



Charter of AFMBioMed Conference

"March 2022"

International Meeting on AFM in Life Sciences and NanoMedicine

<http://www.afmbiomed.org/>

AFMBioMed Conference is dedicated to life sciences and nanomedicine applications and will investigate how Atomic Force Microscopy (AFM) solves relevant biological bottlenecks and provides innovative solutions for healthcare. The conferences link International academic and industrial experts in life science, being involved either with AFM use or with medical/biological studies. The meetings provide a clear and comprehensive overview on advances in this field through keynote presentations, lectures, poster sessions and discussion forums. Topics include single molecules, membrane, and cell biology and nanomedicine studies combining imaging and affinity measurements. Presentations stress the impact of AFM techniques in life sciences and nanomedicine. The meetings act as a forum to promote innovative cross linked research and highlight the power of integrating AFM with other optical and analytical techniques.

Who should attend? Biologists, biophysicists and medicinal scientists with research interest in the following areas: cell, cell interactions, single-molecule recognition, affinity, functional studies including forces, high resolution imaging and more...

Founders :	Pierre Parot and Jean-Luc Pellequer , CEA Marcoule, France
Past chairs :	
2007	Barcelona → Daniel Navajas (Universitat Barcelona, Spain)
2008	Monterey → Sanjay Kumar (UC Berkeley, USA)
2010	Red Island → Vesna Svetličić (Rudjer Boskovic Inst. Zagreb Croatia)
2011	Paris → Simon Scheuring (Institut Curie, Paris, France)
2013	Shanghai → Jun Hu ; Bin Li (Shanghai Institute of Applied Physics, Chinese Academy of Sciences, China)
2014	San Diego → Adam Engler (UC San Diego, USA)
2016	Porto → Susana Sousa (INEB, Porto, Portugal)
2017	Kraków → Małgorzata Lekka (Polish Academy of science, Kraków, Poland); Marek Szymonski (Jagiellonian University, Kraków, Poland)
2019	Münster → Hermann Schillers (University of Münster, Germany)

Committees and Conference staff

Organizing Committee

Pierre **Parot** IACA, France, AFMBioMed Conferences Founder
Jean-Luc **Pellequer** IBS Grenoble France, AFMBioMed Conferences co-Founder
Daniel **Navajas**, University of Barcelona Spain AFMBioMed '07 Chair
Sanjay **Kumar** Berkeley USA, AFMBioMed '08 Chair
Vesna **Svetličić**, Rudjer Boskovic Institute Zagreb Croatia, AFMBioMed '10 Chair
Simon **Scheuring**, Institut Curie, Paris France, AFMBioMed '11 Chair
Jun **Hu**, Shanghai Jiao Tong University, Shanghai, China, AFMBioMed '13 Chair
Adam **Engler**, UC San Diego, La Jolla, USA, AFMBioMed '14 Chair
Susana **Sousa**, INEB, Porto, Portugal, '16 Chair
Malgorzata **Lekka**, Polish Academy of Science, Krakow, Poland '17 Chair
Marek **Szymonski**, Jagiellonian University, Krakow, Poland '17 Chair
Hermann **Schillers**, University of Münster, Germany, '19 Chair)

Scientific Committee

The Founders of AFMBioMed Conferences are Pierre **Parot** and Jean-Luc **Pellequer** who created AFMBioMed Conference in June 2006, after a first French-speaking edition, organized in Nîmes in 2004. A historical perspective can be found here: Pellequer J-L, Parot P, Navajas D, Kumar S, Svetličić V, Scheuring S, Hu J, Li B, Engler A, Sousa S, Lekka M, Szymoński M, Schillers H, Odorico M, Lafont F, Janel S and Rico F (2019) Fifteen years of Servitude et Grandeur to the application of a biophysical technique in medicine: the tale of AFMBioMed. *J. Mol. Recognit.* **32**: e2773. DOI:10.1002/jmr.2773.

For each edition of the Conference, taking into account decisions of the Organizing Committee meeting and advice of experts in the domain of AFM in Life Sciences and NanoMedicine they:

- * select the location and the local Chairperson of the coming Conference.
- * approve the chairperson of the different session of the coming Conference

For each edition the Scientific Committee is composed with: the Founders, the current local Chairperson, and the Chairpersons of the different sessions. AFMBioMed Conference agrees that **Bruker** has one representative on the scientific committee of the AFMBioMed Conference.

