


## Curriculum Vitae

<b>Full Name</b>	Don Biswas			
<b>Designation</b>	Assistant Professor			
<b>Department</b>	Instrumentation Engineering-USIC			
<b>Campus</b>	Srinagar, HNB Garhwal University			
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<b>Education Qualification</b>	Ph. D. in Engineering (2024), Jadavpur University, Kolkata.			
<b>Teaching Experience</b>	12 Years	<b>Research Experience</b>	5 Years	
<b>Areas of Interest/Specialization</b>				
<ol style="list-style-type: none"> <li>1. Ferroelectric materials.</li> <li>2. Thin films.</li> </ol>				
<b>Subject Knowledge</b>				
<ol style="list-style-type: none"> <li>1. Electrical Measurements and Instruments.</li> <li>2. Power Electronics.</li> <li>3. Signals and Systems.</li> <li>4. Basic Electrical Engineering.</li> <li>5. Process Control.</li> </ol>				
<b>Instrument knowledge</b>				
<ol style="list-style-type: none"> <li>1. DC sputtering system, RF sputtering system.</li> <li>2. SEM (Scanning Electron Microscopy).</li> <li>3. LCR Meter.</li> <li>4. XRD (X-ray diffraction).</li> <li>5. P- E loop tracer.</li> </ol>				
<b>Award/Honours</b>				
<ol style="list-style-type: none"> <li>1. Gate Scholarship (2008-2010).</li> <li>2. Young scientist award (2021) from VDGOOD society.</li> </ol>				
<b>Reviewer</b>				
<ol style="list-style-type: none"> <li>1. Ceramics International (Elsevier).</li> <li>2. Measurement and control (Sage).</li> </ol>				
<b><u>Administrative Experience</u></b>				
<ol style="list-style-type: none"> <li>1. Member of Departmental Purchase Committee.</li> <li>2. Member of the B. Tech. Admission Committee, H.N.B. Garhwal University, Srinagar (Garhwal).</li> <li>3. Member of the B. Tech. JOSSA Admission Committee, H.N.B. Garhwal University, Srinagar (Garhwal).</li> <li>4. Member of the B. Ed. Admission Committee, H.N.B. Garhwal University, Srinagar (Garhwal), from January 2018- July 2018.</li> <li>5. Member of the P.G. Admission Committee, H.N.B. Garhwal University, Srinagar (Garhwal), from January 2019- July 2020.</li> <li>6. Member of the Ph. D. Admission Committee, H.N.B. Garhwal University, Srinagar (Garhwal), from July 2019- July 2020.</li> <li>7. Member of the board of studies (BoS) (meeting held on 26-02-2019), Instrumentation Engg. -USIC, H.N.B. Garhwal University, Srinagar (Garhwal).</li> <li>8. Member of the B. Tech. examination Committee, H.N.B. Garhwal University, Srinagar (Garhwal).</li> <li>9. Member of “School Board” of School of Engineering and Technology, H.N.B. Garhwal University, Srinagar (Garhwal), in 2023.</li> <li>10. Committee Member of “Election of Student Union” of H.N.B. Garhwal University, Srinagar (Garhwal).</li> </ol>				

