

CURRICULUM VITAE

NAME: Masanori KIKUCHI

POSITION: Group Leader, Bioceramics Group, National Institute for Materials Science

DATE OF BIRTH: November 27, 1966

EDUCATION & DEGREE:

- 1986-1990, Waseda University, School of Science and Engineering, Department of Mineral Resources Engineering (B.E)
- 1990-1995, Graduate School (Mineral Resources and Material Engineering), Waseda University.
- 1992, M.E. (Waseda University)
- 1995, Ph.D. (Engineering) (Waseda University)



VOCATION:

- 1995-1998, Visiting Researcher, Advanced Research Center for Science and Engineering, Waseda University.
- 1995-2001, Researcher, National Institute for Research in Inorganic Materials (NIRIM)
- 2000 Short Time Visiting Researcher, Cartilage Repair Center, Brigham & Women's Hospital, Harvard Medical School. Supervised by Dr. Shuichi Mizuno
- 2001-2002, Researcher, National Institute for Materials Science. (The former NIRIM and National Research Institute for Metal were combined and restructured as Agency.)
- 2002-2004, Research Fellow, Orthopedic Research, Brigham and Women's Hospital, Harvard Medical School Supervised by Prof. Julie Glowacki. (Cell and molecular biology)
- 2003-2006, Senior Researcher, National Institute for Materials Science
- 2004-2012, Visiting Professor, Kanazawa Institute of Technology (Biomedical Materials)
- 2005-2006, Visiting Lecturer, Okayama University (Biomedical Materials)
- 2006-2007, Affiliated Fellow, Science and Technology Foresight Center (Nanotechnology and Materials Research Unit)
- 2006-present Visiting Professor, Okayama University (Biomedical Materials)
- 2007-Present Group Leader, Bioceramics Group, National Institute for Materials Science
- 2007-present Part-time Faculty, Meiji University (Earth Science)
- 2011-present Visiting Professor, Hokkaido University Graduate School of Information Science and Technology
- 2016-present Professor, School of Integrative and Global Majors, University of Tsukuba

RESEARCH:

Bioceramics, Composite biomaterials of ceramics and polymers, Inorganic crystallography.

APPOINTMENTS:

Memberships: Material Research Society, Ceramics Society of Japan (Executive board member: 2017-2018, President of the Division of Ceramics in Medicine, Biology and Biomimetics: 2017-present; Vice president of the Division of Ceramics in Medicine, Biology and Biomimetics: 2008-2016, Journal editorial board member: 2000-2002, Event Planning Committee: 2006-2012 (2009-2012, Vice-president of Fall symposium committee), Bulletin of the Ceramics Society of Japan editorial board member (2009-2012)), Japanese Society of Biomaterials (Board member: 2012-present, Standardization committee: 2006-2012,)

Executive board member of The Japanese Society for Oromaxillofacial Biomechanics (2011-2019), Japanese Society of Apatite Science (2007-present) and Bio-Integration Society (2012-present)

Editorial Board for the Journal Bio-Medical Materials and Engineering (2012-present)

VAMAS (2004-2012, Domestic committee member; 2004-2012, TWA30 (Tissue Engineering) International Secretary), ISO/TC150 (2006-present, Domestic committee member: 2007-present, SC7 secretariat country committee member), 2011-present Convener of ISO/TC150/SC1/WG3 "Implant for Surgery/Materials/Ceramics"

ACADEMIC AWARDS:

1999. 5 Award for Good Achievement, "Research on development of Self-Organized Organic/Inorganic Composite using Interaction between Materials Surface.", Science and Technology Agency (Present: Ministry of Education, Culture, Sports, Science and Technology)
2000. 3. Takagi Award for Good Presentation, "The Biomimetic Synthesis of Hydroxyapatite/Collagen Nanocomposites with Bone-Related Cell Inductive Property.", Intelligent Material Forum
2000. 4. Ichimura Academic Award, "Creation of Organic/Inorganic composite using Self-Organization Process. - Development of Tissue Inductive Material -", The New Technology Development Foundation
2001. 5 55th Award of The Ceramic Society of Japan, "Research on the Composite for Guided Bone Regeneration Membrane with controlled Interaction between the Inorganic/Organic Interfaces", Ceramic Society of Japan.
- 2004.11 Young Investigator Award, Fabrication of porous body using HAp/Col nanocomposite and its biological reaction, Korea-Japan International Seminar on Ceramics
- 2005.1 Top 1% cited paper in the field (45 times cited), Masanori Kikuchi, Self-Organization Mechanism in a Bone-like Hydroxyapatite / Collagen Nanocomposite Synthesized *in vitro* and Its Biological Reaction *in vivo*, *Biomaterials*, 22, 1705-1711 (2001), Thomson Web of Science.
- 2017.4 President Prize Award, Practical applications of bone void fillers composed of hydroxyapatite and hydroxyapatite/collagen nanocomposite, President of NIMS.
- 2018.10 Award for High Contribution to International Standardization, Ministry of Economy, Trade and Industry, Japan.
- 2019.11 74th Award of The Ceramic Society of Japan, "Developments of Calcium Phosphate-Based Artificial Bone Utilizing Interaction between Inorganic/Organic Interface", Ceramic Society of Japan.