The Scientific Committee is notably responsible for:

- The choice and definition of the scientific sessions
- The selection of the invited speakers
- The selection of oral presentations and posters

The Scientific Committee meets at least once during the Conference. Decisions of the Scientific Committee are made by 2/3 majority vote, at a meeting where voting representatives are present. Each member of the Scientific Committee will have one (1) vote.

Scientific Program Experts are chosen among the best specialists in the field of AFM for life sciences. Most of them have participated as Session Chair or Invited Speakers during the last editions. Please, see "Historical Corner" at the end of the document.

AFMBioMed Conference Rules¹

INTRODUCTION

A successful AFMBioMed Conference depends on careful selection of presentations, talks as well as posters, and ample time for discussion and socializing. The AFMBioMed Conference format, which focuses on carefully selected presentations and ample time for discussion, has been demonstrated to be effective for promoting the exchange of information and building strong relationships between participants. AFMBioMed Conferences are expected to be on the frontiers of science and high technologies aiming to define and analyze important problems, recent advances and opportunities for new research through both formal presentations and extensive discussions. AFMBioMed Conferences should attract the leading persons in the field of AFM in Life Sciences and Nanomedicine. Individuals from the entire world community of the field can be invited as Session Chairpersons and speakers. The Conference should attract a good representation of academics in the field. Sufficient diversity should be included so that a variety of points of view are presented and productive discussions are encouraged. The AFMBioMed Conferences policy on admission of qualified individuals is given in the *Communications selection process* section.

The SC determines the quality of the Conference. The **SC** is solely responsible for the program, for ensuring that the invited speakers present lectures of the desired type, for seeing that the discussion periods are properly organized and conducted and for establishing a pleasant and stimulating atmosphere during the Conference, both in the formal sessions and during informal interactions. An optimum AFMBioMed Conference is attended by an average 150 attendees that are in residence for 4 days or the full week if the training sessions are included. If the Conference is too large (exceeding 250), the opportunity for individual participation in the discussions, both formal and informal is reduced. All attendees, including Session Chairpersons and speakers, are expected to be present for the entire meeting.

PROGRAM

The program for an AFMBioMed Conference can be adapted to meet a variety of interests. The one common factor that must exist is that the content must be at the frontiers of science and high technologies, and consist primarily of unpublished work.

Conferences may cover broad areas where there have been recent important advances. **SC** may consider picking a topic of high current interest within a broad area within the field of AFM in AFM in Life Sciences and Nanomedicine. Participants are eager to learn of advances in fields related to their own area of specialization; therefore, productive cross-fertilization of ideas and interdisciplinary interactions are an important part of AFMBioMed Conferences.

The Conference program should cover new, innovative, frontier research. AFMBioMed Conferences must be based on reports of significant new research in the area under discussion. To ensure that all major advances are presented, **SC** should try to avoid presentations reported at other recent meetings attended by the attendees. To avoid multiple invitations to the same speaker, **SC**

¹ The content of this charter was inspired from a text of the Aegean conference charter

should stay in touch with the organizers of other major meetings in the field and related conferences. Final selection of invited speakers remains responsibility of the **SC**.

Session Chairpersons and Invited Speakers are key to the success of the Conference. Invited speakers should be selected not only for their accomplishments, but also for their ability to give clear presentations. AFMBioMed Conferences are conducted in English; therefore, it is important that speakers have a good command of the language. The speakers should be willing to commit to a forward-looking discussion of the cutting edge of research in their field. Research that has not been previously reported, research currently underway and new approaches to important problems are the heart of a good AFMBioMed Conference presentation. **An important remark: Session Chairpersons must act as active discussion leader** (see below Session Chairpersons' role).

The AFMBioMed Conference strongly encourages all invited participants (Session Chairpersons, invited speakers) as well as attendees to stay for the entire duration of the Conference. It is the AFMBioMed Conferences policy that support for speaker expenses is conditional on the speaker staying an absolute minimum of 48 hours after his or her talk (or until the end of the meeting). **SC** may require speakers to stay even longer than 48 hours after their presentations. **SC should establish with each of speakers how long he/she plans to attend the Conference.** If a speaker is leaving early, the attendees should be advised of the limited time for informal discussions with the speaker.

