



# A Guide to the Diatom Literature for Diatom Nanotechnologists

Richard Gordon,<sup>1</sup> Hedy J. Kling,<sup>2</sup> and Frithjof A. S. Sterrenburg<sup>3</sup>

<sup>1</sup>Departments of Radiology and Electrical & Computer Engineering, University of Manitoba, Room GA216, Health Sciences Centre, 820 Sherbrook Street, Winnipeg, MB R3A 1R9 Canada

<sup>2</sup>Freshwater Institute, Room 156, 501 University Crescent, Winnipeg, MB, R3T 2N6 Canada

<sup>3</sup>Research Associate, National Natural History Museum “Naturalis,” Leiden, The Netherlands,

Getting into the literature of a new field can be frustrating, so we offer a list of resources for the nanotech newcomer to diatoms under the following titles (Internet addresses last checked and updated on October 18, 2004):

## Books (and a Video)

1. Bach, K. and B. Burkhardt (eds.) (1984). *Diatomeen I, Schalen in Natur und Technik/Diatoms I, Shells in Nature and Technics*, Stuttgart: Cramer Verlag. (Available as IL28 from: Ilse Guy, ilse.guy@ilek.uni-stuttgart.de, Institut für leichte Flächenträgerwerke, Universität Stuttgart).
2. Barber, H. G. and E. Y. Haworth (1981). *A Guide to the Morphology of the Diatom Frustule*, Scientific Publ. No. 44, Ambleside, U.K.: Freshwater Biol. Ass.
3. Bergna, H. E. (ed.) (1994). *The Colloid Chemistry of Silica. Papers from the Ralph K. Iler Memorial Symposium*, Washington, DC: American Chemical Society.
4. Canter-Lund, H. and J. W. Lund (1995). *Freshwater Algae: Their Microscopic World Explored*, Champaign, IL, USA: Balogh Scientific Books.
5. Cox, E. J. (1996). *Identification of Freshwater Diatoms from Living Material*, London: Chapman and Hall.
6. du Buf, H. and Bayer, M. M. (eds.) (2002). *Automatic Diatom Identification*, Singapore: World Scientific, <http://www.wspc.com.sg/books/compsci/4907.html>.
7. Fritsch, F. E. (1971). *The Structure and Reproduction of the Algae Volume I: Introduction, Chlorophyceae, Xanthophyceae, Chrysophyceae, Bacillariophyceae, Cryptophyceae, Dinophyceae, Chloromonadineae, Euglenineae, Colourless Flagellata*, Cambridge: Cambridge University Press.
8. Hartley, B., H. G. Barber, J. R. Carter, and P. Sims (1996). *An Atlas of British Diatoms*, Bristol: Biopress.
9. Helmcke, J. G., W. Krieger, and J. Gerloff (eds.) (1962–1974). *Diatomeenschalen im elektronenmikroskopischen Bild/Electron Micrographs of Diatom Shells*, 10 vols. Weinheim/Lehre/Vaduz: J. Cramer.
10. Henderson, M. V. and C. W. Reimer (2003). *Bibliography of the Fine Structure of Diatom Frustules (Bacillariophyceae), Part II & Deletions, Addenda and Corrigenda for Bibliography I*, Koenigstein, Germany: Koeltz Scientific Books (For Part I see Gaul et al. (1993) below).