SKILLS:

Ceramic and Composite Science: Self-organization of calcium phosphates and organic molecules, Ceramic Processing in wet, dry, hydrothermal methods, X-ray

Diffractometries (powder, Weissenberg, 4-circle, *etc*), Thermogravimetry, Differential thermal analysis, Atomic absorption analysis, ICP, wet chemical analysis, EDS and WDS, mechanical tests (compressive, tensile, 3- and 4-point bending), Infrared spectroscopy.

Biology: Cell cultures (cell-line and primary (human osteoblast, mesenchymal stem cells), Pressure-perfusion cell culture, Histology (histochemical, histoenzymatic, immunohistochemical), DNA and RNA extractions, DNA quantitative analysis, RT-PCR including quantitative RT-PCR, Western blotting, protein analysis including Alkaline phosphatase activity quantitation.

Both: Scanning and Transmission Electron Microscopies.

FUNDINGS:

1. Study on Preparation and Medical Application of Materials for Tissue Regeneration, 1 (Science and Technology Agency, Japan) 1996-2001, 0.1M USD/year.
2. Tissue Engineering Materials, Seed Seeking for International Collaboration (Japan Science and Technology Co., Japan) 2000, 5,000 USD.
3. Artificial Bone composed of hydroxyapatite and Collagen, JST fund (Japan Science and Technology Co., Japan) 2001, 10,000 USD.
4. Study on Biomimetic Nanostructured Biomaterials as one of three main topics of "Nanotechnology Driven Development of Artificial Organs", Leading Project of Science and Technology Research Promotion (Japan Science and Technology Co., Japan) 2002-2008, 0.1M USD/year.
5. Synthesis of Biomolecule-imparted Hydroxyapatite/Collagen Nanocomposite toward Early Bone Regeneration, "Kaken-hi" Budget of Japan Society for the Promotion of Science, 2010-2012, 12,000 USD/year.
6. Study on functionalization of marine wastes, sea urchin test and starfish, Shakotan-cho, Hokkaido, Japan, 2015-2018, 60,000 USD.

LIST OF SELECTED PUBLICATIONS:

Paper (Total: 152, total first authorship: 42.) Boldface in the list means that citation/year of that paper is more than 5.0. Paper #37 was awarded again in the next top 1% citation in Materials Science field (2000-2004) and h-index is 27.

1. Akari Takeuchi, Takuma Hikita, Hiroko Hamano, Masamoto Tafu, Masanori Kikuchi, Search for Novel Use of Waste Gypsum: Part 1. Detailed Investigation on Waste Gypsum Phosphatization, *Ceramics in Modern Technology*, *In Press*.
2. Masanori Kikuchi, Yuki Arioka, Masamoto Tafu, Mitsuteru Irie, Changes in Fluoride Removal Ability of Chicken Bone Char With Changes in Calcination Time, *International Journal of Ceramic Engineering & Science*, DOI:10.1002/ces2.10034 (2019).
3. Chenning Zhang, Tetsuo Uchikoshi, Lihong Liu, Masanori Kikuchi, Controllable Design of Various Microstructures for Hydroxyapatite Coatings By Electrophoresis Deposition Process for Biomedical Applications, *Journal of The Electrochemical Society*, 166 (13), D700-D706, DOI:10.1149/2.0061914jes (2019)
4. Taizo Hiratsuka, Masayoshi Uezono, Kazuo Takakuda, Masanori Kikuchi, Sho Oshima, Taira Sato, Shoichi Suzuki, Keiji Moriyama, Enhanced Bone Formation onto The Bone Surface Using A Hydroxyapatite/Collagen Bone-Like Nanocomposite, *J Biomed Mater Res.*, , 8 pages, DOI:<https://doi.org/10.1002/jbm.b.34397> (2019)
5. Chenning Zhang, Tetsuo Uchikoshi, Lihong Liu, Masanori Kikuchi, Izumi Ichinose, Nest-Like Microstructured Biocompatible Membrane Fabricated By Hydrothermally-Synthesized Hydroxyapatite (hap) Whiskers, *Journal of The European Ceramic Society*, , pages, DOI:doi.org/10.1016/j.jeurceramsoc.2019.09.032 (2019)
6. Taira Sato, Yuki Shirosaki, Masaki Nagaya, Yoshinori Asano, Kazuaki Nakano, Hiroshi

