UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, DC 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934

| Fil | ed by | the Registrant 🗵 |
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| Fil | ed by | a Party other than the Registrant □ |
| Ch | eck th | ne appropriate box: |
| | Prel | liminary Proxy Statement |
| | Con | fidential, For Use of the Commission Only (as permitted by Rule 14a-6(e)(2)) |
| | Defi | initive Proxy Statement |
| X | Def | initive Additional Materials |
| | Soli | citing Material Under Rule 14a-12 |
| | | Enzo Biochem, Inc. |
| | | (Name of Registrant as Specified in Its Charter) |
| | | (Name of Person(s) Filing Proxy Statement, if Other Than the Registrant) |
| Pa | yment | t of Filing Fee (Check the appropriate box): |
| X | No | fee required |
| | Fee | computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11. |
| | (1) | Title of each class of securities to which transaction applies: |
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Enzo Biochem Appoints Rebecca J. Fischer to Board of Directors

Fischer Appointed to Audit, Compensation and Nominating/Governance Committees

Fischer to Stand for Election at Upcoming 2019 Annual Shareholder Meeting

Director Gregory M. Bortz Retires

New York, NY – December 31, 2019 – Enzo Biochem, Inc. (NYSE:ENZ), an integrated diagnostics and life sciences company focusing on delivering and applying advanced technology capabilities to produce affordable, reliable products and services that enable its customers to meet their clinical needs, today announced it has appointed industry healthcare veteran and leader Rebecca J. Fischer to its Board of Directors. Her appointment as a new independent director is effective immediately and follows a search process conducted as part of Enzo's ongoing focus on Board composition, refreshment and diversity. As part of our evaluation, the Company as a significant provider of Women's health products and services, believes the representation of such a highly qualified woman on the Board would be a valuable contribution to it.

Ms. Fischer takes the place of Gregory M. Bortz who has retired from the Board. The Board had requested Mr. Bortz to remain on the Board for a period of time to help complete the design and execution of the Company's strategic plan of which Greg was a key contributor. Upon implementation of the strategy, it was understood that Mr. Bortz would step down. Dov Perlysky, a member of the Board since 2012, will replace Mr. Bortz as Lead Independent Director of the Company.

Ms. Fischer has also been appointed to the Audit, Compensation and Nominating/Governance Committees and she will be the Chair of the Audit Committee. She will stand for election at the upcoming 2019 Annual Shareholder meeting. With Ms. Fischer's appointment, the average tenure of independent directors is approximately three years.

Ms. Fischer is currently the Chief Financial Officer of Bellevue Hospital, the world-renowned flagship institution for New York City Health and Hospitals (NYCH+H). Bellevue has over 900 licensed beds and an operating budget of more than \$950 million. She began her career at Bellevue as Associate Director in 2003, became Associate Executive Director in 2011 and was promoted to Deputy CFO in 2016. She was promoted to CFO in 2017. She received her undergraduate degree cum laude from Cornell University and her Master of Public Administration in Health Policy and Management from New York University, where she was a recipient of the Robert F. Wagner, Jr. Fellowship.

In her role as CFO of Bellevue, Ms. Fischer is responsible for managing a team of financial managers and 400 other professionals. Her team oversees budgeting, revenue enhancement, utilization, financial reporting, cash management productivity improvement and affiliate relations with the NYU School of Medicine. She is also a key advisor to the hospital's CEO and other members of the C-level team on strategic planning and resource allocation. In both her strategic and day-to-day

responsibilities, Ms. Fischer is directly involved in guiding Bellevue and its leaders through complex government and private reimbursement practices. At Bellevue and throughout the NYCH+H, she is viewed as a subject matter expert on optimal ways for hospitals to deliver the highest quality care at a time of enormous technological change and financial pressure.

"We are thrilled to welcome someone of Rebecca's stature, intellect and experience to our Board," stated Dr. Bruce A. Hanna, Chairman of the Nominating/Governance Committee of Enzo. "Her leadership at Bellevue, one of the most essential healthcare delivery institutions in the world, underscores her strengths at problem solving and her keen understanding of how to successfully navigate the intersection of investment spending with an unwavering commitment to science and innovation."

Dr. Elazar Rabbani, Chairman and Chief Executive Officer of Enzo continued," Enzo is making significant progress and taking bold steps forward as we become a new model of a modern day diagnostics company. It is crystal clear to the Board and management team that Rebecca's background and experience make her the perfect fit to help guide Enzo at this stage in its lifecycle.

"We want to thank Gregory Bortz for his extremely valuable contribution to our company and all of our stakeholders and for staying on the Board in order to help us in finalizing and implementing our strategic plan," commented Rabbani.

Ms. Fischer commented, "I'm pleased to join the Board of Enzo at this critical moment in the Company's progress and success. The more I learn about Enzo's goals -- to develop and validate platforms focused on high-value areas that can reduce costs 30-50% and satisfy clinical demand for fully automated platforms and products while retaining an attractive profit margin – the more excited I am to be a Board member and to leverage my experience to contribute in any way I can to the growth of the business."

Forward-Looking Statements

Except for historical information, the matters discussed in this release may be considered "forward-looking" statements within the meaning of Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, as amended. Such statements include declarations regarding the intent, belief or current expectations of the Company and its management, including those related to cash flow, gross margins, revenues, and expenses which are dependent on a number of factors outside of the control of the Company including, inter alia, the markets for the Company's products and services, costs of goods and services, other expenses, government regulations, litigation, and general business conditions. See Risk Factors in the Company's Form 10-K for the fiscal year ended July 31, 2019. Investors are cautioned that any such forward-looking statements are not guarantees of future performance and involve a number of risks and uncertainties that could materially affect actual results. The Company disclaims any obligations to update any forward-looking statement as a result of developments occurring after the date of this release.

Contact: Elliot Sloane

ESPR LLC 917-291-0833

Elliot.espr@gmail.com