deposits. All funds of the Corporation not otherwise employed shall be deposited, from time to time, to the credit of the Corporation in such banks, trust companies and other depositories as the Board of Directors may select.

## **ARTICLE VII** **Executive and Other Committees**

7.1 Executive Committee. The Board of Directors, by resolution adopted by a majority of the full Board, may designate from among its members an Executive Committee consisting of at least two (2) directors.

(a) Authority. When the Board of Directors is not in session, the Executive Committee shall have and may exercise all of the authority of the Board of Directors, except to the extent, if any, that such authority shall be limited by the resolution appointing the Executive Committee, and except also that the Executive Committee shall not have the authority of the Board of Directors in reference to amending, altering or repealing these By-Laws, appointing or removing any member of the Executive Committee or any director or officer of the corporation, amending the Articles of Incorporation, restating the Articles of Incorporation, adopting a plan of merger or consolidation with another corporation, authorizing the sale, lease, exchange or mortgage of all or substantially all of the property and assets of the Corporation,

authorizing the voluntary dissolution of the Corporation or a revoking proceedings therefore, adopting a plan for the distribution of the asset of the Corporation, or amending, altering or repealing any resolution of the Board of Directors which by its terms provides that it shall not be amended, altered or repealed by the Executive Committee.

(b) Tenure and Qualifications. Each member of the Executive Committee shall hold office until the next regular meetings of the Board of Directors following such Executive Committee member's designation and until such Executive Committee member's successor shall be duly designated and qualified.

(c) Meetings. Regular meetings of the Executive Committee may be held without notice at such times and places as the Executive Committee may fix from time to time by resolution. Special meetings of the Executive Committee may be called by any member thereof upon not less than one (1) day's notice stating the place, date and hour of the meetings, which notice may be written or oral, and if mailed shall be deemed to be delivered when deposited in the United States mail, postage prepaid, and addressed to the Executive Committee member at such Executive Committee member's business address. Any member of the Executive Committee may waive notice of any meetings and no notice of any meeting need be given to any Executive Committee member thereof who attends in person. The notice of a meeting of the Executive Committee need not state the business proposed to be transacted at the meeting.

(d) Quorum. A majority of the members of the Executive Committee shall constitute a quorum for the transaction of business at any meeting thereof. Action of the Executive Committee must be authorized by an affirmative vote of a majority of the Executive Committee members present at a meeting at which a quorum is present.

(e) Action Without a Meeting. Any action required or permitted to be taken by the Executive Committee at a meeting may be taken without a meeting if a consent in writing, setting forth the action so taken, shall be signed by all of the members of the Executive Committee.

(f) Vacancies. Any vacancy in the Executive Committee may be filled by a resolution adopted by a majority of the full Board of Directors.

(g) Resignations and Removal. Any member of the Executive Committee may be removed at any time, with or without cause, by resolution adopted by a majority of the full Board of Directors. Any member of the Executive Committee may resign from the Executive Committee at any time by giving written notice to the President or Secretary of the corporation, and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

7.2 Other Committees. The Board of Directors, by resolution adopted by a majority of the full Board, may designate from among its members such others

committees as from time to time it may consider necessary or appropriate to conduct the affairs of the Corporation, each of which committees shall consist of at least two (2) directors of the Corporation. Each such committee shall have such power and authority as the Board of Directors may, from time to time, legally establish for it. The tenure and qualifications of the members of each committee; the time, place and organization of such committee's meetings; the notice required to call any such meeting; the number of members of each such committee that shall constitute a quorum; the affirmative vote of the committee members required effectively to take action at any meeting at which a quorum is present; the action that any such committee can take without a meeting; the method in which a vacancy among the members of such committee can be filled and the procedures by which resignations and removals of members of such committees shall be acted upon or accomplished shall be fixed by the resolution adopted by the Board of Directors relative to such matters.

