SERENA BONARETTI
Curriculum Vitae

PERSONAL INFORMATION

Current position	Founder and Research Scientist at Transparent MSK Research
Email Address	serena.bonaretti.research@gmail.com
Webpage	https://sbonaretti.github.io/
GitHub	https://github.com/sbonaretti/
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EDUCATION

03.2012 – 12.2014	Postdoctoral Scholar, Department of Radiology and Biomedical Imaging, University of California, San Francisco, USA Project: *Standardization of acquisition procedure for bone imaging for multicenter clinical research* Advisors: Thomas Lang and Andrew Burghardt
12.2007 – 01.2012	PhD in Biomedical Engineering, Institute for Surgical Technology and Biomechanics, University of Bern, Switzerland Thesis: *Statistical Models of Shape and Density for Population-based Analysis of Bone Mechanics with Applications to Fracture Risk Assessment and Implant Design* Advisors: Mauricio Reyes and Philippe Büchler
10.2003 – 10.2005	MSc in Biomedical Engineering, Politecnico di Milano, Italy Thesis: *Methods for 2D and 3D segmentation and rendering of CT images: Validation and application in maxillofacial surgery* (in Italian) Advisors: Gabriella Tognola and Paolo Ravazzani
10.2000 – 10.2003	BSc in Biomedical Engineering, Politecnico di Milano, Italy Advisor: Paolo Ravazzani

EMPLOYMENT

10.2019 – present	Founder and Research Scientist, Transparent MSK Research, Maastricht, The Netherlands
03.2019 – 08.2019	Research Scientist, Department of Bioinformatics, Maastricht University, The Netherlands Projects: *NanoSolveIT* and *RiskGONE* (Engineered nanomaterial toxicology) Advisors: Egon Willighagen and Chris Evelo
01.2016 – 07.2018	Physical Science Research Specialist, Department of Radiology, Stanford University, USA Research Biomedical Engineer, Department of Veterans Affairs, Palo Alto, USA Projects: *Weight-bearing imaging of the knee using C-arm CT, and Automatic segmentation of MR images of the knee* Advisors: Garry Gold and Gary Beaupre
01.2015 – 12.2015	Associate Specialist, Department of Radiology and Biomedical Imaging, University of California, San Francisco, USA Project: *Standardization of acquisition procedure for bone imaging for multicenter clinical research* Advisors: Thomas Lang and Andrew Burghardt

11.2005 – 11.2007	Clinical Engineer, Department of Audiology, Fondazione Audiologica Varese ONLUS, Ospedale di Circolo - Fondazione Macchi, Varese, Italy Role: Responsible of the department instrumentation and support for scientific activities Advisor: Sandro Burdo
04.2005 – 10.2005	Research Assistant, Institute of Biomedical Engineering - Italian National Research Council (ISIB-CNR), Politecnico di Milano, Italy Project: *Segmentation of mandibular nerve from CT images* Advisors: Gabriella Tognola and Paolo Ravazzani
05.2003 – 07.2003	Research Assistant, Institute of Biomedical Engineering - Italian National Research Council (ISIB-CNR), Politecnico di Milano, Italy Project: *Segmentation of brain image for electromagnetic field estimation* Advisors: Paolo Ravazzani and Marta Parazzini

INSTITUTIONAL RESPONSIBILITIES

The following responsibilities are without remuneration

03.2019 – present	Promoter and main curator of the repository of the Quantitative MusculoSKeletal Imaging (QMSKI) community (GitHub), including documentation on how to conduct open and reproducible research (Wiki), and of the Zenodo QMSKI community for open data (Zenodo)
11.2016 – 07.2018	Associate Director of the Zeego Laboratory, Department of Radiology, Stanford University, USA
01.2016 – 07.2018	Creation and maintenance of the JOINT group webpage and of the Zeego Lab webpage, Stanford University, USA
01.2015 – 12.2015	Contribution to the Musculoskeletal CT Imaging Research Group webpage, University of California San Francisco, USA
01.2010 – 12.2011	Contribution to the Institute for Surgical Technology and Biomechanics webpage, University of Bern, Switzerland

