

List of publications describing, using or referencing the MiniMag / Nanomag / Octomag/ Navion systems:

MFG-100 / MFG-100-i

Publications

- M.01.** Sakar, M.S., Schurle, S., Erni, S., Ullrich, F., Pokki, J., Frutiger, D.R., Ergeneman, O., Kratochvil, B.E., Nelson, B.J. Non-contact, 3D magnetic biomanipulation for in vivo and in vitro applications. 2012 Int. Symp. Optomechatronic Technologies, ISOT 2012, 6403292 (2012).
- M.02.** Sangwon Kim, Famin Qiu, Samhwan Kim, Ali Ghanbari, Cheil Moon, Li Zhang, Bradley J. Nelson, and Hongsoo Choi. Fabrication of Magnetically Actuated Microstructure for Targeted Cell Transportation. Proceedings of the 13th IEEE International Conference on Nanotechnology, Beijing. pp179-182 (2013).
- M.03.** Kim, S., Qiu, F., Kim, S., Ghanbari, A., Moon, C., Zhang, L., Nelson, B.J., Choi, H., Fabrication and characterization of magnetic microrobots for three-dimensional cell culture and targeted transportation, Advanced Materials 25, 5863-5868 (2013).
- M.04.** Alleyne, A.G., Schurle, S., Meo, A., Nelson, B.J. Motion control for magnetic micro-scale manipulation 2013 European Control Conference, 6669173, pp. 784-790 (2013).
- M.05.** Hsi-Wen Tung, Kathrin E. Peyer, David F. Sargent, and Bradley J. Nelson. Noncontact manipulation using a transversely magnetized rolling robot. Appl. Phys. Lett. 103, 114101 (2013).
- M.06.** Simone Schurle, Mahmut Selman Sakar, Alessandro Meo, Jens Moller, Bradley E. Kratochvil, Christopher S. Chen, Viola Vogel and Bradley J. Nelson. Three-dimensional, automated magnetic biomanipulation with subcellular resolution. IEEE Int. Conf. Robotics and Automation (ICRA) Karlsruhe, Germany, May 6-10, 2013, pp. 1452 – 1457.
- M.07.** Schürle S., Kratochvil B.E., Pané S., Zeeshan M.A., Nelson B.J. (2013) Generating Magnetic Fields for Controlling Nanorobots in Medical Applications. In: Mavroidis C., Ferreira A. (eds) Nanorobotics. Springer, New York, NY.
- M.08.** Simone Schuerle, Sandro Erni, Maarten Flink, Bradley E. Kratochvil, and Bradley J. Nelson, Three-Dimensional Magnetic Manipulation of Micro- and Nanostructures for Applications in Life Sciences. IEEE Transactions on Magnetics, 49 (1), 321-330 (2013).
- M.09.** Kratochvil B.E., Kummer, M., Erni, S., Borer, R., Frutiger, D.R., Schuerle, S., Nelson, B.J.. (2014) MiniMag: A Hemispherical Electromagnetic System for 5-DOF Wireless Micromanipulation. In: Khatib O., Kumar V., Sukhatme G. (eds) Experimental Robotics. Springer Tracts in Advanced Robotics 79. Springer, Berlin, Heidelberg.