11. Committee Member of “NAAC peer review team” of H.N.B. Garhwal University, Srinagar (Garhwal), in 2022-23.

### **Conference/Symposium/Workshop/Invited lecture Attended/Delivered during last eight years (2012-2023)**

1. Attended short term course on “PCB Layout, Fabrication and Testing” from 14-01-2013 to 18-01-2013, organized by NITTTR Chandigarh, India.
2. Attended Conference on “Recent Advances in Material Science (NCRAMS-13)”, organized by Dept. of Physics, H.N.B. Garhwal University, Srinagar (Garhwal), 26-27 October, 2013.
3. Attended Orientation Course organized by Academic Staff College, Jadavpur University, Kolkata, 04 Aug. - 01 Sept., 2014.
4. Attended a Workshop on NMEICT Awareness “Recent Trends in Education System”, organized by National Institute of Technology, Uttarakhand, on 29-30 November, 2014.
5. Attended Refresher Course on “Disaster Management” organized by UGC-HRDC, Kumaun University, Nainital (Uttarakhand) from 02 – 23 Dec, 2016.
6. Attended two day training program on “Ethics & Values in Public Governance”, organized by Academic Activity Centre, HNBGU, Uttarakhand, 28-29 May, 2017.
7. Attended one month Induction training Program organized by FDC, HNBGU, Uttarakhand, 01-30 June, 2018.
8. Presented an Invited talk on the topic ferroelectrics in “International Conference on Aerosol, Air Quality and Climate Change”, organized by Dept. of Physics, H.N.B. Garhwal University, Srinagar (Garhwal), 21-23 October, 2018.
9. Attended a Short term training Program on Data Analysis Awareness “Computational Techniques in Research Methodology for Science and Social Sciences”, organized by FDC, HNBGU, Uttarakhand, 25-31 July, 2019.
10. Attended a short term training program on “Dimensions of Qualitative Research”, organized by FDC, HNBGU, Uttarakhand, 21-27 Aug., 2019.
11. Attended a short term training program on “Nanotechnology for electronic and photonic devices (Nanodev 2020)” organized by Punjab Engg. College, Chandigarh, during 15<sup>th</sup> June, 2020- 19<sup>th</sup> June, 2020.
12. Attended online lecture series on “Academic Leadership in Higher education during and after Covid- 19 pandemic” organized by HNB Garhwal university, Srinagar Garhwal, during 22<sup>th</sup> June, 2020- 26<sup>th</sup> June, 2020.
13. Attended a short term training program on “Pedagogical Training for Teachers on Tools for Online Teaching Learning and Evaluation” organized by Swami Ramanand Teerth Marathwada University, Nanded, during 1<sup>st</sup> July 2020- 6<sup>th</sup> July, 2020.
14. Attended a short term course on “Sub-micrometer Semiconductor Device to Circuit Co-Design and Modeling Techniques” organized by NIT Jhalandar, Punjab, during 20<sup>th</sup> Aug., 2020- 24<sup>th</sup> Aug., 2020.
15. Invited talk and demonstration in “Skill Development Program on Sophisticated Research Instruments” under the scheme of Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI) supported by Department of Science and Technology, Government of India, organized by Department of Chemistry, H.N.B. Garhwal University, Srinagar Garhwal in association with Banasthali Vidyapith, Rajasthan, 12<sup>th</sup> to 18<sup>th</sup> May, 2023.
16. Invited talk and demonstration in “International Workshop and Winter School on HANDS -ON-TRAINING on Instrumentation and Analytical Techniques” organized by Department of Physics, H.N.B. Garhwal University, Srinagar Garhwal in association with Instrumentation Engg.-USIC, Srinagar Garhwal, 18<sup>th</sup> to 22<sup>nd</sup> March, 2024.
17. Invited talk and demonstration in “Analytical Instrumentation Techniques for Applied Research” organized by Department of Chemistry, H.N.B. Garhwal University, Srinagar Garhwal in association with Instrumentation Engg.-USIC, Srinagar Garhwal, 17<sup>th</sup> May to 23<sup>rd</sup> May, 2024

### **In the Proceedings of Conferences/ Seminars**

1. **D. Biswas**, P. Thapliyal, V. Rohilla, G. S. Kathait, S. Singh and J. Negi, Dielectric and piezoelectric properties of sodium potassium niobate ( $\text{Na}_{1-x}\text{K}_x\text{NbO}_3$ ) ceramics for  $x = 0.08$  and  $0.17$ , International conference on Aerosol, Air Quality and Climate Change on Himalayan region of Uttarakhand, Srinagar Garhwal, Uttarakhand, 21-23<sup>th</sup> October, 2018.
2. K. Kumar, A. Bahuguna, **D. Biswas**, Four band slotted microstrip antenna, State level conference on Imagineering, Tula’s Institute, Dehradun, Uttarakhand, 25<sup>th</sup> October, 2018.