TEACHING

The following teaching activities are without remuneration

11.2017	Guest Lecturer, Surgery Without All the Blood (RAD 70N), Stanford University, USA *Introduction to Interventional Radiology at the Zeego Lab*
04.2017 – 06.2017	Co-instructor (50%), Orthopaedic Bioengineering (BIOE/ME 381), Stanford University, USA Lectures on bone anatomy, physiology, mechanics, imaging, disease, and fracture Laboratory in bone fixation
01.2017, 01.2018	Guest Lecturer, Clinical Needs and Technology (BIOE 301B), Stanford University, USA *Introduction to X-ray-based Imaging* *Minimally Invasive Therapies in Swine* (Laboratory)
10.2016	Guest Lecturer, Introduction to Bioengineering Research (BIOE 390/MED 289), Stanford University, USA *Weight-bearing Imaging of the Knee Using C-arm CT*
03.2015	Guest Lecturer, Image Processing and Analysis II (BI 265), University of California San Francisco, USA *Active Shape and Appearance Modeling in Medical Imaging*
01.2014, 01.2015	Guest Lecturer, Musculoskeletal Imaging (BI 240), University of California San Francisco, USA *Assessment of Bone Strength - Foundations of FE and microFE*
12.2009	Guest Lecturer, Medical Image Analysis, ETH Zürich, Switzerland *Statistical Shape Models*

10.2009	Guest Lecturer, Medical Image Analysis, University of Bern, Switzerland *Statistical Shape Models*

SUPERVISION AND OF JUNIOR RESEARCHERS

03.2017 – 02.2018	Fatih Chengiz, M.Sc. thesis on Automatic segmentation of the meniscus from MR images, University of Erlangen-Nürnberg, Germany
06.2016 – 08.2016	Alyssa Hobson and Sandra Ortellado, Summer student project on Segmentation of knee bones from weight-bearing cone-beam computed tomography images, Stanford University, USA
06.2016 – 08.2016	Francisco Lopez and Heidi Poppe, Summer student project on Subject's support platform for weight-bearing cone-beam computed tomography imaging, Stanford University, USA
05.2015 – 12.2015	Caroline Mai Chan, Development of webapp for reference line positioning during high-resolution peripheral quantitative computed tomography imaging, University of California San Francisco, USA
06.2014 – 12.2015	Andrew Yu, Internship during the MrOS project, University of California San Francisco, USA
09.2010 – 03.2011	Saloni Soin, M.Sc. thesis on Preformed cranial implants, University of Bern, Switzerland
11.2009 – 10.2010	Andreas Siegrist, B.Sc. thesis on Bone material property assignment for finite element analysis, Fachhochschule Nordwestschweiz Biel and University of Bern, Switzerland

INVITED TALKS

20.06.2019	*Transparent Quantitative Musculoskeletal Imaging* Department of Mechanical Engineering, Division of Biomechanics, KU Leuven, Leuven, Belgium.
12.09.2019	*Transparent Research: Open-Access Data, Reproducible Workflows, and Interactive Publications* 7th Annual Tomography for Scientific Advancement (ToScA) Symposium. Southampton, United Kingdom.
20.06.2019	*Transparent Quantitative Musculoskeletal Imaging* Department of Radiology, ADMIRE group, Erasmus Medical Center, Rotterdam, The Netherlands.
02.05.2019	*Data Management for Transparent Research* BiGCaT Science Café. Maastricht University, Maastricht, The Netherlands.
18.04.2019	*Transparent Research: Open-Access Data, Reproducible Workflows, and Interactive Publications* BiGCaT Science Café. Maastricht University, Maastricht, The Netherlands.
22.12.2015	*Bone quality by QCT and HR-pQCT: Translation to multicenter clinical research* Istituti Ortopedici Rizzoli, Bologna, Italy
16.12.2015	*Bone quality by QCT and HR-pQCT: Translation to multicenter clinical research* University of Erlangen-Nuremberg, Erlangen, Germany
16.09.2014	*Intra- and inter-operator variability in HR-pQCT scan positioning* 2nd XtremeCT User Meeting, Houston, TX, USA