- Nagashima, Mamoru Aizawa, Masanori Kikuchi, Preparation of Anti-Decay Self-Setting Pastes of Hydroxyapatite/Collagen Utilizing (3-Glycidoxypropyl)trimethoxysilane, *Journal of Asian Ceramic Societies*, 6(4), 322-331, DOI:10.1080/21870764.2018.1517712 (2018)
7. Kouichi Yasuda, Toshiyuki Kawano, Masanori Kikuchi, Mamoru Aizawa, Kanji Tsuru and Sadami Tsutsumi, Validity Check of Easy-To-Use Torsion Test Method for Bioceramics, *Journal of Asian Ceramic Societies*, DOI:10.1080/21870764.2018.1439613 (2018)
 8. Naga Vijaya Lakshmi Manchinasetty, Sho Oshima and Masanori Kikuchi, Preparation of Flexible Bone Tissue Scaffold Utilizing Sea Urchin Test And Collagen, *Journal of Materials Science: Materials in Medicine*, 28, pages, DOI:10.1007/s10856-017-5993-5 (2017).
 9. Naga Vijaya Lakshmi MANCHINASETTY, Taira SATO, Mamoru AIZAWA, Sridharan MADANAGURUSAMY and Masanori KIKUCHI, Influences of Combined Supplementation of Calcium Citrate And Calcium Carbonate on Injectable And Anti-Washout Hydroxyapatite/Collagen Bone Paste Utilizing Sodium Alginate, *Journal of The Ceramic Society of Japan*, 125(7), 579-583 (2017)
 10. Taira Sato, Masanori Kikuchi, Mamoru Aizawa, Preparation of Hydroxyapatite/Collagen Injectable Bone Paste With An Anti-Washout Property Utilizing Sodium Alginate. Part 1: Influences of Excess Supplementation of Calcium Compounds, *Journal of Materials Science: Materials in Medicine*, 28(3), 491-497 (2017)
 11. Akari Takeuchi, Tomohito Tsuge, Masanori Kikuchi, Preparation of Porous β -Tricalcium Phosphate Using Starfish-Derived Calcium Carbonate As A Precursor, *Ceramics International*, 42(14), 15376–15382 (2016)
 12. Yuka Takemura, Masanori Kikuchi, Masamoto Tafu, Takeshi Toshima, Tetsuji Chohji, Reactivity Improvement of Dicalcium Phosphate Dihydrate With Fluoride for Its Removal From Waste And Drinking Water, *Universal Journal of Materials Science*, 4(3), 60-64 (2016)
 13. ITO A., SOGO Y., YAMAZAKI A., AIZAWA M., OSAKA A., HAYAKAWA S., KIKUCHI M., YAMASHITA K., TANAKA Y., TADOKORO M., SENA L.A., BUCHANAN F., OHGUSHI H., BOHNER Marc., Interlaboratory Studies on in Vitro Test Methods for Estimating in Vivo Resorption of Calcium Phosphate Ceramics, *Acta Biomaterialia*, 25, 347-355 (2015)
 14. Bodhak S, Kikuchi M, Sogo Y, Tsurushima H, Ito A, Oyane A, Calcium Phosphate Coating on A Bioresorbable Hydroxyapatite/Collagen Nanocomposite for Surface Functionalization, *Chemistry Letter*, 42[9], 1029-1031 (2013)
 15. Sato T, Akinori K, SHIROSAKI Y, Hayakawa S, Aizawa M, Osaka A, Kikuchi M., Preparation of Injectable Hydroxyapatite/Collagen Paste Using Sodium Alginate And Influence of Additives, *Journal of Ceramic Society of Japan*, 121 [9], 775-781 (2013)
 16. Masayoshi Uezono, Kazuo Takakuda, Masanori Kikuchi, Shoichi Suzuki, Keiji Moriyama, Hydroxyapatite/Collagen Nanocomposite-Coated Titanium Rod for Achieving Rapid Osseointegration onto Bone Surface, *Journal of Biomedical Materials Research B: Applied Biomaterials*, 101B (6), 1031-1038 (2013)
 17. Kang, B.-J., Ryu, H.-H., Park, S.S., Koyama, Y., Kikuchi, M., Woo, H.-M., Kim, W.H., Kweon, O.-K., Comparing The Osteogenic Potential of Canine Mesenchymal Stem Cells Derived From Adipose Tissues, Bone Marrow, Umbilical Cord Blood, And Wharton's Jelly for Treating Bone Defects, *Journal of Veterinary Science*, 13 (3), 299-310 (2012)
 18. M. Kikuchi, Effect of Test Circumstances on Compressive Strength of Porous Calcium Phosphate Ceramics for Establishment of Standard Measurement Condition, *Bioceramics Development And Applications (journal of International Society for Ceramics in Medicine)*, 1, doi:10.4303/bda/D101201, 2010.

