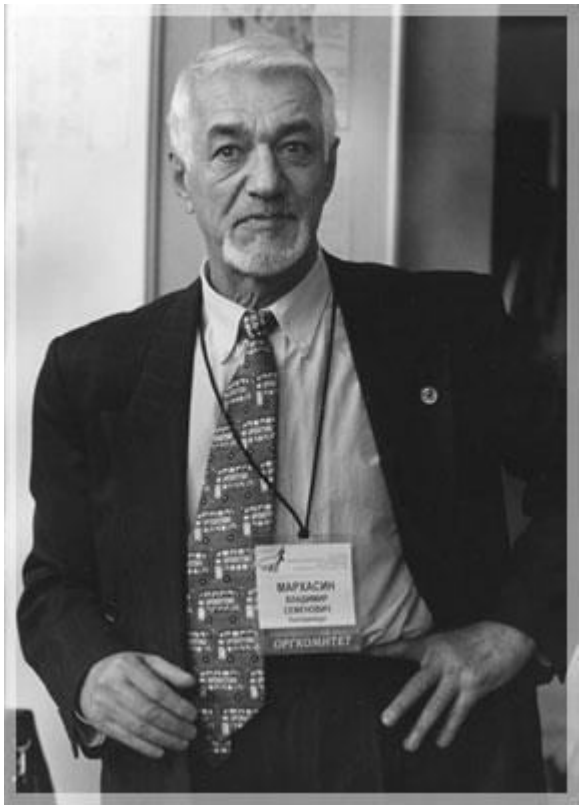
Владимир Семенович Мархасин



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Ушел из жизни главный научный сотрудник лаборатории математической физиологии Института иммунологии и физиологии УрО РАН, Заслуженный деятель науки РФ

член-корреспондент РАН Владимир Семенович Мархасин.

В.С. Мархасин — крупный специалист в области биомеханики сердечной мышцы. Им впервые были проведены систематические исследования по выяснению молекулярно-клеточных механизмов нарушения сократительной функции миокарда больных с врожденными и приобретенными пороками сердца и на основе полученных данных сформулирована оригинальная теория хронической сердечной недостаточности как адаптивно-патологического явления.

Еще в 80-е годы В.С. Мархасин выполнил пионерские работы, заложившие основы нового направления в физиологии сердца — биомеханики неоднородного миокарда, которое в настоящее время успешно развивается возглавляемым им коллективом. Разработаны фундаментальные экспериментальные и теоретические модели неоднородного миокарда (метод мышечных дуплетов). Для теоретического анализа феномена неоднородности создана математическая модель регуляции сокращений сердечной мышцы, расширенная в недавнее время (совместно со специалистами Оксфордского университета) описанием электрических процессов в кардиомиоцитах. Эта модель воспроизводит широкий класс электромеханических явлений в сердечной мышце и объясняет молекулярно-клеточные механизмы механо-электрической обратной связи в миокарде и феноменов Старлинга, Боудича и Анрепа. Метод дуплетов позволил выявить, описать и проанализировать не известный ранее класс электромеханических явлений, присущих неоднородному миокарду. Обнаружено, что электромеханическая неоднородность кардиомиоцитов в норме является важным ранее не учтенным фактором оптимизации сократительной функции сердечной мышцы. При патологии нарушения структуры неоднородности миокарда могут привести к существенному снижению его механической функции и стать источником нарушений ритма.

Владимир Семенович Мархасин — автор более 150 работ, включая 4 монографии и главы в многотомных руководствах по физиологии и патофизиологии сердца. Работы его коллектива поддерживались грантами РФФИ и международными грантами, они широко известны в нашей стране и за рубежом. Он участник многочисленных международных конференций, съездов и семинаров. Среди его учеников 4 доктора и 10 кандидатов наук.

В.С. Мархасин был руководителем ведущей научной школы по изучению молекулярно-клеточных механизмов взаимодействия неоднородных сократительных элементов миокарда, которая стала победителем конкурса РАН 2006 года.

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Основные публикации В.С. Мархасина:

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