ORGANIZATION OF CONFERENCES AND WORKSHOPS

25.02.2019	Organization of whole workshop: *Hands-on transparent QMSKI: Open-access data, reproducible workflows, and interactive publications* (Presentation, GitHub repository), at 22nd International Workshop on Quantitative Musculoskeletal Imaging (QMSKI), Chateau Lake Louise, AB, Canada.
07.2008	Organization staff of 16th Congress of the European Society of Biomechanics. Lucerne, Switzerland
05.2006 – 05.2007	Organizing committee member of Objective Measures in Cochlear and Brainstem Implants –5th International Symposium and Related Additional Events. Varese, Italy

PRIZES

10.2014	Young Investigator Award, poster presentation, second author, American Society for Bone Mineral Research

SCIENTIFIC REVIEWING ACTIVITIES

Grant reviewer	
2015 – 2016	American Society for Bone and Mineral Research
Journal reviewer	
2016 – present	Physica Medica
2016 – present	Biomechanics and Modeling in Mechanobiology
2015 – present	Journal of Computer Methods in Biomechanics and Biomedical Engineering
2014 – present	Journal of Bone and Mineral Research
2014 – present	Journal of Medical Imaging and Health Informatics
2014 – present	Bone
2013 – present	Journal of Biomechanics
2013 – present	Medical Physics
2011 – present	IEEE - Transaction on Medical Imaging

ACTIVE MEMBERSHIPS IN SCIENTIFIC SOCIETIES

2016 - 2017	International Society for Magnetic Resonance in Medicine
2016 - 2017	Osteoarthritis Research Society International
2012 - 2015	American Society of Bone and Mineral Research
2008 - 2010	European Society of Biomechanics

SOFTWARE

Developed

1. **pyKNEEr**
   An image-based framework for open and reproducible research of femoral knee cartilage
   GitHub repository: https://github.com/sbonaretti/pyKNEEr
   Documentation: https://sbonaretti.github.io/pyKNEEr/index.html
   Video: https://www.youtube.com/channel/UCk1sLroo_tgJqcn-0EVh6zQ/videos
   DOI: www.doi.org/10.5281/zenodo.2574172
   Language: python with Jupyter notebook
2. **SAMforFEM**
   Statistical appearance model (SAM) of femur for finite element (FE) simulations of different populations
   GitHub repository: https://github.com/sbonaretti/SAMforFEM
   Documentation: https://github.com/sbonaretti/SAMforFEM/tree/master/doc
   Language: C++, with ITK, VTK, and Qt

Supervised

1. **Reference line - Training & evaluation**
   A web application to train and evaluate operators when scanning with High Resolution Peripheral Quantitative Computed Tomography (HR-pQCT).
   Web application: http://webapps.radiology.ucsf.edu/refline
   GitHub repository: https://github.com/sbonaretti/referenceLine
   Documentation: http://webapps.radiology.ucsf.edu/refline/
   Language: HTML with CSS, Javascript

2. **FEM assigner**
   Assigning bone material properties to finite element (FE) meshes from quantitative computed tomography images
   GitHub repository: https://github.com/sbonaretti/FEpropAssigner
   Documentation: https://github.com/sbonaretti/FEpropAssigner/tree/master/CodeDocumentation
   Language: C++, with ITK, VTK, and Qt

PREPRINT PUBLICATIONS

1. Bonaretti S., Willighagen E. **Two Real Use Cases of FAIR Maturity Indicators in the Life Sciences**. bioRxiv 10.1101/739334. 2019.
2. Bonaretti S., Gold G.E., Beaupre G.E. ***pyKNEEr*: An Image Analysis Workflow for Open and Reproducible Research on Femoral Knee Cartilage**. bioRxiv 10.1101/556423. 2019.