## **ARTICLE VIII** **Emergency By-Laws**

8.1 Adoption of Emergency By-Laws. Subject to the provisions of Section 9.7 hereof, the provisions of Section 8.2 hereof shall be operative during any emergency in the conduct of the business of the Corporation resulting from an attack on the United States or on a locality in which the Corporation conducts its business or customarily holds meetings of its Board of Directors, or during any nuclear or atomic disaster, or during the existence of any catastrophe, or other similar emergency condition, as a result of which a quorum of the Board of Directors, or a standing committee thereof, cannot readily be convened for action, notwithstanding any different provision of these By-Laws (except Section 9.7 hereof which shall remain operative at all times), the Articles of Incorporation of the Corporation, or Kentucky law. To the extent not inconsistent with the provisions of this Article, the By-Laws provided in the other Articles hereof shall remain in effect during such emergency and upon its termination, the Emergency by-Laws shall cease to be operative.

### 8.2 Provisions of Emergency By-Laws.

(a) A meeting of the Board of Directors of the Corporation may be called by any officer or director of the Corporation. Notice of the time and place of the meeting shall be given by the person calling the meeting to such of the directors, as may be applicable, as it may be feasible to reach by any available means of communication. Such notice shall be given at such time in advance of the meeting as circumstances permit in the judgment of the person calling the meeting.

(b) The director or directors in attendance at the meeting shall constitute a quorum.

(c) The Board of Directors, either before or during any such emergency, may provide, and from time to time modify, lines of succession in the event

that during such an emergency, any or all officers or agents of the Corporation shall, for any reason, be rendered incapable of discharging their duties.

(d) The Board of Directors, either before or during any such emergency, may effective in the emergency, changed the head office or designate several alternative head offices or regional offices, or authorize the officers to do so.

(e) No officer, director or employee acting in accordance with these Emergency By-Laws shall be liable for such action, except for willful misconduct. No officer, director or employee shall be liable for any action taken by such person in good faith in such an emergency in furtherance of the ordinary business affairs of the Corporation, even though not authorized by the By-Laws then in effect.

8.3 Changes in Emergency By-Laws. These Emergency By-Laws shall be subject to repeal or change by further action of the Board of Directors, but no such repeal or change shall modify the provisions of Section 8.2 hereof with regard to action taken prior to the time of such repeal or change. Any amendment of these Emergency By-Laws may make any further or different provision that may be practical and necessary for the circumstances of the emergency.

## **ARTICLE IX** **Miscellaneous**

9.1 Amendments. The Board of Directors shall have the power and authority to alter, amend or repeal these By-Laws by the vote of a majority of the entire Board of Directors.

9.2 Fiscal Year. The Board of Directors shall have the power to fix, and from time to time change, the fiscal year of the Corporation.

9.3 Seal. The Board of Directors may adopt a corporate seal which shall be circular in form and shall have inscribed thereon the name of the Corporation, the word "SEAL," and such other information as the Board of Directors may deem advisable.

9.4 Waiver of Notice. Whenever any notice is required to be given under the provisions of these By-Laws, the articles of Incorporation, or Kentucky law, a waiver thereof in writing, signed by the person or persons entitled to such notice, whether before or after the time state therein, shall be equivalent to the giving of such notice.

9.5 Construction. Unless the context specifically requires otherwise, any reference in these By-Laws to any gender shall include all other genders, any reference to the singular shall include the plural, and any reference to the plural shall include the singular.

9.6 Severability. If any provision of these By-Laws or its application to any person or circumstances shall be held invalid by a court of competent jurisdiction, the invalidity shall not affect any other provisions or application of these By-Laws that can be given effect without the invalid provision or application, and, to this end, the provisions of these By-Laws are severable.

9.7 Limitations. Notwithstanding any other provision hereof, including, but not limited to, any provision of any Emergency By-Laws, the Corporation shall take no action contrary to the provisions of ARTICLE II of the Corporation's Articles of Incorporation, and if at any time the Corporation is a private foundation or private operating foundation as such terms are defined in the International Revenue Code of 1986, as amended (the "Code"), then the Corporation shall only act as permitted under the Code without subjecting the Corporation to additional taxes imposed under Subchapter A, Chapter 42, Subtitle D of the Code.

The above By-Laws of this Corporation were adopted by the Board of Directors as of April 16, 1996.

A handwritten signature in cursive script, appearing to read 'Hartmut H. Malluche', written in black ink on a white background.

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Hartmut H. Malluche, M.D.  
Secretary