11. Hustedt, F. (1927–1966). *Die Kieselalgen Deutschlands, Oesterreichs und der Schweiz mit Berücksichtigung der übrigen Länder Europas sowie der angrenzenden Meeresgebiete*. Rabenhorst Kryptogamenflora [7 volumes]. Koenigstein: Otto Koeltz Science Publishers.
12. Iler, R. K. (1979). *The Chemistry of Silica: Solubility, Polymerization, Colloid and Surface Properties, and Biochemistry*, New York: John Wiley and Sons.
13. Krammer, K. and H. Lange-Bertalot (1986–1991). *Bacillariophyceae*, 4 Vols. in: *Süßwasserflora von Mitteleuropa*. Stuttgart/Jena: Gustav Fischer Verlag:
  14. Volume 2/1. (1986): Naviculaceae.
  15. Volume 2/2. (1988): Bacillariaceae, Epithemiaceae, Surirellaceae.
  16. Volume 2/3. (1991): Centrales, Fragilariaceae, Eunotiaceae.
  17. Volume 2/4. (1991): Achnanthaceae, kritische Ergänzungen zu *Navicula* (Lineolatae) und *Gomphonema*.
18. Patrick, R. and C. W. Reimer (1966). *The Diatoms of the United States, Exclusive of Alaska and Hawaii, Volume 1*, Philadelphia: Academy of Natural Sciences.
19. Pickett-Heaps, J. D. (2003). *Teacher's Guide, Diatoms: Life in Glass Houses* [<http://www.cytographics.com/resource/catalog/tapes/pg-dia.htm> + video tape], Melbourne: Cytographics.
20. Round, F. E., R. M. Crawford, and D. G. Mann (1990). *The Diatoms, Biology & Morphology of the Genera*, Cambridge: Cambridge University Press.
21. Stoermer, E. F. and J. F. Smol (eds.) (1999). *The Diatoms. Applications for the Environmental and Earth Sciences*, Königstein: Koeltz Scientific Books.
22. Wehr, J. D. and Sheath, R. G. (eds.) (2003). *Freshwater Algae of North America: Ecology and Classification*, Academic Press.
23. Werner, D. (ed.) (1977). *The Biology of Diatoms*, Oxford: Blackwell Scientific Publications.

## Courses

1. APC8—Advanced Phytoplankton Course, Taxonomy and Systematics, Stazione Zoologica “A. Dohrn,” Naples, Italy, <http://riscnw.szn.it/~apc8/>.
2. Bigelow Laboratory for Ocean Sciences, <http://www.bigelow.org/course/index.html>.
3. The Biogenic Silica (Opal) System in the Ocean, Department of Geosciences, University of Bremen, Bremen, Germany, <http://www.marum.de/ECOLMAS.html>.

- Ecology and Systematics of Diatoms, Iowa Lakeside Laboratory, <http://www.ag.iastate.edu/centers/lakeside/diatoms.html>.
- Freshwater Algae Courses, Kindrogan Field Centre, Scotland, <http://www.psaalgae.org/student/friday.html>; <http://www.field-studies-council.org/leisurelearning/courseinfo.aspx?id=98>.
- Freshwater Algae Training Courses, The Natural History Museum, London, UK, [http://www.nhm.ac.uk/hosted\\_sites/algatrain/text/index.htm](http://www.nhm.ac.uk/hosted_sites/algatrain/text/index.htm).
- Hungarian Algological Society, <http://falco.elte.hu/ALGA/matengl.htm>, Training course on algal determination focused on diatoms (Pennales), in conjunction with their annual meeting, contacts: Keve T. Kiss, [kis7972@helka.iif.hu](mailto:kis7972@helka.iif.hu); Eva Acs, [acs@ludens.elte.hu](mailto:acs@ludens.elte.hu).
- Introduction to Diatom Analysis, Natural Environment Research Council, <http://www.geog.ucl.ac.uk/ecrc/teaching.stm>.

## Culture Collections

- American Type Culture Collection (ATCC), Protistology Collection, <http://www.atcc.org/SearchCatalogs/Protistology.cfm>.
- Culture Collection of Algae and Protozoa, CEH-Windermere, The Ferry House, Far Sawrey, Ambleside, Cumbria LA22 0LP, UK, <http://windermere.ceh.ac.uk/ccap/ccap@ceh.ac.uk>, Dr. John Day is the officer in charge.
- Culture Collection of Algae (SAG) at the University of Göttingen, <http://www.epsag.uni-goettingen.de/html/saggenera.HTM>.
- Diatom Collections Forum, <http://www.isdr.org/forum/>.
- Freshwater Diatom Culture Collection (FDCC), David B. Czarnecki, Professor of Biology & Curator, FDCC, Department of Biology, Loras College, 1450 Alta Vista, P.O. Box 178, Dubuque, IA 52004-0178 USA, (563) 588-7231, Faxes (563) 588-7964; (563) 557-4070, e-mail: [CZdiatom@loras.edu](mailto:CZdiatom@loras.edu), <http://lcacl.loras.edu/bio/czar1.html>.
- Provasoli—Guillard National Center for Culture of Marine Phytoplankton, McKown Point, West Boothbay Harbor, ME 04575, (207) 633-9630, [ccmp@bigelow.org](mailto:ccmp@bigelow.org), <http://ccmp.bigelow.org/>.
- UTCC, University of Toronto Culture Collection of Algae and Cyanobacteria, <http://www.botany.utoronto.ca/utcc/Introduction.html>.
- UTEX, The Culture Collection of Algae at the University of Texas at Austin, <http://www.bio.utexas.edu/research/utex/>.