19. BYEON Ye-Eun, RYU Hak-Hyun, KOYAMA Yoshihisa, KIKUCHI Masanori, KIM Wan Hee, KANG Kyung-Sun, KWEON Oh-Kyeong, Particline Effect of Canine Allogenic Umbilical Cord Blood-Derived Mesenchymal Stromal Cells Mixed With Beta Tricalcium Phosphate on Bone Regeneration in Ectopic Implantations, *Cytotherapy*, 12, 626-636, 2010.
20. Teruaki Yoshida, Masanori Kikuchi, Yoshihisa Koyama and Kazuo Takakuda, Osteogenic Activity of MG63 Cells on Bone-Like Hydroxyapatite/Collagen Nanocomposite Sponges, *Journal of Materials Science: Materials in Medicine*, 21 (4), 1263–1272, 2010.
21. Hidetsugu Maehara, Toshitaka Yoshii, Ichiro Torigoe, Yuichi Kawasaki, Yumi Sugata, Masato Yuasa, Masahiro Hirano, Naomi Mochizuki, Masanori Kikuchi, Kenichi Shinomiya and Atsushi Okawa, Repair of Large Osteochondral Defects in Rabbits Using Porous Hydroxyapatite/Collagen (HAp/Col) And Fibroblast Growth Factor-2 (FGF-2), *Journal of Orthopaedic Research*, 28 (5), 677-686, 2010.
22. Byeon Ye-Eun, Ryu Hak-Hyun, Park Sung Su, KOYAMA Yoshihisa, KIKUCHI Masanori, Seo Min-Soo, Kim Wan Hee, Kang Kyung-Sun, Kweon Oh-Kyeong, Comparison of Canine Allogenic Umbilical Cord Blood Derived Mesenchymal Stem Cells And Their Lysates Mixed With Beta-Tricalcium Phosphate in Orthotopic Implantation, *Tissue Engineering And Regenerative Medicine*, 6 [4-11], 833-839, 2009.
23. Tsuchiya, A., Sotome, S., Asou, Y., Kikuchi, M., Koyama, Y., Ogawa, T., Tanaka, J., Shinomiya, K. , Effects of Pore Size And Implant Volume of Porous Hydroxyapatite/Collagen (hap/Col) on Bone Formation in A Rabbit Bone Defect Model, *Journal of Medical And Dental Sciences* 55(1), 91-99, 2008.
24. Byung-Jun Jang, Ye-Eun Byeon, Ji-Hey Lim, Hak-Hyun Ryu, Wan Hee Kim, Yoshihisa Koyama, Masanori Kikuchi, Kyung-Sun Kang, Oh-Kyeong Kweon, Implantation of Canine Umbilical Cord Blood-Derived Mesenchymal Stem Cells Mixed With Beta-Tricalcium Phosphate Enhances Osteogenesis in Bone Defect Model Dog, *Journal of Veterinary Science* 9(4), 387-393, 2008.
25. Takakuda K, Koyama Y, Matsumoto HN, Shirahama N, Akita K, Shoji D, Ogawa T, Kikuchi M, Tanaka J, Material design of bioabsorbable inorganic/organic composites for bone regeneration, *J Nanosci. & Nanotech.*, 7(3), 738-741, 2007.
26. Koyama Y, Kikuchi M, Edamura K, Nagaoka K, Tanaka S , Tanaka J, Takakuda K, Reconstruction of bone fenestration on mandiblar by the guided bone regeneration methods with beta-TCP/PLGC membranes, *J Nanosci. & Nanotech.*, 7(3), 859-861, 2007.
27. Taehoon Oh, Md. Mizanur Rahman , Ji-Hey Lim , Mi-Sun Park , Dae-Yong Kim , Jung-hee Yoon , Wan Hee Kim , Masanori Kikuchi , Junzo Tanaka, Yoshihisa Koyama , Oh-Kyeong Kweon, Guided bone regeneration with beta-tricalcium phosphate and poly L-lactide-co-glycolide-co-epsilon-caprolactone membrane in partial defects of canine humerus, *J. Vet. Sci.*, 7(1), 73-77, 2006.
28. **S. Yunoki, T. Ikoma, A. Monkawa, K. Ohta, M. Kikuchi, S. Sotome, K. Shinomiya and J. Tanaka, Control of pore structure and mechanical property in hydroxyapatite/collagen composite using unidirectional ice growth, *Mater Let.*, 60(8), 999-1002, 2006**
29. Nishikawa T, Masuno K, Tominaga K, Koyama Y, Yamada T, Takakuda K, Kikuchi M, Tanaka J, Tanaka A., Bone Repair Analysis in a Novel Biodegradable Hydroxyapatite/Collagen Composite Implanted in Bone, *Implant Dent.* 14(3), 252-60 (2005).
30. Soichiro Itoh, Masanori Kikuchi, Yoshihisa Koyama, Hiroko N. Matsumoto, Kazuo Takakuda, Kenichi Shinomiya, Junzo Tanaka, Hydroxyapatite. Collagen (HAp/Col) Composite for Medical Use, *Bio-Med. Mater. Eng.*, 15(1-2), 29-41, 2005.
31. **Soichiro Itoh, Masanori Kikuchi, Yoshihisa Koyama, Kazuo Takakuda, Kenichi**