3. **D. Biswas**, P. Sharma, N. S. Panwar, Piezoelectric properties of lead free  $Ba_{1-x}Ca_xZr_{0.1}Ti_{0.9}O_3$  ( $x = 0.150$ ) ceramics with different sintering temperature, International conference on Material Science and Applications (ICMSAA-2019), Physics Department, H. N. B. Garhwal University, Uttarakhand, 25-27<sup>th</sup> Nov, 2019.
4. V. Rohilla, **D. Biswas**, P. Thapliyal, G. S. Kathait, Recent Trends in Solar Energy Conversion Techniques, National Conference on “Recent Advancements in Natural Products Chemistry and Nanotechnology”(RANPCN-2019), Department of chemistry, H. N. B. Garhwal University, 9-10<sup>th</sup> September 2019.
5. V. Rohilla, **D. Biswas**, P. Thapliyal, G. S. Kathait, S. Singh, Estimation of some essential, non-essential toxic and toxic elements in some Indian Black Tea sold in market by ICP-MS and their risk assessment, International Conference on Material Science and Applications (ICMSAA-19), Department of Physics, H. N. B. Garhwal University, 25-27<sup>th</sup> November, 2019.
6. **D. Biswas**, P. Sharma, N. S. Panwar, Electrical and optical properties of lead free  $Ba_{1-x}Ca_xZr_{0.1}Ti_{0.9}O_3$  ( $x = 0.150$ ) ceramics, international-conference-on-innovative-research-in-applied-science-engineering, RIT, Roorkee, 20-21<sup>th</sup> Feb., 2021.

### **Conference/Symposium/Workshop Organized during last eight years (2012-2020)**

1. Organized the ‘**World IPR day**’, jointly with UCOST, Dehradun at USIC Department, HNB Garhwal University, Srinagar (Garhwal), 26<sup>th</sup> April, 2014.

### **Peer reviewed Publications**

1. **D. Biswas** & A. S. Bahuguna, “To Measure Physical Signal from Sensor and Control through Data Acquisition System”, *IJARCSSE*, Vol. **7**, pp. 377-388, 2017. (UGC listed) <https://doi.org/10.23956/ijarcsse/SV7I5/0321>
2. **D. Biswas**, G. S. Kathait, P. Thapliyal, V. Rohilla & S. Singh “Temperature dependence of dielectric properties of sodium potassium niobate ceramics for different values of x ( $Na_{1-x}K_xNbO_3$ )”, *Ferroelectrics*, Vol. **526**, pp. 168-175, 2018. (IF- 0.699) (SCI Indexed) <https://doi.org/10.1080/00150193.2018.1456307>
3. T. Singh, B. Gangil, A. Patnaik, **D. Biswas**, G. Fekete “Agriculture waste reinforced corn starch based biocomposites: Effect of rice husk/walnut shell on physicomechanical, biodegradable and thermal properties”, *Materials Research Express*, Vol. **06** (04), pp. 045702, 2019. (IF- 1.92) (SCI Indexed) <https://doi.org/10.1088/2053-1591/aafe45>
4. **D. Biswas**, G. S. Kathait, P. Thapliyal, V. Rohilla, S. Singh & J. Negi “Converse piezoelectric properties of K and Na-modified ( $Na_{1-x}K_x$ )  $NbO_3$  lead free ceramics for  $x = 0.08$  and  $0.17$ ”, *Ferroelectrics*, Vol. **550**, pp. 228–232, 2019. (IF- 0.699) (SCI Indexed) <https://doi.org/10.1080/00150193.2019.1652511>
5. **D. Biswas et al.** “Microcontroller based data acquisition system using error reduction technique”, *International Journal of Engineering, Science and Technology*, Vol. **11**, No. 3, pp. 40-48, 2019. (IF- 0.50) <http://dx.doi.org/10.4314/ijest.v11i3.5>
6. G. S. Kathait, **D. Biswas**, P. Thapliyal, V. Rohilla & S. Singh “ Influence of Escaping of Na & K on physical properties in Lead-Free  $Na_{0.92}K_{0.08}NbO_3$  Ceramic”, *Ferroelectrics*, Vol. **551**, pp. 40-46, 2019. (IF- 0.699) (SCI Indexed) <https://doi.org/10.1080/00150193.2019.1658026>
7. T. Singh, B. Gangil, B. Singh, S. K. Verma, **D. Biswas**, G. Fekete “Natural-synthetic fiber reinforced homogeneous and functionally graded vinylester composites: Effect of bagasse-Kevlar hybridization on wear behavior”, *J. Mater Res Technology*, Vol. **8**, No. 6, pp. 5961-5971, 2019. (IF- 5.32) (SCI Indexed) <https://doi.org/10.1016/j.jmrt.2019.09.071>
8. G. S. Kathait, N. S. Panwar, **D. Biswas**, P. Thapliyal, V. Rohilla & S. Singh “Sintering Effect on Electrical Properties and Morphology of Lead-Free  $Na_{0.92}K_{0.08}NbO_3$  Ceramics”, *Science of Sintering*, Vol. **51**, pp. 421-428, 2019. (IF- 1.71) (SCI Indexed) <https://doi.org/10.1080/00150193.2019.1652511>
9. V. Rohilla, G. S. Kathait, **D. Biswas**, P. Thapliyal, & B. Rohilla “Estimation of Heavy Metals in some Indian Black Tea Leaves by Inductively Coupled Plasma Mass Spectrometer (ICPMS) and associated Health Risks”, *Indian Journal of Agricultural Research*, Vol. **A-5429**, pp. 1-6, 2020. (IF- 0.35) (SCI Indexed) <https://doi.org/10.1080/00150193.2020.1853757>
10. **D. Biswas**, N. S. Panwar, P. Sharma “Converse piezoelectric properties of lead free  $Ba_{1-x}Ca_xZr_{0.1}Ti_{0.9}O_3$  ( $x = 0.055$ ) ceramics using double sintered method”, *Ferroelectrics*, Vol. **568:1**, pp. 95-103, 2020. (IF- 0.699) (SCI Indexed) <https://doi.org/10.1080/00150193.2020.1811032>