## Journals and Book Series

- Bacillaria (published volume 1, 1978–volume 7, 1984, then discontinued)
- Bibliotheca Diatomologica, <http://www.schweizerbart.de/pubs/series/bibliotheca-diatomologica-57.html>.
- Diatom: The Japanese Journal of Diatomology (The Japanese Society of Diatomology, c/o Institute of Phycology, 2-87, Yokosuka-shi, Kanagawa, 239-0822, Japan. Present Treasurer is Masami Inokuchi, e-mail: [inop@necc.ac.jp](mailto:inop@necc.ac.jp). Secretary is Satoshi Fukushima, e-mail: [sf092440@city.yokohama.jp](mailto:sf092440@city.yokohama.jp)), [http://www.wsoc.nii.ac.jp/jstd/number\\_e.html](http://www.wsoc.nii.ac.jp/jstd/number_e.html).
- Diatom Research, <http://www.isdr.org/ISDR/research-e.html>.
- European Journal of Protistology, <http://www.ingenta.com/isis/browsing/AllIssues?journal=infobike://urban/301&displayLogin=true&source=EasyLink&redirectTo=browsing/AllIssues%3fjournal=infobike://urban/301>.
- Iconographia Diatomologica, <http://www.koeltz.com> (Search the title).
- Journal of Applied Phycology, <http://www.wkap.nl/journal-home.htm/0921-8971>.
- Journal of Phycology, <http://www.blackwellpublishing.com/journals/JPHY/>.
- Nova Hedwigia, <http://www.schweizerbart.de/j/nova-hedwigia/>.
- Nova Hedwigia Beihefte, <http://www.schweizerbart.de/j/nova-hedwigia-beihefte/>.

- Phycologia, <http://www.intphycsoc.org/IPSPHYCologia.lasso>.
- Phycological Research, <http://www.blackwellpublishing.com/journals/pre/>.
- Symbioses, <http://perso.wanadoo.fr/sammel.museum/Symbioses.htm>.

## Libraries

- AWI Library of the Friedrich Hustedt Fellowship, Alfred Wegener Institute Foundation for Polar and Marine Research, Building A, Am Handelshafen 12, D-27570 Bremerhaven, <http://www.awi-bremerhaven.de/Library/Hustedt.html>.
- Diatom Bibliography of B. V. Skvortzov (B. W. Skvortzov), [http://www.ife.ac.uk/fritsch/Features.htm#The%20Diatom%20Bibliography%20of%20B.%20V.%20Skvortzov%20\(B.%20W.%20Skvortzov\)](http://www.ife.ac.uk/fritsch/Features.htm#The%20Diatom%20Bibliography%20of%20B.%20V.%20Skvortzov%20(B.%20W.%20Skvortzov))
- Diatom Herbarium and Ewell Sale Stewart Library Academy of Natural Sciences 1900 Benjamin Franklin Parkway, Philadelphia, PA, 19103-1195, USA, <http://www.acnatsci.org/library/index.html>.
- California Academy of Sciences, <http://www.calacademy.org/research/library/collect.htm>.