PUBLICATIONS IN PEER-REVIEWED SCIENTIFIC JOURNALS

1. Pang E.Q., Coughlan M., Bonaretti S., Finlay A., Bellino M., Bishop J., Gardner M.J. **Assessment of Open Syndesmosis Reduction Techniques in an Unbroken Fibula Model: Visualization vs. Palpation.** J. Orthop Trauma. 2018. https://www.ncbi.nlm.nih.gov/pubmed/30169400
2. Maier J., Black M., Bonaretti S., Bier B., Eskofier B., Choi J.H. Levenston M., Gold G., Fahrig R., Maier A. **Comparison of Different Approaches for Measuring Tibial Cartilage Thickness.** J Integr Bioinform. 14(2),1-10. 2017. https://www.ncbi.nlm.nih.gov/pubmed/28753537
3. Bonaretti S., Vilayphiou N., Chan C. M., Yu A., Nishiyama K., Liu D., Boutroy S., Ghasem-Zadeh A., Boyd S.K., Chapurlat R., McKay H., Shane E., Bouxsein M.L., Black D.M., Majumdar S., Orwoll E.S., Lang T.F., Khosla S., Burghardt A.J**. Operator variability In Scan Positioning is a Major Component of HR-pQCT Precision Error and is Reduced by Standardized Training.** Osteoporos Int. 28(1), 245-257. 2017. https://www.ncbi.nlm.nih.gov/pubmed/27475931
4. Bonaretti S., Holets M., Majumdar S., Lang T.F., Khosla S., Burghardt A.J. **The Comparability of HR-pQCT Bone Quality Measures is Improved by Scanning Anatomically Standardized Regions.** Osteoporos Int. 28(7), 2115-2128. 2017. https://www.ncbi.nlm.nih.gov/pubmed/28391447
5. Carballido-Gamio J., Bonaretti S., Kazakia G.J., Khosla S., Majumdar S., Lang T.F., Burghardt A.J. **Statistical Parametric Mapping of HR-pQCT Images: A Tool for Population-Based Comparison of Micro-Scale Bone Features.** Ann Biomed Eng. 45(5), 949-962. 2017. https://www.ncbi.nlm.nih.gov/pubmed/27830488
6. Ghasem-Zadeh A., Burghardt A.J., Wang X.F., Iuliano S., Bonaretti S., Bui Q.M., Zebaze R., Seeman E. **Quantifying Sex, Race and Age Specific Differences in Bone Microstructure Requires Measurement of Anatomically Equivalent Regions.** Bone. 101, 206-213. 2017. https://www.ncbi.nlm.nih.gov/pubmed/28502884
7. Carballido-Gamio J., Bonaretti S., Saeed I., Harnish R., Recker R., Burghardt A.J., Keyak J.H., Harris T., Khosla S., Lang T.F. **Automatic Multi-Parametric Quantification of the Proximal Femur with QCT.** Quant Imaging in Med and Surg. 5(4), 552-568. 2015. https://www.ncbi.nlm.nih.gov/pubmed/26435919
8. Bonaretti S., Carpenter D.R., Saeed I., Burghardt A.J., Yu L., Bruesewitz M., Khosla S., Lang T. **Novel Anthropomorphic Hip Phantom Corrects Systemic Interscanner Differences in Proximal Femoral vBMD.** Phys Med Biol. 59, 7819-7834. 2014. https://www.ncbi.nlm.nih.gov/pubmed/25419618
9. Carpenter R.D., Saeed I Bonaretti S., Schreck C., Keyak J.H., Streeper T., Harris T.B., Lang T.F. **Inter-scanner Differences in In Vivo QCT Measurements of the Density and Strength of the Proximal Femur Remain After Correction with Anthropomorphic Standardization Phantoms.** Med Eng Phys. 36, 1225-1232. 2014. https://www.ncbi.nlm.nih.gov/pubmed/25001172
10. Bonaretti S., Seiler C., Boichon C., Reyes M., Büchler P. **Image-based vs. Mesh-based Statistical Appearance Model of the Human Femur: Implications for Finite Element Simulations.** Med Eng Phys. 36, 1626-1625. 2014. https://www.ncbi.nlm.nih.gov/pubmed/25271191