- M.10.** Hsi-Wen Tung, Roel Pieters, David F. Sargent and Bradley J. Nelson. Non-contact Manipulation for Automated Protein Crystal Harvesting Using a Rolling Microrobot. 2014 IEEE International Conference on Robotics & Automation (ICRA), Hong Kong. p2092.
- M.11.** H.-W. Tung, D. F. Sargent and B. J. Nelson. Protein crystal harvesting using the RodBot: a wireless mobile microrobot. *J. Appl. Cryst.* (2014). 47, 692-700.
- M.12.** Pieters, Roel S., Tung, Hsi-Wen, Sargent, David F., Nelson, Bradley J. Non-Contact Manipulation for Automated Protein Crystal Harvesting Using a Rolling Microrobot. 19th World Congress of the International Federation of Automatic Control, Cape Town, South Africa, August 24-29, 2014.
- M.13.** Ali Ghanbari, Pyung H Chang, Bradley J Nelson and Hongsoo Choi. Magnetic actuation of a cylindrical microrobot using time-delay-estimation closed-loop control: modelling and experiments. *Smart Mater. Struct.* 23 (2014) 035013.
- M.14.** Ali Ghanbari, Pyung H. Chang, Bradley J. Nelson, Hongsoo Choi. Electromagnetic steering of a magnetic cylindrical microrobot using optical feedback closed-loop control. *International Journal of Optomechatronics* 8, 129–145, 2014.
- M.15.** Tiantian Xu, Jiangfan Yu, Xiaohui Yan, Hongsoo Choi and Li Zhang. Magnetic Actuation Based Motion Control for Microrobots: An Overview. *Micromachines* 6, 1346-1364 (2015).
- M.16.** Roel Pieters, Hsi-Wen Tung, Samuel Charreyron, David F. Sargent and Bradley J. Nelson. RodBot: a Rolling Microrobot for Micromanipulation. 2015 IEEE Int. Conf. Robotics and Automation (ICRA) Seattle, May 26-30, 2015.
- M.17.** Gwangjun Go, Hyunchul Choi, Semi Jeong, Cheong Lee, Seong Young Ko, Jong-Oh Park, Sukho Park. Electromagnetic Navigation System Using Simple Coil Structure (4 Coils) for 3-D Locomotive Microrobot. *IEEE Transactions on Magnetics* 51 (4), 8002107 (2015).
- M.18.** Samuel Charreyron, Roel S. Pieters, Hsi-Wen Tung, Maurice Gonzenbach, and Bradley J. Nelson. Navigation of a rolling microrobot in cluttered environments for automated crystal harvesting. *International Conference on Intelligent Robots and Systems (IROS)*, 2015 IEEE/RSJ.
- M.19.** Arthur W. Mahoney, Jake J. Abbott. Five-degree-of-freedom manipulation of an untethered magnetic device in fluid using a single permanent magnet with application in stomach capsule endoscopy. *The International Journal of Robotics Research* 35(1–3) 129–147 (2016).
- M.20.** Sangwon Kim, Seungmin Lee, Jeonghun Lee, Bradley J. Nelson, Li Zhang & Hongsoo Choi. Fabrication and Manipulation of Ciliary Microrobots with Non-reciprocal Magnetic Actuation. *Scientific Reports* 6, Article number: 30713 (2016).
- M.21.** R. Pieters, S. Lombriser, A. Alvarez-Aguirre and B. J. Nelson, Model Predictive Control of a Magnetically Guided Rolling Microrobot in *IEEE Robotics and Automation Letters*, 1 (1), 455-460 (2016).
- M.22.** Mushtaq, F., Asani, A., Hoop, M., Chen, X.-Z., Ahmed, D., Nelson, B. J. and Pané, S. (2016), Highly Efficient Coaxial TiO₂-PtPd Tubular Nanomachines for Photocatalytic Water Purification with Multiple Locomotion Strategies. *Adv. Funct. Mater.*, 26: 6995–7002.