## Publishers and Book Dealers

- Algologia, Anasvagen 54, S-416 69 Goteborg, Sweden, [algologia@telia.com](mailto:algologia@telia.com), <http://w1.311.telia.com/~u31101877/A.instructions.html>, Tel./Fax.: Sweden-31-199718, <http://seaweed.ucg.ie/algologia/algologia.html>.
- Scott Balogh, Balogh International Inc., 1911 North Duncan Road, Champaign, Illinois 61822, <http://www.balogh.com>, [scott@balogh.com](mailto:scott@balogh.com), +1 217 355 9331; fax: +1 217 355 9413.
- Biopress Ltd., 17 Wimbledon Road, Bristol BS6 7YA, UK, Tel/Fax: +44 (0)1179 446491, [biopress@blueyonder.co.uk](mailto:biopress@blueyonder.co.uk), <http://seaweed.ucg.ie/books/Biopress.html>; <http://www.balogh.com/catalogs/biopress.html>.
- Koeltz Scientific Books, P.O.Box 1360, D-61453 Koenigstein, Germany, W: +49 6174 93720, F: +49 6174 937240, H: E-mail: [koeltz@ibm.net](mailto:koeltz@ibm.net), <http://www.koeltz.com>.
- Lubrecht & Cramer, Ltd., P.O. Box 3110, 18 East Main Street, Port Jervis, NY 12771 USA, (800) 920-9334, U.S. and Canada, (845) 856-5990, Overseas, [books@lubrechtcramer.com](mailto:books@lubrechtcramer.com), <http://www.lubrechtcramer.com/categories/diatom/diatom1.html>.
- Savona Books (Little Imp Publications), 400 Seawall Lane, Haven Sands, North Cotes, North East Lincolnshire, DN36 5XE; England Phone +44(0)1472 388994, Fax +44(0)1472 389436, [savonabooks@savonabooks.free-online.co.uk](mailto:savonabooks@savonabooks.free-online.co.uk), <http://www.microcat.demon.co.uk/>.
- Vedams eBooks (P) Ltd., Vardhaman Charve Plaza IV, Building # 9, K.P Block, Pitampura, New Delhi 110 088, India, Fax: 91-11-27310613, [vedams@vedamsbooks.com](mailto:vedams@vedamsbooks.com), <https://www.vedamsbooks.com/algae.htm#>.

## Review Articles

- Battarbee, R. W. (1988). The use of diatom analysis in archeology: A review. *J. Archeol. Sci.* **15**, 621–644.
- Bradbury, J. (2004). Nature's nanotechnologists: unveiling the secrets of diatoms. *Public Library of Science Biology* **2**(10), 1512–1515.
- Cohn, S. A. (2001). Photo-stimulated effects on diatom motility. In: Häder, D.-P. and M. Lebert, *Photomovement*, Elsevier Science B.V., pp. 375–401.
- Cooksey, K. E. and B. Wigglesworth-Cooksey (1995). Adhesion of bacteria and diatoms to surfaces in the sea: A review. *Aquat. Microb. Ecol.* **9**(1), 87–96.