Session Chairpersons' role. Session Chairpersons should be well versed in the area under discussion and should be carefully selected. The invitation of Session Chairpersons provides a method for involving additional high-quality participants in the program. A letter with a road map should be sent to the Session Chairpersons explaining what the **SC** expects of them in their sessions. When Conference offers financial assistance to support the attendance of Session Chairpersons, they are informed that a minimum stay at the Conference of 48 hours is required after their session (or until the end of the Conference).

A brief introduction to the session can be helpful. This introduction should not be extensive or a talk in itself. Usually Chairpersons give their talk at the end of their own session. If needed, the Session Chairperson can stimulate the discussion after the talk by introducing related ideas or results and discussion points from other sessions or the poster papers.

Session Chairpersons at an AFMBioMed Conference should be prepared to be moderators and facilitators as well. They should highlight the presentation's important points and set the stage for a vigorous discussion. In addition to keeping a balanced and on-time schedule, the Session Chairpersons are an essential part of making sure that the sessions explore the ideas and experiments put forward during the presentations.

It is important to inform the speakers in writing what the SC expects of them. Speakers should be notified of the time allotted for the presentation. AFMBioMed Conferences recommend a format in which Invited Speakers give a brief introduction (3-5 minutes) where they introduce the problem(s) that will be addressed and the reasons for the topic's significance. Many AFMBioMed Conferences use a schedule that provides Invited Speakers 20-25 minutes for presentations followed by 10-5 minutes for discussion (for a total of 30 minutes). This format produces a meeting that has time to discuss serious issues in depth and for most, if not all, of the attendees to participate. AFMBioMed Conference can also use other formats that involve a larger number of speakers, grouped discussion sessions, round table discussions, or short presentations connected to the poster sessions. Selected Speakers will have a total of 20 minutes (presentation + discussion) and Selected Best Abstract short presentations 10 minutes (7+3) which allows inviting attendees to discuss details in the front of the posters.

Session Chairpersons should encourage speakers to prepare visual aids of high quality. The points of a presentation are not communicated well if PowerPoint presentations (slides or transparencies) are

cluttered or not legible from the back of the lecture hall. Since AFMBioMed Conferences audiences are often drawn from a broad range of disciplines, terms and jargon should be defined for the benefit of non-experts in that field.

With regards to science conferences, the participation of research scientists from industry in an AFMBioMed Conferences presents a special challenge and opportunity. One of the long-standing tenants of the AFMBioMed Conferences is that the presentations should contain previously unpublished material. The reasons for this are many fold and include the opportunity to present new science to an audience of peers and to evoke immediate commentary and discussion. Under U.S. Patent law a presentation at an AFMBioMed Conference does constitute a public disclosure. The decision of when and where to disclose scientific information that is included in a patent application must be made by the inventor and his/her sponsoring academic, government, or industrial organization. Once that decision has been made and the timing established, an AFMBioMed Conference makes an ideal venue for first disclosure.

ORGANIZATION

Communications selection process. At least 6 months before the Conference (and/or as soon as the next meeting is defined) the **SC** send a call for paper to the community. To facilitate the balance between all the sessions, the authors are invited TO SUBMIT each of their abstracts to at least TWO SESSIONS of the scientific program; allowing the **SC** to optimally balance scientific sessions. Among these abstracts, the **SC** selects the oral and poster presentations.

AFMBioMed Conferences select a diverse mix of speakers and other participants. The scientific program should represent the diversity of international science. There should be a mix of scientists from academic, industry, foundation and government laboratories; a mix of disciplines to assure an interdisciplinary exchange at the Conference; scientists from a variety of countries working in the area; and a mix of junior/senior, female/male and minority investigators.

AFMBioMed Conferences does not discriminate on the basis of sex, race, age or national and ethnic origin in any aspect of its programs. **It is important that the most visible and prestigious part of the organization, Session Chairpersons and speakers at the Conferences, broadly represent the scientific community. It is also important that new names appear from one meeting to the next.**

Posters - Discussion Sessions - Proceedings

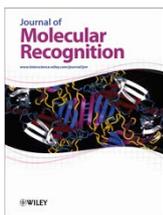
The active participation of all attendees is an important part of the conference program. The attendees need to know what is expected of them with regard to active participation during the session and the poster sessions. Poster presentations are an important and very productive part of AFMBioMed Conferences. Posters sessions are a great way for people to meet and develop social interactions.