- M.23.** Petruska, A.J., Edelmann, J., Nelson, B.J. Model-Based Calibration for Magnetic Manipulation. *IEEE Transactions on Magnetism* 53.7, 2017.
- M.24.** Naveen Shamsudhin, Vladimir I. Zverev, Henrik Keller, Salvador Pane, Peter W. Egolf, Bradley J. Nelson, Alexander M. Tishin. Magnetically guided capsule endoscopy. *Med. Phys.* 44 (8), e91-e111 (2017).
- M.25.** Pieters R.S., Tung H.W., Nelson B.J. (2017) Microrobots for Active Object Manipulation. In: Zhang D., Wei B. (eds) *Advanced Mechatronics and MEMS Devices II. Microsystems and Nanosystems*. Springer, Cham.
- M.26.** Simone Schuerle, Ima Avalos Vizcarra, Jens Moeller, Mahmut Selman Sakar, Berna Özkale, André Machado Lindo, Fajer Mushtaq, Ingmar Schoen, Salvador Pané, Viola Vogel and Bradley J. Nelson. Robotically controlled microprey to resolve initial attack modes preceding phagocytosis. *Science Robotics* 2(2), eaah6094 (2017).
- M.27.** Burak Zeydan, Andrew J. Petruska, Luca Somm, Roel Pieters, Yang Fang, David F. Sargent, Bradley J. Nelson. Automated Particle Collection for Protein Crystal Harvesting. *IEEE Robotics and Automation Letters* 2(3), (2017).
- M.28.** Daniel Ahmed, Thierry Baasch, Nicolas Blondel, Nino Läubli, Jürg Dual & Bradley J. Nelson. Neutrophil-inspired propulsion in a combined acoustic and magnetic field. *Nature Communications* 8, Article number: 770 (2017).
- M.29.** S. Schuerle, A. P. Soleimany, T. Yeh, G. M. Anand, M. Häberli, H. E. Fleming, N. Mirkhani, F. Qiu, S. Hauer, X. Wang, B. J. Nelson, N. Bhatia. Synthetic and living micropropellers for convection-enhanced nanoparticle transport. *Sci. Adv.* 5(4), eaav4803 (2019).
- M.30.** Xiaopu Wang, Xiang-Zhong Chen, Carlos C. J. Alcântara, Semih Sevim, Marcus Hoop, Anastasia Terzopoulou, Carmela de Marco, Chengzhi Hu, Andrew J. de Mello, Paolo Falcato, Shuhei Furukawa, Bradley J. Nelson, Josep Puigmartí-Luis and Salvador Pané. MOFBOTS: Metal–Organic-Framework-Based Biomedical Microrobots. *Adv. Mater.* 2019, 31, 1901592.
- M.31.** J. Xie, C. Bi, D. J. Cappelleri and N. Chakraborty. Towards Dynamic Simulation Guided Optimal Design of Tumbling Microrobots. *Proc. ASME 2019 Intl. Des. Engin. Techn. Conf. and Comp and Inform. Engin. Conf. IDETC/CIE2019* (2019).
- M.32.** Roberto Bernasconi, Elena Carrara, Marcus Hoop, Fajer Mushtaq, Xiangzhong Chen, Bradley J. Nelson, Salvador Pané, Caterina Credi, Marinella Levi, Luca Magagnin. Magnetically navigable 3D printed multifunctional microdevices for environmental applications. *Additive Manufacturing* 28, 127–135 (2019).
- M.33.** M. Xie, W. Zhang, C. fan, C. Wu, Q. Feng, J. Wu, Y. Li, R. Gao, Z. Li, Q. Wang, Y. Cheng and B. He. Bioinspired Soft Microrobots with Precise Magneto-Collective Control for Microvascular Thrombolysis. *Adv. Mater.* 32, 2000366 (2020).
- M.34.** M. K. Hausmann, A. Hauser, G. Siqueira, R. Libanori, S. L. Vehusheia, S. Schuerle, T. Zimmermann and A. R. Studart. Cellulose-Based Microparticles for Magnetically Controlled Optical Modulation and Sensing. *Small* 16, 1904251 (2020).