5. Dixit, S. S., J. P. Smol, J. C. Kingston, and D. F. Charles (1992). Diatoms: Powerful indicators of environmental change. *Environmental Science and Technology* **26**, 22–33.
6. Edlund, M. B. and E. F. Stoermer (1997). Evolutionary, and systematic significance of diatom life histories. *Journal of Phycology* **33**(6), 897–918.
7. Epstein, E. (1994). The anomaly of silicon in plant biology. *Proc. Natl. Acad. Sci. USA* **91**, 11–17.
8. Gaul, U., U. Geissler, M. Henderson, R. Mahoney, and C. W. Reimer (1993). Bibliography on the fine-structure of diatom frustules (Bacillariophyceae). *Proceedings of the Academy of Natural Sciences of Philadelphia* **144**, 69–238.
9. Gordon, R. and R. W. Drum (1994). The chemical basis for diatom morphogenesis. *Int. Rev. Cytol.* **150**, 243–372, 421–422.
10. Kociolek, J. P. and E. F. Stoermer (1989). Chromosome numbers in diatoms: A review. *Diatom Res.* **4**(1), 47–54.
11. Lewin, J. C. and R. R. L. Guillard (1963). Diatoms. *Annual Review of Microbiology* **17**, 373–414.
12. Martin-Jezequel, V., M. Hildebrand, and M. A. Brzezinski (2000). Silicon metabolism in diatoms: Implications for growth. *Journal of Phycology* **36**(5), 821–840.
13. Medlin, L. K. (2002). Why silica or better yet why not silica? Speculations as to why the diatoms utilise silica as their cell wall material. *Diatom Research* **17**(2), 453–459.
14. Medlin, L. K., W. H. C. Kooistra, and A. M. M. Schmid (2000). A review of the evolution of the diatoms—A total approach using molecules, morphology and geology. In: Witkowski, A. and J. Sieminska, *The Origin and Early Evolution of the Diatoms: Fossil, Molecular and Biogeographical Approaches*, Cracow: W. Szafer Institute of Botany, Polish Academy of Sciences, pp. 13–35.
15. Owen Jr., B. B., M. Afzal, and W. R. Cody (1979). Distinguishing between live and dead diatoms in periphyton communities. Methods and Measurement of Periphyton Communities: A Review. In: Weitzel, R. L., American Society for Testing and Materials, pp. 70–76.
16. Pickett-Heaps, J. (1991). Cell-division in diatoms. *International Review of Cytology* **128**, 63–108.
17. Pickett-Heaps, J. D., A. M. M. Schmid, and L. A. Edgar (1990). The cell biology of diatom valve formation. *Prog. Phycol. Res.* **7**, 1–168.
18. Schmid, A.-M. M. (2003). The evolution of the silicified diatom cell wall-revisited. *Diatom Res.* **18**(1), 191–195.
19. Smetacek, V. (1999). Diatoms and the ocean carbon cycle. *Protist* **150**(1), 25–32.
20. Solliday, J. D. (1991). The mystery of diatom movement—A review. *Microscopy* **36**, 525–538.
21. Stoermer, E. F. (1998). Thirty years of diatom studies on the Great Lakes at the University of Michigan. *Journal of Great Lakes Research* **24**(3), 518–530.
22. Ussing, A. P., R. Gordon, L. Ector, K. Buczko, A. Desnitski, and S. L. VanLandingham (2004). The colonial diatom “*Bacillaria paradoxa*”: chaotic gliding motility, Lindenmeyer model of colonial morphogenesis, and bibliography, with translation of O. F. Müller (1783), “About a peculiar being in the beach-water.” *Diatom Monographs* **5**, 1–140.

## Science Fiction

1. Björklund, N. K. (1997). Horta [http://www.umanitoba.ca/faculties/medicine/radiology/stafflist/rgordon.html]. In: *T’Prang of Vulcan, Bondmate*, http://www.geocities.com/Area51/Dimension/4195/logs.html, Mission Logs of the Internet Star Trek Society.
2. Blish, J. B. (1957). Surface Tension. In: Blish, J. B., *The Seedling Stars*, New York: Gnome Press.

## Societies and Meetings

1. Association des Diatomistes de Langue Française/Association of French-speaking Diatomists, http://perso.club-internet.fr/clci/diatom-ADLaF.htm.
2. British Diatom Conference, http://www.essex.ac.uk/bs/staff/underwood/diatom-meeting.shtm; http://www.bio.bris.ac.uk/research/aquatics/index.htm; Charlotte.Webb@Bristol.ac.uk; Marian.Yallop@Bristol.ac.uk.
3. British Phycological Society, http://www.brphycsoc.org/.
4. Deutschsprachige Diatomologen, http://www.bgbm.fu-berlin.de/diatoms/default.htm.
5. International Phycological Society, http://www.intphycsoc.org/.
6. International Society for Diatom Research, http://www.isdr.org/ISDR/links-e.html.
7. Japanese Society of Diatomology (see journal Diatom above).
8. Japanese Society of Phycology, http://wwwsoc.nii.ac.jp/jsp/default.html.
9. North American Diatom Symposium, 17th in 2003 at: http://serc.fiu.edu/periphyton/NADS/Homepage.html 18th in 2005 c/o Charles A. Stapleton, Department of Marine Science, University of South Alabama, castap@jaguar1.usouthal.edu.
10. Phycological Society of America, http://www.psaalgae.org/.
11. Regional Committee on Atlantic Neogene Stratigraphy http://rcans.usal.es/; http://www.fst.ac.ma/rcans03/#hp, Diatom Workshop: Prof. A. Ben Moussa, Fax 212 39 994500, e-mail b.moussa@fst.ac.ma.