11. Kistler M., Bonaretti S., Pfahrer M., Niklaus R., Büchler P. **The Virtual Skeleton Database: An Open Access Repository for Biomedical Research and Collaboration.** J Med Internet Res. 12;15(11):e245. 2013. https://www.ncbi.nlm.nih.gov/pubmed/24220210
12. Schulz A.P., Reimers N., Wipf F., Vallotton M., Bonaretti S., Kozic N., Reyes M., Kienast B.J. **Evidence Based Development of a Novel Lateral Fibula Plate (VariAx Fibula) Using a Real CT Bone Data Based Optimization Process During Device Development.** Open Orthop J. 6,1-7. 2012. https://www.ncbi.nlm.nih.gov/pubmed/22312417

PEER-REVIEWED CONFERENCE PAPERS

1. Kistler M., Bonaretti S., Boichon C., Rochette M., Büchler P. **Methods to Accelerate Finite Element Calculations in Biomechanics Using a Statistical Database of Pre-Calculated Simulations.** 10th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering. 11-14 April 2012. Berlin, Germany.
2. Bonaretti S., Seiler C., Boichon C., Büchler P., Reyes M**.** ***Mesh-based vs. Image-based Statistical Model of Appearance of the Human Femur: a Preliminary Comparison Study for the Creation of Finite Element Meshes.*** Mesh Processing in Medical Image Analysis - MICCAI 2011 workshop. 18 September 2011. Toronto, Canada.
3. Bonaretti S., Helgason B., Seiler C., Reyes M., Büchler P. **Combined Statistical Model of Bone Shape and Mechanical Properties for Bone Modelling.** 9th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering. 24-27 February 2010. Valencia, Spain.
4. Bonaretti S., Reimers N., Reyes M., Nikitsin A., Joensson A., Nolte L., Büchler P. **Assessment of Peri-Articular Implant Fitting Based on Statistical Finite Element Modelling.** Computational Biomechanics for Medicine III – MICCAI 2008 workshop. 10 September 2008. New York, NY, USA.

CONFERENCE ABSTRACTS

1. Bonaretti S., Gold G., Beaupre G. **pyKNEEr: Reproducible Workflow for Automatic Segmentation and Analysis of Femoral Knee Cartilage.** 22nd International Workshop on Quantitative Musculoskeletal Imaging. 24 February - 1 March 2019. Chateau Lake Louise, Canada.
2. Maier J., Aichert A., Mehringer W., Bier B., Eskofier B., Levenston M., Gold G., Fahrig R., Bonaretti S., Maier A. **Feasibility of Motion Compensation using Intertial Measurements in C-arm CT. IEEE Nuclear Science Symposium & Medical Imaging Conference.** 10-17 November 2018. Sydney, Australia.
3. Bier B., Berger M., Maier J., Unberath M., Hsieh S., Bonaretti S., Fahrig R., Levenston M., Gold G., Maier A. **Object Removal in Gradient Domain of Cone-Beam CT Projections.** IEEE Nuclear Science Symposium & Medical Imaging Conference. 29 October – 5 November 2016. Strasbourg, France.
4. Bonaretti S., Carballido-Gamio J., Keyak J., Saeed I., Yu L., Bruesewitz M., Burghardt A.J., Khosla S., Lang T.F. **QCT Intra- and Inter-Scanner Precision in Estimation of Proximal Femur Strength**. American Society for Bone and Mineral Research. 9-12 October 2015. Seattle, WA, USA.
5. Bonaretti S., Vilayphiou N., Yu A., Holets M., Nishiyama K., Liu D., Boutroy S., Ghasem-Zadeh A., Boyd S.K., Chapurlat R., McKey H., Shane E., Bouxein M.L., Lang T.F., Khosla S., Cawton P.M., Black D.M., Majumdar S., Orwoll E.S., Burghardt A.J. **Standardized Training For HR-pQCT Scan Positioning Reduces Inter-Operator Precision Errors: The MrOs Multicenter Study Experience.** American Society for Bone and Mineral Research. 9-12 October 2015. Seattle, WA, USA.
6. Bonaretti S., Holets M., Derrico N.P., Nishiyama K., Liu D., Boutroy S., Raymond D., Ghasem-Zadeh A., Seeman E., Boyd S.K., Chapurlat R., McKay H., Shane E., Bouxsein M.L., Lang T.F., Khosla S., Burghardt A.J. **The Role of Intra- and Inter-Operator Variability in HR-pQCT Precision.** International Bone Densitometric Workshop. 13-17 October 2014. Hong Kong.
7. Carballido-Gamio J., Bonaretti S., Kazakia G.J., Khosla S., Lang T.F., Burghardt A.J**. Population-Based Local Multi-Parametric Comparisons of HR-pQCT Studies.** International Bone Densitometric Workshop. 13-17 October 2014. Hong Kong.