- Shinomiya, Junzo Tanaka, Development of a Hydroxyapatite/Collagen (HAp/Col) Nano-Composite as a Medical Device: The Effect of Cross-Linking to the HAp/Col Implant, Cell Transplant., 13, 451-61, 2004**
32. Shinichi Sotome, Toshimasa Uemura, Masanori Kikuchi, Chen Jiani, Soichiro Itoh, Junzo Tanaka, Tetsuya Tateishi, Kenichi Shinomiya, Synthesis and in vivo evaluation of a novel Hydroxyapatite/Collagen-alginate as bone filler and a drug delivery carrier of bone morphogenetic protein, *Materials Science & Engineering C*, C24, 341-7, 2004
 33. **Masanori Kikuchi, Yoshihisa Koyama, Takeki Yamada, Yukari Imamura, Takao Okada, Noriaki Shirahama, Kazumi Akita, Kazuo Takakuda, Junzo Tanaka, Development of Guided Bone Regeneration Membrane composed of β -tricalcium phosphate and poly (L-lactide -co- glycolide-co- ϵ -caprolactone) composites, *Biomaterials*, 25, 5979-5986, 2004.**
 34. **Masanori Kikuchi, Hiroko N. Matsumoto, Takeki Yamada, Yoshihisa Koyama, Kazuo Takakuda and Junzo Tanaka, Glutaraldehyde cross-linked hydroxyapatite/Collagen Self-Organized Nanocomposites, *Biomaterials*, 25, 63-69, 2004.**
 35. Masanori KIKUCHI, Yoshihisa KOYAMA, Kazuo TAKAKUDA, Hiroo MIYAIRI, Noriaki SHIRAHAMA, and Junzo TANAKA, *In Vitro* Change in Mechanical Strength of -Tricalcium Phosphate / Copolymerized Poly-L-Lactide Composites and Their Application for Guided Bone Regeneration, *J. Biomed. Mater. Res.*, 62(2), 265-272, 2002.
 36. Itoh S, Kikuchi M, Takakuda K, Nagaoka K, Koyama Y, Tanaka J, Shinomiya K., Implantation study of a novel hydroxyapatite/collagen (HAp/col) composite into weight-bearing sites of dogs., *J Biomed Mater Res*, 63(5), 507-515, 2002
 37. **Masanori Kikuchi, Soichiro Itoh, Shizuko Ichinose, Kenichi Shinomiya and Junzo Tanaka, Self-Organization Mechanism in a Bone-like Hydroxyapatite / Collagen Nanocomposite Synthesized *in vitro* and Its Biological Reaction *in vivo*, *Biomaterials*, 22, 1705-1711 (2001).**
 38. Soichiro Itoh, Masanori Kikuchi, Kazuo Takakuda, Yoshihisa Koyama, Hiroko N. Matsumoto, Shizuko Ichinose, Junzo Tanaka, Toshiyuki Kawauchi and Kenichi Shinomiya, The biocompatibility and osteoconductive activity of a novel biomaterial, hydroxyapatite/collagen composite, and its function as a carrier of rhBMP-2, *J. Biomed. Mater. Res.*, 54(3), 445-453 (2001).
 39. **Masanori Kikuchi, Yasushi Suetsugu, Junzo Tanaka, Masaru Akao, Preparation and mechanical properties of calcium phosphate/copoly-L-lactide composites, *J. Mater. Sci., Mater. in Med.*, 8, 361-364 (1997).**
 40. Masanori Kikuchi, Atsushi Yamazaki, Masaru Akao, Hideki Aoki, Thermal Changes in Synthetic Deuterioxyapatite, *Mineralogical J.*, 18, 79-86 (1996)
 41. Masanori Kikuchi, Atsushi Yamazaki, Masaru Akao, Hideki Aoki, Cytotoxicity of Synthetic Barium Hydroxyapatite, *Bio-Med. Mater. Eng.*, 6, 405-413 (1996)
 42. Tohru Takagi, Ryuichi Fujisawa, Masaru Akao, Masanori Kikuchi, Noriyuki Nagai, Satoshi Sasaki, effects of Bovine Amelogenin and Enamelin on *in vitro* Mineralization in Gel, *J. Hard Tissue Biology*, 5, 15-22 (1996)
 43. Masanori Kikuchi, Atsushi Yamazaki, Ryohei Otsuka, Masaru Akao, Hideki Aoki, Crystal Structure of Sr-Substituted Hydroxyapatite Synthesized by Hydrothermal Method, *J. Solid State Chem.*, 113, 373-378 (1994)