Depending on event, one or several sessions can be organized for presentation of a fraction (1/2, 1/3, 1/4) of all the posters at a time allowing a active crossing participation of every participant.

AFMBioMed Conferences Web site <http://www.afmbiomed.org/> gives details concerning poster session organization and technical information for each meeting.

The **SC** takes the responsibility for organizing the posters into sessions that are related to the meeting agenda.

AFMBioMed Conferences will publish a book of all abstracts.



Every attendee is strongly encouraged to submit a peer reviewed manuscript to be published in Journal of Molecular Recognition (JMR). The official deadline will be provided during the conference but it is usually a few months after the Conference. **Session Chairpersons and Invited Speakers are strongly encouraged to submit a mini state-of-art review for this JMR issue.**

Financial Aspects. The financial aspects of the Conference only concern the Organizing Committee and depend on funds it can obtain from sponsors* (see next §) and help from Local Organizing Committee. AFMBioMed Conferences policy is to offer the best same conditions during the stay to all attendees AND also to favor participation of young scientists or graduate students at a reduced registration fee (package including when it is possible scientific sessions, coffee breaks, accommodation, lunches, welcome reception, and gala dinner). For the reasons previously exposed, request for subsidizing and /or supporting travel costs and Conference Fee for attending the meeting will be individually examined by the OC.

* **Special sponsorship from BRUKER.** As historical partner and *Platinum Sponsorship BRUKER* is the only AFM Company invited to organize a booth, training and demos.

General Meeting Schedule. Most AFMBioMed Conferences have their welcome reception with dinner on the evening of the arrival day and the Gala Dinner on the evening of the last day. The typical meeting format is given as follows:

Typical Schedule	
Platinum Sponsor Training Day	
Arrival Day Afternoon	Attendees arrive
4:00 pm	Registration starts at
6:00 pm	Welcome party
Training Days	
Conference Days (8 half sessions)	
7:00 8:15 am	Breakfast
8:25 am	Chair introduction
8:30 – 10:00 am	Sessions
10:00 – 10:30 am	Coffee break
10:30 – 12:00 am	Session
Noon – 1:55 pm	Lunch and Posters
1:55 pm	Chair introduction
2:00 – 3:30 pm	Sessions
3:30 – 4:00 pm	Coffee break
4:00 – 5:30 pm	Free discussion
Last evening (Day 3)	Gala Dinner

Program details of each AFMBioMed Conference can be found on the website: <http://www.afmbiomed.org/>

General Organization Milestones

Deadline	Action
-24-18 months	Selection of Meeting location and future Chairperson
-12 months	Final Selection of the Session Chairpersons by OC
-12 months	First advertising call with session chairs
-11 months	Final agreement of scientific sessions by SC
-10 months	Final selection of invited speakers by SC
-9 months	AFMBioMed Conference Website gets ready
-6 months	First call for papers
-3 months	Deadline for selecting talks and posters
-2 months	Dead line for "Early Birds" registration payments
-1 month	Dead line for submitting proceeding reviews to JMR
0	Meeting starts

International AFMBioMed Conferences Association (IACA)



IACA is a non-profit French association defined by the 1901 Act (Loi de 1901), registered at the Prefecture du Gard under the number: **W302008115**.

IACA is financially responsible for the organization of conferences and most summer schools.

When participating to an AFMBioMed event (conference or summer school), everyone becomes automatically a member of IACA which allows anyone to receive information by email about future events or particular messages concerning IACA. In agreement with the 2018 European General Data Protection Regulation, only emails are conserved by IACA and are strictly used for the above purpose and will not be transmitted to any third party. However, anyone can request to be removed from the listing. When the request is done by email (see the contact email from the website), it will be promptly updated.