## Type Collections

1. International Survey of Diatom Collections, http://home.planet.nl/~wolf0334/Recently updated, this lists all officially curated diatom collections known to exist, with a global indication of contents and data on how to contact. All available Web addresses have been included.
2. Diatom Herbarium, Academy of Natural Sciences, http://www.acnatsci.org/research/biodiv/botanydiatomherbarium.html; http://www.acnatsci.org/research/biodiv/diatoms.html.
3. Ehrenberg Collection of Diatoms, http://www.algaterra.net/AT2.htm See: Lazarus, D. and R. Jahn (1998). Using the Ehrenberg collection. *Diatom Res.* **13**(2), 273–291.
4. Friedrich-Hustedt-Arbeitsplatz für Diatomeenkunde, http://www.awi-bremerhaven.de/Research/hustedt1.html.
5. Index Herbariorum, http://sciweb.nybg.org/science2/IndexHerbariorum.asp (search “diatom” in Research Specialty)
6. Otto Müller’s collection: Dr. Regine Jahn (Curator) Botanischer Garten und Botanisches Museum Berlin-Dahlem, Freie Universität Berlin, Königin-Luise-Straße 6-8, D-14191 Berlin, Germany, http://www.bgbm.org/BGBM/.

## Web Pages

1. ADIAC: Automatic Diatom Identification and Classification, http://www.ualg.pt/adiac/.
2. Algae Image Laboratory, http://www.bgsu.edu/departments/biology/facilities/algae\_link.html.
3. AlgaeBase, http://www.algaebase.org/.
4. Algae-L Listserv, http://seaweed.ucg.ie/algae-l/default.html.
5. Algal Taxonomy and Ecology Inc., http://www.algal\_taxonomy-and-ecology.com
6. AlgaTerra Information System, http://www.algaterra.org/.
7. Association des Diatomistes de Langue Française, Française, http://perso.club-internet.fr/clci/diatom-ADLaF.htm.
8. BGSU Diatom Image Archive, Bowling Green State University, http://www.bgsu.edu/departments/biology/facilities/algae/html/fresh.html.
9. BIOVOL for estimating the volumes, surface areas, and surface to volume ratios of diatoms, http://www.msu.edu/~kirschte/biovol/.

10. California Academy of Science, <http://www.calacademy.org/research/diatoms/>.
11. Canadian Diatoms Database, [http://sts.gsc.nrcan.gc.ca/clf/geoserv\\_diatom.asp](http://sts.gsc.nrcan.gc.ca/clf/geoserv_diatom.asp).
12. DARES and DALES: Diatom Assessment of River and Lake/Loch Ecological Status, <http://craticula.ncl.ac.uk/Dares/>.
13. DIADIST, Diatom and Desmid Identification by Shape and Texture, <http://rbg-web2.rbge.org.uk/DIADIST/>.
14. Diatcode, a coded checklist of diatom names, <http://amphora.geog.ucl.ac.uk/diatcode/>.
15. Diatom Image Archive (DIA), <http://www.math.ualberta.ca/%7E-Ebowman/diatom/>.
16. Diatom Paleolimnology Data Cooperative, <http://www.indiana.edu/~diatom/dpdc/dpdc.html>.
17. Diatom-L Listserv, <http://www.indiana.edu/~diatom/intro.txt>.
18. Diatoms on the web at Newcastle University, <http://craticula.ncl.ac.uk/>.
19. European Diatom Database (EDDI), <http://www.geog.ucl.ac.uk/ecrc/eddi/>.
20. Great Lakes Diatoms, <http://www.umich.edu/~phytolab/GreatLakes-DiatomHomePage/top.html>.
21. International Code of Botanical Nomenclature, <http://www.bgbm.fu-berlin.de/iapt/nomenclature/code/SaintLouis/0000St.Luistitle.htm>.
22. International Survey of Diatom Collections, <http://home.planet.nl/~wolf0334/>.
23. Klaus Kemp—Microlife Services, <http://www.diatoms.co.uk/>.
24. MOLTEN: MONitoring Long-term Trends in Eutrophication and Nutrients in the coastal zone, <http://craticula.ncl.ac.uk/Molten/jsp/index.jsp>.
25. Roger Sweets' Diatom Home Page, <http://www.indiana.edu/~diatom/diatom.html>.
26. Skagerrak-Kattegat, <http://www.marbot.gu.se/sss/sshhome.htm>.

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