Book (Total: 32, total first authorship: 25)

1. KIKUCHI Masanori, SUETSUGU Yasushi, KOYAMA Yoshihisa, SOTOME Shinichi, ITOH Soichiro, TAKAKUDA Kazuo, SHINOMIYA Kenichi, EDAMURA Kazuya, NAGAOKA Katsuyoshi, TANAKA Shigeo, Bone Regeneration Materials Based on

- Calcium Phosphate Ceramic, *Biomaterials in Asia* , 327-342, 2008.
2. Masanori Kikuchi, *Material Design of Ceramic/Polymer Composites for Regenerative Medicine, Surface Design And Modification of Biomaterials for Clinical Application* , 189-203, 2008.
 3. M. Kikuchi, "Synthesis of Bone-Like Hydroxyapatite/Collagen Self-Organized Nanocomposites" in "Chemical Processing of Ceramics Second Edition" Burtrand I. Lee ed., 613-627 (2005), Taylor & Francis Group.
 4. M. Kikuchi, "Self-Organized Artificial Bone" in "Soft-Nanotechnology - Biomaterials Revolution-" J Tanaka, M. Shimomura, M. Kikuchi, A. Taniguchi, M. Yamato, Y. Tabata, Y. Miyahara ed., 5-14 (2005), T.I.C, Tokyo (in Japanese).
 5. M. Kikuchi, "Self-Organization" in "Regenerative Medicine Illustrated (Zukai Saisei Iryo)" J Tanaka, T Tateishi, T. Ushida, M. Kikuchi, H. Kobayashi, Y. Miyahara ed., 96-100 (2004) Kogyo Chosa Kai, Tokyo (in Japanese)
 6. M. Kikuchi, "Organic-Inorganic Hybrid Materials using Self-Organization" in "Organic-Inorganic Hybrid Materials and Materials for Tissue Engineering" M. Tanihara ed., 225-240 (2001) I.P.C, Tokyo, (in Japanese)
 7. M. Kikuchi and J. Tanaka, "Collagen and Inorganic Compounds" in "Handbook of Biomimetics" Y. Osada, S. Kai, Y Kasu, K. Kataoka, K, Sakai and J. Tanaka ed., 479-482 (2000) N.T.S Co., Tokyo (in Japanese)
- (Additional 16 chapters in 16 books (joint authorship with Dr. Junzo Tanaka) and 9 chapter in 9 book (single authorship) were published in Japanese. Join as an editor in two books (#4 and 5).)