11. V. Rohilla, **D. Biswas**, P. Thapliyal, G. S. Kathait, S. Singh “Estimation of some essential, non-essential toxic and toxic elements in some Indian black tea sold in market by ‘ICP-MS’ and their risk assessment”, *Applied Innovative Research CSIR-NISCAIR*, **Vol. 2**, pp. 226-230, 2020. (UGC Listed) <http://nopr.niscair.res.in/handle/123456789/55982>
12. D. Das, **D. Biswas**, A. K. Hazarika, S. Sabhapondit, R. B. Roy, B. Tudu, R. Bandyopadhyay "CuO Nanoparticles Decorated MIP-based Electrode for Sensitive Determination of Gallic Acid in Green Tea", *IEEE Sensors Journal*, **Vol. 21**, No. 5, pp. 5687-5694, 2021. (IF- 4.32) (SCI Indexed) <https://doi.org/10.1109/JSEN.2020.3036663>
13. A. K. Gautam, R. S. Negi, S. Kumar, **D. Biswas** and S. Rawat “The Seasonal and Morphological Analysis of Airborne PM<sub>10</sub> and PM<sub>2.5</sub> in Srinagar Garhwal (Himalaya Region)”, *IJEP*, **vol. 40 (11)**: 1154-1163 (2020). (Scopus Indexed) <https://www.e-ijep.co.in/november-2020/>
14. **D. Biswas**, P. Sharma, N. S. Panwar “Dielectric properties of Na<sub>1-x</sub>K<sub>x</sub>NbO<sub>3</sub> (NKN) (0.160 ≤ x ≤ 0.200) ceramics synthesized by double sintered method”, *Ferroelectrics*, **Vol. 571**, pp. 214–229, 2021. (IF- 0.699) (SCI Indexed) <https://doi.org/10.1080/00150193.2020.1853757>
15. **D. Biswas**, P. Sharma, N. S. Panwar “Structural and electrical properties of lead free Na<sub>1-x</sub>K<sub>x</sub>NbO<sub>3</sub> (0.160 ≤ x ≤ 0.200) ceramics”, *Ceramics International*, **Vol. 47**, pp. 13814–13819, 2021. (IF- 5.532) (SCI Indexed) <https://doi.org/10.1016/j.ceramint.2021.01.246>
16. **D. Biswas**, P. Sharma, N. S. Panwar “Composition dependent electrical properties of (Ba<sub>1-x</sub>Ca<sub>x</sub>Zr<sub>0.1</sub>Ti<sub>0.9</sub>)O<sub>3</sub> ceramics, near morphotropic phase boundary (0.140 ≤ x ≤ 0.160)”, *ECS Journal of Solid State Science and Technology*, **Vol. 10**, pp. 033002, 2021. (IF- 2.483) (SCI Indexed) <https://doi.org/10.1149/2162-8777/abea61>
17. J. Negi, **D. Biswas**, N. S. Panwar “Piezoelectric Properties of Ta (≤ 5 (mole)%) Doped in Na<sub>0.685</sub>K<sub>0.315</sub>NbO<sub>3</sub>”, *IJPAP*, **Vol. 59**, pp. 740-743, 2021. (IF- 0.86) (SCI Indexed) <https://doi.org/10.56042/ijpap.v59i11.50334>
18. **D. Biswas**, Surendra Singh, Prashant Thapliyal, Vishal Rohilla, G S Kathait, N S Panwar, Prolay Sharma “Investigation on dielectric and optical properties of Ba<sub>1-x</sub>Ca<sub>x</sub>Zr<sub>0.1</sub>Ti<sub>0.9</sub>O<sub>3</sub> (x = 0.150) ferroelectric ceramics”, *J. Mountain Res.*, **Vol. 16 (02)**, pp. 279-286, 2021. (UGC Listed) <https://doi.org/10.51220/jmr.v16i2.34>