Historical Corner (Former Chairs, Keynote, and Invited Speakers at AFMBioMed Conferences)

BARCELONA 2007 (Daniel Navajas)

Keynote speakers

Pierre Bongrand, Inserm, Marseille, France

Paul Hansma, UC Santa Barbara, California, USA

Mike Horton, UCL, London, United Kingdom

Invited speakers per session

Session I

J.K. Heinrich Hörber, University of Bristol, Bristol, United-Kingdom

Vincent Moy, University of Miami, Miami FL, USA

Daniel Navajas, Universitat de Barcelona, Barcelona, Spain

Yves Dufrêne, Université catholique de Louvain, Louvain-la-Neuve, Belgium

Session II

Daniel J. Müller, Center of Biotechnology, Dresden, Germany

Ziv Reich, Weizmann Institute of Science, Rehovot, Israel

Hermann Gaub, Ludwig-Maximilians-Universität, München, Germany

Peter Hinterdorfer, Johannes Kepler Universität Linz, Linz, Austria

Session III

Andreas Engel, University of Basel, Basel, Switzerland

Toshio Ando, Kanazawa University, Kanazawa, Ishikawa, Japan

Ricardo Garcia, Instituto de Microelectronica de Madrid, Madrid, Spain

Simon Scheuring, Institut Curie, Paris, France

Session IV

Ole Mouritsen, University of Southern Denmark, Odense, Denmark

Fausto Sanz, Universitat de Barcelona, Barcelona, Spain

Christian Le Grimellec, INSERM, Montpellier, France

MONTEREY 2008 (Sanjay Kumar)

Invited speakers per session

Session I

Dan Fletcher, University of California, Berkeley, USA

Tom Perkins, University of Colorado, USA

Nick Melosh, Stanford University, USA

Session II

Chris Yip, University of Toronto, Canada

Daniel Mueller, Biotechnology Center, TU Dresden

Hongbin Li, University of British Columbia, Canada

Session III

Greg Haugstad, University of Minnesota, USA

Chris Siedlecki, Penn State University, USA

Harald Fuchs, University of Münster, Germany

Session IV

Michel Grandbois, Université de Sherbrooke, Canada

Jan Hoh, John Hopkins University, USA

Manfred Radmacher, University of Bremen, Germany

Session V

Simon Scheuring, Institut Curie, France

Yuri Lyubchenko, University of Nebraska, USA

Zhifeng Shao, University of Virginia, USA

RED ISLAND CROATIA 2010 (Vesna Svetlicic)

Chairs

Gil Lee, University of Dublin, Ireland

Vesna Svetličić, Rudjer Boskovic Institute Zagreb, Croatia

Simon Scheuring, Institut Curie, Paris, France

Pierre-Emmanuel Milhiet, CBS, Montpellier, France

Chanmin Su, Veeco Santa Barbara, USA

Jean-Luc Pellequer, CEA Marcoule, France

Paolo Facci, S3-INFM-CNR, Modena, Italy

Hans Oberleithner, University of Muenster, Germany

Frank Lafont, Institut Pasteur de Lille, France

Invited Speakers

Adam Cohen Simonsen, University of S. Denmark, Odense, Denmark

Dennis Discher, University of Pennsylvania

Yves Dufrière, Université de Louvain-la-Neuve, Belgium

Sanjay Kumar, UC Berkeley, CA, USA

Jamie Lead, University of Birmingham, UK

John Van Noort, University of Leiden, The Netherlands

Matthias Rief, Technische Universität München, Germany

Igor Sokolov, Clarkson University, Postdam, NY, USA

Takayuki Uchihashi, Kanazawa University, Japan

PARIS 2011 (Simon Scheuring)

***Keynote Lecture:* Christoph GERBER**

Chairs

Zhifeng Shao, Shanghai Jiao Tong University, China

Carlos Bustamante, University of California, Berkeley, USA

Toshio Ando, Kanazawa University, Japan

Manfred Radmacher, University of Bremen, Germany

Invited Speakers

Noriyuki Kodera, Kanazawa University, Japan

Bruno Samori, University of Bologna, Italy

Renato Zenobi, ETH Zürich, Switzerland

Sandor Kasas, École Polytechnique Fédérale de Lausanne, Switzerland

SHANGHAI 2013 (Jun Hu, Bin Li)

Chairs

Hirofumi Yamada, Kyoto University, Kyoto, Japan

Giovanni Dietler, EPFL, Lausanne, Switzerland

Daniel Navajas, Universitat Bcelona, Spain

Chrisoph Gerber, Universität Basel, Basel Switzerland

Invited Speakers

Jinfeng Jia, Shanghai Jiao Tong University, Shanghai, China

Wenke Zhang, Tsinghua University, China

Xiaohong Fang, Institute of Chemistry, Chinese Academy of Sciences, China

Ning Gu, Southeast University, China

Toshio Ando, Kanazawa University, Japan

Neil Thomson, University of Leeds, UK

Roderick Lim, Universität Basel, Switzerland

Pawel Osmulski, University of Texas, USA

SAN DIEGO 2014 (Adam Engler)