Review (Total: 42, total first authorship: 28)

1. Masanori Kikuchi, *Hydroxyapatite/Collagen Bone-Like Nanocomposite*, *Biological & Pharmaceutical Bulletin*, 36(11), 1666-1669 (2013)
 2. Masanori Kikuchi, *Composite Artificial Bone Materials*, *Jinko-Zoki (Japanese Journal of Artificial Organs)*, 40(1), 2011 (in Japanese).
 3. Masanori Kikuchi, *Bioceramics-Based Materials Mimicking Bone Nanostructure*, *J Japn Soc Biomater*, 27(2), 103-109, 2009 (in Japanese).
 4. Masanori Kikuchi, Mamoru Aizawa, *The State of Art of Research and Development in Bioceramics*, *Bul Ceram Soc Japan*, 43(11), 978-982 (2008) (in Japanese)
 5. Masanori Kikuchi, *The State of the Art of Bone Regeneration using Organic/Inorganic Composite Materials*, *Kogyo-Zairyo (Industrial Materials)*, 55(3), 46-50 (2007) (in Japanese).
 6. Masanori Kikuchi, *Apatite/Collagen Composite*, *Hone-to-Kotsutaisha*, 19(4), 319-324 (2006) (in Japanese)
 7. Masanori Kikuchi, Junzo Tanaka, *Next-Generation Artificial Bone Hydroxyapatite/Collagen Nanocomposite*, *Chemical Engineering*, 51(6), 425-429 (2006) (in Japanese).
 8. Masanori Kikuchi, Yasushi Suetsugu, Junzo Tanaka, *Research in Biomaterials Center, National Institute for Materials Science, Phosphorus Research Bulletin* , 20, 1-10 (2006)
 9. Masanori Kikuchi, Masataka Sakane, *Bone and Tendon Regeneration Materials Based-on Soft-Nanotechnology*, *Zairyo-no-Kagaku-to-Kogaku*, 43(4), 14-19 (2006) (in Japanese).
 10. Masanori Kikuchi, Toshiyuki Ikoma, Soichiro Itoh, Hiroko N. Matsumoto, Yoshihisa Koyama, Kazuo Takakuda, Kenichi Shinomiya and Junzo Tanaka, *Biomimetic synthesis of bone-like nanocomposites using the self-organization mechanism of hydroxyapatite and collagen*, *Composite Science and Technology*, 64(6), 819-25, (2004)
- (additional 32 reviews were published in Japanese.)

International standard conducting as a project leader

ISO 19090 is the world first international standard for tissue engineered medical products and that utilizing cells, obtained data has to be fluctuated due to cell passage, lot of serum, etc. and difficult to standardize even basic cell count method, as a part of test apparatus.

1. ISO19090: 2018 Tissue-engineered medical products -- Bioactive ceramics -- Method to measure cell migration in porous materials, published in January 17th, 2018.

Selected invited lecture (Total: 126, total first authorship: 110)