19. K. Kumar, A. S. Bahuguna, Y. P. Pundir, **D. Biswas** “Design of U-Shaped Slot Quad Band Patch Antenna”, *J. Mountain Res.*, **Vol. 16 (03)**, pp. 437-445, 2021. (UGC Listed) <https://doi.org/10.51220/jmr.v16i3.43>
20. **D. Biswas**, P. Sharma, N. S. Panwar “Structural and piezoelectric properties of (Ba<sub>1-x</sub>Ca<sub>x</sub>Zr<sub>0.1</sub>Ti<sub>0.9</sub>)O<sub>3</sub> ceramics, near morphotropic phase boundary (0.140 ≤ x ≤ 0.160)”, *IJPAP*, **Vol. 60**, pp. 111–116, 2022. (IF- 0.86) (SCI Indexed) <http://dx.doi.org/10.56042/ijpap.v60i2.57525>
21. **D. Biswas**, P. Sharma, N. S. Panwar “Temperature dependent dielectric and structural properties of (Ba<sub>1-x</sub>Ca<sub>x</sub>)(Zr<sub>0.1</sub>Ti<sub>0.9</sub>)O<sub>3</sub>, (0.140 ≤ x ≤ 0.160) ceramics”, *ECS Journal of Solid State Science and Technology*, **Vol. 11**, pp. 043007, 2022. (IF- 2.483) (SCI Indexed) <https://doi.org/10.1149/2162-8777/ac62f3>
22. **D. Biswas**, P. Sharma, N. S. Panwar “Effect of sintering on the piezoelectric properties and microstructure of lead free (Ba<sub>1-x</sub>Ca<sub>x</sub>Zr<sub>0.1</sub>Ti<sub>0.9</sub>O<sub>3</sub>) (x = 0.065) ceramics”, *Science of Sintering*, **Vol. 52**, **issue 2**, pp. 1-8, 2022. (IF- 1.71) (SCI Indexed) <https://doi.org/10.2298/SOS2202201B>
23. **D. Biswas**, P. Thapliyal, P. Sharma, N. S. Panwar “Annealing temperature- dependent structural, optical and electrical properties of [(Ba<sub>1-z</sub>Ca<sub>z</sub>)(Zr<sub>0.1</sub>Ti<sub>0.9</sub>)O<sub>3</sub>], (z = 0.155), films”, *ECS Journal of Solid State Science and Technology*, **Vol. 12**, pp. 023011, 2023. (IF- 2.483) (SCI Indexed) <https://doi.org/10.1149/2162-8777/acbbaa>
24. S. Singh, **D. Biswas**, A. S. Bahuguna, P. Thapliyal, V. Rohilla, G. S. Kathait, N. S. Panwar, P. Sharma, “Composition-dependent dielectric and piezoelectric properties of Na<sub>1-z</sub>K<sub>z</sub>NbO<sub>3</sub> ceramics”, *IJPAP*, **Vol. 61**, pp. 335-342, 2023. (IF- 0.86) (SCI Indexed) <https://doi.org/10.56042/ijpap.v61i5.70679>
25. **D. Biswas**, S. Singh, P. Thapliyal, V. Rohilla, G. S. Kathait, A. S. Bahuguna, P. Sharma, N. S. Panwar, “Impedance spectroscopy and AC conductivity analysis of (Ba<sub>1-k</sub>Ca<sub>k</sub>)(Zr<sub>0.1</sub>Ti<sub>0.9</sub>)O<sub>3</sub>, (0.140 ≤ k ≤ 0.160), ceramics”, *ECS advances*, **Vol. 2**, pp. 042001, 2023. (Scopus Indexed) <https://doi.org/10.1149/2754-2734/ad02aa>
26. S. Singh, **D. Biswas**, P. Thapliyal, V. Rohilla, G. S. Kathait, N. S. Panwar “Dielectric and Structural Properties of Double-sintered (Na<sub>1-x</sub>K<sub>x</sub>)NbO<sub>3</sub>, (0.460 ≤ x ≤ 0.485) Ceramics”, *Ceramics International*, **Vol. 50**, pp. 7930-7935, 2024. (IF- 5.532) (SCI Indexed) <https://doi.org/10.1016/j.ceramint.2023.12.121>