8. Bonaretti S., Holets M., Derrico N.P., Nishiyama K., Liu D., Boutroy S., Chapurlat R., McKay H., Shane E., Bouxsein M., Lang T., Khosla S., Burghardt A.J. **Intra- and Inter-Operator Variability in HR-pQCT Scan Positioning.** American Society for Bone and Mineral Research. 12-15 September 2014. Houston, TX, USA.
9. Bonaretti S., Holets M., Saeed I., McCready L., Lang T., Khosla S., Burghardt A.J. **Comparability of HR-pQCT Bone Quality Measures Improved by Scanning Anatomically Standardized Regions.** American Society for Bone and Mineral Research. 12-15 September 2014. Houston, TX, USA.
10. Carballido-Gamio J., Bonaretti S., Saeed I., Harnish R., Recker R., Burghardt A.J., Keyak J., Harris T., Khosla S., Lang T**. Automatic QCT Quantification of the Proximal Femur: vBMD, Bone Volume, Cortical Bone Thickness and Finite Element Modeling.** American Society for Bone and Mineral Research. 12-15 September 2014. Houston, TX, USA.
11. Ghasem-Zadeh A., Burghardt A.J., Zendeli A., Bonaretti S., Bjornerem A., Wang X.-F., Kazakia G., Zebaze R., Seeman E. **Assessing Age, Sex and Racial Differences in Cortical Porosity Requires Adjustment for Site-Specific Variation in the Selected Region of Interest.** American Society for Bone and Mineral Research. 12-15 September 2014. Houston, TX, USA.
12. Bonaretti S., Saeed I., Burghardt A.J., Yu L., Bruesewitz M., Khosla S., Lang T.F. **Effect of Body Size on the Quantification of Bone Mineral Density from QCT Images Using a Novel Anthropomorphic Hip Phantom.** American Society for Bone and Mineral Research. 4-7 October 2013. Baltimore, MD, USA.
13. Carballido-Gamio J., Bonaretti S., Holets M., Saeed I., McCready L., Majumdar S., Lang T.F., Khosla S., Burghardt A.J. **Automated Scan Prescription For HR-pQCT: A Multi-Atlas Prospective Registration Approach.** American Society for Bone and Mineral Research. 4-7 October 2013. Baltimore, MD, USA.
14. Kistler M., Bonaretti S., de Oliveira M.E., Boichon C., Rochette M., Büchler P. **Statistical Model of Appearance to Accelerate Finite Element Calculations in Biomechanics.** 19th Congress of the European Society of Biomechanics. 1-4 July 2012. Lisbon, Portugal.
15. de Oliveira M.E., Kistler M., Hellmuth, R.A.D, Gerber N., Schumann S., Bonaretti S., Büchler P. **A Consistent Method for Modelling Subject Specific Muscoloskeletal Systems.** 19th Congress of the European Society of Biomechanics. 1-4 July 2012. Lisbon, Portugal.
16. Sigurðardóttir B., Bonaretti S., Örlygsson G., Sigurjónsson Ó.E., Ferguson S.J., Helgason B. **Are Iso-Elastic Femoral Stems Beneficial for Secondary Implant Stability in Cementless THA?** The Annual Meeting of the Swiss Society for Biomedical Engineering. 22 August 2011. Bern, Switzerland.
17. Bonaretti S., Seiler C., Rochette M., Helgason B., Reyes M., Büchler P. **Statistical Finite Element Model for the Virtual Skeleton Database.** NCCR Co-Me Scientific Advisory Board Meeting. 9-10 February 2011. Interlaken, Switzerland.
18. Bonaretti S., Helgason B., Seiler C., Reyes M., Büchler P. **Statistical Finite Element Modeling: Application to Orthopaedic Implant Design.** Graduate School for Cellular and Biomedical Sciences Symposium. 28 January 2011. Bern, Switzerland.
19. Bonaretti S., Seiler C., Reyes M., Büchler P. **Statistical Finite Element Modeling for the Virtual Skeleton Database.** NCCR Co-Me Research Networking Workshop. 26-27 August 2010. Zürich, Switzerland.
20. Bonaretti S., Helgason B., Seiler C., Reyes M., Büchler P. **A Statistical Shape Model of Bone Anatomical Variability for Finite Element Assessment of Bone Mechanics.** 17th Congress of the European Society of Biomechanics. 5-8 July 2010. Edinburgh, UK.
21. Bonaretti S., Seiler C., Helgason B., Reyes M., Büchler P. **Statistical Finite Element Modeling for the Virtual Skeleton Database.** NCCR Co-Me Scientific Advisory Board Meeting. 19-20 February 2010. Winterthur, Switzerland.
22. Bonaretti S., Helgason B., Seiler C., Reyes M., Büchler P. **A Statistical Shape Model of Bone Anatomical Variability for Finite Element Assessment of Bone Mechanics.** Graduate School for Cellular and Biomedical Sciences Symposium. 27 January 2010. Bern, Switzerland.
23. Bonaretti S., Seiler C., Büchler P., Reyes M. **Computing Average Anatomical Images: Comparison between Thin-Plate Spline and Log-Euclidean Approach.** The Annual Meeting of the Swiss Society for Biomedical Engineering. 27-28 August 2009. Bern, Switzerland.