- M.35.** N Mirkhani, M Christiansen and S. Schuerle. Living, self-replicating ferrofluids for fluidic transport. *Adv. Funct. Mater.* 2020, 2003912.
- M.36.** C. C. J. Alcantara, F. C., Landers, S. Kim, C. de Marco, D. Ahmed, B. J., Nelson, S. Pane. Mechanically interlocked 3D multi-material micromachines. *Nat. Commun.* 11:5957 [<https://doi.org/10.1038/s41467-020-19725-6>] (2020).
- M.37.** D. Ahmed, A. Sukho, D. Hauri, D. Rodrigue, G. Maranta, J. Harting and B. J. Nelson. Bioinspired acousto-magnetic microswarm robots with upstream motility. *Nature Machine Intelligence* 3, 116–124, 2021.
- M.38.** Daphne O. Asgeirsson, Michael G. Christiansen, Thomas Valentin, Luca Somm, Nima Mirkhani, Amin Hosseini Nami, Vahid Hosseini and Simone Schuerle. 3D magnetically controlled spatiotemporal probing and actuation of collagen networks from a single cell perspective. *Lab on a Chip*, 21(20) 3850-3862 (2021)
- M.39.** L. O. Mair, G.s Adam, S. Chowdhury, A. Davis, D. R. Arifin, F. M. Vassoler, H. H. Engelhard, J. Li, X. Tang, I. N. Weinberg, B. A. Evans, J. W.M. Bulte and D. J. Cappelleri. Soft Capsule Magnetic Millirobots for Region-Specific Drug Delivery in the Central Nervous System. *Front. Robot. AI* 8:702566. doi: 10.3389/frobt.2021.702566 (2021).
- M.40.** Pierre E. Dupont, Bradley J. Nelson, Michael Goldfarb, Blake Hannaford, Arianna Menciassi, Marcia K. OMalley, Nabil Simaan, Pietro Valdastri, and Guang-Zhong Yang. A decade retrospective of medical robotics research from 2010 to 2020. *Sci. Robot.* 6 (60), eabi8017 (2021).
- M.41.** Huaijuan Zhou, Carmen C. Mayorga-Martinez, Salvador Pané, Li Zhang, and Martin Pumera. Magnetically Driven Micro and Nanorobots. *Chem. Rev.* 121 (8), 4999–5041 (2021).
- M.42.** Victor de la Asuncion-Nadal, Andrea Veciana, Shen Ning, Anastasia Terzopoulou, Semih Sevim, Xiang-Zhong Chen, De Gong, Jun Cai, Pedro Wendel-Garcia, Beatriz Jurado-Sanchez, Alberto Escarpa, Josep Puigmarti-Luis and Salvador Pané. MoSBOTs: Magnetically Driven Biotemplated MoS₂-Based Microrobots for Biomedical Applications. *Small* 18(33), pp. 2203821 (2022).
- M.43.** Jiaen Wu, David Folio, Jiawei Zhu, Bumjin Jang, Xiangzhong Chen, Junxiao Feng, Pietro Gambardella, Jordi Sort, Josep Puigmarti-Luis, Olgac Ergeneman, Antoine Ferreira and Salvador Pané. Motion Analysis and Real-Time Trajectory Prediction of Magnetically Steerable Catalytic Janus Micromotors. *Advanced Intelligent Systems* 4: no. 11, pp. 2200192 (2022).
- M.44.** H. Chen, Y. Li, Y. Wang, P. Ning, Y. Shen, X. Wei, Q. Feng, Y. Liu, Z. Li, C. Xu, S. Huang, C. Deng, P. Wang, and Y. Cheng. An Engineered Bacteria-Hybrid Microrobot with the Magnetothermal Bioswitch for Remotely Collective Perception and Imaging-Guided Cancer Treatment. *ACS Nano* 16, 6118–6133 (2022).
- M.45.** T. Gwisai, N. Mirkhani, M.G. Christiansen, T.T. Nguyen, V. Ling and S. Schuerle. Magnetic torque-driven living microrobots for increased tumor infiltration. *Sci. Robot.* 7, eabo0665 (2022).