1. Masanori Kikuchi, Bioresorbable Inorganic/Organic Composite for Bone Repair, Material Research Meeting 2019, Yokohama Symposia, December, 2019
2. Masanori Kikuchi, Anti-Thrombogenic Surface Prepared by Polarization of
3. Titania Nanotubes, 19th Asian BioCeramics Symposium, Chang Gung University, New Taipei, Taiwan, ROC. , December, 2019
4. Masanori Kikuchi, Hydroxyapatite/collagen bone-like nanocomposite: Future and Past, 2019 Chinese Biomaterials Congress/China-US Joint Forum on Innovation and Regulation of Biomaterials, Dalian Convention Center, August, 2019
5. Masanori Kikuchi, Sho Oshima, Kazuhide Ozeki, Yasushi Suetsugu, Michiyo Honda, Antibiotics Loading to Hydroxyapatite/Collagen Bone-Like Nanocomposite, 2nd Global Forum on Advanced Materials and Technologies for Sustainable Development (GFMA-2) combined with 4th International Conference on Innovations in Biomaterials, Biomanufacturing, and Biotechnologies (Bio-4), Toronto Marriott Downtown at CF Eaton Centre Hotel, Toronto, Canada, July, 2019
6. Kikuchi, Masanori ; Sato, Taira ; Shirosaki, Yuki ; Aizawa,
7. Mamoru ; Kadowaki, Kaori ; Uezono, Masayoshi ; Moriyama, Keiji ; Uchikoshi, Tetsuo, Novel Applications of Hydroxyapatite/Collagen Bone-Like Nanocomposite as Coating on Ti and Self-Setting Bone Paste, 43rd International Conference and Exposition on Advanced Ceramics and Composites (ICACC2019), Daytona Beach, FL, USA, January, 2019
8. Masanori Kikuchi, Kaori Kadowaki, Keiji Moriyama, Tetsuo Uchikoshi, Electrophoretic Coating of HAp/Col Nanocomposite on Ti, Asian BioCeramics Symposium 2018, Trans Luxury Hotel, Bandung, Indonesia, September, 2018
9. KIKUCHI Masanori, Developments of bone void fillers based on interfacial interaction between ceramic and organic surfaces, Asian BioCeramics 2017, Sun Peach OKAYAMA, November, 2017
10. KIKUCHI Masanori, SATO Taira, SHIROSAKI Yuki, AIZAWA Mamoru, Self-setting injectable bone paste composed of hydroxyapatite/collagen bone-like nanocomposite and (3-glycidoxypropyl) trimethoxysilane, FiMPART 2017, Bordeaux, France, July, 2017
11. KIKUCHI Masanori, SATO Taira, SHIROSAKI Yuki, AIZAWA Mamoru, KADOWAKI Kaori, KADOWAKI Kaori, MORIYAMA Keiji, TAKAKUDA Kazuo, Hydroxyapatite/collagen bone-like nanocomposite for medical applications, PacRIM 12, Hilton Wikoloa Village, Waikoloa, Hawaii, USA, May, 2017
12. KIKUCHI Masanori, MANCHINASETTY Naga Vijaya Lakshmi, TAKEMURA Yuka, APPLICATION OF SEA URCHIN TESTS FOR BONE FILLER AND WATER PURIFIER, Australasian BioCeramics Symposium (ABC) 2016, Queensland University of Technology Gardens Point Campus, Brisbane, Australia, December, 2016
13. KIKUCHI M., SATO T., AIZAWA M., SHIROSAKI Y., Preparation of Self-Setting Paste Composed of Hydroxyapatite/Collagen Bone-Like Nanocomposite, THERMEC 2016, Graz University of Technology, Graz, Austria, May, 2016
14. KIKUCHI M., SATO T., AIZAWA M., SHIROSAKI Y., Self-setting injectable paste composed of hydroxyapatite/collagen bone-like nanocomposite and GPTMS, EMN

- Meeting on Ceramics, The Eaton Hotel in Hong Kong, Hong Kong, China, January, 2016
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Organized Scientific Symposia

- Representative organizer of Symposium D-5 of IUMRS-ICAM 2017, Kyoto, Japan
- Chairperson of Asian BioCeramics Symposium 2011 in conjunction with the 22nd Symposium on Apatite, 2010-2011, Tsukuba, Japan
- Organizer of “Development and biological assessment of ceramics-based biomedical materials with stimulating metabolisms” symposium in the 21st fall Symposium of Ceramic Society of Japan, 2009, Matsuyama, Japan.
- International Scientific Committee, 22nd International Symposium on Ceramics in Medicine, 2009, Daegu, Korea.
- Organizer of NIMS Symposium 2009, Tsukuba, Japan
- Organizer of “Development and biological assessment of ceramics-based biomedical materials with stimulating metabolisms” symposium in the 20th fall Symposium of Ceramic Society of Japan, 2008, Kita-Kyushu, Japan.
- Secretary General of 1st Asian Biomaterials Congress, 2007, Tsukuba, Japan
- Local Organizing Committee chief of the International Symposium on Soft-Nanotechnology 2005, 2005, Sapporo, Japan
- Local Organizing Committee member of The International Symposium on Bio-Integrated Materials and Tissue Engineering, 2002, Tokyo, Japan
- Local Organizing Committee member of the 4th Asian International Symposium on Biomaterials / 2nd International Symposium on Fusion of Nano and Bio Technology, 2004, Tsukuba, Japan
- Local Organizing Committee member of the 2004 Symposium of Japanese Society for Biomaterials, 2004, Tsukuba, Japan

Commercialized materials

- Neobone[®], High strength and high porous hydroxyapatite ceramics for bone void filler (MMT, Japan)
- Regenos[®], Uniaxial porous hydroxyapatite ceramics for bone void filler (Kuraray, Japan)
- ReFit[®], Hydroxyapatite/collagen self-organized nanocomposites sponge-like porous materials for a bioresorbable bone void filler followed by new bone formation. (HOYA Technosurgical, Japan)