24. Bonaretti S., Büchler P., Reimers N., Schmidt W., Seiler C., Weber S., Reyes M. **Automatic Bone Density Evaluation from CT Images.** Computer Assisted Orthopaedic Surgery. 17-20 June 2009. Boston, MA, USA.
25. Bonaretti S., Nikitsin A., Reimers N., Joensson A., Rueckert D., Reyes M., Büchler P. **Shape and Biomechanical Model for Population-Specific Design of Anatomical Peri-Articular Implants.** CTI Medtech Event. 2 September 2008. Bern, Switzerland.
26. Bonaretti S., Reimers N., Rueckert D., Reyes M., Gonzales-Ballester M.A., Büchler P. **Statistical Finite Element Analysis for Bone Modelling.** 16th Congress of the European Society of Biomechanics. 6-9 July 2008. Lucerne, Switzerland.
27. Bonaretti S., Büchler P., Rueckert D., Reyes M., Gonzáles M.A., **Statistical Finite Element Model for Bone and Implant Modeling.** NCCR Co-Me Scientific Advisory Board Meeting. 14 February 2008. Neuchatel, Switzerland.
28. Brega F., Razza S., Bonaretti S., Burdo S. **Morphological and Functional Correlation Using X-Rays and SOE.** Objective Measures in Cochlear and Brainstem Implants – 5th International Symposium and Related Additional Events. 9-12 May 2007. Varese, Italy.
29. Razza S., Bonaretti S., Burdo S. **Acoustical Signal Check: Microphone Integrity Evaluation Through a Common Hearing Aid Analyzer.** Objective Measures in Cochlear and Brainstem Implants – 5th International Symposium and Related Additional Events. 9-12 May 2007. Varese, Italy.
30. Burdo S., Razza S., Bonaretti S., Bani Alunno M., Tognola G. **Cortical Responses and Age at Cochlear Implant.** Objective Measures in Cochlear and Brainstem Implants – 5th International Symposium and Related Additional Events. 9-12 May 2007. Varese, Italy.