- M.46.** Hongri Gu, Emre Hanedan, Quentin Boehler, Tian-Yun Huang, Arnold J.T.M. Mathijssen and Bradley Nelson. Artificial Microtubules for Rapid and Collective Transport of Magnetic Microcargoes. *Nat. Mach. Intell.* 4, 678-684 (2022).
- M.47.** D.O. Asgeirsson, A. Mehta, A. Scheeder, F. Li, X. Wang, M.G. Christiansen, N. Hesse, R. Ward, A. De Micheli, E. S. Ildic, S. Menghini, N. Aceto, S. Schuerle. Magnetically Controlled Cyclic Microscale Deformation of In Vitro Cancer Invasion Models. *Biomaterials Science*, October 2023.
- M.48.** Nima Mirkhani, Michael G. Christiansen, Tinotenda Gwisai, Stefano Menghini, Simone Schuerle. Spatially selective open loop control of magnetic microrobots for drug delivery. *bioRxiv* 2023.03.31.535118; doi: <https://doi.org/10.1101/2023.03.31.535118>.
- M.49.** I Mattich, J Sendra, H Galinski, G Isapour, AF Demirörs, M Lattuada, S Schuerle, AR Studart. Magnetic Manipulation of Superparamagnetic Colloids in Droplet-Based Optical Devices. *Advanced Optical Materials*, 2023. <https://arxiv.org/abs/2303.15336>.
- M.50.** Gwisai, Tinotenda; Günther, Sina; Mirkhani, Nima; Vizovisek, Matej; Menghini, Stefano; Jacobs, Mira; Christiansen, Michael G; Oberhuber, Ines; Poc, Pascal; Schuerle, Simone. Engineering Living Immunotherapeutic Agents for Improved Cancer Treatment. ISSN: 2366-3987 , 2366-3987; DOI: 10.1002/adtp.202300302. *Advanced therapeutics*, Dec. 2023.
- M.51.** Fabian C. Landers, Valentin Gantenbein, Lukas Hertle, Andrea Veciana, Joaquin Llacer-Wintle, Xiang-Zhong Chen, Hao Ye, Carlos Franco, Josep Puigmartí-Luis, Minsoo Kim, Bradley J. Nelson, and Salvador Pané. On-Command Disassembly of Microrobotic Superstructures for Transport and Delivery of Magnetic Micromachines. *Adv. Mater.* 2023, 2310084.
- M.52.** Hongyu Zhao, Min Ye, Bradley J. Nelson, Xiaopu Wang. A Selectively Controllable Triple-helical Micromotor. *IEEE ROBOTICS AND AUTOMATION LETTERS*. MARCH, 2023.
- M.53.** Fabian C. Landers, Valentin Gantenbein, Lukas Hertle, Andrea Veciana, Joaquin Llacer-Wintle, Xiang-Zhong Chen, Hao Ye, Carlos Franco, Josep Puigmartí-Luis, Min-Soo Kim, Bradley Nelson and Salvador Pané. On-Command Disassembly of Microrobotic Superstructures for Transport and Delivery of Magnetic Micromachines *Advanced Materials*, vol. 36: no. 18, pp. 2310084, Wiley-VCH, 2023.
- M.54.** Yimo Yan, Chao Song, Zaiyi Shen, Yuechen Zhu, Xingyu Ni, Bin Wang, Michael G. Christiansen, Stavros Stavrakis , Juho S. Lintuvuori , Baoquan Chen, Andrew deMello & Simone Schuerle. Programming structural and magnetic anisotropy for tailored interaction and control of soft microrobots. *COMMUNICATIONS ENGINEERING* | (2024) 3:7 | <https://doi.org/10.1038/s44172-023-00145-5> | www.nature.com/commseng.
- M.55.** M. S. Chen, R. Sun, R. Wang, Y. Zuo, K. Zhou, J. Kim, M. M. Stevens, Fillable Magnetic Microrobots for Drug Delivery to Cardiac Tissues In Vitro. *Adv. Healthcare Mater.* 2024, 13, 2400419. <https://doi.org/10.1002/adhm.202400419>
- M.56.** Jing Huang, Yuan Liu, Jiandong Wu, Fuping Dong, Chu Liu, Jiawei Luo, Xiangchao Liu, Ning Wang, Lei Wang and Haifeng Xu, An extracellular matrix-mimicking magnetic microrobot for targeted elimination of circulating cancer cells. *Nanoscale*, 2024, 16, 624. <https://doi.org/10.1039/d3nr03799a>

- M.57.** G. Wang, S. Wang, T. Hu and Famin Shi, Multifunctional Hydrogel with 3D Printability, Fluorescence, Biodegradability, and Biocompatibility for Biomedical Microrobots. *Molecules* 2024, 29(14), 3351; <https://doi.org/10.3390/molecules29143351>
- M.58.** Yan, Y., Song, C., Shen, Z. *et al.* Programming structural and magnetic anisotropy for tailored interaction and control of soft microrobots. *Commun Eng* **3**, 7 (2024). <https://doi.org/10.1038/s44172-023-00145-5>
- M.59** Jaideep Katuri, Navneet Kaur, William Uspal, Allison Cornelius, David Quashie Jr. & Jamel Ali. Control of colloidal cohesive states in active chiral fluids <https://doi.org/10.1038/s42005-024-01787-3>

Octomag:

- O.01.** M. P. Kummer, J. J. Abbott, K. Vollmers, B.E. Kratochvil, R. Borer, A. Sengul, and B. J. Nelson. OctoMag: An Electromagnetic System for 5-DOF Wireless Micromanipulation. *IEEE Trans. Robotics* 26(6), 1006-1017 (2010).
- O.02.** Christos Bergeles, Bradley E. Kratochvil and Bradley J. Nelson. Visually Servoing Magnetic Intraocular Microdevices. *IEEE TRANSACTIONS ON ROBOTICS* 28(4), 798-809 (2012).
- O.03.** Sandro Erni, Simone Schurle, Arielle Fakhraee, Bradley E. Kratochvil, Bradley J. Nelson. Comparison, optimization, and limitations of magnetic manipulation systems. *J Micro-Bio Robot* 8, 107–120 (2013).
- O.04.** Franziska Ullrich, Christos Bergeles, Juho Pokki, Olgac Ergeneman, Sandro Erni, George Chatzipirpiridis, Salvador Pané; Carsten Framme; Bradley J. Nelson. Mobility Experiments With Microrobots for Minimally Invasive Intraocular Surgery. *Investigative Ophthalmology & Visual Science* 54, 2853-2863 (2013).
- O.05.** Franziska Ullrich, Stefano Fusco, George Chatzipirpiridis, Salvador Pané and Bradley J Nelson. Recent Progress in Magnetically Actuated Microrobotics for Ophthalmic Therapies. *European Ophthalmic Review* 8.2, 120-126 (2014).
- O.06.** Juho Pokki, Olgac Ergeneman, Semih Sevim, Volker Enzmann, Hamdi Torun and Bradley J. Nelson. Measuring localized viscoelasticity of the vitreous body using intraocular microprobes. *Biomedical microdevices* 17(5), pp. 85-93 (2015).
- O.07.** Naveen Shamsudhin, Nino Laeubli, Huseyin B. Atakan, Hannes Vogler, Chengzhi Hu, Walter Haeberle, Abu Sebastian, Ueli Grossniklaus and Bradley J. Nelson. Massively Parallelized Pollen Tube Guidance and Mechanical Measurements on a Lab-on-a-Chip Platform. *PLoS ONE*, vol. 11: no. 12, pp. e0168138, San Francisco, CA, USA: Public Library of Science (2016).