Chairs

Clemens Franz, Karlsruhe Institute of Technology, Germany

Robert Ros, ASU, Tempe, AZ, USA

James Gimzewski, UC Los Angeles, CA, USA

Invited Speakers

James J. De Yoreo, PNNL, Richland, WA, USA

Tilman Schäffer, University of Tübingen, Germany

Hongbin Li, UBC Vancouver, Canada

Hans Oberleithner, Münster University, Germany

PORTO 2016 (Susana Sousa)

Keynote Lecture: Simon Scheuring, INSERM/Aix-Marseille Univ., France

Chairs

Hermann Schillers, Institute of Physiology II, University Münster, Germany

Phil Williams, Laboratory of Biophysics and Surface Analysis, School of Pharmacy, University of Nottingham, UK

Malgorzata Lekka, Institute of Nuclear Physics, Polish Academy of Sciences, Poland

Peter Hinterdorfer, Johannes Kepler University, Institute for Biophysics, Austria

Invited Speakers

Manfred Radmacher, Universität Bremen, Bremen - Institute of Biophysics, Germany

Nuno C. Santos, Faculdade de Medicina da Universidade de Lisboa, IMM Lisboa, Portugal

Bart Hoogenboom, London Centre for Nanotechnology, University College London, UK

Ana Paula Pêgo, NanoBiomaterials for Targeted Therapies i3S/INEB, Portugal

KRAKOW 2017 (Malgorzata Lekka and Marek Szymonski)

Chairs

Alessandro Podestà, University of Milan, Italy

Ewa Wójcikiewicz, Florida Atlantic University, USA

Martin Guthold, Wake Forest University, USA

Wouter H. Roos, University of Groningen, The Netherlands

Invited Speakers

David Alsteens, University Catholique de Louvain, Belgium

James K. Gimzewski, University of California, Los Angeles, USA

Sandor Kasas, EPFL, Switzerland

Andrzej Kulik, EPFL, Switzerland

Wiesław Nowak, Nicolaus Copernicus University, Torun, Poland

Manfred Radmacher, Bremen University, Germany

Felix Rico, INSERM, Aix-Marseille Université, France

Igor Sokolov, Tufts University, USA

Renato Zenobi, ETH Zürich, Switzerland

MÜNSTER 2019 (Hermann Schillers)

Keynote Speaker: Toshio Ando, Kanazawa University, Japan

Chairs

Richard Chadwick, NIH, Bethesda, MD, USA

Harald Fuchs, Münster University, Germany

Hongbin Li, University of British Columbia, Vancouver, Canada

Arvind Raman, Purdue University, West Lafayette, IN, USA

Invited Speakers

Nuria Gavara, Queen Mary University of London

Richard Superfine, The University of North Carolina at Chapel Hill

Gerald Meininger, University of Missouri Health at Columbia

Sergi Garcia-Manyes, King's College London

Marina Inés Giannotti, Institute for Bioengineering of Catalonia (IBEC) Barcelona

Giovanni Longo, Istituto di Struttura della Materia, CNR, Rome, Italy

Filomena Carvalho, Universidade de Lisboa, Portugal

Nagoya 2022 (Takayuki Uchihashi)

Keynote Speaker:

Chairs

Invited Speakers

List of sessions in all previous AFMBiomed conferences organized since 2010						
2010	2011	2013	2014	2016	2017	2019
Interaction & Recognition	Molecular Imaging	High-resolution and High-speed Imaging	Imaging	Health and Disease	Bioimaging	Data processing
Nanoecology & Nanotoxicology	Force Measurements / Mechanics	Molecular Force Spectroscopy and Recognition	Forces and Biomechanics	Mechanobiology	Health & Disease	Cellular mechanics
AFM Bio	Nanomedicine	Cellular MechanoBiology	Biomedical Applications	Nanomedicine	Molecular Forces	Single molecules and membranes
Trends in Theory & Technologies	Technology / Theory	AFM in Nanomedicine	Integrative AFM Developments	Bioimaging	Cellular Mechanobiology	Biomedical applications