27. S. Dasgupta, A. H. M. Toufique Ahmed, I. Bhattacharjee, S. Firdoushi, **D. Biswas**, S. Mukherjee, R. Bandyopadhyay, B. Tudu “Crafting a Graphite Electrode With Embedded  $Y_2O_3$  Nanoparticles for the Electrochemical Detection of Amaranth in Candies”, *IEEE Sensors Journal*, **Vol. 24**, No. 13, pp. 20750-20757, 2024. (IF- 4.32) (SCI Indexed) <https://doi.org/10.1109/JSEN.2024.3400317>
28. G. S. Kathait, **D. Biswas**, S. Negi, S. Maini “Dielectric and Electromechanical Properties of Pyroelectric  $(Ba_{1-x}Ca_x)(Ti_{0.96}Sn_{0.04})O_3$  (BCST) Ceramics for  $0.032 \leq x \leq 0.064$ ”, *Smart Energy Systems and Artificial Intelligence (SESIAI)*, IEEE explore, pp. 1-5, 2024. (Scopus Indexed) <https://doi.org/10.1109/SESIAI61023.2024.10599444>
29. S. Dasgupta, A. H. M. Toufique Ahmed, I. Bhattacharjee, S. Firdoushi, **D. Biswas**, S. Mukherjee, B. Mondal, R. Bandyopadhyay, B. Tudu “Electrochemical detection of indigo carmine in candies using  $Y_2O_3$  nanoparticles infused graphite electrode”, *Journal of Food Composition and Analysis*, **Vol. 135**, pp. 106626, 2024. (IF- 4) (SCI Indexed) <https://doi.org/10.1016/j.jfca.2024.106626>
30. I. Bhattacharjee, S. Dasgupta, S. Firdoushi, **D. Biswas**, A. H. M. Toufique Ahmed, S. Mukherjee, R. Bandyopadhyay, B. Tudu “A Simple Nano  $NiMn_2O_4$  Functionalized Graphite Electrode for Electrochemical Detection of Cinnamic Acid in Cinnamon Bark”, *IEEE Sensors Journal*, **Vol. 24**, No. 23, pp. 38613 – 38619, 2024. (IF- 4.32) (SCI Indexed) <https://doi.org/10.1109/JSEN.2024.3477255>

### **Book Chapters**

1. S. kumar, **D. Biswas**, B. Gangil “Asbestos free braking pads by using organic fiber based reinforced composites for automotive industries”, *Automotive Tribology*, Springer Nature Singapore Pte Ltd., Oct. 2019. [https://doi.org/10.1007/978-981-15-0434-1\\_17](https://doi.org/10.1007/978-981-15-0434-1_17)
2. V. Rohilla, R. C. Rohilla, P. Thapliyal, **D. Biswas**, G. S. Kathait, “Photovoltaic Power System with Battery Backup and Grid-Connection to Reduce Grid Dependency During Peak Demand Hours and Power Cuts” *Techno-Societal*, Jun. 2021. [https://doi.org/10.1007/978-3-030-69925-3\\_39](https://doi.org/10.1007/978-3-030-69925-3_39)
3. M. K. Gupta, T. Gupta, D. Mangal, P. Thapliyal, **D. Biswas** “Study and Analysis of IoT (Industry 4.0): A Review” *Handbook of Smart Manufacturing*, CRC Press, Jul. 2023. <https://doi.org/10.1201/9781003333760-2>