- O.08.** Chengzhi Hu, Gautam Munglani, Hannes Vogler, Tohnyui N. Fabrice, Naveen Shamsudhin, Falk K. Wittel, Christoph Ringli, Ueli Grossniklaus, Hans J. Herrmann and Bradley J. Nelson. Characterization of size-dependent mechanical properties of tip-growing cells using a lab-on-chip device. *Lab on a Chip*, vol. 17: no. 1, pp. 82-90, Cambridge: Royal Society of Chemistry (2017).
- O.09.** Ayoung Hong, Burak Zeydan, Samuel Charreyron, Olgac Ergeneman, Salvador Pané Vidal, M. Fatih Toy, Andrew J. Petruska, Bradley J. Nelson. Real-Time Holographic Tracking and Control of Microrobots. *IEEE Robotics and Automation Letters* 2.1, 143-148 (2017).
- O.10.** Christophe Chautems, Burak Zeydan, Samuel C. Mater. *Horiz.*, 2018, 5, 699--707 | 699harreyron, George Chatzipirpiridis, Salvador Pané, Bradley J. Nelson. Magnetically powered microrobots: a medical revolution underway? *European Journal of Cardio-Thoracic Surgery*, 51 (3), 1 March 2017, Pages 405–407.
- O.11.** Roberto Bernasconi, Federico Cuneo, Elena Carrara, George Chatzipirpiridis, Marcus Hoop, Xiangzhong Chen, Bradley J. Nelson, Salvador Pane', Caterina Credi, Marinella Levi and Luca Magagnin. Hard-magnetic cell microscavolds from electroless coated 3D printed architectures. *Mater. Horiz.*, 2018, 5, 699—707.
- O.12.** Roberto Bernasconi, Elena Carrara, Marcus Hoop, Fajer Mushtaq, Xiangzhong Chen, Bradley J. Nelson, Salvador Pané, Caterina Credi, Marinella Levi, Luca Magagnin. Magnetically navigable 3D printed multifunctional microdevices for environmental applications. *Additive Manufacturing* 28, 127–135 (2019).
- O.13.** Sungwoong Jeon, Ali Kafash Hoshier. Kangho Kim, Seungmin Lee, Eunhee Kim, Sunkey Lee, Jin-young Kim, Bradley J. Nelson, Hyo-Jeong Cha, Byung-Ju Yi and Hongsoo Choi. A Magnetically Controlled Soft Microrobot Steering a Guidewire in a Three-Dimensional Phantom Vascular Network. *SOFT ROBOTICS* 6 (1), 54 – 67, 2019.
- O.14.** Samuel L.Charreyron, Edoardo Gabbi, Quentin Boehler, Matthias Becker and Bradley J. Nelson. A Magnetically Steered Endolaser Probe for Automated Panretinal Photocoagulation. *IEEE Robotics and Automation Letters*, 4 (2), 2019.
- O.15.** Hongri Gu, Quentin Boehler, Haoyang Cui, Eleonora Secchi, Giovanni Savorana, Carmela De Marco, Simone Gervasoni, Quentin Peyron, Tian-Yun Huang, Salvador Pane, Ann M. Hirt, Daniel Ahmed and Bradley J. Nelson. Magnetic Cilia Carpets with Programmable Metachronal Waves. *Nat. Commun.* 11:2637(2020).
- O.16.** Samuel L. Charreyron, Quentin Boehler, Aschraf N. Danun, Alexandre Mesot, Matthias Becker and Bradley J. Nelson. A Magnetically Navigated Microcannula for Subretinal injections. *IEEE Trans. Biomed. Engin.* 88(1), 119 - 129 (2021).
- O.17.** Junhee Choi, Dong-in Kim, Jin-young Kim, Salvador Pané, Bradley J. Nelson, Young-Tae Chang, and Hongsoo Choi. Magnetically Enhanced Intracellular Uptake of Superparamagnetic Iron Oxide Nanoparticles for Antitumor Therapy. <https://doi.org/10.1021/acsnano.3c03780> (2023).
- O.18.** Jonas Lussi, Michael Mattmann, Semih Sevim, Fabian Grigis, Carmela De Marco, Christophe Chautems, Salvador Pane, Josep Puigmarti-Luis, Quentin Boehler and Bradley J. Nelson. A Submillimeter Continuously Variable Stiffness Catheter for Compliance Control. *Adv. Sci.* 8, 202101290.

- O.19. ROSurgical: An Open-Source Framework for Telesurgery**
Florian Heemeyer, Quentin Boehler, Fabio Leuenberger and Bradley Nelson
2024 International Symposium on Medical Robotics (ISMR), Atlanta, GA, USA,
pp.10585683 Piscataway, NJ: IEEE, June 3-5, 2024.

General:

- G.01.** Q. Boehler, S. Gervasoni, S. L. Charreyron, C. Chautems, and B. J. Nelson. On the Workspace of Electromagnetic Navigation Systems. *IEEE Trans. Robotics* 39(1), 791-807 (2023).

Navion:

- N.01.** Heemeyer, F., Chautems, C., Boehler, Q., Merino, J. L., & Nelson, B. J. (2023, April). An evaluation platform for catheter ablation navigation. In *2023 International Symposium on Medical Robotics (ISMR)* (pp. 1-7). IEEE.
- N.02.** Nelson, B. J., & Pané, S. (2023). Delivering drugs with microrobots. *Science*, 382(6675), 1120-1122.
- N.03.** F. Heemeyer, Q. Boehler, F. Leuenberger and B. J. Nelson, "ROSurgical: An Open-Source Framework for Telesurgery," 2024 International Symposium on Medical Robotics (ISMR), Atlanta, GA, USA, 2024, pp. 1-7, DOI: <https://doi.org/10.1109/ISMR63436.2024.10585683>.
- N.04.** Mattille, M., Boehler, Q., Lussi, J., Ochsenein, N., Moehrlen, U., & Nelson, B. J. (2024). Autonomous Magnetic Navigation in Endoscopic Image Mosaics. *Advanced Science*, 11(19), 2400980.
- N.05.** Dreyfus, R., Boehler, Q., Lyttle, S., Gruber, P., Lussi, J., Chautems, C., ... & Nelson, B. J. (2024). Dexterous helical magnetic robot for improved endovascular access. *Science Robotics*, 9(87), eadh0298.
- N.06.** Bradley J. Nelson: An electromagnetic robot for navigating medical services. DOI: <https://doi.org/10.1038/s44222-024-00174-5>.
- N.07.** Bradley J. Nelson, Bernard R. Bendok, Evelyn L. Turcotte, H. Hunt Batjer (2024) Remote magnetic navigation enables precision telesurgery. DOI: <https://doi.org/10.1126/scirobotics.ado3187>.
- N.08.** Alexandre Mesot, Michelle Mattille, Quentin Boehler, Nina Schmid, Sean Lyttle, Florian Heemeyer, Shannon Melissa Chan, Philip Wai Yan Chiu, Bradley James Nelson:

Teleoperated Magnetic Endoscopy: A Case Study and Perspective. DOI:
<https://doi.org/10.1002/aisy.202400522>.

- N.09.** Simone Gervasoni, Norman Pedrini, Tarik Rifai, Cedric Fischer, Fabian C. Landers, Michael Mattmann, Roland Dreyfus, Silvia Viviani, Andrea Veciana, Enea Masina, Buse Aktas, Josep Puigmartí-Luis, Christophe Chautems, Salvador Pané, Quentin Boehler, Philipp Gruber, Bradley J. Nelson: A Human-Scale Clinically Ready Electromagnetic Navigation System for Magnetically Responsive Biomaterials and Medical Devices. DOI:
<https://doi.org/10.1002/adma.202310701>.
- N.10.** A Human-Scale Clinically-Ready Electromagnetic Navigation System for Magnetically-Responsive Biomaterials and Medical Devices
Simone Gervasoni, Norman Pedrini, Tarik Rifai, Cedric Fischer, Fabian C. Landers, Michael Mattmann, Roland Dreyfus, Silvia Viviani, Andrea Veciana, Enea Masina, Buse Aktas, Josep Puigmartí-Luis, Christophe Chautems, Salvador Pané, Quentin Boehler, Philipp Gruber and Bradley Nelson. *Advanced Materials*, vol. 36: no. 31, pp. 2310701, Wiley-VCH, 2024. (Nanoflex) **ANGIE**
- N.11. Autonomous Magnetic Navigation in Endoscopic Image Mosaics**
Michelle Mattille, Quentin Boehler, Jonas Lussi, Nicole Ochsenbein, Ueli Moehrlen and Bradley Nelson. *Advanced Science*, vol. 11: no. 19, pp. 2400980, Wiley-VCH, 2024.
- N.12. Dexterous helical magnetic robot for improved endovascular access**
Roland Dreyfus, Quentin Boehler, Sean Lyttle, P. Gruber, Jonas Lussi, Christophe Chautems, Simone Gervasoni, Jatta Berberat, Dominic Seibold, Nicole Ochsenbein-Kölble, Michael Reinehr, Miriam Weisskopf, Luca Remonda and Bradley Nelson. *Science Robotics*, vol. 9: no. 87, pp. eadh0298, AAAS, 2024.
ANGIE
- N.13. Remote magnetic navigation enables precision telesurgery**
Bradley Nelson, Bernard R. Bendok, Evelyn L. Turcotte and H. Hunt Batjer. *Science Robotics*, vol. 9: no. 87, pp. eado3187, AAAS, 2024.
- N.14. ROSurgical: An Open-Source Framework for Telesurgery**
Florian Heemeyer, Quentin Boehler, Fabio Leuenberger and Bradley Nelson
2024 International Symposium on Medical Robotics (ISMR), Atlanta, GA, USA, pp.10585683 Piscataway, NJ: IEEE, June 3-5, 2024.
- N.15. Teleoperated Magnetic Endoscopy: A Case Study and Perspective**
Alexandre Mesot, Michelle Mattille, Quentin Boehler, Nina Schmid, Sean Lyttle, Florian Heemeyer, Shannon Melissa Chan, Philip Wai Yan Chiu and Bradley Nelson. *Advanced Intelligent Systems*, Wiley-VCH, 2024.